# TPC Benchmark™ C
# Full Disclosure Report
# for
# IBM® System x3950
# using
# Microsoft® SQL Server 2005
# Enterprise x64 Edition (SP1)
# and
# Microsoft Windows® Server 2003
# Enterprise x64 Edition

**TPC-C Version 5.8**

**Submitted for Review**
**February 28, 2007**

## IBM Corporation

**First Edition – February 2007**

THE INFORMATION CONTAINED IN THIS DOCUMENT IS DISTRIBUTED ON AN AS IS BASIS WITHOUT ANY WARRANTY EITHER EXPRESSED OR IMPLIED. The use of this information or the implementation of any of these techniques is the customer's responsibility and depends on the customer's ability to evaluate and integrate them into the customer's operational environment. While each item has been reviewed by IBM for accuracy in a specific situation, there is no guarantee that the same or similar results will be obtained elsewhere. Customers attempting to adapt these techniques to their own environment do so at their own risk.

In this document, any references made to an IBM licensed program are not intended to state or imply that only IBM's licensed program may be used; any functionally equivalent program may be used.

This publication was produced in the United States. IBM may not offer the products, services, or features discussed in this document in other countries, and the information is subject to change without notice. Consult your local IBM representative for information on products and services available in your area.

© Copyright International Business Machines Corporation 2007. All rights reserved.

Permission is hereby granted to reproduce this document in whole or in part, provided the copyright notice as printed above is set forth in full text on the title page of each item reproduced.

U.S. Government Users - Documentation related to restricted rights: Use, duplication, or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

**Trademarks**

IBM, the IBM logo, System x, System Storage and TotalStorage are trademarks or registered trademarks of International Business Machines Corporation.

The following terms used in this publication are trademarks of other companies as follows: TPC Benchmark, tpmC, and $/tpmC trademark of Transaction Processing Performance Council; Intel and Xeon are trademarks or registered trademarks of Intel Corporation; Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation. Other company, product, or service names, which may be denoted by two asterisks (**), may be trademarks or service marks of others.

**Notes**

[1] GHz and MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.
[2] When referring to hard disk capacity, GB, or gigabyte, means one thousand million bytes. Total user-accessible capacity may be less.

# Abstract

IBM Corporation conducted the TPC Benchmark™ C on the IBM® System x3950 configured as a client/server system with attached IBM System Storage™ DS4800. This report documents the full disclosure information required by the TPC Benchmark C Standard Specification, Revision 5.8, including the methodology used to achieve the reported results. All testing fully complied with this revision level.

The software used on the x3950 system includes Microsoft® Windows® Server 2003 Enterprise x64 Edition operating system and Microsoft SQL Server 2005 Enterprise x64 Edition (SP1).

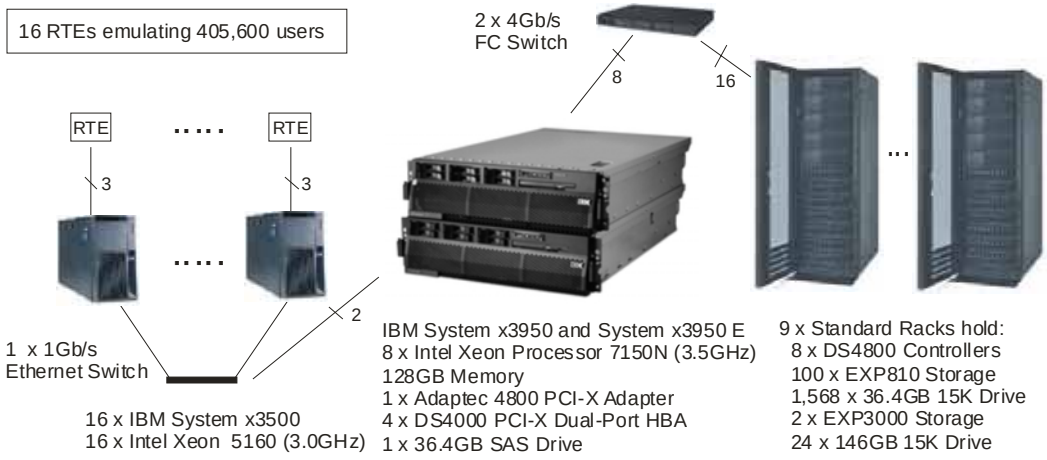
Two standard metrics, transactions per minute-C (tpmC) and price per tpmC ($/tpmC), are reported as required by the TPC Benchmark C Standard Specification.

The benchmark results are summarized in the following table.

| Hardware | Software | Total System Cost | tpmC | $/tpmC | Total Solution Availability Date |
|---|---|---|---|---|---|
| IBM System x3950 | Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)<br><br>Microsoft Windows Server 2003 Enterprise x64 Edition | $2,463,913 USD | 510,822 | $4.82 USD | Apr. 1, 2007 |

The results of the benchmark and test methodology used were audited by Francois Raab of InfoSizing, Inc. The auditor's attestation letter is contained in Section 9 of this report.

| IBM Corporation | IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1) | | | TPC-C Rev. 5.8<br>Report Date 02/28/07 |
|---|---|---|---|---|
| Total System Cost | TPC-C Throughput | Price/Performance | | Availability Date |
| **$2,463,913 USD** | **510,822 tpmC** | **$4.82 USD /tpmC** | | **Apr. 1, 2007** |
| Database Server Processors/Cores/ Threads | Database Manager | Operating System | Other Software | Number Of Users |
| **8/16/32 Intel® Xeon® Processor 7150N 3.5GHz** | **Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)** | **Microsoft Windows® Server 2003 Enterprise x64 Edition** | **Microsoft Visual C++ Standard Edition Microsoft COM+** | **405,600** |




| System Component | Qty | Server | Qty | Each of 16 Clients |
|---|---|---|---|---|
| **Processors/Cores/ Threads** | 8/16/32 | Intel Xeon Processor 7150N 3.5GHz | 1/2/2 | Dual-Core Intel Xeon Processor 5160 at 3.0GHz |
| **Cache** | | 2x1MB L2, 1x16MB L3 | | 1x4MB L2 Cache |
| **Memory** | 32 | 4GB ECC RDIMM | 4 | 512MB PC2-5300 FBD |
| **Disk Controllers** | 8<br>4<br><br>1 | IBM System Storage DS4800<br>IBM DS4000 4Gbps FC PCI-X Host Bus Adapter<br>Adaptec 4800 PCI-X SAS | | Integrated SAS Interface |
| **Disk Drives** | 1,568<br>24 | 36.4GB 15K 4Gbps FC Drive<br>146GB 15K SAS Drive | 1 | 73.4GB 15K SAS |
| **Total Storage** | | 55689.81GB | | |

| IBM Corporation | IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1) | TPC-C Rev. 5.8<br>Report Date 02/28/07 |
|---|---|---|

| Description | Part Number | Third Party Brand | Third Party Pricing | Unit Price | Quantity | Extended Price | 3-Yr. Maint. Price |
|---|---|---|---|---|---|---|---|
| **Server Hardware** | | | | | | | |
| IBM System x3950 ( 2 x Intel Xeon Processor 7150N 3.5GHz 667MHz, 2 x 1 MB L2 Cache and 16MB L3 Cache) | 8878-5RU | IBM | 1 | 21,265 | 1 | 21,265 | |
| Intel Xeon Processor 7150N 3.5GHz/2x1MB L2, 16MB L3 | 43V4553 | IBM | 1 | 5,699 | 6 | 34,194 | |
| x3950 E (0 Processors, 0 Memory, 2 Memory Cards) | 8879-1RU | IBM | 1 | 6,999 | 1 | 6,999 | |
| Scalability Cable 2.3.M | 13M7414 | IBM | 1 | 299 | 2 | 598 | |
| 8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIM | 30R5145 | IBM | 1 | 5,569 | 16 | 89,104 | |
| Active Memory 4-Slot Memory Expansion Card | 41Y5000 | IBM | 1 | 499 | 2 | 998 | |
| Adaptec 4800 PCI-X SAS Adapter (2 spares) | 2183100-R | Adaptec | 3 | 790 | 3 | 2,370 | |
| IBM 36.4GB 10K 2.5 inch SAS Drive | 40K1051 | IBM | 1 | 279 | 1 | 279 | |
| IBM T115 15-inch TFT Display | 494215U | IBM | 1 | 259 | 1 | 259 | |
| IBM Preferred Pro USB Keyboard | 40K9584 | IBM | 1 | 29 | 1 | 29 | |
| IBM 3-Button Optical Mouse - Black - USB | 40K9201 | IBM | 1 | 19 | 1 | 19 | |
| ServicePac for 3-Year 24x7x4 Support (x3950) | 96P2688 | IBM | 1 | 3,390 | 1 | | 3,390 |
| ServicePac for 3-Year 24x7x4 Support (x3950 E) | 10N3059 | IBM | 1 | 1,695 | 1 | | 1,695 |
| ServicePac for 3-Year 24x7x4 Support (Display) | 30L9183 | IBM | 1 | 90 | 1 | | 90 |
| | | | | | **Subtotal** | 156,114 | 5,175 |
| **Server Storage** | | | | | | | |
| IBM DS4000 FC 4Gbps - PCI-X Dual Port HBA | 39M5895 | IBM | 1 | 2,485 | 4 | 9,940 | |
| IBM TotalStorage DS4800 Midrange Disk Subsystem | 1815-82H | IBM | 1 | 65,245 | 8 | 521,960 | |
| IBM Short Wave SFP Module (4 Pack) | 22R0483 | IBM | 1 | 550 | 39 | 21,450 | |
| IBM 1m LC-LC Fibre Channel Cable | 39M5696 | IBM | 1 | 79 | 196 | 15,484 | |
| IBM 5m LC-LC Fibre Channel Cable | 39M5697 | IBM | 1 | 129 | 24 | 3,096 | |
| IBM TotalStorage DS4000 EXP810 Storage Exp. Unit | 1812-81H | IBM | 1 | 6,000 | 100 | 600,000 | |
| 36.4GB 15K 4Gbps FC E-DDM Hot-Swap HDD | 40K6812 | IBM | 1 | 1,115 | 1568 | 1,748,320 | |
| IBM TotalStorage SAN16B-2 | 2005-16B | IBM | 1 | 3,450 | 2 | 6,900 | |
| B16 4-Port Activation | 22R4901 | IBM | 1 | 1,570 | 2 | 3,140 | |
| IBM System Storage EXP3000 | 1727-01X | IBM | 1 | 3,599 | 2 | 7,198 | |
| IBM Hot-Swap 3.5-inch 15K 146GB SAS HDD | 40K1044 | IBM | 1 | 669 | 24 | 16,056 | |
| IBM SAS 1m Cable | 39R6471 | IBM | 1 | 119 | 1 | 119 | |
| IBM EXP3000 1m Cable | 39R6529 | IBM | 1 | 119 | 1 | 119 | |
| IBM UPS 750TLV | 2130R1X | IBM | 1 | 545 | 1 | 545 | |
| IBM S2 42U Standard Rack | 93074RX | IBM | 1 | 1,489 | 9 | 13,401 | |
| ServicePac for 3-Year 24x7x4 Support (EXP810) | 41L2768 | IBM | 1 | 760 | 100 | | 76,000 |
| ServicePac for 3-Year 24x7x4 Support (DS4800) | 96P2062 | IBM | 1 | 1,087 | 8 | | 8,696 |
| ServicePac for 3-Year 24x7x4 Support (EXP3000) | 41L2768 | IBM | 1 | 760 | 2 | | 1,520 |
| ServicePac for 3-Year 24x7x4 Support (Rack) | 41L2760 | IBM | 1 | 300 | 9 | | 2,700 |
| | | | | | **Subtotal** | 2,967,728 | 88,916 |
| **Server Software** | | | | | | | |
| Microsoft SQL Server 2005 Enterprise x64 Edition | 810-03134 | Microsoft | 2a | 23,432 | 8 | 187,456 | |
| Microsoft Windows Server 2003 Enterprise x64 Edition | P72-00981 | Microsoft | 2b | 2,334 | 1 | 2,334 | |
| Microsoft Problem Resolution Services | | Microsoft | 2 | 245 | 1 | | 245 |
| | | | | | **Subtotal** | 189,790 | 245 |
| **Client Hardware** | | | | | | | |
| x3500 with 3.0GHz/2x2MB Xeon 5160, 1GB (2x512) Memory | 797792U | IBM | 1 | 3,129 | 16 | 50,064 | |
| 1GB (2x512MB) PC2-5300 CL5 ECC DDR2 FBD 667MHz | 39M5782 | IBM | 1 | 445 | 16 | 7,120 | |
| 73GB 15K Hot Swap SAS | 40K1043 | IBM | 1 | 379 | 16 | 6,064 | |
| PRO/1000 PT Dual-Port Server Adapter | 39Y6126 | IBM | 1 | 249 | 32 | 7,968 | |
| ServicePac for 3-Year 24x7x4 Support (x3500) | 96P2250 | IBM | 1 | 586 | 16 | | 9,376 |
| | | | | | **Subtotal** | 71,216 | 9,376 |
| **Client Software** | | | | | | | |
| Microsoft Windows Server 2003 Standard x86 Edition | P73-00295 | Microsoft | 2c | 719 | 16 | 11,504 | |
| Microsoft Visual C++ Standard Edition | 254-00170 | Microsoft | 2 | 109 | 1 | 109 | |
| | | | | | **Subtotal** | 11,613 | 0 |
| **Network Components** | | | | | | | |
| NetGear 24-Port Ethernet Switch (2 spares) | JGS524 | | 4 | 246 | 3 | 738 | |
| Ethernet Cable (2 spares) | A3L791-10-BLK | | 4 | 3 | 22 | 66 | |
| | | | | | **Subtotal** | 804 | |
| | | | | | **Total** | 3,397,265 | 103,712 |
| Large Purchase Discount (See Note 1.) | 31.46% | | 1 | | | $1,037,064 | |

Pricing: 1 - IBM - 1-888-SHOP-IBM, ext. 5821; 2 - Microsoft, 2a = 6.26%; 2b = 41.64%; 2c = 28% discount; 3 - cdw.com; 4 - newegg.com

Note 1: Discount based on IBM Direct guidance applies to all line items where Pricing=1. Pricing is for this system or one of similar size.

Audited by Francois Raab, InfoSizing, Inc. (www.sizing.com)

| | |
|---|---|
| **Three-Year Cost of Ownership USD:** | $2,463,913 |
| **tpmC:** | 510,822 |
| **$ USD/tpmC:** | $4.82 |

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specifications. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org.

| IBM Corporation | IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1) | TPC-C Rev. 5.8<br>Report Date 02/28/07 |
|---|---|---|

## Numerical Quantities Summary

**MQTh, Computed Maximum Qualified Throughput: 510,822 tpmC**

| Response Times (in seconds) | 90th Percentile | Average | Maximum |
|---|---|---|---|
| New Order | 0.48 | 0.28 | 5.44 |
| Payment | 0.44 | 0.26 | 4.95 |
| Delivery | 0.12 | 0.12 | 1.38 |
| Stock Level | 0.94 | 0.68 | 2.97 |
| Order Status | 0.48 | 0.28 | 5.39 |
| Delivery (Deferred) | 0.13 | 0.10 | 4.34 |
| Menu | 0.11 | 0.12 | 1.36 |

**Response Time Delay Added for Emulated Components: 0.1 Seconds**

| Transaction Mix (in percent of total transactions) | Percent |
|---|---|
| New Order | 44.96 |
| Payment | 43.02 |
| Delivery | 4.01 |
| Stock Level | 4.01 |
| Order Status | 4.01 |

| Keying/Think Times (in seconds) | Minimum | Average | Maximum |
|---|---|---|---|
| New Order | 18.00 / 0.00 | 18.00 / 12.04 | 18.02 / 120.31 |
| Payment | 3.00 / 0.00 | 3.00 / 12.03 | 3.02 / 120.31 |
| Delivery | 2.00 / 0.00 | 2.00 / 5.04 | 2.02 / 50.31 |
| Stock Level | 2.00 / 0.00 | 2.00 / 5.04 | 2.02 / 50.31 |
| Order Status | 2.00 / 0.00 | 2.00 / 10.03 | 2.02 / 100.31 |

| Test Duration | |
|---|---|
| Ramp-up Time | 52 minutes 6 seconds |
| Measurement Interval | 120 minutes |
| Number of Checkpoints | 4 |
| Checkpoint Interval | 30 minutes |
| Number of transactions (all types) completed in measurement interval | 141,824,038 |

## Table of Contents


**Abstract** ..... 3

**Preface** ..... 10

**General Items** ..... 11

- Benchmark Sponsor ..... 11
- Application Code Disclosure and Definition Statements ..... 11
- Parameter Settings ..... 11
- Configuration Diagrams ..... 11
- Measured Configuration ..... 12

**Clause 1 – Logical Database Design Related Items** ..... 13

- Database Table Definitions ..... 13
- Database Physical Organization ..... 13
- Insert and Delete Definitions ..... 13
- Horizontal/Vertical Partitioning ..... 13
- Replication ..... 13
- Table Attributes ..... 13

**Clause 2 – Transactions and Terminal Profiles Related Items** ..... 14

- Random Number Generation ..... 14
- Screen Layout ..... 14
- Terminal Verification ..... 14
- Intelligent Terminals ..... 14
- Transaction Profiles ..... 14
- Deferred Delivery Mechanism ..... 15

**Clause 3 – Transaction and System Properties Related Items** ..... 16

- Atomicity Requirements ..... 16
- Consistency Requirements ..... 16
- Isolation Requirements ..... 16
- Durability Requirements ..... 17

**Clause 4 – Scaling and Database Population Related Items** ..... 19

- Cardinality of Tables ..... 19
- Distribution of Tables and Logs ..... 19
- Database Model Implemented ..... 23
- Partitions/Replications Mapping ..... 23

**60-Day Space Requirement** ..... 23
**Clause 5 – Performance Metrics and Response Time Related Items** ..... 24
**Measured tpmC** ..... 24
**Response Times** ..... 24
**Keying/Think Times** ..... 24
**Response Time Frequency Distribution Curves** ..... 25
**Performance Curve for Response Time vs. Throughput** ..... 27
**New Order Think Time Distribution** ..... 28
**Steady State Methodology** ..... 29
**Work Performed During Steady State** ..... 29
**Measurement Interval** ..... 29
**Transaction Mix** ..... 29
**Percentage of Total Mix** ..... 29
**Checkpoints** ..... 30
**Clause 6 – SUT, Driver and Communication Related Items** ..... 31
**Description of RTE** ..... 31
**Emulated Components** ..... 31
**Benchmarked and Targeted System Configuration Diagrams** ..... 31
**Network Configuration** ..... 31
**Network Bandwidth** ..... 31
**Operator Intervention** ..... 32
**Clause 7 – Pricing Related Items** ..... 33
**Hardware and Software Components** ..... 33
**Availability Date** ..... 33
**Measured tpmC** ..... 33
**Country-Specific Pricing** ..... 33
**System Pricing** ..... 34
**Clause 9 – Audit Related Items** ..... 35
**Attestation Letter** ..... 36
**Appendix A – Client Server Code** ..... 37
**Appendix B: Database Design Scripts** ..... 221
**Appendix C: Tunable Parameters** ..... 302
**Appendix D: 60-Day Space** ..... 690

**Appendix E: Third-Party Price Quotes ..... 691**

# Preface

The TPC Benchmark™ C was developed by the Transaction Processing Performance Council (TPC). The TPC was founded to define transaction processing benchmarks and to disseminate objective, verifiable performance data to the industry. This full disclosure report is based on the TPC Benchmark C Standard Specification Version 5.8.

The TPC describes this benchmark in Clause 0.1 of the specification as follows:

TPC Benchmark C is an On Line Transaction Processing (OLTP) workload. It is a mixture of read-only and update-intensive transactions that simulate the activities found in complex OLTP application environments. It does so by exercising a breadth of system components associated with environments, which are characterized by:

- The simultaneous execution of multiple transaction types that span a breadth of complexity
- On-line and deferred transaction execution modes
- Multiple on-line terminal sessions
- Moderate system and application execution time
- Significant disk input/output
- Transaction integrity (ACID properties)
- Non-uniform distribution of data access through primary and secondary keys
- Databases consisting of many tables with a wide variety of sizes, attributes and relationships
- Contention on data access and update

The performance metric reported by TPC-C is a "business throughput" measuring the number of orders processed per minute. Multiple transactions are used to simulate the business activity of processing an order, and each transaction is subject to a response time constraint. The performance metric for this benchmark is expressed in transactions-per-minute-C (tpmC). To be compliant with the TPC-C standard, all references to tpmC results must include the tpmC rate, the associated price-per-tpmC, and the availability date of the priced configuration.

Despite the fact that this benchmark offers a rich environment that emulates many OLTP applications, this benchmark does not reflect the entire range of OLTP requirements. In addition, the extent to which a customer can achieve the results reported by a vendor is highly dependent on how closely TPC-C approximates the customer application. The relative performance of systems derived from this benchmark does not necessarily hold for other workloads or environments. Extrapolations to any other environment are not recommended.

Benchmark results are highly dependent upon workload, specific application requirements, and systems design and implementation. Relative system performance will vary as a result of these and other factors. Therefore, TPC-C should not be used as a substitute for a specific customer application benchmarking when critical capacity planning and/or product evaluation decisions are contemplated.

# General Items

## Benchmark Sponsor

*A statement identifying the benchmark sponsor(s) and other participating companies must be provided.*

This benchmark was sponsored by IBM Corporation.

## Application Code Disclosure and Definition Statements

*The application program (as defined in Clause 2.1.7) must be disclosed. This includes, but is not limited to, the code implementing the five transactions and the terminal input and output functions.*

Appendix A contains all source code implemented in this benchmark.

## Parameter Settings

*Settings must be provided for all customer-tunable parameters and options that have been changed from the defaults found in actual products, including but not limited to:*

- *Database tuning options*
- *Recovery/commit options*
- *Consistency/locking options*
- *Operating system and application configuration parameters.*
- *Compilation and linkage options and run-time optimizations used to create/install applications, OS, and/or databases.*

*This requirement can be satisfied by providing a full list of all parameters and options.*

Appendix C contains the tunable parameters for the database, the operating system, and the transaction monitor.

## Configuration Diagrams

*Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences.*

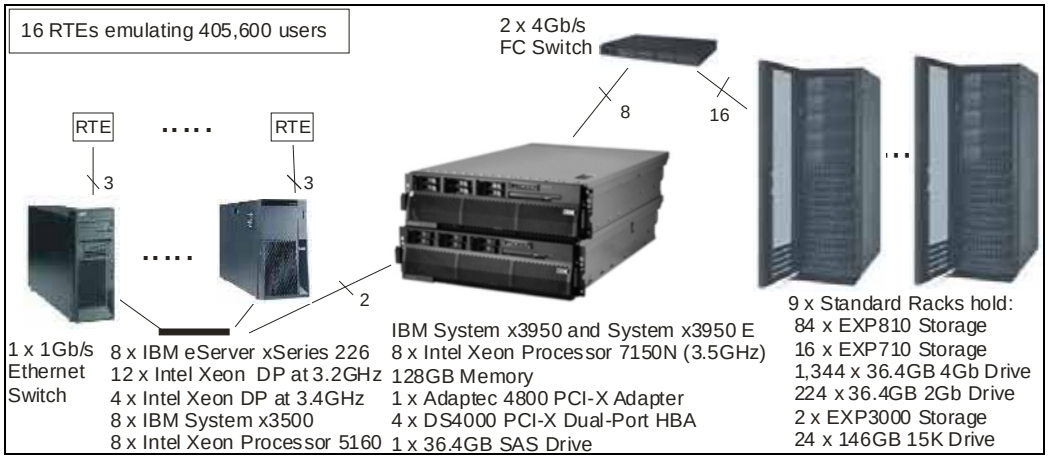
The configuration diagram for the tested system is provided on the following page. See the Executive Summary for the priced configuration.

The Remote Terminal Emulator (RTE) used for these TPC Benchmark C tests is an IBM proprietary RTE. Under Version 5.8, the components of the configuration being emulated by the RTE are the workstations and the Ethernet hubs. Appendix C contains a listing of the RTE scripts and inputs used in the benchmark testing.

The tested configuration used eight IBM System x3500 systems and eight IBM System x226 systems as the clients, which executed the terminal I/O and submitted transactions to COM+ servers, which are also running on the clients. These COM+ servers forwarded the transaction requests to the server, and returned the results to the RTE. Microsoft SQL Server 2005 Enterprise x64 Edition is the DBMS executing on the server. The x3500 systems each had one 3.0GHz dual-core processor, 2GB of memory, one 73GB 15K SAS drive, six expansion slots, and two dual-port Gb Ethernet adapters. Six of the x226 clients were configured with two single-core 3.2GHz Intel Xeon DP processors, and the other two x226 clients were configured with two single-core 3.4GHz Intel Xeon DP processors. All of the x226 clients had 2GB of

memory, one 36GB 15K U320 SCSI drive, six expansion slots, and two dual-port Gb Ethernet adapters. Client performance was monitored with PerfMon during a benchmark run to verify that the x3500 systems handled the same load as the older x226 systems using the same or less overall CPU and disk utilization as the x226 systems.

## Measured Configuration




The priced configuration consists of seven racks of storage each with one DS4800 controller, 12 EXP810 enclosures, and 192 36GB 15K 4Gbps FC drives plus one rack of storage with one DS4800 controller, 16 EXP810 enclosures, and 224 36GB 15K 4Gbps FC drives. The measured configuration consisted of the seven racks of priced storage equipment plus one rack with one DS4800 controller, 16 EXP710 enclosures, and 224 36GB 15K 2Gb FC drives. Extra drives were added to this rack compared with the other seven to offset the reduced speed of the older technology 2Gbps FC drives. The actual number of drives (1x224+7x192 = 1568) and enclosures (1x16+7x12=100) used during measurements was priced. Disk performance was monitored with PerfMon during a benchmark run to verify that the older 2Gbps 36GB FC drives are slower than the priced 4Gbps FC equipment.

All other components, including the adapters, HBAs, and the system under test, were priced as measured. For the priced configuration, see the Executive Summary.

# Clause 1 – Logical Database Design Related Items

## Database Table Definitions

*Listings must be provided for all table definition statements and all other statements used to set up the database.*

Appendix B contains the code used to define and load the database tables.

## Database Physical Organization

*The physical organization of tables and indexes within the database must be disclosed.*

Physical space was allocated to Microsoft SQL Server 2005 on the server disks as detailed in Table 4-2.

## Insert and Delete Definitions

*It must be ascertained that insert and/or delete operations to any of the tables can occur concurrently with the TPC-C transaction mix. Furthermore, any restriction in the SUT database implementation that precludes inserts beyond the limits defined in Clause 1.4.11 must be disclosed. This includes the maximum number of rows that can be inserted and the maximum key value for these new rows.*

All insert and delete functions were fully operational during the running of the benchmark. The space required for an additional 5 percent of the initial table cardinality was allocated to Microsoft SQL Server 2005 and priced as static space.

## Horizontal/Vertical Partitioning

*While there are few restrictions placed upon horizontal or vertical partitioning of tables and rows in the TPC-C benchmark (see Clause 1.6), any such partitioning must be disclosed.*

Partitioning was not used in this benchmark.

## Replication

*Replication tables, if used, must be disclosed (see Clause 1.4.6).*

Replication was not used in this benchmark.

## Table Attributes

*Additional and/or duplicated attributes in any table must be disclosed, along with a statement on the impact on performance (see Clause 1.4.7).*

No additional attributes were used in this benchmark.

# Clause 2 – Transactions and Terminal Profiles Related Items

## Random Number Generation

*The method of verification for the random number generation must be disclosed.*

The seeds and offsets for the random number generator were collected and verified to be different for each driver. The auditor selected samples of the generated numbers from the database. The samples were verified to have no discernible patterns.

## Screen Layout

*The actual layouts of the terminal input/out screens must be disclosed.*

All screen layouts followed the TPC Benchmark C Standard Specification.

## Terminal Verification

*The method used to verify that the emulated terminals provide all the features described in Clause 2.2.2.4 must be explained. Although not specifically priced, the type and model of the terminals used must for the demonstration in 8.1.3.3 must be disclosed and commercially available (including supporting software and maintenance).*

The auditor verified terminal features by direct experimentation. The benchmarked configuration uses Microsoft Internet Explorer 6.0 SP1 and HTML scripts as the terminal interface.

## Intelligent Terminals

*Any usage of presentation managers or intelligent terminals must be explained.*

The terminals emulated in the priced configuration are desktop computer systems. All processing of the input/output screens was handled by the x3500 clients. The screen input/output was managed via HTML strings that comply with the HTML Version 2.0 specification. A listing of the code used to implement the intelligent terminals is provided in Appendix A. All data manipulation was handled by the x3950 database server.

## Transaction Profiles

*The percentage of home and remote order-lines in the New-Order transactions must be disclosed.*
*The percentage of New-Order transactions that were rolled back as a result of an unused item number must be disclosed.*

*The number of items per orders entered by New-Order transactions must be disclosed. The percentage of home and remote Payment transactions must be disclosed. The percentage of Payment and Order-Status transactions that used non-primary key (C_LAST) access to the database must be disclosed.*
*The percentage of Delivery transactions that were skipped as a result of an insufficient number of rows in the NEW-ORDER table must be disclosed.*

*The mix (i.e., percentages) of transaction types seen by the SUT must be disclosed.*

**Table 2-1. Transaction Statistics**

| New Order | Values |
|---|---|
| Home warehouse order lines | 99.00% |
| Remote warehouse order lines | 1.00% |
| Rolled back transactions | 1.00% |
| Average number of items per order | 10.00 |
| **Payment** | |
| Home warehouse payment transactions | 85.00% |
| Remote warehouse payment transactions | 15.00% |
| **Non-Primary Key Access** | |
| Payment transactions using C_LAST | 60.00% |
| Order-Status transactions using C_LAST | 59.99% |
| **Delivery** | |
| Delivery transactions skipped | 0 |
| **Transaction Mix** | |
| New-Order | 44.96% |
| Payment | 43.02% |
| Delivery | 4.01% |
| Stock Level | 4.01% |
| Order Status | 4.01% |

# Deferred Delivery Mechanism

*The queuing mechanism used to defer execution of the Delivery transaction must be disclosed.*

The Delivery transaction was submitted to an ISAPI queue that is separate from the COM+ queue that the other transactions used. This queue is serviced by a variable amount of threads that are separate from the worker threads inside the web server. Web server threads are able to complete the on-line part of the Delivery transaction and immediately return successful queuing responses to the drivers. The threads servicing the queue are responsible for completing the deferred part of the transaction asynchronously.

The source code is listed in Appendix A.

# Clause 3 – Transaction and System Properties Related Items

*The results of the ACID test must be disclosed, along with a description of how the ACID requirements were met. This includes disclosing which case was followed for the execution of Isolation Test 7.*

## Atomicity Requirements

*The system under test must guarantee that database transactions are atomic; the system will either perform all individual operations on the data, or will assure that no partially completed operations leave any effects on the data.*

All ACID tests were conducted according to specification.

### Completed Transactions

The following steps were performed to verify the Atomicity of completed transactions.

1. The balance was retrieved from the CUSTOMER table for a random Customer, District and Warehouse, giving BALANCE_1.
2. The Payment transaction was executed for the Customer, District and Warehouse used in step 1.
3. The balance was retrieved again for the Customer used in step 1 and step 2, giving BALANCE_2. It was verified that BALANCE_1 was greater than BALANCE_2 by AMT.

### Aborted Transactions

The following steps were performed to verify the Atomicity of the aborted Payment transaction:

1. The Payment application code was changed to execute a rollback of the transaction instead of performing the commit.
2. Using the balance, BALANCE_2, from the CUSTOMER table retrieved for the completed transaction, the Payment transaction was executed for the Customer, District and Warehouse used in step 1. The transaction rolled back due to the change in the application code from step 1.
3. The balance was retrieved again for the Customer used for step 2, giving BALANCE_3. It was verified that BALANCE_2 was equal to BALANCE_3.

## Consistency Requirements

*Consistency is the property of the application that requires any execution of a database transaction to take the database from one consistent state to another, assuming that the database is initially in a consistent state.*

Consistency conditions one through four were tested using a batch file to issue queries to the database. The results of the queries demonstrated that the database was consistent for all four tests.

## Isolation Requirements

*Sufficient conditions must be enabled at either the system or the application level to ensure that the required isolation defined in Clause 3.4.1 is obtained.*

Isolation tests one through nine were run using batch files to issue queries to the database. Each file included timestamps to demonstrate the concurrency of operations. The results of the queries were captured and placed in files. The auditor reviewed the results and verified that the isolation requirements had been met.

In addition, the phantom tests and the stock-level tests were run and verified.

Case A was followed for isolation test seven.

# Durability Requirements

*The tested system must guarantee durability: the ability to preserve the effects of committed transactions and ensure database consistency after recovery from any one of the failures listed in Clause 3.5.3.*

- ✓ *Permanent irrecoverable failure of any single durable medium containing TPC-C database tables or recovery log data (this test includes failure of all or part of memory)*
- ✓ *Instantaneous interruption (system crash/system hang) in processing that requires system reboot to recover*
- ✓ *Failure of all or part of memory (loss of contents)*

## Loss of Data Test

The FibreChannel disks attached to each DS4800 controller were configured as RAID-0 arrays, with each array containing a portion of each of the tables in the database.

The following steps were successfully performed to pass the loss of data durability test with database tables:

1. The contents of the database were backed up to several database dump devices during the initial database load.
2. The current count of the total number of orders was determined by the sum of D_NEXT_O_ID for all rows in the district table giving SUM1.
3. A test was started with 40,560 users submitting transactions.
4. The benchmark ran for 5 minutes after all users were connected to the server.
5. A Fibre Channel disk drive containing a portion of each of the tables in the tpcc database was pulled out. This caused Microsoft SQL Server 2005 to report errors accessing that device since the data arrays are all RAID-0.
6. The run was aborted and Microsoft SQL Server 2005 was stopped.
7. The database log was saved.
8. A new disk drive was reinserted and was recovered.
9. The database was restored from the backup devices. Afterwards, the saved database transaction log was rolled forward.
10. Step 2 was repeated to obtain the current count of the total number of orders giving SUM2.
11. It was verified that SUM2 minus SUM1 (the actual number of new orders added to the database during the test) was equal to the number of new order transactions completed during the run minus any rollback transactions, as reported by the RTE logs.
12. Consistency Condition 3 was verified.

## Loss of Log and System (Instantaneous Interruption and Loss of Memory) Tests

The SAS disks attached to the Adaptec 4800 SAS controller were configured as one RAID-10 array. This array held the database log. Write-caching was disabled for the SAS log controller.

The following steps were successfully performed to pass the loss of log drive and loss of system power durability tests:

1. The current count of the total number of orders was determined by the sum of D_NEXT_O_ID for all rows in the district table giving SUM1.
2. A test was started with 372,270 users submitting transactions.
3. The benchmark ran for 5 minutes after all users were connected to the server.
4. One disk from the log array was removed. Since the log array was RAID-10 mirrored, Microsoft SQL Server 2005 continued to process transactions without interruption.
5. The test continued to run for another 5 minutes.
6. The server under test was powered off, which removed power from the system and the memory.
7. The server was powered on again.
8. Microsoft SQL Server 2005 was allowed to recover.
9. Step 1 was repeated to obtain the current count of the total number of orders giving SUM2.
10. It was verified that SUM2 minus SUM1 (the actual number of new orders added to the database during the test) was greater than or equal to the number of new order transactions completed during the run minus any rollback transactions, as reported by the RTE logs.

# Clause 4 – Scaling and Database Population Related Items

## Cardinality of Tables

*The cardinality (e.g., the number of rows) of each table, as it existed at the start of the benchmark run (see Clause 4.2), must be disclosed. If the database was over-scaled and inactive rows of the WAREHOUSE table were deleted (see Clause 4.2.2), the cardinality of the WAREHOUSE table as initially configured and the number of rows deleted must be disclosed.*

The database was built with 40,800 warehouses and the audited run used 40,560 warehouses. A total of 240 warehouses was deleted.

**Table 4-1. Initial Cardinality of Tables**

| Table Name | Rows |
|---|---|
| Warehouse | 40,800 |
| District | 408,000 |
| Item | 100,000 |
| New Order | 367,200,000 |
| History | 1,224,000,000 |
| Orders | 1,224,000,000 |
| Customer | 1,224,000,000 |
| Order Line | 12,239,955,097 |
| Stock | 4,080,000,000 |
| Inactive Warehouses | 240 |

## Distribution of Tables and Logs

*The distribution of tables and logs across all media must be explicitly depicted for the tested and priced systems.*

The log was configured using one Adaptec 4800 PCI-X SAS adapter. This adapter was connected to a RAID-10 disk array consisting of twenty-four 146GB 15K RPM SAS disks housed in two EXP3000 SAS drive enclosures.

The database tables were stored on 1,568 36.4GB 15K RPM 4Gb Fibre Channel disk drives. These disks were housed in EXP810 enclosures, which hold 16 drives each. A total of eight DS4800 storage systems were used to control these disks. Seven of the DS4800 storage systems were connected to 192 disks each and one DS4800 storage system was connected to 224 disks.

Each disk volume, as seen by the Windows operating system, was configured as a RAID-0 disk array with 24 (in the case of 192 drives/controller) or 28 (in the case of 224 drives/controller) physical disks, for a total of eight RAID-0 arrays per DS4800. There was a total of 64 such disk volumes. Each disk volume was configured in Windows as two partitions, one for customer and stock and the other for misc.

Figure 4-2 depicts the database configuration of the measured and priced systems to meet the 8-hour steady state requirement.

**Table 4-2. Data Distribution for the Benchmarked Configuration**

| Disk # | Drives | Partition | Size | Use |
|---|---|---|---|---|
| 0 | 1 - 36.4GB SAS | C: | 33.89GB (NTFS) | Operating System |
| 1 | 24 -146GB<br>EXP3000 Enclosure | E:<br>F: | 1639.29GB<br>94MB | Logfile<br>MDF File |
| 2 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c1<br>C:\mp\m1 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 3 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c2<br>C:\mp\m2 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 4 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c3<br>C:\mp\m3 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 5 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c4<br>C:\mp\m4 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 6 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c5<br>C:\mp\m5 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 7 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c6<br>C:\mp\m6 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 8 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c7<br>C:\mp\m7 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 9 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c8<br>C:\mp\m8 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 10 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c9<br>C:\mp\m9 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 11 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c10<br>C:\mp\m10 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 12 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c11<br>C:\mp\m11 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 13 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c12<br>C:\mp\m12 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 14 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c13<br>C:\mp\m13 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 15 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c14<br>C:\mp\m14 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 16 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c15<br>C:\mp\m15 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 17 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c16<br>C:\mp\m16 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 18 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c17<br>C:\mp\m17 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 19 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c18<br>C:\mp\m18 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 20 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c19<br>C:\mp\m19 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 21 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c20<br>C:\mp\m20 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |

| | | | | |
|---|---|---|---|---|
| 22 | 28 - 36.4GB EXP710 Enclosure | C:\mp\c21 C:\mp\m21 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 23 | 28 - 36.4GB EXP710 Enclosure | C:\mp\c22 C:\mp\m22 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 24 | 28 - 36.4GB EXP710 Enclosure | C:\mp\c23 C:\mp\m23 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 25 | 28 - 36.4GB EXP710 Enclosure | C:\mp\c24 C:\mp\m24 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 26 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c25 C:\mp\m25 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 27 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c26 C:\mp\m26 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 28 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c27 C:\mp\m27 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 29 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c28 C:\mp\m28 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 30 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c29 C:\mp\m29 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 31 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c30 C:\mp\m30 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 32 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c31 C:\mp\m31 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 33 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c32 C:\mp\m32 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 34 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c33 C:\mp\m33 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 35 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c34 C:\mp\m34 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 36 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c35 C:\mp\m35 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 37 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c36 C:\mp\m36 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 38 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c37 C:\mp\m37 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 39 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c38 C:\mp\m38 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 40 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c39 C:\mp\m39 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 41 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c40 C:\mp\m40 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 42 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c41 C:\mp\m41 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 43 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c42 C:\mp\m42 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |
| 44 | 24 - 36.4GB EXP810 Enclosure | C:\mp\c43 C:\mp\m43 | 36.62GB 20.02GB | Customer and Stock Miscellaneous |

| | | | | |
|---|---|---|---|---|
| 45 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c44<br>C:\mp\m44 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 46 | 28 - 36.4GB<br>EXP710 Enclosure | C:\mp\c45<br>C:\mp\m45 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 47 | 28 - 36.4GB<br>EXP710 Enclosure | C:\mp\c46<br>C:\mp\m46 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 48 | 28 - 36.4GB<br>EXP710 Enclosure | C:\mp\c47<br>C:\mp\m47 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 49 | 28 - 36.4GB<br>EXP710 Enclosure | C:\mp\c48<br>C:\mp\m48 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 50 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c49<br>C:\mp\m49 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 51 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c50<br>C:\mp\m50 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 52 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c51<br>C:\mp\m51 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 53 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c52<br>C:\mp\m52 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 54 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c53<br>C:\mp\m53 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 55 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c54<br>C:\mp\m54 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 56 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c55<br>C:\mp\m55 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 57 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c56<br>C:\mp\m56 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 58 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c57<br>C:\mp\m57 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 59 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c58<br>C:\mp\m58 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 60 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c59<br>C:\mp\m59 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 61 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c60<br>C:\mp\m60 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 62 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c61<br>C:\mp\m61 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 63 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c62<br>C:\mp\m62 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 64 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c63<br>C:\mp\m63 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |
| 65 | 24 - 36.4GB<br>EXP810 Enclosure | C:\mp\c64<br>C:\mp\m64 | 36.62GB<br>20.02GB | Customer and Stock<br>Miscellaneous |

## Database Model Implemented

*A statement must be provided that describes:*

1. *The database model implemented by the DBMS used (e.g., relational, network, hierarchical)*
2. *The database interface (e.g., embedded, call level) and access language (e.g., SQL, DL/1, COBOL, read/write) used to implement the TPC-C transactions. If more than one interface/access language is used to implement TPC-C, each interface/access language must be described and a list of which interface/access language is used with which transaction type must be disclosed.*

Microsoft SQL Server 2005 Enterprise Edition is a relational database. The interface used was Microsoft SQL Server stored procedures accessed with Remote Procedure Calls embedded in C code using the Microsoft ODBC interface.

## Partitions/Replications Mapping

*The mapping of database partitions/replications must be explicitly described.*

Neither horizontal nor vertical partitioning was used.

## 60-Day Space Requirement

*Details of the 60-day space computations, along with proof that the database is configured to sustain 8 hours of growth for the dynamic tables (Order, Order-Line, and History) must be disclosed (see Clause 4.2.3).*

See Appendix D for details about how the 60-day space requirements were calculated.

# Clause 5 – Performance Metrics and Response Time Related Items

## Measured tpmC

*Measured tpmC must be reported.*

Measured tpmC: 510,822 tpmC
Price per tpmC: $4.82 USD per tpmC

## Response Times

*Ninetieth percentile, maximum and average response times must be reported for all transaction types as well as for the Menu response time.*

The TPC-C requirements for the average response time and the 90th percentile were met. Table 5-1 provides the response times for each of the transaction types and the menu for the measured system.

**Table 5-1. Response Times in Seconds**

| Transaction Type | Average | Maximum | 90 %-tile |
|---|---|---|---|
| **New-Order** | 0.28 | 5.44 | 0.48 |
| **Payment** | 0.26 | 4.95 | 0.44 |
| **Delivery** | 0.12 | 1.38 | 0.12 |
| **Stock Level** | 0.68 | 2.97 | 0.94 |
| **Order Status** | 0.28 | 5.39 | 0.48 |
| **Delivery (Deferred)** | 0.10 | 4.34 | 0.13 |
| **Menu** | 0.12 | 1.36 | 0.11 |

## Keying/Think Times

*The minimum, the average, and the maximum keying and think times must be reported for each transaction type.*

Table 5-2 lists the keying/think times for the measured system.

**Table 5-2. Keying/Think Times**

| Transaction Type | Minimum | Average | Maximum |
|---|---|---|---|
| **New-Order** | 18.00 / 0.00 | 18.00 / 12.04 | 18.02 / 120.31 |
| **Payment** | 3.00 / 0.00 | 3.00 / 12.03 | 3.02 / 120.31 |
| **Delivery** | 2.00 / 0.00 | 2.00 / 5.04 | 2.02 / 50.31 |
| **Stock Level** | 2.00 / 0.00 | 2.00 / 5.04 | 2.02 / 50.31 |
| **Order Status** | 2.00 / 0.00 | 2.00 / 10.03 | 2.02 / 100.31 |

## Response Time Frequency Distribution Curves

*Response time frequency distribution curves (see Clause 5.6.1) must be reported for each transaction type.*

**Figure 5-1. New-Order Transaction - Response Time Frequency Distribution**

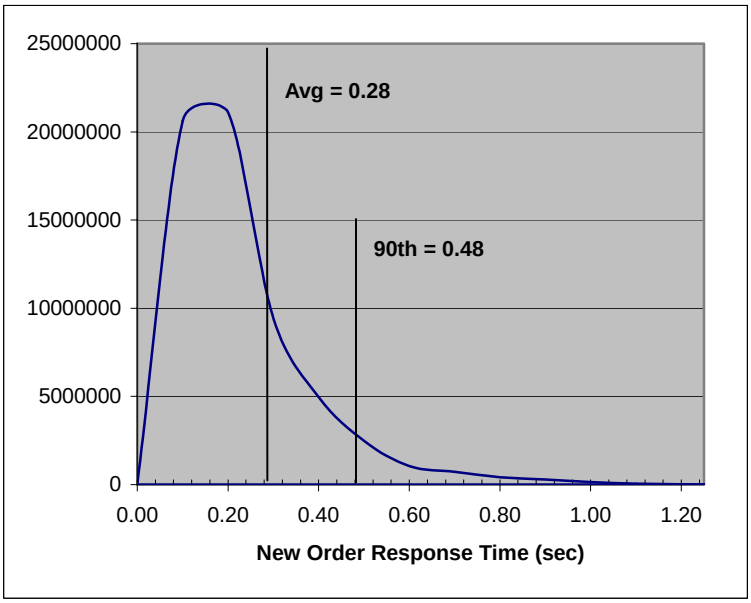



**Figure 5-2. Payment Transaction - Response Time Frequency Distribution**

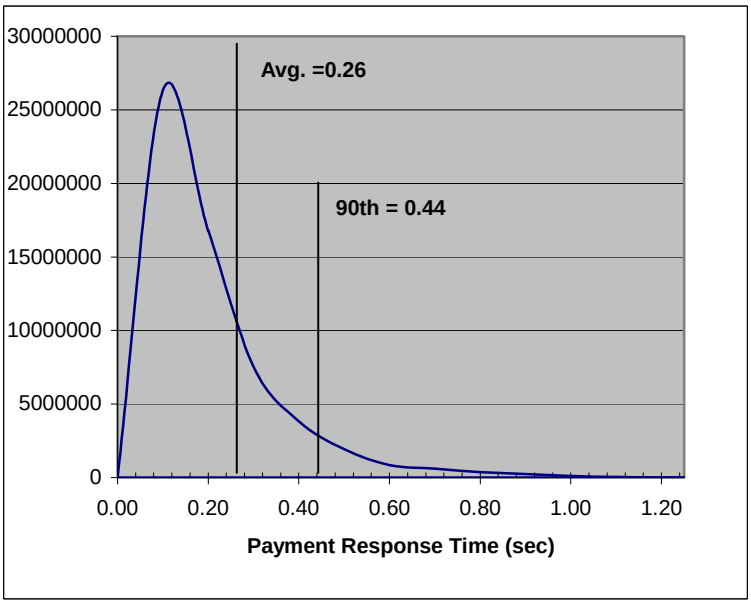


**Figure 5-3. Order-Status Transaction - Response Time Frequency Distribution**

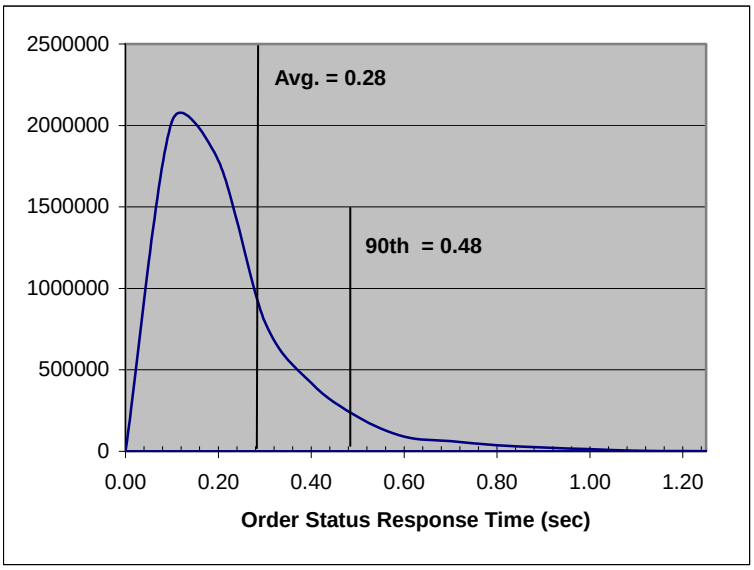



**Figure 5-4. Delivery Transaction - Response Time Frequency Distribution**

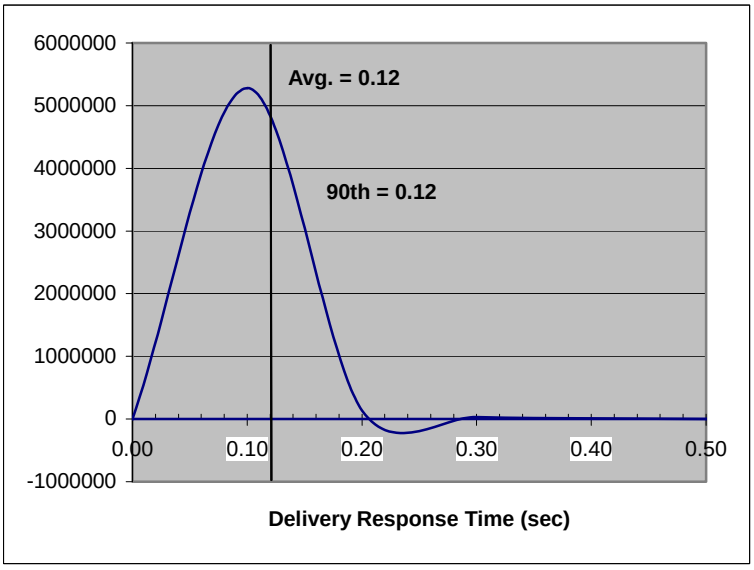
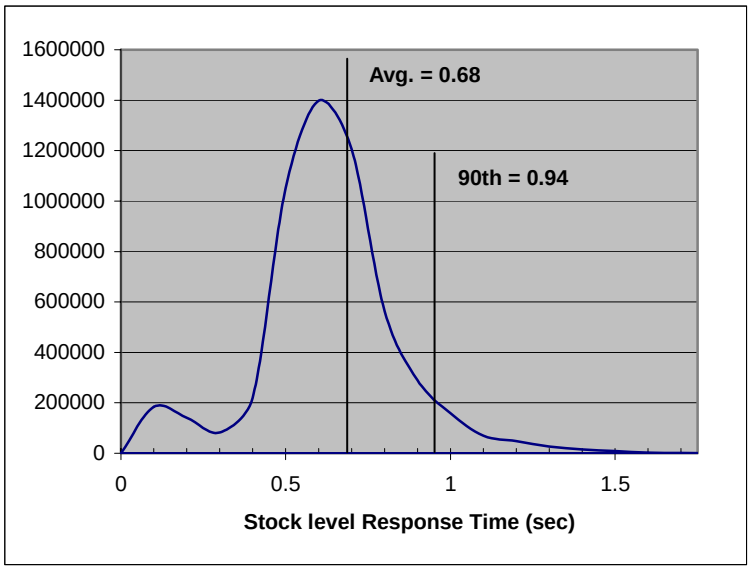


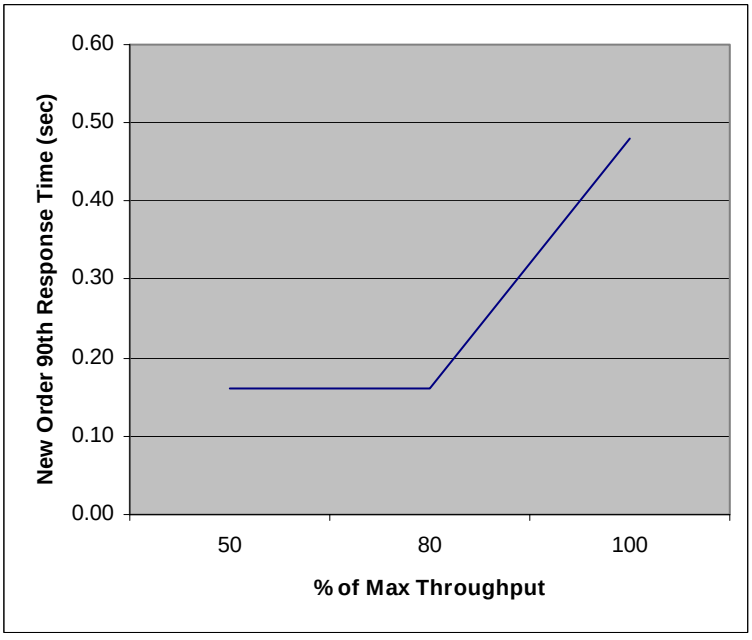
**Figure 5-5. Stock-Level Transaction - Response Time Frequency Distribution**




# Performance Curve for Response Time vs. Throughput

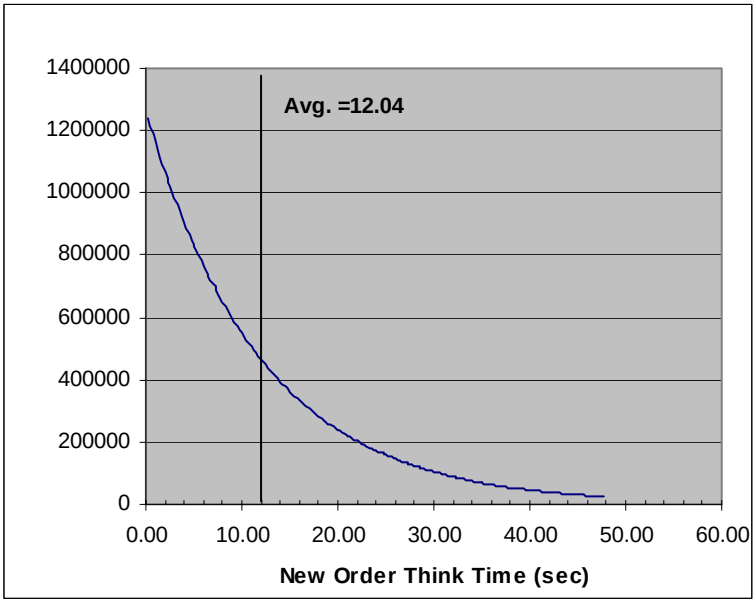
*The performance curve for response time vs. throughput (see Clause 5.6.2) must be reported for the New-Order transaction.*

**Figure 5-6. New-Order Response Time vs. Throughput**



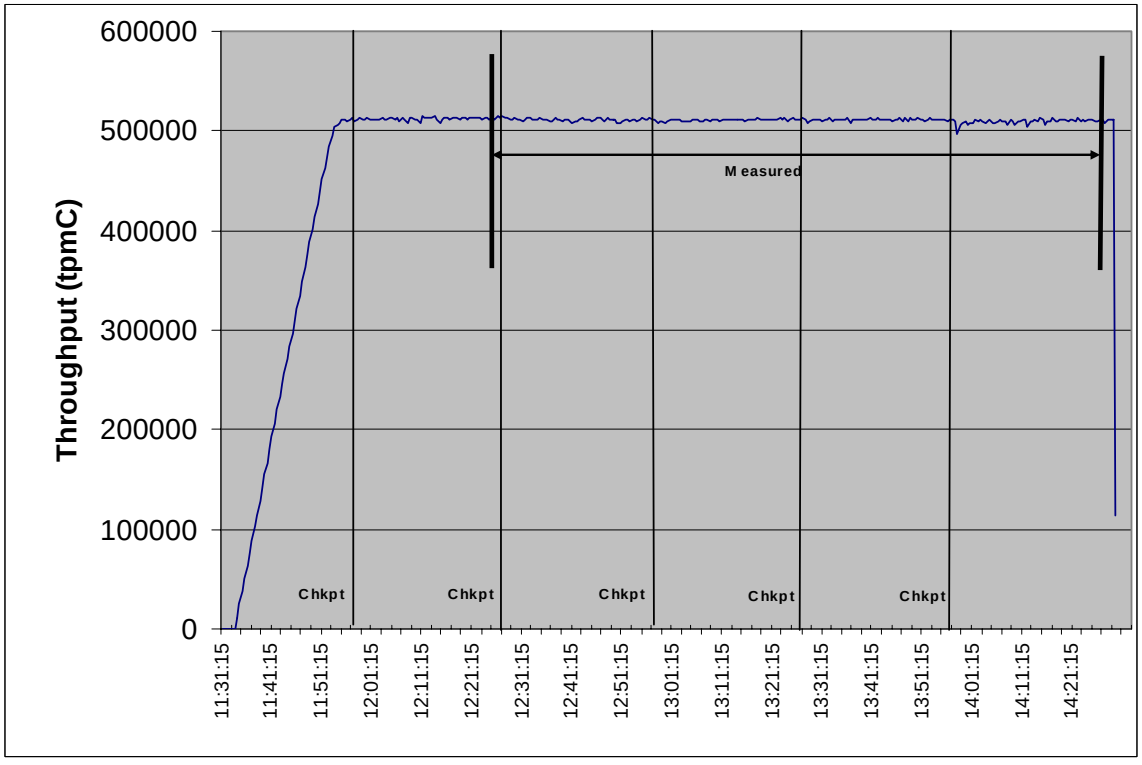
## New Order Think Time Distribution

**Figure 5-7. New-Order Think Time Distribution**




*A graph of throughput vs. elapsed time (see Clause 5.6.5) must be reported for the New-Order transaction.*

**Figure 5-8. New-Order Throughput vs. Elapsed Time**



## Steady State Methodology

*The method used to determine that the SUT had reached a steady state prior to commencing the measurement interval (see Clause 5.5) must be described.*

Figure 5-8 shows that the system was in steady state at the beginning of the measurement interval.

## Work Performed During Steady State

*A description of how the work normally performed during a sustained test (e.g., checkpointing, writing redo/undo log records) actually occurred during the measurement interval must be reported.*

### Transaction Flow

The RTE generated the required input data to choose a transaction from the menu. This data was time-stamped. The response for the requested transaction was verified and time-stamped in the RTE log files.

The RTE generated the required input data for the chosen transaction. It waited to complete the minimum required key time before transmitting the input screen. The transmission was time-stamped. The return of the screen with the required response data was time-stamped. The difference between these two time-stamps was the response time for that transaction and was logged in the RTE log. The RTE then waited the required think time interval before repeating the process starting at selecting another transaction from the menu.

The RTE transmissions were sent to application processes running on the client machines through Ethernet LANs. These client application processes handled all screen I/O as well as all requests to the database on the server. The applications communicated with the database server over a Gigabit Ethernet network using Microsoft SQL Server ODBC library and RPC calls.

## Measurement Interval

*A statement of the duration of the measurement interval for the reported Maximum Qualified Throughput (tpmC) must be included.*

The measurement interval was 120 minutes.

## Transaction Mix

*The method of regulation of the transaction mix (e.g., card decks or weighted random distribution) must be described. If weighted distribution is used and the RTE adjusts the weights associated with each transaction type, the maximum adjustments to the weight from the initial value must be disclosed. (8.1.6.13)*

The RTE was given a weighted random distribution, which was not adjusted during the run. See Table 5-3.

## Percentage of Total Mix

*The percentage of the total mix for each transaction type must be disclosed.*

See Table 5-3.

**Table 5-3. Transaction Statistics and Transaction Mix**

| New Order | Values |
|---|---|
| Home warehouse order lines | 99.00% |
| Remote warehouse order lines | 1.00% |
| Rolled back transactions | 1.00% |
| Average number of items per order | 10.00 |
| **Payment** | |
| Home warehouse payment transactions | 85.00% |
| Remote warehouse payment transactions | 15.00% |
| **Non-Primary Key Access** | |
| Payment transactions using C_LAST | 60.00% |
| Order-Status transactions using C_LAST | 59.99% |
| **Delivery** | |
| Delivery transactions skipped | 0 |
| **Transaction Mix** | |
| New-Order | 44.96% |
| Payment | 43.02% |
| Delivery | 4.01% |
| Stock Level | 4.01% |
| Order Status | 4.01% |

# Checkpoints

*The number of checkpoints in the Measurement Interval, the time in seconds from the start of the Measurement Interval to the first checkpoint, and the Checkpoint Interval must be disclosed.*

Checkpoints were performed during the ramp-up period and during each measured run interval. SQL Server was started with trace flag 3502, which caused it to log the occurrence of the checkpoints. This information was used to verify that the checkpoints occurred at the appropriate times during the test run.

During a checkpoint, SQL Server flushes all dirty pages from its cache to disk. It places a record in the database transaction log indicating that the checkpoint has completed and that all transactions, which were committed prior to the checkpoint have been written to disk. The first measurement interval checkpoint started 86 seconds after the start of the measurement interval. The checkpoint interval was 30 minutes and each checkpoint lasts for 1700 seconds. The checkpoints in the measured interval are shown in Table 5-4. .

**Table 5-4. Transaction Statistics and Transaction Mix**

| Checkpoint | Start Time | Duration |
|---|---|---|
| 1 | 12:27:09 | 28 minutes 20 seconds |
| 2 | 12:57:04 | 28 minutes 20 seconds |
| 3 | 13:26:59 | 28 minutes 20 seconds |
| 4 | 13:56:55 | 28 minutes 20 seconds |

# Clause 6 – SUT, Driver and Communication Related Items

## Description of RTE

*The RTE input parameters, code fragments, functions, etc., used to generate each transaction input field must be disclosed.*

The RTE used is IBM-developed proprietary software. The RTE input is listed in Appendix C.

## Emulated Components

*It must be demonstrated that the functionality and performance of the components being emulated in the Driver System are equivalent to that of the priced system. The results of the test described in Clause 6.6.3.4 must be disclosed.*

No components were emulated.

## Benchmarked and Targeted System Configuration Diagrams

*A complete functional diagram of both the benchmarked configuration and the configuration of the proposed (target) system must be disclosed. A detailed list of all software and hardware functionality being performed on the Driver System, and its interface to the SUT must be disclosed (see Clause 6.6.3.6).*

The driver RTE generated the transaction input data and transmitted it to the client in HTML format. The driver RTE received the output from the System Under Test, time-stamped it, and forwarded it to the Master RTE for post-test processing. No other functionality was included on the driver RTE.

Detailed diagrams of the benchmarked and priced configurations are provided in the section called "General Items" at the beginning of this document.

## Network Configuration

*The network configurations of both the tested services and the proposed (target) services which are being represented and a thorough explanation of exactly which parts of the proposed configuration are being replaced with the Driver System must be disclosed (see Clause 6.6.4).*

See the measured and priced configuration diagrams for details about the network configuration.

## Network Bandwidth

*The bandwidth of the network(s) used in the tested/priced configuration must be disclosed.*

The Ethernet used in the LAN connecting the clients and driver RTEs complies with the IEEE.802.3 standard. The Ethernet LAN had a bandwidth of 1Gbps. The LAN that connected the clients to the server complies with the IEEE.802.3 standard. The Ethernet LAN had a bandwidth of 1Gbps.

## Operator Intervention

*If the configuration requires operator intervention (see Clause 6.6.6), the mechanism and the frequency of this intervention must be disclosed.*

The configuration did not require any operator intervention to sustain the reported throughput.

# Clause 7 – Pricing Related Items

## Hardware and Software Components

*A detailed list of the hardware and software used in the priced system must be reported. Each separately orderable item must have a vendor part number, description and release/revision level, and either general availability status or committed delivery date. If package-pricing is used, vendor part number of the package and a description uniquely identifying each of the components of the package must be disclosed.*

*Pricing source(s) and effective date(s) must also be reported.*

*The total 3-year price of the entire configuration must be reported, including: hardware, software, and maintenance charges. Separate component pricing is recommended. The basis of all discounts used must be disclosed.*

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the front of this report. All third-party quotations are included in Appendix E at the end of this document.

## Availability Date

*The committed delivery date for general availability (availability date) of products used in the price calculations must be reported. When the priced system includes products with different availability dates, the reported availability for the priced system must be the date at which all components are committed to be available.*

The total solution as priced will be generally available April 1, 2007.

## Measured tpmC

*A statement of the measured tpmC, as well as the respective calculations for the 3-year pricing, price/performance (price/tpmC) and the availability date must be included.*

- Maximum Qualified Throughput: 510,822 tpmC
- Price per tpmC: $4.82 USD per tpmC
- Three-year cost of ownership: $2,463,913 USD

## Country-Specific Pricing

*Additional Clause 7 related items may be included in the Full Disclosure Report for each country-specific priced configuration. Country-specific pricing is subject to Clause 7.1.7.*

The configuration is priced for the United States of America.

## Usage Pricing

*For any usage pricing, the sponsor must disclose:*

- *Usage level at which the component was priced.*
- *A statement of the company policy allowing such pricing.*

The component pricing based on usage is shown below:

- 1 Microsoft Windows Server 2003 Enterprise x64 Edition
- 16 Microsoft Windows Server 2003 Standard x86 Edition
- 8 Microsoft SQL Server 2005 Enterprise x64 Edition (SP1) (based on per-processor price)
- 3-year support for hardware components (except for components for which a minimum of 2 or 10 percent spares are provided)

## System Pricing

*System pricing should include subtotals for the following components: Server Hardware, Server Software, Client Hardware, Client Software, and Network Components used for terminal connection (see Clause 7.2.2.3). System pricing must include line item indication where non-sponsoring companies' brands are used. System pricing must also include line item indication of third-party pricing.*

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the front of this report. All third-party quotations are included in Appendix E at the end of this document.

# Clause 9 – Audit Related Items

## Auditor

*The auditor's name, address, phone number, and a copy of the auditor's attestation letter indicating compliance must be included in the Full Disclosure Report.*

This implementation of the TPC-C benchmark was audited by Francois Raab of InfoSizing, Inc. The auditor's attestation letter is provided in this section.

## Availability of the Full Disclosure Report

*The Full Disclosure Report must be readily available to the public at a reasonable charge, similar to the charges for similar documents by the test sponsor. The report must be made available when results are made public. In order to use the phrase "TPC Benchmark™C," the Full Disclosure Report must have been submitted to the TPC Administrator as well as written permission obtained to distribute same.*

The TPC Benchmark C Full Disclosure Report can be obtained from www.tpc.org.

## Attestation Letter

The auditor's Attestation Letter is on the next two pages.

INFO SIZING

TPC TRANSACTION PROCESSING PERFORMANCE COUNCIL CERTIFIED AUDITOR

Sponsors:

Marc Baker
Manager, System x Performance
3039 Cornwallis Road
Research Triangle Park, NC 27709

February 26, 2007

I verified the TPC Benchmark™ C performance of the following Client Server configuration:

| | |
|---|---|
| Platform: | IBM System x3950 c/s |
| Operating system: | Microsoft Windows Server 2003 Enterprise x64 Edition |
| Database Manager: | Microsoft SQL Server 2005 Enterprise x64 Edition (SP1) |
| Transaction Manager: | Microsoft COM+ |

The results were:

| CPU's<br>Speed | Memory | Disks | NewOrder<br>90% Response<br>Time | tpmC |
|---|---|---|---|---|
| **Server: IBM System x3950** | | | | |
| 8 x Intel Xeon<br>Dual-Core 7150N<br>(3.5 GHz) | 128 GB main<br>(16 MB L3<br>cache/cpu) | 1 x 36.4 GB SAS int.<br>1,568 x 36.4 GB FC<br>24 x 146 GB SCSI | 0.48 Sec. | 510,822.0 |
| **16 Clients: IBM System x3500** (Specification for each) | | | | |
| 1 x Intel Xeon<br>Dual-Core 5160<br>(3.0 GHz) | 2 GB main<br>(4 MB L2) | 1 x 73.4 GB | n/a | n/a |

In my opinion, these performance results were produced in compliance with the TPC requirements for Revision 5.8 of the benchmark.

The following verification items were given special attention:

- The transactions were correctly implemented.
- The database records were the proper size.
- The database was properly scaled and populated.
- The ACID properties were met.
- Input data was generated according to the specified percentages.
- The transaction cycle times included the required browser delay, keying and think times.
- The reported response times were correctly measured.
- At least 90% of all delivery transactions met the 80 Second completion time limit.
- All 90% response times were under the specified maximums.
- The measurement interval was representative of steady state conditions.
- The reported measurement interval was 2.0 hours.
- Four checkpoints were taken during the measurement interval.
- The 60 day storage requirement was correctly computed.
- The system pricing was verified for major components and maintenance.

Additional Audit Notes:

The measured configuration included eight IBM System x226 clients. They were substituted, one for one, with eight IBM System x3500 clients in the priced configuration. The TPC requirements for substitution of priced clients were verified and met. In addition, the measured configuration included 224 disk drives connected to the server by 2Gbps Fibre Channels. They were substituted, one for one, with 224 disk drive of equal capacity, but connected to the server by 4Gbps Fibre Channels.

Respectfully Yours,

François Raab, President

# Appendix A – Client Server Code

## Web Client Source Code

### tpcc_oledb.cpp

```
/*          FILE:                   TPCC_OLEDB.CPP
 *                                          Microsoft TPC-C Kit Ver. 4.42.000
 *                                          Copyright Microsoft, 2004
 *                                          Written by Sergey Vasilevskiy
 *          All Rights Reserved
 *
 *
 *
 *          PURPOSE:                Implements OLEDB calls for TPC-C txns.
 *          Contact:    Charles Levine (clevine@microsoft.com)
 *
 *
 */

#include <windows.h>
#include <stdio.h>
#include <assert.h>
#include <stddef.h>

#define DBINITCONSTANTS
#include <oledb.h>
//#include <sqloledb.h> // Use MDAC
#include <sqlncli.h>   // Use SNAC
#include <oledberr.h>

#ifdef ICECAP
#include <icapexp.h>
#endif

// need to declare functions for export
#define DllDecl  __declspec( dllexport )

#include "..\..\common\src\error.h"
#include "..\..\common\src\trans.h"
#include "..\..\common\src\txn_base.h"
#include "tpcc_oledb.h"

#ifndef SQL_MAX_MESSAGE_LENGTH
#define SQL_MAX_MESSAGE_LENGTH 512
#endif

// version string; must match return value from tpcc_version stored proc
const char  sVersion[] = "4.20.000";

const iMaxRetries = 10;                         // how many retries on deadlock

const int iErrOleDbProvider = 7312;
const char sErrTimeoutExpired[] = "Timeout expired";

// this needs to be the same as the max length of machine/database/user/password in Benchcraft (engstut.h)
const static int          iMaxNameLen = 32;

BOOL APIENTRY DllMain(HMODULE hModule, DWORD ul_reason_for_call, LPVOID lpReserved)
{
          switch( ul_reason_for_call )
          {
                    case DLL_PROCESS_ATTACH:

          DisableThreadLibraryCalls(hModule);

                              break;

                    case DLL_PROCESS_DETACH:

                              break;

                    default:
                              /* nothing */;
          }
          return TRUE;
}

/* FUNCTION: CTPCC_OLEDB_ERR::ErrorText
 *
 */

char* CTPCC_OLEDB_ERR::ErrorText(void)
{
          int i;

          static SERRORMSG errorMsgs[] =
          {
                    { ERR_WRONG_SP_VERSION,
                    "Wrong version of stored procs on database server"       },
                    { ERR_INVALID_CUST,
                    "Invalid Customer id,name."
```

```
        },
                { ERR_NO_SUCH_ORDER,
        "No orders found for customer."
                                        },
                { ERR_RETRIED_TRANS,
        "Retries before transaction succeeded."
                                },
                { 0,
                                ""


        }
        };


        static char szNotFound[] = "Unknown error
number.";


        for(i=0; errorMsgs[i].szMsg[0]; i++)
        {
                if ( m_errno == errorMsgs[i].iError )
                        break;
        }
        if ( !errorMsgs[i].szMsg[0] )
                return szNotFound;
        else
                return errorMsgs[i].szMsg;
}


// wrapper routine for class constructor
__declspec(dllexport) CTPCC_OLEDB*
CTPCC_OLEDB_new(
        LPCSTR szServer,                // name of SQL
server
        LPCSTR szUser,                          //
user name for login
        LPCSTR szPassword,              // password for
login
        LPCSTR szHost,                          // not
used
        LPCSTR szDatabase,              // name of
database to use
        LPCWSTR szSPPrefix )                    //
prefix to append to the stored procedure names
{
        return new CTPCC_OLEDB( szServer, szUser,
szPassword, szHost, szDatabase, szSPPrefix );
}



CTPCC_OLEDB::CTPCC_OLEDB (
        LPCSTR szServer,
        // name of SQL server
        LPCSTR szUser,
                // user name for login
        LPCSTR szPassword,
        // password for login
        LPCSTR szHost,
                // not used
        LPCSTR szDatabase,
        // name of database to use
        LPCWSTR szSPPrefix
                // prefix to append to the stored
procedure names
        )
        : m_pIMalloc(NULL)
{
        int
        iRc;
        int
        i;
        HRESULT
        hr;
        IDBInitialize*                  pIDBInitialize =
NULL;           // data source interface
        IDBProperties*                  pIDBProperties
= NULL;
        ICommandText*
        pICommandText;
        // SQL command without parameters
        wchar_t
        szwServer[iMaxNameLen];                 //
Unicode string used to convert to BSTR
        wchar_t
        szwDatabase[iMaxNameLen];       // Unicode string
used to convert to BSTR
        wchar_t
        szwUser[iMaxNameLen];                   //
Unicode string used to convert to BSTR
        wchar_t
        szwPassword[iMaxNameLen];       // Unicode string
used to convert to BSTR


        // Copy stored procedures prefix
        wcsncpy(m_szSPPrefix, szSPPrefix,
sizeof(m_szSPPrefix)/sizeof(m_szSPPrefix[0]));


        // Convert single byte ANSI strings to Unicode
(for later conversion to BSTR)
        iRc =
MultiByteToWideChar(CP_THREAD_ACP,
MB_PRECOMPOSED, szServer, (int)strlen(szServer)+1,
szwServer, iMaxNameLen);
        iRc =
MultiByteToWideChar(CP_THREAD_ACP,
MB_PRECOMPOSED, szDatabase,
(int)strlen(szDatabase)+1, szwDatabase, iMaxNameLen);
        iRc =
MultiByteToWideChar(CP_THREAD_ACP,
MB_PRECOMPOSED, szUser, (int)strlen(szUser)+1,
szwUser, iMaxNameLen);
        iRc =
MultiByteToWideChar(CP_THREAD_ACP,
MB_PRECOMPOSED, szPassword,
(int)strlen(szPassword)+1, szwPassword, iMaxNameLen);
```

```
            // Initialize COM library to be able to use OLE-
DB interfaces
            CoInitialize(NULL);


            // Initialization - create SQLOLEDB component
            //hr = CoCreateInstance(CLSID_SQLOLEDB, //
GUID of SQLOLEDB component
            // Compile for SNAC
            hr = CoCreateInstance(CLSID_SQLNCLI,   //
GUID of SQLNCLI component
                  NULL,
            // not defining an aggregate component, so NULL
                  CLSCTX_INPROC_SERVER,            // run
the component in our process
                  IID_IDBInitialize,
                  (void **) &pIDBInitialize);
   /*
   Initialize the property values needed
   to establish the connection.
   */
   for(i = 0; i < 4; i++)
      VariantInit(&m_InitProperties[i].vValue);
   //Server name.
   m_InitProperties[0].dwPropertyID  =
DBPROP_INIT_DATASOURCE;
   m_InitProperties[0].vValue.vt     = VT_BSTR;
   m_InitProperties[0].vValue.bstrVal=
SysAllocString(szwServer);
   m_InitProperties[0].dwOptions     =
DBPROPOPTIONS_REQUIRED;
   m_InitProperties[0].colid         = DB_NULLID;
   //Database.
   m_InitProperties[1].dwPropertyID  =
DBPROP_INIT_CATALOG;
   m_InitProperties[1].vValue.vt     = VT_BSTR;
   m_InitProperties[1].vValue.bstrVal=
SysAllocString(szwDatabase);
   m_InitProperties[1].dwOptions     =
DBPROPOPTIONS_REQUIRED;
   m_InitProperties[1].colid         = DB_NULLID;
   //Username (login).
   m_InitProperties[2].dwPropertyID  =
DBPROP_AUTH_USERID;
   m_InitProperties[2].vValue.vt     = VT_BSTR;
   m_InitProperties[2].vValue.bstrVal=
SysAllocString(szwUser);
   m_InitProperties[2].dwOptions     =
DBPROPOPTIONS_REQUIRED;
   m_InitProperties[2].colid         = DB_NULLID;
   //Password.
   m_InitProperties[3].dwPropertyID  =
DBPROP_AUTH_PASSWORD;
   m_InitProperties[3].vValue.vt     = VT_BSTR;
   m_InitProperties[3].vValue.bstrVal=
SysAllocString(szwPassword);
   m_InitProperties[3].dwOptions     =
DBPROPOPTIONS_REQUIRED;
   m_InitProperties[3].colid         = DB_NULLID;
   /*
   Construct the DBPROPSET structure(m_rgInitPropSet).
The
   DBPROPSET structure is used to pass an array of
DBPROP
   structures (m_InitProperties) to the SetProperties method.
   */
   m_rgInitPropSet.guidPropertySet =
DBPROPSET_DBINIT;
   m_rgInitPropSet.cProperties    = 4;
   m_rgInitPropSet.rgProperties   = m_InitProperties;
   //Set initialization properties.
            if (FAILED(hr = pIDBInitialize-
>QueryInterface(IID_IDBProperties,


                        (void **)&pIDBProperties)))
            {
                        ThrowError(pIDBInitialize,
COLEDBERR::eQueryInterface, "CTPCC_OLEDB()");
            }


   hr = pIDBProperties->SetProperties(1, &m_rgInitPropSet);


   pIDBProperties->Release();
   //Now establish the connection to the data source.
   hr = pIDBInitialize->Initialize();


            // Free BSTR property strings
            for(i = 0; i < 4; i++)
            {
      SysFreeString(m_InitProperties[i].vValue.bstrVal);


            }


            hr = pIDBInitialize-
>QueryInterface(IID_IDBCreateSession, (void
**)&m_pIDBCreateSession);


            // Releasing this has no effect on the SQL Server
connection
   // of the data source object because of the reference
maintained by
   // m_pIDBCreateSession.
   pIDBInitialize->Release();
   pIDBInitialize = NULL;


            hr = m_pIDBCreateSession-
>CreateSession(NULL, IID_IDBCreateCommand,
(IUnknown **)&m_pIDBCreateCommand);
```

```
	if (FAILED(hr))
	{
		ThrowError(m_pIDBCreateSession, COLEDBERR::eCreateSession, "CTPCC_OLEDB()");
	}

	hr = m_pIDBCreateCommand->CreateCommand(NULL, IID_ICommandText, (IUnknown **)&pICommandText);
	if (FAILED(hr))
	{
		ThrowError(m_pIDBCreateCommand, COLEDBERR::eCreateCommand, "CTPCC_OLEDB()");
	}

	hr = pICommandText->SetCommandText(DBGUID_SQL, L"set nocount on set XACT_ABORT ON");
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eSetCommandText, "CTPCC_OLEDB()");
	}

	hr = pICommandText->Execute(NULL, IID_NULL, NULL, NULL, NULL);
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eExecute, "CTPCC_OLEDB()");
	}

	pICommandText->Release();

	// verify that version of stored procs on server is correct
	CheckSPVersion();

	// Get IMalloc interface
	hr = CoGetMalloc(1, (LPMALLOC *)&m_pIMalloc);

	// Bind parameters for each of the transactions
	InitNewOrderParams();
	InitPaymentParams();
	InitOrderStatusParams();
	InitDeliveryParams();
	InitStockLevelParams();
}

CTPCC_OLEDB::~CTPCC_OLEDB( void )
{
	if (m_pIMalloc != NULL)
	{
		m_pIMalloc->Release();
	}
	m_pIPaymentCommand->Release();
	m_pIDBCreateCommand->Release();
	m_pIDBCreateSession->Release();

	CoUninitialize();	// uninitialize COM library
}

/*
*	Check stored procedures version on the server.
*/
void CTPCC_OLEDB::CheckSPVersion()
{
	HRESULT				hr;
	char				db_sp_version[10];
	ICommandText*		pICommandText;
	IAccessor*			pIAccessor;
	IRowset*			pRowset;
	const ULONG			nOutputParams = 1;	// output 1st result set columns
	HACCESSOR			hTpccVersionOutputAccessor;
	// Structure to bind in accessor
	DBBINDING			acOutputDBBinding[nOutputParams];
	DBBINDSTATUS		acOutputDBBindStatus[nOutputParams];
	LONG				cRows = 1;	// number of rows returned in the rowset
	ULONG				cRowsObtained;
	HROW				rghRow;	//returned row handles
	HROW*				prghRow = &rghRow;

	hr = m_pIDBCreateCommand->CreateCommand(NULL, IID_ICommandText, (IUnknown **)&pICommandText);
	if (FAILED(hr))
	{
		ThrowError(m_pIDBCreateCommand, COLEDBERR::eCreateCommand, "CheckSPVersion()");
	}

	hr = pICommandText->SetCommandText(DBGUID_SQL, L"{call tpcc_version}");
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eSetCommandText, "CheckSPVersion()");
	}
```

```
	hr = pICommandText->QueryInterface(IID_IAccessor, (void **)&pIAccessor);
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eQueryInterface, "CheckSPVersion()");
	}

	// Now fill the binding information for result set 1 output columns
	InitBindings(&acOutputDBBinding[0], nOutputParams, eOutputColumn);

	// Binding for a rowset
	SetBinding(&acOutputDBBinding[0], 0, sizeof(db_sp_version), DBTYPE_STR);

	hr = pIAccessor->CreateAccessor(
		DBACCESSOR_ROWDATA,
		nOutputParams,
		acOutputDBBinding,
		sizeof(db_sp_version),
		&hTpccVersionOutputAccessor,
		acOutputDBBindStatus);
	if (FAILED(hr))
	{
		ThrowError(pIAccessor, COLEDBERR::eCreateAccessor, "CheckSPVersion()");
	}

	hr = pICommandText->Execute(NULL, IID_IRowset, NULL, NULL, (IUnknown **)&pRowset);
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eExecute, "CheckSPVersion()");
	}

	// Fetch the result row handle(s)
	hr = pRowset->GetNextRows(DB_NULL_HCHAPTER, 0, cRows, &cRowsObtained, &prghRow);
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eGetNextRows, "CheckSPVersion()");
	}

	// Fetch the actual row data by handle
	hr = pRowset->GetData(rghRow, hTpccVersionOutputAccessor, &db_sp_version);
	if (FAILED(hr))
	{
		ThrowError(pICommandText, COLEDBERR::eGetData, "CheckSPVersion()");
	}

	// Release row(s)
	hr = pRowset->Release();

	pICommandText->Release();

	// Check the retrieved version
	if (strcmp(db_sp_version,sVersion))
		throw new CTPCC_OLEDB_ERR( CTPCC_OLEDB_ERR::ERR_WRONG_SP_VERSION );
}

void CTPCC_OLEDB::ThrowError( IUnknown* pObjectWithError, COLEDBERR::ACTION eAction, LPCTSTR szLocation)
{
	HRESULT
		hr;
	//char
	szState[6];
	char
	szMsg[SQL_MAX_MESSAGE_LENGTH];
	char
	szTmp[6*SQL_MAX_MESSAGE_LENGTH];
	COLEDBERR
	*pOLEDBErr;                    // not allocated until needed (maybe never)
	int
		iLen;
	// Interfaces
	IErrorInfo*		pIErrorInfoAll		= NULL;
	IErrorInfo*		pIErrorInfoRecord	= NULL;
	IErrorRecords*		pIErrorRecords		= NULL;
	ISupportErrorInfo*	pISupportErrorInfo	= NULL;
	ISQLServerErrorInfo*	pISQLServerErrorInfo = NULL;
	ISQLErrorInfo*
	pISQLErrorInfo	= NULL;

	// Information used when cannot get custom error object
	ERRORINFO
	BasicErrorInfo;
	BSTR
	bstrDescription;
	// Number of error records.
	ULONG		nRecs;
	ULONG		nRec;
```

```
        // SQL Server error information from ISQLServerErrorInfo.
        SSERRORINFO*        pSSErrorInfo = NULL;
        OLECHAR*            pSSErrorStrings = NULL;


        assert(pObjectWithError != NULL);

        pOLEDBErr = new COLEDBERR(szLocation);

        pOLEDBErr->m_NativeError = 0;
        pOLEDBErr->m_eAction = eAction;
        pOLEDBErr->m_bDeadLock = FALSE;

        szTmp[0] = 0;

        // Only ask for error information if the interface supports it.
        // Note: SQLOLEDB provider supports error interface, so this check is
        // for good style only.
        hr = pObjectWithError->QueryInterface(IID_ISupportErrorInfo, (void**) &pISupportErrorInfo);
        if (FAILED(hr))
        {
                _snprintf(szMsg, sizeof(szMsg), "SupportErrorInfo interface not supported (hr=0x%X)", hr);
                pOLEDBErr->m_OLEDBErrStr = new char[strlen(szMsg)+1];
                strcpy(pOLEDBErr->m_OLEDBErrStr, szMsg);
                throw pOLEDBErr;
        }
        /*if (FAILED(pISupportErrorInfo->InterfaceSupportsErrorInfo(IID_InterfaceWithError)))
        {
                _snprintf(szMsg, sizeof(szMsg), "InterfaceWithError interface not supported");
                pOLEDBErr->m_OLEDBErrStr = new char[strlen(szMsg)+1];
                strcpy(pOLEDBErr->m_OLEDBErrStr, szMsg);
                return;
        }*/

        // Do not test the return of GetErrorInfo. It can succeed and return
        // a NULL pointer in pIErrorInfoAll. Simply test the pointer.
        GetErrorInfo(0, &pIErrorInfoAll);

        if (pIErrorInfoAll != NULL)
        {
                // Test to see if it's a valid OLE DB IErrorInfo interface
                // exposing a list of records.
                if (SUCCEEDED(pIErrorInfoAll->QueryInterface(IID_IErrorRecords, (void**) &pIErrorRecords)))
                {
                        pIErrorRecords->GetRecordCount(&nRecs);

                        // Within each record, retrieve information from each
                        // of the defined interfaces.
                        for (nRec = 0; nRec < nRecs; nRec++)
                        {
                                // Request the generic SQL error interface.
                                pIErrorRecords->GetCustomErrorObject(nRec,

        IID_ISQLErrorInfo, // generic SQL error interface

        (IUnknown**) &pISQLErrorInfo);

                                if (pISQLErrorInfo != NULL)
                                {
                                        // Request SQL Server-specific error interface, not the generic SQL error interface.

        pISQLErrorInfo->QueryInterface(

        IID_ISQLServerErrorInfo, // SQL Server error interface

        (void**) &pISQLServerErrorInfo);
                                }

                                // Test to ensure the reference is valid, then
                                // get error information from ISQLServerErrorInfo.
                                if (pISQLServerErrorInfo != NULL)
                                {

        pISQLServerErrorInfo->GetErrorInfo(&pSSErrorInfo, &pSSErrorStrings);

                                        // ISQLServerErrorInfo::GetErrorInfo succeeds
                                        // even when it has nothing to return. Test the
                                        // pointers before using.
```

```
                                                        if
(pSSErrorInfo)
                                                        {

            // First, add the error message.


            // Convert Unicode error string to ANSI.

            WideCharToMultiByte(CP_THREAD_ACP, 0,

                        pSSErrorInfo->pwszMessage, -1,

                        szMsg, sizeof(szMsg),

                        NULL, NULL);


            // quit if there isn't enough room to concatenate
error text

            if ( (strlen(szMsg) + 2) > (sizeof(szTmp) -
strlen(szTmp)) )

                        break;


            // include line break after first error msg

            if (szTmp[0] != 0)

                        strcat( szTmp, "\r\n");

            // concatenate the error record to the overall error
message

            strcat( szTmp, szMsg );


            // Second, add the stored procedure name and line
number, if available.


            if (wcslen(pSSErrorInfo->pwszProcedure)>0)

            {

                        // Prefix with a line break

                        iLen = sprintf(szMsg, "\r\nProcedure:
");


                        // Convert Unicode error string to
ANSI.


            WideCharToMultiByte(CP_THREAD_ACP, 0,

                                    pSSErrorInfo-
>pwszProcedure, -1,

                                    &szMsg[iLen],
sizeof(szMsg) - iLen,

                                    NULL, NULL);


                        // Check if have space to add the line
number.

                        // Assume the line number takes no
more than 3 digits.

                        if ((strlen(szMsg) + 4)< sizeof(szMsg))

                        {


                  _snprintf(&szMsg[strlen(szMsg)], sizeof(szMsg),

                                                ":%d",
pSSErrorInfo->wLineNumber);

                        }


                        // quit if there isn't enough room to
concatenate error text

                        if ( (strlen(szMsg) + 2) >
(sizeof(szTmp) - strlen(szTmp)) )

                                    break;


                        // concatenate the error record to the
overall error message

                        strcat( szTmp, szMsg );


                        // copy the overall error string to the
exception

                        pOLEDBErr->m_OLEDBErrStr =
new char[strlen(szTmp)+1];

                        strcpy(pOLEDBErr-
>m_OLEDBErrStr, szTmp);

            }


            // Third, capture the (first) database error
```

```
        if (pOLEDBErr->m_NativeError == 0 &&
pSSErrorInfo->lNative != 0)

        {

                pOLEDBErr->m_NativeError =
pSSErrorInfo->lNative;


                // Check for deadlock error code and
set the deadlock flag

                if (pSSErrorInfo->lNative == 1205)

                {

                        pOLEDBErr-
>m_bDeadLock = TRUE;

                }

        }



        // IMalloc::Free needed to release references

        // on returned values.

        if (m_pIMalloc != NULL)

        {

                m_pIMalloc->Free(pSSErrorStrings);

                m_pIMalloc->Free(pSSErrorInfo);

        }
                                                }


        pISQLServerErrorInfo->Release();
                                        }
                                        else
                                        {
                                                //
Custom error object is not supported.
                                                //
Use general OLE-DB error interface.


                                                // Get
the numeric error code

        pIErrorRecords->GetBasicErrorInfo(nRec,
&BasicErrorInfo);
                                                if
(pOLEDBErr->m_NativeError == 0)
                                                {
        // Get the failed call HRESULT code, which is not
really the native error

        pOLEDBErr->m_NativeError =
BasicErrorInfo.hrError;
                                                }


                                                // Try
to get the string description of the error.

        pIErrorRecords->GetErrorInfo(nRec,
LOCALE_USER_DEFAULT,
(IErrorInfo**)&pIErrorInfoRecord);


                                                if
(pIErrorInfoRecord)
                                                {


        pIErrorInfoRecord-
>GetDescription(&bstrDescription);


        // Convert Unicode error string to ANSI.

        WideCharToMultiByte(CP_THREAD_ACP, 0,

                bstrDescription, -1,

                szMsg, sizeof(szMsg),

                NULL, NULL);


        pOLEDBErr->m_OLEDBErrStr = new
char[strlen(szMsg)+1];

        strcpy(pOLEDBErr->m_OLEDBErrStr, szMsg);


                                                }
                                        }
                                }       // for()
                        }       // if
(SUCCEEDED(pIErrorInfoAll-
>QueryInterface(IID_IErrorRecords, (void**)
&pIErrorRecords)))
                        else
                        {       // No IErrorRecords
interface supported. Use default IErrorInfo.
                                // Note: SQLOLEDB
supports IErrorRecords, so this check is for good style only.
                                _snprintf(szMsg,
sizeof(szMsg), "IErrorRecords interface not supported");

                                pOLEDBErr-
>m_OLEDBErrStr = new char[strlen(szMsg)+1];
```

```
                        strcpy(pOLEDBErr->m_OLEDBErrStr, szMsg);
                }

                pIErrorInfoAll->Release();

        }       // if (pIErrorInfoAll != NULL)
        else
        {
                // No IErrorInfo interface supported.
                // Note: SQLOLEDB supports IErrorInfo, so this check is for good style only.
                _snprintf(szMsg, sizeof(szMsg), "IErrorInfo interface not supported");
                pOLEDBErr->m_OLEDBErrStr = new char[strlen(szMsg)+1];
                strcpy(pOLEDBErr->m_OLEDBErrStr, szMsg);
        }

        throw pOLEDBErr;
}

/*
*
*       Create a new command object from the SQL text passed in.
*
*/
void CTPCC_OLEDB::CreateCommand(wchar_t* szSQLCommand,                  // I: SQL query for the command
                                ICommandText** ppICommandText   // O: returned command object
                                )
{
        HRESULT
        hr;

        // Create a new command object
        hr = m_pIDBCreateCommand->CreateCommand(NULL, IID_ICommandText, (IUnknown **)ppICommandText);
        if (FAILED(hr))
        {
                ThrowError(m_pIDBCreateCommand, COLEDBERR::eCreateCommand, "CTPCC_OLEDB::CreateCommand");
        }

        // Set command text
        hr = (*ppICommandText)->SetCommandText(DBGUID_SQL, szSQLCommand);
        if (FAILED(hr))
        {
                ThrowError(*ppICommandText, COLEDBERR::eSetCommandText, "CTPCC_OLEDB::CreateCommand");
        }

        // Prepare the command
        PrepareCommand(*ppICommandText);
}

/*
*       QueryInterface and Prepare in one function for simplicity.
*       DEFERRED PREPARE property is set to off to prepare immediatelly.
*/
void CTPCC_OLEDB::PrepareCommand(ICommandText* pICommandText)
{
        HRESULT
        hr;
        ICommandPrepare*    pICommandPrepare;
        ICommandProperties*
        pICommandProperties;
        DBPROPSET
        rowSetPropSet;
        DBPROP
        rowSetProp;

        // Set the deferred prepare property to false.
        rowSetProp.dwPropertyID = SSPROP_DEFERPREPARE;
        memset(&rowSetProp.vValue, 0, sizeof(rowSetProp.vValue));
        rowSetProp.dwOptions = DBPROPOPTIONS_REQUIRED;
        rowSetProp.colid = DB_NULLID;

        rowSetPropSet.cProperties = 1;
        rowSetPropSet.guidPropertySet = DBPROPSET_SQLSERVERROWSET;
        rowSetPropSet.rgProperties = &rowSetProp;

        // Query interface for setting properties
        hr = pICommandText->QueryInterface(IID_ICommandProperties, (void **)&pICommandProperties);
        if (FAILED(hr))
        {
                ThrowError(pICommandText, COLEDBERR::eQueryInterface, "CTPCC_OLEDB::PrepareCommand");
        }
```

```
		// Set the property set
		hr = pICommandProperties->SetProperties(1,
&rowSetPropSet);
		if (FAILED(hr))
		{
			ThrowError(pICommandText,
COLEDBERR::eQueryInterface,
"CTPCC_OLEDB::PrepareCommand");
		}


		// Get interface for preparing commands
		hr = pICommandText-
>QueryInterface(IID_ICommandPrepare, (void
**)&pICommandPrepare);
		if (FAILED(hr))
		{
			ThrowError(pICommandText,
COLEDBERR::eQueryInterface,
"CTPCC_OLEDB::PrepareCommand");
		}


		// Prepare Payment command
		hr = pICommandPrepare->Prepare(0xFFFFFFFF);
		if (FAILED(hr))
		{
			ThrowError(pICommandPrepare,
COLEDBERR::ePrepare,
"CTPCC_OLEDB::PrepareCommand");
		}
}


/*
*	Initialize fields of an array of bindings structures.
*	Needs to be called before setting individual
parameter/column bindings.
*/
void CTPCC_OLEDB::InitBindings(DBBINDING*
pDBBindings,		// IO: array of bindings

			int iCount,
			// I: number of elements in the array


			eBindingType BindingType)	// I:
what the bindings will be used for (parameters/columns)
{
		int i;


		for(i = 0; i < iCount; i++)
  {
			pDBBindings[i].iOrdinal = i + 1;
    pDBBindings[i].obLength = 0;
    pDBBindings[i].obStatus = 0;
    pDBBindings[i].pTypeInfo = NULL;
    pDBBindings[i].pObject = NULL;
    pDBBindings[i].pBindExt = NULL;
    pDBBindings[i].dwPart = DBPART_VALUE;


			switch (BindingType)
			{
			case eInputParameter:
				pDBBindings[i].eParamIO
= DBPARAMIO_INPUT;
				break;
			case eOutputParameter:
				pDBBindings[i].eParamIO
= DBPARAMIO_OUTPUT;
				break;
			case eInputOutputParameter:
				pDBBindings[i].eParamIO
= DBPARAMIO_INPUT | DBPARAMIO_OUTPUT;
				break;
			case eOutputColumn:
				pDBBindings[i].eParamIO
= DBPARAMIO_NOTPARAM;
				break;
			default:
				assert(false);		//
this should never happen
			}


    pDBBindings[i].dwMemOwner =
DBMEMOWNER_CLIENTOWNED;
    pDBBindings[i].dwFlags = 0;
			pDBBindings[i].bPrecision = 0;
    pDBBindings[i].bScale = 0;
  }
}


/*
*		Perform binding for one parameter or output
column.
*
*/
void CTPCC_OLEDB::SetBinding(DBBINDING*
pDBBinding, // I: binding row structure

			size_t obValue,
		// I: parameter (column) offset in the user buffer

			size_t cbMaxLen,		// I:
parameter (column) length

			DBTYPE wType
		// I: parameter (column) type

			)
{
		pDBBinding->obValue = (ULONG)obValue;
		pDBBinding->cbMaxLen = (ULONG)cbMaxLen;
		pDBBinding->wType = wType;
```

```
}

void CTPCC_OLEDB::InitStockLevelParams()
{
        int
                i;
        HRESULT
                hr;
        wchar_t
        szName[iMAX_SP_NAME_LEN];
        IAccessor*
        pIAccessor;
  const ULONG
        nInputParams = 3;      // input parameters
        const ULONG
        nOutputParams = 1;    // output 1st result set
columns
        // Structure to bind in accessor
        DBBINDING
        acInputDBBinding[nInputParams];
        DBBINDSTATUS
        acInputDBBindStatus[nInputParams];
        DBBINDING
        acOutputDBBinding[nOutputParams];
        DBBINDSTATUS
        acOutputDBBindStatus[nOutputParams];

        // Set command text
        _snwprintf(szName,
sizeof(szName)/sizeof(szName[0]),
                        L"{call %stpcc_stocklevel
(?,?,?)}", m_szSPPrefix);

        // Create and Prepare a new command object for
StockLevel.
        CreateCommand(szName,
&m_pIStockLevelCommand);

        // Describe the consumer buffer by filling in the
array
  // of DBBINDING structures.  Each binding associates
  // a single parameter to the consumer's buffer.
        InitBindings(&acInputDBBinding[0],
nInputParams, eInputParameter);

        i = 0;
  // StockLevel parameter 1
        SetBinding(&acInputDBBinding[i++],
offsetof(STOCK_LEVEL_DATA, w_id),
sizeof(m_txn.StockLevel.w_id), DBTYPE_I4);

  // StockLevel parameter 2
        SetBinding(&acInputDBBinding[i++],
offsetof(STOCK_LEVEL_DATA, d_id),
sizeof(m_txn.StockLevel.d_id), DBTYPE_UI1);

        // StockLevel parameter 3
        SetBinding(&acInputDBBinding[i++],
offsetof(STOCK_LEVEL_DATA, threshold),
sizeof(m_txn.StockLevel.threshold), DBTYPE_I2);

        hr = m_pIStockLevelCommand-
>QueryInterface(IID_IAccessor, (void **)&pIAccessor);
        if (FAILED(hr))
        {

        ThrowError(m_pIStockLevelCommand,
COLEDBERR::eQueryInterface, "InitStockLevelParams()");
        }

        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_PARAMETERDATA,
                nInputParams,
                acInputDBBinding,
                sizeof(STOCK_LEVEL_DATA),
                &m_hStockLevelInputAccessor,
                acInputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitStockLevelParams()");
        }

        m_StockLevelExecuteParams.cParamSets = 1;
        m_StockLevelExecuteParams.hAccessor =
m_hStockLevelInputAccessor;
        m_StockLevelExecuteParams.pData =
&m_txn.StockLevel;

        // Now fill the binding information for result set 1
output columns
        InitBindings(&acOutputDBBinding[0],
nOutputParams, eOutputColumn);

        // Binding for a rowset that may return more than
one row.
        i = 0;
        // StockLevel output column 1
        SetBinding(&acOutputDBBinding[i++],
offsetof(STOCK_LEVEL_DATA, low_stock),
sizeof(m_txn.StockLevel.low_stock), DBTYPE_I4);

        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_ROWDATA |
DBACCESSOR_OPTIMIZED,
                nOutputParams,
                acOutputDBBinding,
                sizeof(STOCK_LEVEL_DATA),
                &m_hStockLevelOutputAccessor,
                acOutputDBBindStatus);
```

```
	if (FAILED(hr))
	{
		ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitStockLevelParams()");
	}
}

void CTPCC_OLEDB::StockLevel()
{
	HRESULT hr;
	int
	iTryCount = 0;
	IRowset* pRowset;
	LONG cRows = 1;
	// number of rows returned in the rowset
	ULONG cRowsObtained;
	HROW rghRow;
	//returned row handles
	HROW* prghRow =
&rghRow;

	while (TRUE)
	{
		try
		{
			// Execute the prepared
command
			hr =
m_pIStockLevelCommand->Execute(NULL, IID_IRowset,
&m_StockLevelExecuteParams, NULL,

	(IUnknown **)&pRowset);
			if (FAILED(hr))
			{

	ThrowError(m_pIStockLevelCommand,
COLEDBERR::eExecute, "StockLevel()");
			}

			// Fetch the result row
handle(s)
			hr = pRowset-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows,
&cRowsObtained, &prghRow);
			if (FAILED(hr))
			{

	ThrowError(m_pIStockLevelCommand,
COLEDBERR::eGetNextRows, "StockLevel()");
			}

			// Fetch the actual row data
by handle
			hr = pRowset-
>GetData(rghRow, m_hStockLevelOutputAccessor,
&m_txn.StockLevel);
			if (FAILED(hr))
			{

	ThrowError(m_pIStockLevelCommand,
COLEDBERR::eGetData, "StockLevel()");
			}

			// Release row(s)
			hr = pRowset-
>ReleaseRows(cRowsObtained, prghRow, NULL, NULL,
NULL);
			// Release rowset
			hr = pRowset->Release();


	m_txn.StockLevel.exec_status_code = eOK;

			break;
		}
		catch (COLEDBERR *e)
		{
			if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
				throw;

			// hit deadlock; backoff for
increasingly longer period
			delete e;
			Sleep(10 * iTryCount);
		}
	}

//	if (iTryCount)
//		throw new
CTPCC_OLEDB_ERR(CTPCC_OLEDB_ERR::ERR_RET
RIED_TRANS, iTryCount);
}

void CTPCC_OLEDB::InitNewOrderParams()
{
	int
		i, j, iOlCount;
	HRESULT
		hr;
	wchar_t
	szName[iMAX_SP_NAME_LEN];
	IAccessor*
	pIAccessor;
   const ULONG
	nInputParams = 5 +
3*MAX_OL_NEW_ORDER_ITEMS;	// input
parameters
```

```
            const ULONG
            nOutputParams = 5;    // output 1st result set
columns
            const ULONG
            nOutputParams2 = 8;  // output 2nd result set
columns
            // Structure to bind in accessor
            DBBINDING
            acInputDBBinding[nInputParams];
            DBBINDSTATUS
            acInputDBBindStatus[nInputParams];
            DBBINDING
            acOutputDBBinding[nOutputParams];
            DBBINDSTATUS
            acOutputDBBindStatus[nOutputParams];
            DBBINDING
            acOutputDBBinding2[nOutputParams2];
            DBBINDSTATUS
            acOutputDBBindStatus2[nOutputParams2];


            // Describe the consumer buffer by filling in the
array
   // of DBBINDING structures.  Each binding associates
   // a single parameter to the consumer's buffer.
            InitBindings(&acInputDBBinding[0],
nInputParams, eInputParameter);


            i = 0;
   // NewOrder parameter 1
            SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, w_id),
sizeof(m_txn.NewOrder.w_id), DBTYPE_I4);


   // NewOrder parameter 2
            SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, d_id),
sizeof(m_txn.NewOrder.d_id), DBTYPE_UI1);


            // NewOrder parameter 3
            SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, c_id),
sizeof(m_txn.NewOrder.c_id), DBTYPE_I4);


            // NewOrder parameter 4
            SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, o_ol_cnt),
sizeof(m_txn.NewOrder.o_ol_cnt), DBTYPE_UI1);


            // NewOrder parameter 5
            SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, o_all_local),
sizeof(m_txn.NewOrder.o_all_local), DBTYPE_UI1);


            for (j=0; j<MAX_OL_NEW_ORDER_ITEMS;
j++)
            {
                  SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, OL[j].ol_i_id),
sizeof(m_txn.NewOrder.OL[j].ol_i_id), DBTYPE_I4);
                  SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, OL[j].ol_supply_w_id),
sizeof(m_txn.NewOrder.OL[j].ol_supply_w_id),
DBTYPE_I4);
                  SetBinding(&acInputDBBinding[i++],
offsetof(NEW_ORDER_DATA, OL[j].ol_quantity),
sizeof(m_txn.NewOrder.OL[j].ol_quantity), DBTYPE_I2);


            }



            // Now fill the binding information for result set 1
output columns
            InitBindings(&acOutputDBBinding[0],
nOutputParams, eOutputColumn);


            // Binding for the order line rowsets (each consist
of one row).
            // Bind to offsets of the
OL_NEW_ORDER_DATA structure instead of
NEW_ORDER_DATA.
            // IRowset::GetData() will be passed individual
array slots OL[i] to fetch the data
            // from the row set.


            i = 0;
            // NewOrder output column 1
            SetBinding(&acOutputDBBinding[i++],
offsetof(OL_NEW_ORDER_DATA, ol_i_name),
sizeof(m_txn.NewOrder.OL[0].ol_i_name), DBTYPE_STR);


            // NewOrder output column 2
            SetBinding(&acOutputDBBinding[i++],
offsetof(OL_NEW_ORDER_DATA, ol_stock),
sizeof(m_txn.NewOrder.OL[0].ol_stock), DBTYPE_I2);


            // NewOrder output column 3
            SetBinding(&acOutputDBBinding[i++],
offsetof(OL_NEW_ORDER_DATA, ol_brand_generic),
sizeof(m_txn.NewOrder.OL[0].ol_brand_generic),
DBTYPE_STR);


            // NewOrder output column 4
            SetBinding(&acOutputDBBinding[i++],
offsetof(OL_NEW_ORDER_DATA, ol_i_price),
sizeof(m_txn.NewOrder.OL[0].ol_i_price), DBTYPE_R8);


            // NewOrder output column 5
            SetBinding(&acOutputDBBinding[i++],
offsetof(OL_NEW_ORDER_DATA, ol_amount),
sizeof(m_txn.NewOrder.OL[0].ol_amount), DBTYPE_R8);
```

```
        // Now fill the binding information for result set 2
output columns
        InitBindings(&acOutputDBBinding2[0],
nOutputParams2, eOutputColumn);


        i = 0;
        // NewOrder output column 1
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, w_tax),
sizeof(m_txn.NewOrder.w_tax), DBTYPE_R8);


        // NewOrder output column 2
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, d_tax),
sizeof(m_txn.NewOrder.d_tax), DBTYPE_R8);


        // NewOrder output column 3
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, o_id),
sizeof(m_txn.NewOrder.o_id), DBTYPE_I4);


        // NewOrder output column 4
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, c_last),
sizeof(m_txn.NewOrder.c_last), DBTYPE_STR);


        // NewOrder output column 5
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, c_discount),
sizeof(m_txn.NewOrder.c_discount), DBTYPE_R8);


        // NewOrder output column 6
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, c_credit),
sizeof(m_txn.NewOrder.c_credit), DBTYPE_STR);


        // NewOrder output column 7
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, o_entry_d),
sizeof(m_txn.NewOrder.o_entry_d),
DBTYPE_DBTIMESTAMP);


        // NewOrder output column 8
        SetBinding(&acOutputDBBinding2[i++],
offsetof(NEW_ORDER_DATA, o_commit_flag),
sizeof(m_txn.NewOrder.o_commit_flag), DBTYPE_I2);


        for (j=0; j<MAX_OL_NEW_ORDER_ITEMS;
j++)
        {
                // Set command text first


                // Print the fixed first portion of
parameters
                i = _snwprintf(szName,
sizeof(szName)/sizeof(szName[0]),
        L"{call %stpcc_neworder (?,?,?,?,?,?",
m_szSPPrefix);


                // Now print the variable portion
depending on the number of order line parameters
                for (iOlCount = 0; iOlCount <= j;
++iOlCount)
                {
                        i +=
_snwprintf(&szName[i], sizeof(szName)/sizeof(szName[0]) -
i, L",?,?,?");


                }


                // Print the fixed end
                if (j !=
MAX_OL_NEW_ORDER_ITEMS - 1)
                {       // append 'default' for the
parameters that are not used
                        i +=
_snwprintf(&szName[i], sizeof(szName)/sizeof(szName[0]) -
i, L",default)}");
                }
                else    // using all 15 order line
parameters
                {
                        i +=
_snwprintf(&szName[i], sizeof(szName)/sizeof(szName[0]) -
i, L")}");
                }


                // Create and Prepare a new command
object for NewOrder.
                CreateCommand(szName,
&m_pINewOrderCommand[j]);


                // Now create the input accessor for
this prepared command
                hr = m_pINewOrderCommand[j]-
>QueryInterface(IID_IAccessor, (void **)&pIAccessor);
                if (FAILED(hr))
                {


        ThrowError(m_pINewOrderCommand[j],
COLEDBERR::eQueryInterface, "InitNewOrderParams()");
                }


                hr = pIAccessor->CreateAccessor(


        DBACCESSOR_PARAMETERDATA,


                                                5 + 3
* (j + 1),
```

```
                acInputDBBinding,

                sizeof(NEW_ORDER_DATA),

                &m_hNewOrderInputAccessor[j],

                acInputDBBindStatus);
                        if (FAILED(hr))
                        {
                                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitNewOrderParams()");
                        }



                m_NewOrderExecuteParams[j].cParamSets = 1;
                        //
m_NewOrderExecuteParams.hAccessor is set dynamically at
run-time
                        // based on the number of new order
items for the particular transaction call.

                m_NewOrderExecuteParams[j].hAccessor =
m_hNewOrderInputAccessor[j];
                        m_NewOrderExecuteParams[j].pData
= &m_txn.NewOrder;


                        // Create accessor for the first rowset
                        hr = pIAccessor->CreateAccessor(

                DBACCESSOR_ROWDATA |
DBACCESSOR_OPTIMIZED,
                                nOutputParams,
                                acOutputDBBinding,

                sizeof(OL_NEW_ORDER_DATA),

                &m_hNewOrderOutputAccessor[j],
                                acOutputDBBindStatus);
                        if (FAILED(hr))
                        {
                                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitNewOrderParams()");
                        }


                        // Create accessor for the second
rowset
                        hr = pIAccessor->CreateAccessor(

                DBACCESSOR_ROWDATA,     // cannot be
optimized too because #1 accessor is
                                nOutputParams2,
                                acOutputDBBinding2,

                sizeof(NEW_ORDER_DATA),

                &m_hNewOrderOutputAccessor2[j],
                                acOutputDBBindStatus2);
                        if (FAILED(hr))
                        {
                                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitNewOrderParams()");
                        }


                        pIAccessor->Release();
                }
}


void CTPCC_OLEDB::NewOrder()
{
                HRESULT
                hr;
                int
                iTryCount = 0;
                IMultipleResults*       pMultipleResults;
                IRowset*                        pRowset;
                IRowset*                        pRowset2;
                LONG
                cRows = 1;              // number of rows returned
in the 1st rowset
                ULONG
                cRowsObtained;
                HROW
                rghRows;                //returned row handles for
the 1st result set
                HROW*
                prghRows = &rghRows;
                LONG
                cRows2 = 1;             // number of rows returned
in the 2nd rowset
                ULONG
                cRowsObtained2;
                HROW
                rghRows2;               //returned row handle for
the 2nd result set
                HROW*
                prghRows2 = &rghRows2;
                int
                i;
                long
                lRowsAffected;          // the number of affected
rows for a rowset
                int
                iHandleIndex;           // index into the handle
arrays based on the orders count


                // check whether any order lines are for a remote
warehouse
                m_txn.NewOrder.o_all_local = 1;
```

```
	for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
	{
		if
(m_txn.NewOrder.OL[i].ol_supply_w_id !=
m_txn.NewOrder.w_id)
		{

	m_txn.NewOrder.o_all_local = 0;  // at least one
remote warehouse
			break;
		}
	}

	iHandleIndex = m_txn.NewOrder.o_ol_cnt - 1;
	// for convenience

	while (TRUE)
	{
		try
		{
			// Execute the prepared
command (according to the number of new orders)
			// Ask for IMultipleResults
because it returns 2 rowsets.
			hr =
m_pINewOrderCommand[iHandleIndex]->Execute(

	NULL, IID_IMultipleResults,

	&m_NewOrderExecuteParams[iHandleIndex],

	NULL,

	(IUnknown **)&pMultipleResults);
			if (FAILED(hr))
			{

	ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eExecute, "NewOrder()");
			}

			//////////////////////////
			// Get order line results
			//////////////////////////

	m_txn.NewOrder.total_amount = 0;
			for (i = 0; i <
m_txn.NewOrder.o_ol_cnt; ++i)
			{
				// Get the first
rowset object
				hr =
pMultipleResults->GetResult(NULL, 0, IID_IRowset,
&lRowsAffected, (IUnknown **)&pRowset);
				if (FAILED(hr))
				{
					char
szTmp[256];

	_snprintf(szTmp, sizeof(szTmp), "NewOrder()
result set %d, hr=0x%X", i, hr);

	ThrowError(m_pINewOrderCommand[m_txn.Ne
wOrder.o_ol_cnt - 1], COLEDBERR::eGetResult, szTmp);
				}

				// Fetch the
result row handle(s)
				hr = pRowset-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows,
&cRowsObtained, &prghRows);
				if (FAILED(hr))
				{

	ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eGetNextRows, "NewOrder()");
				}

				// Fetch the
actual row data by handle
				hr = pRowset-
>GetData(rghRows,
m_hNewOrderOutputAccessor[iHandleIndex],
&m_txn.NewOrder.OL[i]);
				if (FAILED(hr))
				{

	ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eGetData, "NewOrder()");
				}

	m_txn.NewOrder.total_amount +=
m_txn.NewOrder.OL[i].ol_amount;

				// Release row(s)
				hr = pRowset-
>ReleaseRows(cRowsObtained, prghRows, NULL, NULL,
NULL);
				// Release
rowset
				hr = pRowset-
>Release();
			}

			////////////////////////////////
```

```
                        // Get the second rowset
object
                        ////////////////////////////////
                        hr = pMultipleResults-
>GetResult(NULL, 0, IID_IRowset, &lRowsAffected,
(IUnknown **)&pRowset2);
                        if (FAILED(hr))
                        {
                                char
szTmp[256];

                                _snprintf(szTmp,
sizeof(szTmp), "NewOrder() result set %d, hr=%d", i, hr);


        ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eGetResult, szTmp);
                        }


                        // Fetch the result row
handle(s)
                        hr = pRowset2-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows2,
&cRowsObtained2, &prghRows2);
                        if (FAILED(hr))
                        {

        ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eGetNextRows, "NewOrder()");
                        }


                        // Fetch the actual row data
by handle
                        hr = pRowset2-
>GetData(rghRows2,
m_hNewOrderOutputAccessor2[iHandleIndex],
&m_txn.NewOrder);
                        if (FAILED(hr))
                        {

        ThrowError(m_pINewOrderCommand[iHandleIn
dex], COLEDBERR::eGetData, "NewOrder()");
                        }


                        // Release row(s)
                        hr = pRowset2-
>ReleaseRows(cRowsObtained2, prghRows2, NULL, NULL,
NULL);
                        // Release rowset
                        hr = pRowset2->Release();


                        // Release the common
MultipleResults interface
                        hr = pMultipleResults-
>Release();
                                if
(m_txn.NewOrder.o_all_local == 1)
                                {

        m_txn.NewOrder.total_amount *= ((1 +
m_txn.NewOrder.w_tax + m_txn.NewOrder.d_tax) * (1 -
m_txn.NewOrder.c_discount));

        m_txn.NewOrder.exec_status_code = eOK;
                                }
                                else
                                {

        m_txn.NewOrder.exec_status_code =
eInvalidItem;
                                }


                                break;

                        }
                        catch (COLEDBERR *e)
                        {
                                if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                                        throw;


                                // hit deadlock; backoff for
increasingly longer period
                                delete e;
                                Sleep(10 * iTryCount);
                        }
                }


//              if (iTryCount)
//                      throw new
CTPCC_OLEDB_ERR(CTPCC_OLEDB_ERR::ERR_RET
RIED_TRANS, iTryCount);
}


void CTPCC_OLEDB::InitPaymentParams()
{
        int
                i;
        HRESULT
                hr;
        wchar_t
        szName[iMAX_SP_NAME_LEN];
        IAccessor*
        pIAccessor;
   const ULONG
        nInputParams = 7;       // input parameters
        const ULONG
        nOutputParams = 27;  // output result set columns
        // Structure to bind in accessor
        DBBINDING
        acInputDBBinding[nInputParams];
```

```
        DBBINDSTATUS
        acInputDBBindStatus[nInputParams];
        DBBINDING
        acOutputDBBinding[nOutputParams];
        DBBINDSTATUS
        acOutputDBBindStatus[nOutputParams];

        // Set command text
        _snwprintf(szName,
sizeof(szName)/sizeof(szName[0]), L"{call
%stpcc_payment(?,?,?,?,?,?,?)}", m_szSPPrefix);

        // Create and Prepare a new command object for
Payment.
        CreateCommand(szName,
&m_pIPaymentCommand);

        // Describe the consumer buffer by filling in the
array
    // of DBBINDING structures.  Each binding associates
    // a single parameter to the consumer's buffer.
        InitBindings(&acInputDBBinding[0],
nInputParams, eInputParameter);

        i = 0;
    // Payment parameter 1
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, w_id),
sizeof(m_txn.Payment.w_id), DBTYPE_I4);

    // Payment parameter 2
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, c_w_id),
sizeof(m_txn.Payment.c_w_id), DBTYPE_I4);

        // Payment parameter 3
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, h_amount),
sizeof(m_txn.Payment.h_amount), DBTYPE_R8);

    // Payment parameter 4
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, d_id),
sizeof(m_txn.Payment.d_id), DBTYPE_UI1);

        // Payment parameter 5
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, c_d_id),
sizeof(m_txn.Payment.c_d_id), DBTYPE_UI1);

        // Payment parameter 6
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, c_id),
sizeof(m_txn.Payment.c_id), DBTYPE_I4);

        // Payment parameter 7
        SetBinding(&acInputDBBinding[i++],
offsetof(PAYMENT_DATA, c_last),
sizeof(m_txn.Payment.c_last), DBTYPE_STR);

        hr = m_pIPaymentCommand-
>QueryInterface(IID_IAccessor, (void **)&pIAccessor);
        if (FAILED(hr))
        {
                ThrowError(m_pIPaymentCommand,
COLEDBERR::eQueryInterface, "InitPaymentParams()");
        }

        hr = pIAccessor->CreateAccessor(
            DBACCESSOR_PARAMETERDATA,
            nInputParams,
            acInputDBBinding,
            sizeof(PAYMENT_DATA),
            &m_hPaymentInputAccessor,
            acInputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitPaymentParams()");
        }

        m_PaymentExecuteParams.cParamSets = 1;
        m_PaymentExecuteParams.hAccessor =
m_hPaymentInputAccessor;
        m_PaymentExecuteParams.pData =
&m_txn.Payment;

        // Now fill the binding information for output
columns
        InitBindings(&acOutputDBBinding[0],
nOutputParams, eOutputColumn);

        i = 0;
        // Payment output column 1
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_id),
sizeof(m_txn.Payment.c_id), DBTYPE_I4);

        // Payment output column 2
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_last),
sizeof(m_txn.Payment.c_last), DBTYPE_STR);

        // Payment output column 3
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, h_date),
sizeof(m_txn.Payment.h_date), DBTYPE_DBTIMESTAMP);

        // Payment output column 4
```

```
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, w_street_1),
sizeof(m_txn.Payment.w_street_1), DBTYPE_STR);

        // Payment output column 5
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, w_street_2),
sizeof(m_txn.Payment.w_street_2), DBTYPE_STR);

        // Payment output column 6
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, w_city),
sizeof(m_txn.Payment.w_city), DBTYPE_STR);

        // Payment output column 7
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, w_state),
sizeof(m_txn.Payment.w_state), DBTYPE_STR);

        // Payment output column 8
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, w_zip),
sizeof(m_txn.Payment.w_zip), DBTYPE_STR);

        // Payment output column 9
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_street_1),
sizeof(m_txn.Payment.d_street_1), DBTYPE_STR);

        // Payment output column 10
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_street_2),
sizeof(m_txn.Payment.d_street_2), DBTYPE_STR);

        // Payment output column 11
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_city),
sizeof(m_txn.Payment.d_city), DBTYPE_STR);

        // Payment output column 12
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_state),
sizeof(m_txn.Payment.d_state), DBTYPE_STR);

        // Payment output column 13
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_zip),
sizeof(m_txn.Payment.d_zip), DBTYPE_STR);

        // Payment output column 14
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_first),
sizeof(m_txn.Payment.c_first), DBTYPE_STR);

        // Payment output column 15
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_middle),
sizeof(m_txn.Payment.c_middle), DBTYPE_STR);

        // Payment output column 16
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_street_1),
sizeof(m_txn.Payment.d_street_1), DBTYPE_STR);

        // Payment output column 17
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_street_2),
sizeof(m_txn.Payment.d_street_2), DBTYPE_STR);

        // Payment output column 18
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_city),
sizeof(m_txn.Payment.d_city), DBTYPE_STR);

        // Payment output column 19
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_state),
sizeof(m_txn.Payment.d_state), DBTYPE_STR);

        // Payment output column 20
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, d_zip),
sizeof(m_txn.Payment.d_zip), DBTYPE_STR);

        // Payment output column 21
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_phone),
sizeof(m_txn.Payment.c_phone), DBTYPE_STR);

        // Payment output column 22
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_since),
sizeof(m_txn.Payment.c_since),
DBTYPE_DBTIMESTAMP);

        // Payment output column 23
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_credit),
sizeof(m_txn.Payment.c_credit), DBTYPE_STR);

        // Payment output column 24
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_credit_lim),
sizeof(m_txn.Payment.c_credit_lim), DBTYPE_R8);

        // Payment output column 25
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_discount),
sizeof(m_txn.Payment.c_discount), DBTYPE_R8);

        // Payment output column 26
```

```
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_balance),
sizeof(m_txn.Payment.c_balance), DBTYPE_R8);


        // Payment output column 27
        SetBinding(&acOutputDBBinding[i++],
offsetof(PAYMENT_DATA, c_data),
sizeof(m_txn.Payment.c_data), DBTYPE_STR);


        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_ROWDATA |
DBACCESSOR_OPTIMIZED,
                nOutputParams,
                acOutputDBBinding,
                sizeof(PAYMENT_DATA),
                &m_hPaymentOutputAccessor,
                acOutputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitPaymentParams()");
        }
}

void CTPCC_OLEDB::Payment()
{
        HRESULT                                 hr;
        int
        iTryCount = 0;
        IRowset*                pRowset;
        LONG                            cRows = 1;
        // number of rows returned in the rowset
        ULONG                           cRowsObtained;
        HROW                            rghRow;
        //returned row handles
        HROW*                           prghRow =
&rghRow;



        if (m_txn.Payment.c_id != 0)
                m_txn.Payment.c_last[0] = 0;


        while (TRUE)
        {
                try
                {
                        // Execute the prepared
command
                        hr =
m_pIPaymentCommand->Execute(NULL, IID_IRowset,
&m_PaymentExecuteParams, NULL,


        (IUnknown **)&pRowset);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIPaymentCommand,
COLEDBERR::eExecute, "Payment()");
                        }


                        // Fetch the result row
handle(s)
                        hr = pRowset-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows,
&cRowsObtained, &prghRow);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIPaymentCommand,
COLEDBERR::eGetNextRows, "Payment()");
                        }


                        // Fetch the actual row data
by handle
                        hr = pRowset-
>GetData(rghRow, m_hPaymentOutputAccessor,
&m_txn.Payment);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIPaymentCommand,
COLEDBERR::eGetData, "Payment()");
                        }


                        // Release row(s)
                        hr = pRowset-
>ReleaseRows(cRowsObtained, prghRow, NULL, NULL,
NULL);
                        // Release rowset
                        hr = pRowset->Release();


                        if (m_txn.Payment.c_id ==
0)
                                throw new
CTPCC_OLEDB_ERR( CTPCC_OLEDB_ERR::ERR_INV
ALID_CUST );
                        else

        m_txn.Payment.exec_status_code = eOK;


                        break;
                }
                catch (COLEDBERR *e)
                {
                        if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                                throw;


                        // hit deadlock; backoff for
increasingly longer period
```

```
                                delete e;
                                Sleep(10 * iTryCount);
                        }
                }

//              if (iTryCount)
//                      throw new
CTPCC_OLEDB_ERR(CTPCC_OLEDB_ERR::ERR_RET
RIED_TRANS, iTryCount);
}

void CTPCC_OLEDB::InitOrderStatusParams()
{
        int
                i;
        HRESULT
                hr;
        wchar_t
        szName[iMAX_SP_NAME_LEN];
        IAccessor*
        pIAccessor;
   const ULONG
        nInputParams = 4;      // input parameters
        const ULONG
        nOutputParams = 5;    // output 1st result set
columns
        const ULONG
        nOutputParams2 = 8;  // output 2nd result set
columns
        // Structure to bind in accessor
        DBBINDING
        acInputDBBinding[nInputParams];
        DBBINDSTATUS
        acInputDBBindStatus[nInputParams];
        DBBINDING
        acOutputDBBinding[nOutputParams];
        DBBINDSTATUS
        acOutputDBBindStatus[nOutputParams];
        DBBINDING
        acOutputDBBinding2[nOutputParams2];
        DBBINDSTATUS
        acOutputDBBindStatus2[nOutputParams2];

        // Set command text
        _snwprintf(szName,
sizeof(szName)/sizeof(szName[0]),
                                L"{call %stpcc_orderstatus
(?,?,?,?)}", m_szSPPrefix);

        // Create and Prepare a new command object for
OrderStatus.
        CreateCommand(szName,
&m_pIOrderStatusCommand);

        // Describe the consumer buffer by filling in the
array
   // of DBBINDING structures.  Each binding associates
   // a single parameter to the consumer's buffer.
        InitBindings(&acInputDBBinding[0],
nInputParams, eInputParameter);

        i = 0;
   // OrderStatus parameter 1
        SetBinding(&acInputDBBinding[i++],
offsetof(ORDER_STATUS_DATA, w_id),
sizeof(m_txn.OrderStatus.w_id), DBTYPE_I4);

   // OrderStatus parameter 2
        SetBinding(&acInputDBBinding[i++],
offsetof(ORDER_STATUS_DATA, d_id),
sizeof(m_txn.OrderStatus.d_id), DBTYPE_UI1);

        // OrderStatus parameter 3
        SetBinding(&acInputDBBinding[i++],
offsetof(ORDER_STATUS_DATA, c_id),
sizeof(m_txn.OrderStatus.c_id), DBTYPE_I4);

        // OrderStatus parameter 4
        SetBinding(&acInputDBBinding[i++],
offsetof(ORDER_STATUS_DATA, c_last),
sizeof(m_txn.OrderStatus.c_last), DBTYPE_STR);

        hr = m_pIOrderStatusCommand-
>QueryInterface(IID_IAccessor, (void **)&pIAccessor);
        if (FAILED(hr))
        {

        ThrowError(m_pIOrderStatusCommand,
COLEDBERR::eQueryInterface, "InitOrderStatusParams()");
        }

        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_PARAMETERDATA,
                nInputParams,
                acInputDBBinding,
                sizeof(ORDER_STATUS_DATA),
                &m_hOrderStatusInputAccessor,
                acInputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitOrderStatusParams()");
        }

        m_OrderStatusExecuteParams.cParamSets = 1;
        m_OrderStatusExecuteParams.hAccessor =
m_hOrderStatusInputAccessor;
        m_OrderStatusExecuteParams.pData =
&m_txn.OrderStatus;

        // Now fill the binding information for result set 1
output columns
```

```
        InitBindings(&acOutputDBBinding[0], nOutputParams, eOutputColumn);

        // Binding for a rowset that may return more than one row.
        // Bind to offsets of the OL_ORDER_STATUS_DATA structure instead of ORDER_STATUS_DATA.
        // IRowset::GetData() will be passed individual array slots OL[i] to fetch the data
        // from the row set.

        i = 0;
        // OrderStatus output column 1
        SetBinding(&acOutputDBBinding[i++], offsetof(OL_ORDER_STATUS_DATA, ol_supply_w_id), sizeof(m_txn.OrderStatus.OL[0].ol_supply_w_id), DBTYPE_I4);

        // OrderStatus output column 2
        SetBinding(&acOutputDBBinding[i++], offsetof(OL_ORDER_STATUS_DATA, ol_i_id), sizeof(m_txn.OrderStatus.OL[0].ol_i_id), DBTYPE_I4);

        // OrderStatus output column 3
        SetBinding(&acOutputDBBinding[i++], offsetof(OL_ORDER_STATUS_DATA, ol_quantity), sizeof(m_txn.OrderStatus.OL[0].ol_quantity), DBTYPE_I2);

        // OrderStatus output column 4
        SetBinding(&acOutputDBBinding[i++], offsetof(OL_ORDER_STATUS_DATA, ol_amount), sizeof(m_txn.OrderStatus.OL[0].ol_amount), DBTYPE_R8);

        // OrderStatus output column 5
        SetBinding(&acOutputDBBinding[i++], offsetof(OL_ORDER_STATUS_DATA, ol_delivery_d), sizeof(m_txn.OrderStatus.OL[0].ol_delivery_d), DBTYPE_DBTIMESTAMP);

        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_ROWDATA | DBACCESSOR_OPTIMIZED,
                nOutputParams,
                acOutputDBBinding,
                sizeof(OL_ORDER_STATUS_DATA),
                &m_hOrderStatusOutputAccessor,
                acOutputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor, COLEDBERR::eCreateAccessor, "InitOrderStatusParams()");
        }

        // Now fill the binding information for result set 2 output columns
        InitBindings(&acOutputDBBinding2[0], nOutputParams2, eOutputColumn);

        i = 0;
        // OrderStatus output column 1
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, c_id), sizeof(m_txn.OrderStatus.c_id), DBTYPE_I4);

        // OrderStatus output column 2
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, c_last), sizeof(m_txn.OrderStatus.c_last), DBTYPE_STR);

        // OrderStatus output column 3
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, c_first), sizeof(m_txn.OrderStatus.c_first), DBTYPE_STR);

        // OrderStatus output column 4
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, c_middle), sizeof(m_txn.OrderStatus.c_middle), DBTYPE_STR);

        // OrderStatus output column 5
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, o_entry_d), sizeof(m_txn.OrderStatus.o_entry_d), DBTYPE_DBTIMESTAMP);

        // OrderStatus output column 7
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, o_carrier_id), sizeof(m_txn.OrderStatus.o_carrier_id), DBTYPE_I2);

        // OrderStatus output column 8
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, c_balance), sizeof(m_txn.OrderStatus.c_balance), DBTYPE_R8);

        // OrderStatus output column 9
        SetBinding(&acOutputDBBinding2[i++], offsetof(ORDER_STATUS_DATA, o_id), sizeof(m_txn.OrderStatus.o_id), DBTYPE_I4);

        hr = pIAccessor->CreateAccessor(
                DBACCESSOR_ROWDATA, // cannot be optimized too because #1 accessor is
                nOutputParams2,
                acOutputDBBinding2,
                sizeof(NEW_ORDER_DATA),
                &m_hOrderStatusOutputAccessor2,
                acOutputDBBindStatus2);
        if (FAILED(hr))
        {
```

```
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitOrderStatusParams()");
        }
}

void CTPCC_OLEDB::OrderStatus()
{
        HRESULT
        hr;
        int
        iTryCount = 0;
        IMultipleResults*       pMultipleResults;
        IRowset*                pRowset;
        IRowset*                pRowset2;
        LONG
        cRows = MAX_OL_ORDER_STATUS_ITEMS;
        // number of rows returned in the 1st rowset
        ULONG
        cRowsObtained;
        HROW
        rghRows[MAX_OL_ORDER_STATUS_ITEMS];
                //returned row handles for the 1st
result set
        HROW*
        prghRows = &rghRows[0];
        LONG
        cRows2 = 1;             // number of rows returned
in the 2nd rowset
        ULONG
        cRowsObtained2;
        HROW
        rghRows2;               //returned row handle for
the 2nd result set
        HROW*
        prghRows2 = &rghRows2;
        int
        i;
        long
        lRowsAffected;          // the number of affected
rows for a rowset

        if (m_txn.OrderStatus.c_id != 0)
                m_txn.OrderStatus.c_last[0] = 0;

        while (TRUE)
        {
                try
                {
                        // Execute the prepared
command
                        // Ask for IMultipleResults
because it returns 2 rowsets.
                        hr =
m_pIOrderStatusCommand->Execute(NULL,
IID_IMultipleResults, &m_OrderStatusExecuteParams,
NULL,
        (IUnknown **)&pMultipleResults);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIOrderStatusCommand,
COLEDBERR::eExecute, "OrderStatus()");
                        }

                        //////////////////////////
                        // Get order line results
                        //////////////////////////


                        // Get the first rowset object
                        hr = pMultipleResults-
>GetResult(NULL, 0, IID_IRowset, &lRowsAffected,
(IUnknown **)&pRowset);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIOrderStatusCommand,
COLEDBERR::eGetResult, "OrderStatus()");
                        }


                        // Fetch the result row
handle(s)
                        hr = pRowset-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows,
&cRowsObtained, &prghRows);
                        if (FAILED(hr))
                        {

        ThrowError(m_pIOrderStatusCommand,
COLEDBERR::eGetNextRows, "OrderStatus()");
                        }



        m_txn.OrderStatus.o_ol_cnt =
(short)cRowsObtained;


                        // Get the data from
multiple rows in this rowset
                        for (i = 0; i <
m_txn.OrderStatus.o_ol_cnt; ++i)
                        {
                                // Fetch the
actual row data by handle
                                hr = pRowset-
>GetData(rghRows[i], m_hOrderStatusOutputAccessor,
&m_txn.OrderStatus.OL[i]);
                                if (FAILED(hr))
                                {

        ThrowError(m_pIOrderStatusCommand,
COLEDBERR::eGetData, "OrderStatus()");
```

```
                        }
                }

                // Release row(s)
                hr = pRowset->ReleaseRows(cRowsObtained, prghRows, NULL, NULL, NULL);
                // Release rowset
                hr = pRowset->Release();

                ////////////////////////////////
                // Get the second rowset object
                ////////////////////////////////
                if (m_txn.OrderStatus.o_ol_cnt > 0)
                {
                        hr = pMultipleResults->GetResult(NULL, 0, IID_IRowset, &lRowsAffected, (IUnknown **)&pRowset2);
                        if (FAILED(hr))
                        {

                ThrowError(m_pIOrderStatusCommand, COLEDBERR::eGetResult, "OrderStatus()");
                        }

                        // Fetch the result row handle(s)
                        hr = pRowset2->GetNextRows(DB_NULL_HCHAPTER, 0, cRows2, &cRowsObtained2, &prghRows2);
                        if (FAILED(hr))
                        {

                ThrowError(m_pIOrderStatusCommand, COLEDBERR::eGetNextRows, "OrderStatus()");
                        }

                        // Fetch the actual row data by handle
                        hr = pRowset2->GetData(rghRows2, m_hOrderStatusOutputAccessor2, &m_txn.OrderStatus);
                        if (FAILED(hr))
                        {

                ThrowError(m_pIOrderStatusCommand, COLEDBERR::eGetData, "OrderStatus()");
                        }

                       // Release row(s)
                        hr = pRowset2->Release();
                }

                        // Release the common MultipleResults interface
                        hr = pMultipleResults->Release();

                        if (m_txn.OrderStatus.o_ol_cnt == 0)
                                throw new CTPCC_OLEDB_ERR( CTPCC_OLEDB_ERR::ERR_NO_SUCH_ORDER );
                        else if (m_txn.OrderStatus.c_id == 0 && m_txn.OrderStatus.c_last[0] == 0)
                                throw new CTPCC_OLEDB_ERR( CTPCC_OLEDB_ERR::ERR_INVALID_CUST );
                        else

                m_txn.OrderStatus.exec_status_code = eOK;

                        break;

                }
                catch (COLEDBERR *e)
                {
                        if ((!e->m_bDeadLock) || (++iTryCount > iMaxRetries))
                                throw;

                        // hit deadlock; backoff for increasingly longer period
                        delete e;
                        Sleep(10 * iTryCount);
                }
        }

//      if (iTryCount)
//              throw new CTPCC_OLEDB_ERR(CTPCC_OLEDB_ERR::ERR_RETRIED_TRANS, iTryCount);
}

void CTPCC_OLEDB::InitDeliveryParams()
{
        int
                i;
        HRESULT
                hr;
        wchar_t
        szName[iMAX_SP_NAME_LEN];
        IAccessor*
        pIAccessor;
   const ULONG
        nInputParams = 2;       // input parameters
        const ULONG
        nOutputParams = 10;  // output 1st result set columns
```

```
        // Structure to bind in accessor
        DBBINDING
        acInputDBBinding[nInputParams];
        DBBINDSTATUS
        acInputDBBindStatus[nInputParams];
        DBBINDING
        acOutputDBBinding[nOutputParams];
        DBBINDSTATUS
        acOutputDBBindStatus[nOutputParams];


        // Set command text
        _snwprintf(szName,
sizeof(szName)/sizeof(szName[0]),
                        L"{call %stpcc_delivery
(?,?)}", m_szSPPrefix);


        // Create and Prepare a new command object for
Delivery.
        CreateCommand(szName,
&m_pIDeliveryCommand);


        // Describe the consumer buffer by filling in the
array
   // of DBBINDING structures.  Each binding associates
   // a single parameter to the consumer's buffer.
        InitBindings(&acInputDBBinding[0],
nInputParams, eInputParameter);


        i = 0;
   // Delivery parameter 1
        SetBinding(&acInputDBBinding[i++],
offsetof(DELIVERY_DATA, w_id),
sizeof(m_txn.Delivery.w_id), DBTYPE_I4);


   // Delivery parameter 2
        SetBinding(&acInputDBBinding[i++],
offsetof(DELIVERY_DATA, o_carrier_id),
sizeof(m_txn.Delivery.o_carrier_id), DBTYPE_I2);


        hr = m_pIDeliveryCommand-
>QueryInterface(IID_IAccessor, (void **)&pIAccessor);
        if (FAILED(hr))
        {
                ThrowError(m_pIDeliveryCommand,
COLEDBERR::eQueryInterface, "InitDeliveryParams()");
        }


        hr = pIAccessor->CreateAccessor(
            DBACCESSOR_PARAMETERDATA,
            nInputParams,
            acInputDBBinding,
            sizeof(DELIVERY_DATA),
            &m_hDeliveryInputAccessor,
            acInputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitDeliveryParams()");
        }


        m_DeliveryExecuteParams.cParamSets = 1;
        m_DeliveryExecuteParams.hAccessor =
m_hDeliveryInputAccessor;
        m_DeliveryExecuteParams.pData =
&m_txn.Delivery;


        // Now fill the binding information for result set 1
output columns
        InitBindings(&acOutputDBBinding[0],
nOutputParams, eOutputColumn);


        // Binding for a rowset that may return more than
one row.
        for (i = 0; i < 10; ++i)
        {
                // Delivery output column 1
                SetBinding(&acOutputDBBinding[i],
offsetof(DELIVERY_DATA, o_id[i]),
sizeof(m_txn.Delivery.o_id[i]), DBTYPE_I4);
        }


        hr = pIAccessor->CreateAccessor(
            DBACCESSOR_ROWDATA |
DBACCESSOR_OPTIMIZED,
            nOutputParams,
            acOutputDBBinding,
            sizeof(DELIVERY_DATA),
            &m_hDeliveryOutputAccessor,
            acOutputDBBindStatus);
        if (FAILED(hr))
        {
                ThrowError(pIAccessor,
COLEDBERR::eCreateAccessor, "InitDeliveryParams()");
        }
}


void CTPCC_OLEDB::Delivery()
{
        HRESULT                         hr;
        int
        iTryCount = 0;
        IRowset*            pRowset;
        LONG                    cRows = 1;
        // number of rows returned in the rowset
        ULONG                   cRowsObtained;
        HROW                    rghRow;
        //returned row handles
        HROW*                   prghRow =
&rghRow;
```

```
	while (TRUE)
	{
		try
		{
			// Execute the prepared
command
			hr =
m_pIDeliveryCommand->Execute(NULL, IID_IRowset,
&m_DeliveryExecuteParams, NULL,


	(IUnknown **)&pRowset);
			if (FAILED(hr))
			{

	ThrowError(m_pIDeliveryCommand,
COLEDBERR::eExecute, "Delivery()");
			}


			// Fetch the result row
handle(s)
			hr = pRowset-
>GetNextRows(DB_NULL_HCHAPTER, 0, cRows,
&cRowsObtained, &prghRow);
			if (FAILED(hr))
			{

	ThrowError(m_pIDeliveryCommand,
COLEDBERR::eGetNextRows, "Delivery()");
			}


			// Fetch the actual row data
by handle
			hr = pRowset-
>GetData(rghRow, m_hDeliveryOutputAccessor,
&m_txn.Delivery);
			if (FAILED(hr))
			{

	ThrowError(m_pIDeliveryCommand,
COLEDBERR::eGetData, "Delivery()");
			}


			// Release row(s)
			hr = pRowset-
>ReleaseRows(cRowsObtained, prghRow, NULL, NULL,
NULL);
			// Release rowset
			hr = pRowset->Release();


	m_txn.Delivery.exec_status_code = eOK;


			break;
		}
		catch (COLEDBERR *e)
		{
			if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
				throw;


			// hit deadlock; backoff for
increasingly longer period
			delete e;
			Sleep(10 * iTryCount);
		}
	}

//	if (iTryCount)
//		throw new
CTPCC_OLEDB_ERR(CTPCC_OLEDB_ERR::ERR_RET
RIED_TRANS, iTryCount);
}
```

## tpcc_oledb.h

```
/*	FILE:		TPCC_OLEDB.H
 *				Microsoft TPC-
C Kit Ver. 4.20.000
 *				Copyright
Microsoft, 1999-2004
 *				Written by
Sergey Vasilevskiy
 *	All Rights Reserved
 *
 *
 *
 *	PURPOSE:	Header file for TPC-C txn
class OLE DB implementation.
 *
 *
 */
#pragma once

// need to declare functions for import, unless define has
already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl  __declspec( dllimport )
#endif

#define iMAX_SP_NAME_LEN 256	//maximum
length of a stored procedure name with parameters

// Type of parameter and result set column bindings.
enum eBindingType
{
```

```
		eInputParameter,
		eOutputParameter,
		eInputOutputParameter,
		eOutputColumn
};

class COLEDBERR : public CBaseErr
{
	public:
		enum ACTION
		{
			eNone,
			eUnknown,
			eQueryInterface,
		// error from QueryInterface
			eCreateSession,
			eCreateCommand,
			eSetCommandText,
			eExecute,
	// = 6
			eCreateAccessor,
			ePrepare,
			eGetNextRows,
			eGetData,
			eGetResult
	// = 11
		};

		COLEDBERR(LPCTSTR szLoc)
			: CBaseErr(szLoc)
		{
			m_eAction = eNone;
			m_NativeError = 0;
			m_bDeadLock = FALSE;
			m_OLEDBErrStr = NULL;
		};

		~COLEDBERR()
		{
			if (m_OLEDBErrStr != NULL)
				delete [] m_OLEDBErrStr;
		};

		ACTION	m_eAction;
		int		m_NativeError;
		BOOL	m_bDeadLock;
		char	*m_OLEDBErrStr;

		int		ErrorType() {return ERR_TYPE_OLEDB;};
		char*	ErrorTypeStr() { return "OLEDB"; }
		int		ErrorNum() {return m_NativeError;};
		char*	ErrorText() {return m_OLEDBErrStr;};
		int		ErrorAction() { return (int)m_eAction; }

};

class CTPCC_OLEDB_ERR : public CBaseErr
{
	public:
		enum TPCC_OLEDB_ERRS
		{

	ERR_WRONG_SP_VERSION = 1,	// "Wrong version of stored procs on database server"
			ERR_INVALID_CUST,
			// "Invalid Customer id,name."
			ERR_NO_SUCH_ORDER,
			// "No orders found for customer."
			ERR_RETRIED_TRANS,
			// "Retries before transaction succeeded."
		};

		CTPCC_OLEDB_ERR( int iErr ) { m_errno = iErr; m_iTryCount = 0; };

		CTPCC_OLEDB_ERR( int iErr, int iTryCount ) { m_errno = iErr; m_iTryCount = iTryCount; };

		int		m_errno;
		int		m_iTryCount;

		int		ErrorType() {return ERR_TYPE_TPCC_OLEDB;};
		char*	ErrorTypeStr() { return "TPCC OLEDB"; }
		int		ErrorNum() {return m_errno;};

		char*	ErrorText();
};

class DllDecl CTPCC_OLEDB : public CTPCC_BASE
{
	private:
		// declare variables and private functions here...
```

```
                BOOL
                m_bDeadlock;                    //
transaction was selected as deadlock victim
                int
                        m_MaxRetries;
        // retry count on deadlock


                DBPROPSET
                m_rgInitPropSet;                //
initialization property set used to establish a connection
                DBPROP
                m_InitProperties[4];    // individual
initialization properties


                IDBCreateSession*
        m_pIDBCreateSession;            // session
(connection) interface
                IDBCreateCommand*
        m_pIDBCreateCommand;            // SQL
command creation interface


                IMalloc*
        m_pIMalloc;
        // Needed to release error strings.


                // StockLevel
                ICommandText*
        m_pIStockLevelCommand;
                HACCESSOR
                m_hStockLevelInputAccessor;     //
accessor to bind input parameters
                HACCESSOR
                m_hStockLevelOutputAccessor;  //
accessor to bind output columns
                DBPARAMS
                m_StockLevelExecuteParams;
        // parameter structure for Execute


                // NewOrder
                // One prepared command for each
possible number of new order line items
                ICommandText*
        m_pINewOrderCommand[MAX_OL_NEW_OR
DER_ITEMS];
                // accessors to bind input parameters
                // one for each possible number of new
order line items
                HACCESSOR

        m_hNewOrderInputAccessor[MAX_OL_NEW_
ORDER_ITEMS];
                // accessor to bind output columns of
the first rowset
                HACCESSOR

        m_hNewOrderOutputAccessor[MAX_OL_NEW_
ORDER_ITEMS];
                // accessor to bind output columns of
the second rowset
                HACCESSOR

        m_hNewOrderOutputAccessor2[MAX_OL_NEW
_ORDER_ITEMS];
                // parameter structure for Execute
                DBPARAMS

        m_NewOrderExecuteParams[MAX_OL_NEW_O
RDER_ITEMS];


                // Payment
                ICommandText*
        m_pIPaymentCommand;
                HACCESSOR
                m_hPaymentInputAccessor;        //
accessor to bind input parameters
                HACCESSOR
                m_hPaymentOutputAccessor;       //
accessor to bind output columns
                DBPARAMS
                m_PaymentExecuteParams;
        // parameter structure for Execute


                // OrderStatus
                ICommandText*
        m_pIOrderStatusCommand;
                HACCESSOR
                m_hOrderStatusInputAccessor;    //
accessor to bind input parameters
                HACCESSOR
                m_hOrderStatusOutputAccessor; //
accessor to bind output columns
                HACCESSOR
                m_hOrderStatusOutputAccessor2;
        // accessor to bind output columns
                DBPARAMS
                m_OrderStatusExecuteParams;
        // parameter structure for Execute


                // Delivery
                ICommandText*
        m_pIDeliveryCommand;
                HACCESSOR
                m_hDeliveryInputAccessor;       //
accessor to bind input parameters
                HACCESSOR
                m_hDeliveryOutputAccessor;      //
accessor to bind output columns
                DBPARAMS
                m_DeliveryExecuteParams;        //
parameter structure for Execute


                wchar_t
                m_szSPPrefix[32];       // stored
procedures prefix


                // new-order specific fields

                int
                        m_no_commit_flag;
```

```
		void ThrowError( IUnknown* pObjectWithError, COLEDBERR::ACTION eAction, LPCTSTR szLocation );

		void CheckSPVersion();

		void InitNewOrderParams();
		void InitPaymentParams();
		void InitDeliveryParams();
		void InitStockLevelParams();
		void InitOrderStatusParams();

		// Helper function to create and prepare a command
		void CreateCommand(wchar_t* szSQLCommand, ICommandText** ppICommandText);
		// Helper function to prepare a command
		void PrepareCommand(ICommandText* pICommand);

		// Helper function to fill one binding
		// Used for both input parameter and output column bindings
		void SetBinding(DBBINDING* pDBBinding, size_t obValue, size_t cbMaxLen, DBTYPE wType);

		// Helper function to initialize an array of bindings
		void InitBindings(DBBINDING* pDBBindings, int iCount, eBindingType BindingType);

		union
		{
			NEW_ORDER_DATA NewOrder;
			PAYMENT_DATA Payment;
			DELIVERY_DATA Delivery;
			STOCK_LEVEL_DATA StockLevel;
			ORDER_STATUS_DATA OrderStatus;
		}
		m_txn;

	public:
		CTPCC_OLEDB(LPCSTR szServer, LPCSTR szUser, LPCSTR szPassword, LPCSTR szHost, LPCSTR szDatabase, LPCWSTR szSPPrefix);
		~CTPCC_OLEDB(void);

		inline PNEW_ORDER_DATA BuffAddr_NewOrder()
		{ return &m_txn.NewOrder;  };
		inline PPAYMENT_DATA BuffAddr_Payment()  { return &m_txn.Payment;  };
		inline PDELIVERY_DATA BuffAddr_Delivery()  { return &m_txn.Delivery;  };
		inline PSTOCK_LEVEL_DATA BuffAddr_StockLevel()  { return &m_txn.StockLevel;  };
		inline PORDER_STATUS_DATA BuffAddr_OrderStatus()  { return &m_txn.OrderStatus; };

		void NewOrder		();
		void Payment		();
		void Delivery		();
		void StockLevel		();
		void OrderStatus	();

};

// wrapper routine for class constructor
extern "C" DllDecl CTPCC_OLEDB* CTPCC_OLEDB_new
	( LPCSTR szServer, LPCSTR szUser, LPCSTR szPassword, LPCSTR szHost, LPCSTR szDatabase, LPCWSTR szSPPrefix );

typedef CTPCC_OLEDB* (TYPE_CTPCC_OLEDB)(LPCSTR, LPCSTR, LPCSTR, LPCSTR, LPCSTR, LPCWSTR);
```

## dlldata.c

```
/*********************************************************
  DllData file -- generated by MIDL compiler

      DO NOT ALTER THIS FILE

  This file is regenerated by MIDL on every IDL file compile.

  To completely reconstruct this file, delete it and rerun MIDL
  on all the IDL files in this DLL, specifying this file for the
  /dlldata command line option

*********************************************************/

#include <rpcproxy.h>

#ifdef __cplusplus
extern "C"   {
#endif
```

```
EXTERN_PROXY_FILE( tpcc_com_ps )


PROXYFILE_LIST_START
/* Start of list */
  REFERENCE_PROXY_FILE( tpcc_com_ps ),
/* End of list */
PROXYFILE_LIST_END


DLLDATA_ROUTINES( aProxyFileList,
GET_DLL_CLSID )

#ifdef __cplusplus
}  /*extern "C" */
#endif

/* end of generated dlldata file */
```

## error.h

```
/*          FILE:                   ERROR.H
 *                                          Microsoft TPC-
C Kit Ver. 4.20.000
 *                                          Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                          Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *
 *          PURPOSE:            Header file for error
exception classes.
 *
 *  Change history:
 *                  4.20.000 - updated rev number to
match kit
 *                  4.21.000 - fixed bug: ~CBaseErr
needed to be declared virtual
 */

#pragma once

#ifndef _INC_STRING
        #include <string.h>
#endif

const int m_szMsg_size = 512;
const int m_szApp_size = 64;
const int m_szLoc_size = 64;

//error message structure used in ErrorText routines
typedef struct _SERRORMSG
{
        int                     iError;
                //error id of message
        char        szMsg[256];
        //message to sent to browser
} SERRORMSG;

typedef enum _ErrorLevel
{
        ERR_FATAL_LEVEL
        = 1,
        ERR_WARNING_LEVEL               = 2,
        ERR_INFORMATION_LEVEL  = 3
} ErrorLevel;

#define ERR_TYPE_LOGIC
                                        -1
        //logic error in program; internal error
#define ERR_SUCCESS
                                                0
                //success (a non-error error)
#define ERR_BAD_ITEM_ID
                                        1
        //expected abort record in txnRecord
#define ERR_TYPE_DELIVERY_POST
                                2
        //expected delivery post failed
#define     ERR_TYPE_WEBDLL
                                                3
                //tpcc web generated error
#define     ERR_TYPE_SQL
                                        4
        //sql server generated error
#define     ERR_TYPE_DBLIB
                                        5
        //dblib generated error
#define     ERR_TYPE_ODBC
                                        6
        //odbc generated error
#define ERR_TYPE_SOCKET
                                        7
        //error on communication socket client rte only
#define ERR_TYPE_DEADLOCK
                                        8
        //dblib and odbc only deadlock condition
#define ERR_TYPE_COM
                                        9
        //error from COM call
#define ERR_TYPE_TUXEDO
                                        10
        //tuxedo error
#define ERR_TYPE_OS
                                                11
                //operating system error
#define ERR_TYPE_MEMORY
                                        12
        //memory allocation error
#define ERR_TYPE_TPCC_ODBC
                                        13
        //error from tpcc odbc txn module
#define ERR_TYPE_TPCC_DBLIB
                                        14
        //error from tpcc dblib txn module
#define ERR_TYPE_DELISRV
                                15
        //delivery server error
#define ERR_TYPE_TXNLOG
                                        16
        //txn log error
#define ERR_TYPE_BCCONN
                                        17
        //Benchcraft connection class
#define ERR_TYPE_TPCC_CONN
                                        18
        //Benchcraft connection class
#define ERR_TYPE_ENCINA
                                        19
        //Encina error
#define ERR_TYPE_COMPONENT
                                        20
        //error from COM component
#define ERR_TYPE_RTE
                                        21
        //Benchcraft rte
```

```
#define ERR_TYPE_AUTOMATION
                                        22
        //Benchcraft automation errors
#define ERR_TYPE_DRIVER
                                        23
        //Driver engine errors
#define ERR_TYPE_RTE_BASE
                                        24
        //Framework errors
#define     ERR_BUF_OVERFLOW
                                        25
        //Buffer overflow during receive
#define ERR_TYPE_SOAP_HTTP
                                        26
        //HTTP/SOAP dll generated error
#define ERR_TYPE_OLEDB
                                        27
        //OLE-DB generated error
#define ERR_TYPE_TPCC_OLEDB
                                        28
        //error from tpcc ole-db txn module
// TPC-W error types
#define ERR_TYPE_TPCW_CONN
                                        50
        //Benchcraft connection class
#define ERR_TYPE_TPCW_HTML
                                        51
        //error from TpcwHtml dll
#define ERR_TYPE_TPCW_USER
                                        52
        //error from TPC-W user class
#define ERR_TYPE_TPCW_ENG_BASE
                                    53
#define ERR_TYPE_TPCW_ENG_OS
                                    54
#define ERR_TYPE_HTML_RESP
                                        55
#define ERR_TYPE_TPCW_ODBC
                                        56
#define ERR_TYPE_SCHANNEL
                                        57
#define ERR_TYPE_THINK_LIST
                                        58
//------ end TPC-W ----------
#define ERR_TYPE_XML_PROFILE
                                    59
// TPC-E error types
#define ERR_TYPE_TPCE_CONN
                                        60
        //TPC-E pipe connection errors
#define ERR_TYPE_TPCE_RTE
                                        61
        //TPC-E Rte errors
#define ERR_TYPE_TPCE_ENG_BASE
                                    62
        //Tpce Driver engine errors
#define ERR_TYPE_TPCE_ENG_OS
                                    63
        //Tpce Driver engine system errors
//#define ERR_TYPE_TPCE_MEE_ENG_BASE
                                    64
        //Tpce MEE Driver engine errors
//#define ERR_TYPE_TPCE_MEE_ENG_OS
                                    65
        //Tpce MEE Driver engine system errors

#define ERR_INS_MEMORY
        "Insufficient Memory to continue."
#define ERR_UNKNOWN
        "Unknown error."
#define ERR_MSG_BUF_SIZE            512
#define INV_ERROR_CODE                      -1
#define ERR_INS_BUF_OVERFLOW    "Insufficient Buffer
size to receive HTML pages."



class CBaseErr
{
public:
        enum Action
        {
                eNone = 0
        };

        CBaseErr(LPCTSTR szLoc = NULL)
        {
                m_idMsg             =
GetLastError();     //take the error code immediatelly
before it is reset by other functions


                if (szLoc)
                {
                        m_szLoc = new
char[strlen(szLoc)+1/*m_szLoc_size*/];
                        strcpy(m_szLoc, szLoc);
                }
                else
                        m_szLoc   = NULL;

                m_szApp             = new
char[m_szApp_size];

        GetModuleFileName(GetModuleHandle(NULL),
m_szApp, m_szApp_size);
        }



        CBaseErr(int idMsg, LPCTSTR szLoc = NULL)
        {
                m_idMsg             = idMsg;


                if (szLoc)
                {
                        m_szLoc = new
char[strlen(szLoc)+1/*m_szLoc_size*/];
                        strcpy(m_szLoc, szLoc);
                }
                else
                        m_szLoc   = NULL;

                m_szApp             = new
char[m_szApp_size];

        GetModuleFileName(GetModuleHandle(NULL),
m_szApp, m_szApp_size);
        }

        virtual ~CBaseErr(void)
        {
                if (m_szApp)
                        delete [] m_szApp;
                if (m_szLoc)
                        delete [] m_szLoc;
        };
```

```
	virtual void Draw(HWND hwnd, LPCTSTR szStr
= NULL)
	{
		int			j = 0;
		char		szTmp[512];

		if (szStr)
			j = wsprintf(szTmp,
"%s\n",szStr);
		if (ErrorNum() !=
INV_ERROR_CODE)
			j += wsprintf(szTmp+j,
"Error = %d\n", ErrorNum());
		if (m_szLoc)
			j += wsprintf(szTmp+j,
"Location = %s\n", GetLocation());

		j += wsprintf(szTmp+j, "%s\n",
ErrorText());

		MessageBox(hwnd, szTmp, m_szApp,
MB_OK);
	}

	char *GetApp(void) { return m_szApp; }
	char *GetLocation(void) { return m_szLoc; }
	virtual int ErrorNum() { return m_idMsg; }



	virtual int ErrorType() = 0;		// a value which
distinguishes the kind of error that occurred
	virtual char *ErrorTypeStr() = 0; // text
representation of the error type
	virtual char *ErrorText() = 0; // a string (i.e.,
human readable) representation of the error
	virtual int ErrorAction() { return eNone; }	// the
function call that caused the error


protected:
	char		*m_szApp;
	char		*m_szLoc;// code location where the
error occurred
	int			m_idMsg;

	//short		m_errType;
};

class CSocketErr : public CBaseErr
{
public:
	enum Action
	{
		eNone = 0,
		eSend,
		eSocket,
		eBind,
		eConnect,
		eListen,
		eHost,
		eRecv,
		eGetHostByName,
		eWSACreateEvent,
		eWSASend,
		eWSAGetOverlappedResult,
		eWSARecv,
		eWSAWaitForMultipleEvents,
		eWSAStartup,
		eWSAResetEvent,
		eWSAEnumNetworkEvents,
		eWSAEventSelect,
		eSelect,
		eAccept,
		eNonRetryable
	};

	CSocketErr(Action eAction, LPCTSTR
szLocation = NULL);

	~CSocketErr()
	{
		if (m_szErrorText != NULL)
			delete [] m_szErrorText;
	};

	Action	m_eAction;
	char	*m_szErrorText;

	int			ErrorType() { return
ERR_TYPE_SOCKET;};
	char*	ErrorTypeStr() { return "SOCKET"; }
	char*	ErrorText(void);
	int			ErrorAction() { return
(int)m_eAction; }

};

class CSystemErr : public CBaseErr
{
public:
	enum Action
	{
		eNone = 0,
		eTransactNamedPipe,
		eWaitNamedPipe,
		eSetNamedPipeHandleState,
		eCreateFile,
		eCreateProcess,
		eCallNamedPipe,
		eCreateEvent,
		eCreateThread,
		eVirtualAlloc,
		eReadFile = 10,
		eWriteFile,
		eMapViewOfFile,
		eCreateFileMapping,
		eInitializeSecurityDescriptor,
		eSetSecurityDescriptorDacl,
		eCreateNamedPipe,
		eConnectNamedPipe,
		eWaitForSingleObject,
		eRegOpenKeyEx,
		eRegQueryValueEx = 20,
		ebeginthread,
		eRegEnumValue,
		eRegSetValueEx,
		eRegCreateKeyEx,
		eWaitForMultipleObjects,
		eRegisterClassEx,
		eCreateWindow,
		eCreateSemaphore,
		eReleaseSemaphore,
		eFSeek,
		eFRead,
		eFWrite,
		eTmpFile,
		eSetFilePointer,
		eNew,
		eCloseHandle,
```

```
                eGetOverlappedResult
        };

                        CSystemErr(Action
eAction, LPCTSTR szLocation);
                        CSystemErr(int iError,
Action eAction, LPCTSTR szLocation);
        int             ErrorType() { return
ERR_TYPE_OS;};
        char*   ErrorTypeStr() { return "SYSTEM"; }
        char    *ErrorText(void);
        int             ErrorAction() { return
(int)m_eAction; }
        void    Draw(HWND hwnd, LPCTSTR szStr
= NULL);

        Action  m_eAction;

private:
        char m_szMsg[ERR_MSG_BUF_SIZE];
};

class CMemoryErr : public CBaseErr
{
public:
        CMemoryErr();

        int             ErrorType() {return
ERR_TYPE_MEMORY;}
        char*   ErrorTypeStr() { return "OUT OF
MEMORY"; }
        char*   ErrorText() {return
ERR_INS_MEMORY;}
};


class CBufferOverflowErr : public CBaseErr
{
        public:
        CBufferOverflowErr(int,LPTSTR);

        int             ErrorType() {return
ERR_BUF_OVERFLOW;}
        char*   ErrorTypeStr() { return "BUFFER
OVERFLOW"; }
        char*   ErrorText() {return
ERR_INS_BUF_OVERFLOW;}
};

// Exception type for XML profiles
class CXMLProfileErr : public CBaseErr
{
        public:
                enum Action
                {
                        LoadProfile = 1,
                        LoadSchema,
                        ValidateProfile,
                        SaveProfile,
                        LoadFromXML,
                        SaveToXML,
                        ApplyProcessingInstruction,
                        ApplyAttribute,
                        ApplyNode
                };

                CXMLProfileErr(Action eAction, int
eCode, LPCTSTR szLocation)
                {
                        m_eAction = eAction;
                        m_eCode = eCode;
                        m_bOverload = true;
                };
                CXMLProfileErr(Action eAction, int
eCode, LPCTSTR szLocation, char * szMsg)
                {
                        m_eAction = eAction;
                        m_eCode = eCode;
                        strcpy(m_szMsg, szMsg);
                        m_bOverload = false;
                };

                virtual int             ErrorType()
{ return ERR_TYPE_XML_PROFILE;};
                virtual char            *ErrorTypeStr()
{ return "XML PROFILE"; };
                virtual char            *ErrorText();

                virtual int             ErrorCode()
{ return m_eCode; };
                int
        ErrorAction() { return (int)m_eAction; }
                //virtual void          Draw(HWND
hwnd, LPCTSTR szStr = NULL)
                //{
                //              ::MessageBox(hwnd, szStr,
m_szLoc, MB_OK);
                //};
        private:
                char
        m_szMsg[ERR_MSG_BUF_SIZE];
                LPCTSTR m_szLoc;
                int             m_eCode;
                bool    m_bOverload;
                Action  m_eAction;

};
```

## IIS6_Config_CMD

```
@ECHO OFF
@cd %SystemRoot%\System32
@cscript %SYSTEMROOT%\SYSTEM32\iisext.vbs
/AddFile
%SYSTEMDRIVE%\INETPUB\WWWROOT\tpcc.dll 1
TPCC 0 TPCC DLL   >   IIS6_CONFIG.out
@If %ErrorLevel% GTR 1 XCOPY IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/LogType 0
        >>  IIS6_CONFIG.out
@If %ErrorLevel% GTR 1 XCOPY IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/ConnectionTimeout 1200
        >>  IIS6_CONFIG.out
@If %ErrorLevel% GTR 1 XCOPY IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/Root/AccessExecute True
        >> IIS6_CONFIG.out
```

```
@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/Root/AccessRead True
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/Root/AccessScript True
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/Root/AuthAnonymous True
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/1/Root/AuthNTLM True
                >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/MaxProcesses 1
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolIdentityType 0            >>
IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/DefaultAppPool/AppPoolIdentityType 0
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/PeriodicRestartTime 0            >>
IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/PeriodicRestartRequests 0
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/PeriodicRestartMemory 0
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleTime False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleRequests False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleSchedule False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleMemory False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleIsapiUnhealthy False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleOnDemand False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecycleConfigChange False
        >> IIS6_CONFIG.out

@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul

@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/AppPoolRecyclePrivateMemory False
        >> IIS6_CONFIG.out
```

```
@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/PingingEnabled False
        >> IIS6_CONFIG.out
@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
@CSCRIPT
%SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET
W3SVC/AppPools/RapidFailProtection False
        >> IIS6_CONFIG.out
@If %ErrorLevel% GTR 1 XCOPY
IIS6_CONFIG.ERR+IIS6_CONFIG.OUT
IIS6_CONFIG.ERR /i /y /q >nul
```

## install.c

```
/*      FILE:           INSTALL.C
 *                              Microsoft TPC-
C Kit Ver. 4.51.000
 *                              Copyright
Microsoft, 2003
 *      All Rights Reserved
 *
 *                              not audited
 *
 *      PURPOSE:        Automated installation
application for TPC-C Web Kit
 *      Contact:  Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *                      4.20.000 - added COM installation
steps
 *   4.50.000 - added IIS6 configuration options
 *                      4.51.000 - added routines to copy
Visual Studio runtime module (MSVCR70.DLL)
 *                                      to
SystemRoot\System32
 */

#include <windows.h>
#include <direct.h>
#include <io.h>
#include <stdlib.h>
#include <tchar.h>
#include <stdio.h>
#include <commctrl.h>
#include "..\..\common\src\ReadRegistry.h"
#include <process.h>

#include "resource.h"

#define  WM_INITTEXT
         WM_USER+100

HICON           hIcon;
HINSTANCE       hInst;

DWORD                   versionExeMS;
DWORD                   versionExeLS;
DWORD                   versionExeMM;
DWORD                   versionDllMS;
DWORD                   versionDllLS;

// TPC-C registry settings
TPCCREGISTRYDATA        Reg;

static  int             iPoolThreadLimit;
static  int             iMaxPoolThreads;
static  int             iThreadTimeout;
static  int             iListenBackLog;
static  int             iAcceptExOutstanding;
static  int             iUriEnableCache;
static  int             iUriScavengerPeriod;
static  int             iMaxConnections;

static  int             iIISMajorVersion;
static  int             iNumberOfProcessors;

static  int             iMaxPhysicalMemory;
                //max physical memory in MB
static  char    szLastFileName[64];     // last
file we worked on (for error reporting)



BOOL    CALLBACK        LicenseDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL    CALLBACK        UpdatedDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL    CALLBACK        MainDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL    CALLBACK        CopyDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
static  void            ProcessOK(HWND hwnd,
char *szDllPath, char *szWindowsPath);
static  void            ReadRegistrySettings(void);
static  void            WriteRegistrySettings(char
*szDllPath);
static  BOOL            RegisterDLL(char
*szFileName);
static  int
        CopyFiles(HWND hDlg, char *szDllPath, char
*szWindowsPath);
static  BOOL            GetInstallPath(char
*szDllPath);
```

```
static	BOOL
	GetWindowsInstallPath(char *szWindowsPath);
static	void		GetVersionInfo(char
*szDLLPath, char *szExePath);
static	BOOL
	CheckWWWebService(void);
static	BOOL		StartWWWebService(void);
static	BOOL		StopWWWebService(void);
static	void		UpdateDialog(HWND
hDlg);
static	void		ConfigureIIS6(HWND
hwnd, HWND hDlg);

SYSTEM_INFO siSysInfo;

BOOL install_com(char *szDllPath);

#include "..\..\common\src\ReadRegistry.cpp"

int WINAPI WinMain( HINSTANCE hInstance,
HINSTANCE hPrevInstance, LPSTR lpCmdLine, int
nCmdShow )
{
	int iRc;

	hInst = hInstance;

	InitCommonControls();

	hIcon = LoadIcon(hInstance,
MAKEINTRESOURCE(IDI_ICON1));

	iRc = DialogBox(hInstance,
MAKEINTRESOURCE(IDD_DIALOG4),
GetDesktopWindow(), LicenseDlgProc);
	if ( iRc )
	{
		iRc = DialogBox(hInstance,
MAKEINTRESOURCE(IDD_DIALOG1),
GetDesktopWindow(), MainDlgProc);
		if ( iRc )
		{
			DialogBoxParam(hInstance,
MAKEINTRESOURCE(IDD_DIALOG2),
GetDesktopWindow(), UpdatedDlgProc, (LPARAM)iRc);
		}
	}

	DestroyIcon(hIcon);
	return 0;
}

BOOL CALLBACK LicenseDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
	HGLOBAL			hRes;
	HRSRC			hResInfo;
	BYTE			*pSrc, *pDst;
	DWORD			dwSize;
	static HFONT	hFont;

	switch(uMsg)
	{
		case WM_INITDIALOG:
			hFont = CreateFont(-12, 0,
0, 0, 400, 0, 0, 0, 0, 0, 0, 0, 0, "Arial");

		SendMessage( GetDlgItem(hwnd,
IDR_LICENSE1), WM_SETFONT, (WPARAM)hFont,
MAKELPARAM(0, 0) );
			PostMessage(hwnd,
WM_INITTEXT, (WPARAM)0, (LPARAM)0);
			return TRUE;
		case WM_INITTEXT:
			hResInfo =
FindResource(hInst,
MAKEINTRESOURCE(IDR_LICENSE1), "LICENSE");
			dwSize =
SizeofResource(hInst, hResInfo);
			hRes = LoadResource(hInst,
hResInfo );
			pSrc = (BYTE
*)LockResource(hRes);
			pDst = (unsigned char
*)malloc(dwSize+1);
			if ( pDst )
			{
				memcpy(pDst,
pSrc, dwSize);
				pDst[dwSize] =
0;

		SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pDst);
				free(pDst);
			}
			else

		SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pSrc);
			return TRUE;
		case WM_DESTROY:
			DeleteObject(hFont);
			return TRUE;
		case WM_COMMAND:
			if ( wParam == IDOK )

		EndDialog(hwnd, TRUE);
			if ( wParam ==
IDCANCEL )
```

```
		EndDialog(hwnd, FALSE);
			default:
				break;
		}
		return FALSE;
}

BOOL CALLBACK UpdatedDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
		switch(uMsg)
		{
			case WM_INITDIALOG:
				switch(lParam)
				{
					case 1:
					case 2:

		SetDlgItemText(hwnd, IDC_RESULTS, "TPC-C
Web Client Installed");
							break;
				}
				return TRUE;
			case WM_COMMAND:
				if ( wParam == IDOK )

		EndDialog(hwnd, TRUE);
				break;
			default:
				break;
		}
		return FALSE;
}

BOOL CALLBACK MainDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
		PAINTSTRUCT		ps;
		MEMORYSTATUS	memoryStatus;
		OSVERSIONINFO	VI;
		char			szTmp[256];
		static char		szDllPath[256];
		static char		szWindowsPath[256];
		static char		szExePath[256];

		switch(uMsg)
		{
			case WM_INITDIALOG:

		GlobalMemoryStatus(&memoryStatus);
				iMaxPhysicalMemory=
(memoryStatus.dwTotalPhys/ 1048576);
				if
( GetWindowsInstallPath(szWindowsPath) )
				{

		MessageBox(hwnd, "Error: Cannot determine
Windows System Root.", NULL, MB_ICONSTOP |
MB_OK);

		EndDialog(hwnd, FALSE);
					return TRUE;
				}

				if
( GetInstallPath(szDllPath) )
				{

		MessageBox(hwnd, "Error internet service inetsrv
is not installed.", NULL, MB_ICONSTOP | MB_OK);

		EndDialog(hwnd, FALSE);
					return TRUE;
				}

				// set default values
				ZeroMemory( &Reg,
sizeof(Reg) );

		Reg.dwNumberOfDeliveryThreads = 4;
				Reg.dwMaxConnections =
100;

		Reg.dwMaxPendingDeliveries	= 100;
				Reg.eDB_Protocol =
ODBC;
				Reg.eTxnMon = None;
				strcpy(Reg.szDbServer,
			"");
				strcpy(Reg.szDbName,
			"tpcc");
				strcpy(Reg.szDbUser,
		"sa");
				strcpy(Reg.szDbPassword,
		"");

				iPoolThreadLimit =
iMaxPhysicalMemory * 2;
				iThreadTimeout = 86400;
				iListenBackLog = 15;
			iAcceptExOutstanding = 40;


		ReadTPCCRegistrySettings( &Reg );
				ReadRegistrySettings();
```

```
                        // copy the hardware
information to the SYSTEM_INFO structure

        GetSystemInfo(&siSysInfo);
                        // store the number of
processors on this system
                        iNumberOfProcessors =
siSysInfo.dwNumberOfProcessors;


                        GetModuleFileName(hInst,
szExePath, sizeof(szExePath));
                        GetVersionInfo(szDllPath,
szExePath);


                        wsprintf(szTmp, "Version
%d.%2.2d.%3.3d", versionExeMS, versionExeMM,
versionExeLS);
                        SetDlgItemText(hwnd,
IDC_VERSION, szTmp);


                        SetDlgItemText(hwnd,
IDC_PATH, szDllPath);


                        SetDlgItemText(hwnd,
ED_DB_SERVER, Reg.szDbServer);
                        SetDlgItemText(hwnd,
ED_DB_USER_ID, Reg.szDbUser);
                        SetDlgItemText(hwnd,
ED_DB_PASSWORD, Reg.szDbPassword);
                        SetDlgItemText(hwnd,
ED_DB_NAME, Reg.szDbName);


                        SetDlgItemInt(hwnd,
ED_THREADS, Reg.dwNumberOfDeliveryThreads,
FALSE);
                        SetDlgItemInt(hwnd,
ED_MAXCONNECTION, Reg.dwMaxConnections,
FALSE);
                        SetDlgItemInt(hwnd,
ED_MAXDELIVERIES, Reg.dwMaxPendingDeliveries,
FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_MAX_THEAD_POOL_LIMIT, iPoolThreadLimit,
FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_THREAD_TIMEOUT, iThreadTimeout, FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_LISTEN_BACKLOG, iListenBackLog, FALSE);
                        SetDlgItemInt(hwnd,
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,
iAcceptExOutstanding, FALSE);


                        // check OS version level
for COM.  Must be at least Windows 2000
                        VI.dwOSVersionInfoSize =
sizeof(VI);
                        GetVersionEx( &VI );
                        if (VI.dwMajorVersion < 5)
                        {
                                HWND hDlg =
GetDlgItem( hwnd, IDC_TM_MTS );

        EnableWindow( hDlg, 0 );        // disable COM
option
                                if
(Reg.eTxnMon == COM)

        Reg.eTxnMon = None;
                        }


                        CheckDlgButton(hwnd,
IDC_TM_NONE,   0);
                        CheckDlgButton(hwnd,
IDC_TM_MTS,    0);
                        switch (Reg.eTxnMon)
                        {
                        case None:

        CheckDlgButton(hwnd, IDC_TM_NONE,   1);
                                break;
                        case COM:

        CheckDlgButton(hwnd, IDC_TM_MTS,      1);
                                break;
                        }


                        return TRUE;
                case WM_PAINT:
                        if ( IsIconic(hwnd) )
                        {

        BeginPaint(hwnd, &ps);

        DrawIcon(ps.hdc, 0, 0, hIcon);
                                EndPaint(hwnd,
&ps);
                                return TRUE;
                        }
                        break;
                case WM_COMMAND:
                        if ( HIWORD(wParam) ==
BN_CLICKED )
                        {

        switch( LOWORD(wParam) )
                                {
                                        case
IDOK:

        ProcessOK(hwnd, szDllPath, szWindowsPath);

        return TRUE;
```

```
                                                case
IDCANCEL:

                EndDialog(hwnd, FALSE);

                return TRUE;

                default:

                return FALSE;
                                                        }
                                        }
                                        break;
                                default:
                                        break;
                }
                return FALSE;
}


static void ProcessOK(HWND hwnd, char *szDllPath, char
*szWindowsPath)
{
                int             d;
                HWND    hDlg;
                int             rc;
                BOOL    bSvcRunning;

                char    szFullName[256];
                char    szErrTxt[128];


                // Check whether Service Pack 1 has been
installed if
                // running on Windows Server 2003. The RTM
version has
                // a limitation on the number of concurrent HTTP
connections.
                //
                OSVERSIONINFOEX
                VersionInfo;


                VersionInfo.dwOSVersionInfoSize =
sizeof(OSVERSIONINFOEX);
                if
(GetVersionEx((LPOSVERSIONINFO)&VersionInfo))
                {
                        if (VersionInfo.dwMajorVersion == 5
&&      // Windows 2000/2003 Server?

                VersionInfo.dwMinorVersion == 2 &&      //
Windows 2003 Server?

                VersionInfo.wServicePackMajor == 0)     //
Service Pack installed?
                        {
                                TCHAR szMsg[256];

                                        _sntprintf(szMsg,
sizeof(szMsg),
                                                "Warning:
running on Windows Server 2003 without at least Service
Pack 1\n"
                                                "limits the
number of concurrent HTTP connections to around 8000.");
                                        MessageBox(hwnd, szMsg,
_T("Service Pack not Installed"),
MB_ICONEXCLAMATION | MB_OK);
                                }
                }


                // read settings from dialog
                Reg.dwNumberOfDeliveryThreads  =
GetDlgItemInt(hwnd, ED_THREADS, &d, FALSE);
                Reg.dwMaxConnections = GetDlgItemInt(hwnd,
ED_MAXCONNECTION, &d, FALSE);
                Reg.dwMaxPendingDeliveries =
GetDlgItemInt(hwnd, ED_MAXDELIVERIES, &d, FALSE);


                GetDlgItemText(hwnd, ED_DB_SERVER,
Reg.szDbServer, sizeof(Reg.szDbServer));
                GetDlgItemText(hwnd, ED_DB_USER_ID,
Reg.szDbUser, sizeof(Reg.szDbUser));
                GetDlgItemText(hwnd, ED_DB_PASSWORD,
Reg.szDbPassword, sizeof(Reg.szDbPassword));
                GetDlgItemText(hwnd, ED_DB_NAME,
Reg.szDbName, sizeof(Reg.szDbName));


                if ( IsDlgButtonChecked(hwnd,
IDC_TM_NONE) )
                        Reg.eTxnMon = None;
                else if ( IsDlgButtonChecked(hwnd,
IDC_TM_MTS) )
                        Reg.eTxnMon = COM;


                iPoolThreadLimit = GetDlgItemInt(hwnd,
ED_IIS_MAX_THEAD_POOL_LIMIT, &d, FALSE);
                iThreadTimeout = GetDlgItemInt(hwnd,
ED_IIS_THREAD_TIMEOUT,  &d, FALSE);
                iListenBackLog = GetDlgItemInt(hwnd,
ED_IIS_LISTEN_BACKLOG, &d, FALSE);
                iAcceptExOutstanding = GetDlgItemInt(hwnd,
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE, &d,
FALSE);



                ShowWindow(hwnd, SW_HIDE);
                hDlg = CreateDialog(hInst,
MAKEINTRESOURCE(IDD_DIALOG3), hwnd,
CopyDlgProc);
                ShowWindow(hDlg, SW_SHOWNA);
                UpdateDialog(hDlg);


                // check to see if the web services are running
```

```
        bSvcRunning = CheckWWWebService();
        if ( bSvcRunning )
        {
                SetDlgItemText(hDlg, IDC_STATUS,
"Stopping Web Service.");
                SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);

                StopWWWebService();
                SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);
        }

        // write binaries to inetpub\wwwroot
        rc = CopyFiles(hDlg, szDllPath, szWindowsPath);
        if ( !rc )
        {
               ShowWindow(hwnd,  SW_SHOWNA);
                DestroyWindow(hDlg);
                strcpy( szErrTxt, "Error(s) occured
when creating " );
                strcat( szErrTxt, szLastFileName );
                MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, 0);
                return;
        }

        // while we have the web services shutdown,
check to see if this
        // is IIS6.  If it is, then call ConfigureIIS6
        if ( iIISMajorVersion == 6)
        {
                ConfigureIIS6(hwnd, hDlg);
        }

        //if we stopped service restart it.
        if ( bSvcRunning )
        {
                SetDlgItemText(hDlg, IDC_STATUS,
"Starting Web Service.");
                SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);
                StartWWWebService();
        }

        // update registry
        SetDlgItemText(hDlg, IDC_STATUS, "Updating
Registry.");
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);
        WriteRegistrySettings(szDllPath);

        // register com proxy stub
        strcpy(szFullName, szDllPath);
        strcat(szFullName, "tpcc_com_ps.dll");
        if (!RegisterDLL(szFullName))
        {
               ShowWindow(hwnd,  SW_SHOWNA);
                DestroyWindow(hDlg);
                strcpy( szErrTxt, "Error occured when
registering " );
                strcat( szErrTxt, szFullName );
                MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, 0);
                return;
        }

        // if using COM
        if (Reg.eTxnMon == COM)
        {
                SetDlgItemText(hDlg, IDC_STATUS,
"Configuring COM.");
                SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);

                if (install_com(szDllPath))
                {
                        ShowWindow(hwnd,
SW_SHOWNA);
                        DestroyWindow(hDlg);
                        strcpy( szErrTxt, "Error
occured when configuring COM settings." );
                        MessageBox(hwnd,
szErrTxt, NULL, MB_ICONSTOP | MB_OK);
                        EndDialog(hwnd, 0);
                        return;
                }
        }

        Sleep(100);

        ShowWindow(hwnd, SW_SHOWNA);
        DestroyWindow(hDlg);

        EndDialog(hwnd, rc);
        return;
}
```

```
static void ReadRegistrySettings(void)
{
        HKEY    hKey;
        DWORD   size;
        DWORD   type;

        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SOFTWARE\\Microsoft\\InetStp", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
        {
                size = sizeof(iIISMajorVersion);
                if ( RegQueryValueEx(hKey, "MajorVersion", 0, &type, (char *)&iIISMajorVersion, &size) == ERROR_SUCCESS )
                        if ( !iIISMajorVersion )

        iIISMajorVersion = 5;
        }

        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameters", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
        {
                if ( iIISMajorVersion == 6)
                {
                        // since IIS6 handles the pool thread parameters differently, we need to fill in the dialog
                        // with the MaxPoolThreads rather thatn PoolThreadLimit
                        // for ease of coding, we are just going to stuff the value into iPoolThreadLimit
        size = sizeof(iPoolThreadLimit);
                        if ( RegQueryValueEx(hKey, "MaxPoolThreads", 0, &type, (char *)&iPoolThreadLimit, &size) == ERROR_SUCCESS )
                                if ( !iPoolThreadLimit )

        iPoolThreadLimit =  iMaxPhysicalMemory * 2;
                }
                else
                {
                        size = sizeof(iPoolThreadLimit);
                        if ( RegQueryValueEx(hKey, "MaxPoolThreads", 0, &type, (char *)&iPoolThreadLimit, &size) == ERROR_SUCCESS )
                                if ( !iPoolThreadLimit )

        iPoolThreadLimit =  iMaxPhysicalMemory * 2;
                }

                size = sizeof(iThreadTimeout);
                if ( RegQueryValueEx(hKey, "ThreadTimeout", 0, &type, (char *)&iThreadTimeout, &size) == ERROR_SUCCESS )
                        if ( !iThreadTimeout )
                                iThreadTimeout = 86400;

                size = sizeof(iListenBackLog);
                if ( RegQueryValueEx(hKey, "ListenBackLog", 0, &type, (char *)&iListenBackLog, &size) == ERROR_SUCCESS )
                        if ( !iListenBackLog )
                                iListenBackLog = 15;

                RegCloseKey(hKey);
        }

        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Parameters", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
        {
                size = sizeof(iAcceptExOutstanding);
                if ( RegQueryValueEx(hKey, "AcceptExOutstanding", 0, &type, (char *)&iAcceptExOutstanding, &size) == ERROR_SUCCESS )
                        if ( !iAcceptExOutstanding )

        iAcceptExOutstanding = 40;

                RegCloseKey(hKey);
        }
        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SYSTEM\\CurrentControlSet\\Services\\HTTP\\Parameters", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
        {
                size = sizeof(iUriEnableCache);
                if ( RegQueryValueEx(hKey, "UriEnableCache", 0, &type, (char *)&iUriEnableCache, &size) == ERROR_SUCCESS )
                        if ( !iUriEnableCache )

        iUriEnableCache = 0;

                size = sizeof(iUriScavengerPeriod);
                if ( RegQueryValueEx(hKey, "UriScavengerPeriod", 0, &type, (char *)&iUriScavengerPeriod, &size) == ERROR_SUCCESS )
                        if ( !iUriScavengerPeriod )

        iUriScavengerPeriod = 10800;

                size = sizeof(iMaxConnections);
                if ( RegQueryValueEx(hKey, "MaxConnections", 0, &type, (char *)&iMaxConnections, &size) == ERROR_SUCCESS )
                        if ( !iMaxConnections )

        iMaxConnections = 100000;
```

```
                RegCloseKey(hKey);
        }
}


static void WriteRegistrySettings(char *szDllPath)
{
        HKEY    hKey;
        DWORD   dwDisposition;
        char    szTmp[256];
        char    *ptr;
        int             iRc;

        if
( RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\TPCC", 0, NULL,
REG_OPTION_NON_VOLATILE, KEY_ALL_ACCESS,
NULL, &hKey, &dwDisposition) == ERROR_SUCCESS )
        {
                strcpy(szTmp, szDllPath);
                ptr = strstr(szTmp, "tpcc");
                if ( ptr )
                        *ptr = 0;

                RegSetValueEx(hKey, "Path", 0,
REG_SZ, szTmp, strlen(szTmp)+1);

                RegSetValueEx(hKey,
"NumberOfDeliveryThreads", 0, REG_DWORD, (char
*)&Reg.dwNumberOfDeliveryThreads,
sizeof(Reg.dwNumberOfDeliveryThreads));
                RegSetValueEx(hKey,
"MaxConnections", 0, REG_DWORD, (char
*)&Reg.dwMaxConnections,
sizeof(Reg.dwMaxConnections));
                RegSetValueEx(hKey,
"MaxPendingDeliveries", 0, REG_DWORD, (char
*)&Reg.dwMaxPendingDeliveries,
sizeof(Reg.dwMaxPendingDeliveries));

                RegSetValueEx(hKey, "DB_Protocol",
0, REG_SZ, szDBNames[Reg.eDB_Protocol],
strlen(szDBNames[Reg.eDB_Protocol])+1);
                RegSetValueEx(hKey, "TxnMonitor",
0, REG_SZ, szTxnMonNames[Reg.eTxnMon],
strlen(szTxnMonNames[Reg.eTxnMon])+1);

                RegSetValueEx(hKey, "DbServer", 0,
REG_SZ, Reg.szDbServer, strlen(Reg.szDbServer)+1);
                RegSetValueEx(hKey, "DbName", 0,
REG_SZ, Reg.szDbName, strlen(Reg.szDbName)+1);
                RegSetValueEx(hKey, "DbUser", 0,
REG_SZ, Reg.szDbUser, strlen(Reg.szDbUser)+1);
                RegSetValueEx(hKey, "DbPassword",
0, REG_SZ, Reg.szDbPassword,
strlen(Reg.szDbPassword)+1);
                strcpy(szTmp, "YES");
                RegSetValueEx(hKey,
"COM_SinglePool", 0, REG_SZ, szTmp, strlen(szTmp)+1);

                RegFlushKey(hKey);
                RegCloseKey(hKey);
        }

        if
( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameter
s", 0, NULL, REG_OPTION_NON_VOLATILE,
KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
        {
                // if this is IIS6, then we need to treat
the PoolThreadLimit differently
                // if IIS6, then PoolThreadLimit is the
maximum number of threads for the entire system.
                // IIS6 added MaxPoolThreads which
controls the number of threads per processor.  For IIS6
                // we will set MaxPoolThreads to the
value the user proivided in the dialog and then set
                // PoolThreadLimit to
MaxPoolThreads * number of processors on this system
                if ( iIISMajorVersion == 6 )
                {
                        iMaxPoolThreads =
iPoolThreadLimit;
                        iPoolThreadLimit =
iMaxPoolThreads * iNumberOfProcessors;
                        RegSetValueEx(hKey,
"PoolThreadLimit", 0, REG_DWORD, (char
*)&iPoolThreadLimit, sizeof(iPoolThreadLimit));
                        RegSetValueEx(hKey,
"MaxPoolThreads", 0, REG_DWORD, (char
*)&iMaxPoolThreads, sizeof(iMaxPoolThreads));
                }
                else
                {
                        RegSetValueEx(hKey,
"PoolThreadLimit", 0, REG_DWORD, (char
*)&iPoolThreadLimit, sizeof(iPoolThreadLimit));
                }

                RegSetValueEx(hKey,
"ThreadTimeout", 0, REG_DWORD, (char
*)&iThreadTimeout, sizeof(iThreadTimeout));
                RegSetValueEx(hKey,
"ListenBackLog", 0, REG_DWORD, (char
*)&iListenBackLog, sizeof(iListenBackLog));

                RegFlushKey(hKey);
                RegCloseKey(hKey);
        }
```

```
        if
( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Parameters", 0, NULL, REG_OPTION_NON_VOLATILE,
KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
        {
                RegSetValueEx(hKey,
"AcceptExOutstanding", 0, REG_DWORD, (char
*)&iAcceptExOutstanding, sizeof(iAcceptExOutstanding));

                RegFlushKey(hKey);
                RegCloseKey(hKey);
        }

        return;
}

BOOL CALLBACK CopyDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
        if ( uMsg == WM_INITDIALOG )
        {
                SendDlgItemMessage(hwnd,
IDC_PROGRESS1, PBM_SETRANGE, 0,
MAKELPARAM(0, 13));
                SendDlgItemMessage(hwnd,
IDC_PROGRESS1, PBM_SETSTEP, (WPARAM)1, 0);
                return TRUE;
        }
        return FALSE;
}

BOOL RegisterDLL(char *szFileName)
{
        HINSTANCE       hLib;
        FARPROC                 lpDllEntryPoint;

        hLib = LoadLibrary(szFileName);
        if ( hLib == NULL )
                return FALSE;
        // Find the entry point.
        lpDllEntryPoint = GetProcAddress(hLib,
"DllRegisterServer");
        if (lpDllEntryPoint != NULL)
        {
                return ((*lpDllEntryPoint)() == S_OK);
        }
        else
                return FALSE;           //unable to
locate entry point
}

BOOL FileFromResource( char *szResourceName, int
iResourceId, char *szDllPath, char *szFileName )
{
        HGLOBAL
        hDLL;
        HRSRC                   hResInfo;
        HANDLE                  hFile;
        DWORD                   dwSize;
        BYTE                    *pSrc;
        DWORD                   d;
        char
        szFullName[256];

        hResInfo = FindResource(hInst,
MAKEINTRESOURCE(iResourceId), szResourceName);

        strcpy(szFullName, szDllPath);
        strcat(szFullName, szFileName);

        dwSize = SizeofResource(hInst, hResInfo);
        hDLL = LoadResource(hInst, hResInfo );
        pSrc = (BYTE *)LockResource(hDLL);
        remove(szFullName);

        if ( !(hFile = CreateFile(szFullName,
GENERIC_WRITE, 0, NULL, CREATE_ALWAYS,
FILE_ATTRIBUTE_NORMAL, NULL)) )
                return FALSE;

        if ( !WriteFile(hFile, pSrc, dwSize, &d, NULL) )
                return FALSE;

        CloseHandle(hFile);

        UnlockResource(hDLL);
        FreeResource(hDLL);
        return TRUE;
}

static int CopyFiles(HWND hDlg, char *szDllPath, char
*szWindowsPath)
{
        SetDlgItemText(hDlg, IDC_STATUS, "Copying
Files...");
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        // install TPCC.DLL
        strcpy( szLastFileName, "tpcc.dll" );
        if (!FileFromResource( "TPCCDLL",
IDR_TPCCDLL, szDllPath, szLastFileName ))
                return 0;
```

```
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);



        // install MSVCR71.DLL
        strcpy( szLastFileName, "msvcr71.dll" );
        if (!FileFromResource( "MSVCR71",
IDR_MSVCR71, szWindowsPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        // install tpcc_odbc.dll
        strcpy( szLastFileName, "tpcc_odbc.dll" );
        if (!FileFromResource( "ODBC_DLL",
IDR_ODBC_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        // install tpcc_com.dll
        strcpy( szLastFileName, "tpcc_com.dll" );
        if (!FileFromResource( "COM_DLL",
IDR_COM_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        // install tpcc_com_all.tlb
        strcpy( szLastFileName, "tpcc_com_all.tlb" );
        if (!FileFromResource( "COM_TYPLIB",
IDR_COMTYPLIB_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        // install tpcc_com_ps.dll
        strcpy( szLastFileName, "tpcc_com_ps.dll" );
        if (!FileFromResource( "COM_PS_DLL",
IDR_COMPS_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        // install tpcc_com_all.dll
        strcpy( szLastFileName, "tpcc_com_all.dll" );
        if (!FileFromResource( "COM_ALL_DLL",
IDR_COMALL_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        return 1;
}


static BOOL GetInstallPath(char *szDllPath)
{
  HKEY  hKey;
        BYTE    szData[256];
        DWORD   sv;
        BOOL    bRc;
        int             len;
        int             iRc;



        // Registry key
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\InetSt
p\PathWWWRoot is used to find the
        // IIS default web site directory and determine that
IIS is installed.


        szDllPath[0] =  0;
        bRc = TRUE;
       if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\InetStp", 0, KEY_ALL_ACCESS,
&hKey) == ERROR_SUCCESS )
        {
                sv = sizeof(szData);
                iRc = RegQueryValueEx( hKey,
"PathWWWRoot", NULL, NULL, szData, &sv );  // used by
IIS 5.0 & 6.0
                if (iRc == ERROR_SUCCESS)
                {
                        bRc = FALSE;
                        strcpy(szDllPath, szData);
                        len = strlen(szDllPath);
                        if ( szDllPath[len-1] != '\\' )
                        {
                                szDllPath[len] =
'\\';
                                szDllPath[len+1]
= 0;
                        }
                }

                RegCloseKey(hKey);
        }
```

```
        return bRc;
}

static BOOL GetWindowsInstallPath(char *szWindowsPath)
{
   HKEY   hKey;
        BYTE    szData[256];
        DWORD   sv;
        BOOL    bRc;
        int             len;
        int             iRc;


        // Registry key HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\SystemRoot is used to find the
        // system root to install the VC70 DLL.

        szWindowsPath[0] =  0;
        bRc = TRUE;
       if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SOFTWARE\\Microsoft\\Windows NT\\CurrentVersion", 0, KEY_ALL_ACCESS, &hKey) == ERROR_SUCCESS )
        {
                sv = sizeof(szData);
                iRc = RegQueryValueEx( hKey, "SystemRoot", NULL, NULL, szData, &sv );
                if (iRc == ERROR_SUCCESS)
                {
                        bRc = FALSE;
                        strcpy(szWindowsPath, szData);
                        len = strlen(szWindowsPath);
                        if ( szWindowsPath[len-1] != '\\' )
                        {

        szWindowsPath[len] = '\\';

        szWindowsPath[len+1] = 0;
                        }
                        // now append the path to SYSTEM32
                        strcat(szWindowsPath, "SYSTEM32\\");
                }

                RegCloseKey(hKey);
        }

        return bRc;
}
```

```
static void GetVersionInfo(char *szDLLPath, char *szExePath)
{
        DWORD                           d;
        DWORD                           dwSize;
        DWORD                           dwBytes;
        char                            *ptr;
        VS_FIXEDFILEINFO        *vs;


        versionDllMS = 0;
        versionDllLS = 0;
        if ( _access(szDLLPath, 00) == 0 )
        {
                dwSize = GetFileVersionInfoSize(szDLLPath, &d);
                if ( dwSize )
                {
                        ptr = (char *)malloc(dwSize);

        GetFileVersionInfo(szDLLPath, 0, dwSize, ptr);
                        VerQueryValue(ptr, "\\",&vs, &dwBytes);
                        versionDllMS = vs->dwProductVersionMS;
                        versionDllLS = vs->dwProductVersionLS;
                        free(ptr);
                }
        }

        versionExeMS = 0x7FFF;
        versionExeLS = 0x7FFF;
       dwSize = GetFileVersionInfoSize(szExePath, &d);
        if ( dwSize )
        {
                ptr = (char *)malloc(dwSize);
                GetFileVersionInfo(szExePath, 0, dwSize, ptr);
                VerQueryValue(ptr, "\\",&vs, &dwBytes);

                versionExeMS = vs->dwProductVersionMS;
                versionExeLS = LOWORD(vs->dwProductVersionLS);
                versionExeMM = HIWORD(vs->dwProductVersionLS);
                free(ptr);
        }
        return;
}
```

```
static BOOL CheckWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! QueryServiceStatus(schService, &ssStatus) )
                goto ServiceNotRunning;

        if ( !ControlService(schService,
SERVICE_CONTROL_STOP, &ssStatus) )
                goto ServiceNotRunning;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto ServiceNotRunning;

        CloseServiceHandle(schService);
        return TRUE;

ServiceNotRunning:

        CloseServiceHandle(schService);
        return FALSE;
}

static BOOL StartWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;
        DWORD
        dwOldCheckPoint;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! StartService(schService, 0, NULL) )
                goto StartWWWebErr;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StartWWWebErr;
        while( ssStatus.dwCurrentState !=
SERVICE_RUNNING)
        {

                dwOldCheckPoint =
ssStatus.dwCheckPoint;
        //Save the current checkpoint.
                Sleep(ssStatus.dwWaitHint);

        //Wait for the specified interval.
                if ( !QueryServiceStatus(schService,
&ssStatus) )     //Check the status again.
                        break;
                if (dwOldCheckPoint >=
ssStatus.dwCheckPoint)          //Break if the
checkpoint has not been incremented.
                        break;
        }

        if (ssStatus.dwCurrentState ==
SERVICE_RUNNING)
                goto StartWWWebErr;

        CloseServiceHandle(schService);
        return TRUE;

StartWWWebErr:
        CloseServiceHandle(schService);
        return FALSE;
}

static BOOL StopWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;
        DWORD
        dwOldCheckPoint;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        //schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("IISADMIN"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StopWWWebErr;
```

```
        if ( !ControlService(schService,
SERVICE_CONTROL_STOP, &ssStatus) )
                goto StopWWWebErr;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StopWWWebErr;
        while( ssStatus.dwCurrentState ==
SERVICE_RUNNING)
        {

                dwOldCheckPoint =
ssStatus.dwCheckPoint;
        //Save the current checkpoint.
                Sleep(ssStatus.dwWaitHint);

        //Wait for the specified interval.
                if ( !QueryServiceStatus(schService,
&ssStatus) )     //Check the status again.
                        break;
                if (dwOldCheckPoint >=
ssStatus.dwCheckPoint)                  //Break if the
checkpoint has not been incremented.
                        break;
        }

        if (ssStatus.dwCurrentState ==
SERVICE_RUNNING)
                goto StopWWWebErr;

        CloseServiceHandle(schService);
        return TRUE;

StopWWWebErr:
        CloseServiceHandle(schService);
        return FALSE;
}

static void UpdateDialog(HWND hDlg)
{
        MSG msg;

        UpdateWindow(hDlg);
        while( PeekMessage(&msg, hDlg, 0, 0,
PM_REMOVE) )
        {
                TranslateMessage(&msg);
                DispatchMessage(&msg);
        }
        Sleep(250);
        return;
}

static void ConfigureIIS6(HWND hwnd, HWND hDlg)
{
        int             irc;
        char    szErrTxt[128];
        FILE    *fErrorFile;


        SetDlgItemText(hDlg, IDC_STATUS,
"Configuring IIS6...");
        //SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);


        irc = system("IIS6_CONFIG.CMD");


        // since the return code from the command file is
always 1,
        // check to see if the file iis6_config.err exists
        // if it does, then something hosed
        fErrorFile = fopen("IIS6_CONFIG.err","r");
        if ( fErrorFile != NULL )
        {
                ShowWindow(hwnd,  SW_SHOWNA);
                DestroyWindow(hDlg);
                strcpy( szErrTxt, "IIS6 configuration
error." );
                strcat( szErrTxt, "Check
iis6_config.err" );
                MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, 0);
                return;
        }
}
```

## install.h

```
/*      FILE:           INSTALL.C
 *                              Microsoft TPC-
C Kit Ver. 4.51.000
 *                              Copyright
Microsoft, 2003
 *      All Rights Reserved
 *
 *                              not audited
 *
 *      PURPOSE:        Automated installation
application for TPC-C Web Kit
 *      Contact:    Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *              4.20.000 - added COM installation
steps
 *     4.50.000 - added IIS6 configuration options
 *              4.51.000 - added routines to copy
Visual Studio runtime module (MSVCR70.DLL)
 *                                      to
SystemRoot\System32
 */
```

```
#include <windows.h>
#include <direct.h>
#include <io.h>
#include <stdlib.h>
#include <stdio.h>
#include <commctrl.h>
#include "..\..\common\src\ReadRegistry.h"
#include <process.h>

#include "resource.h"

#define     WM_INITTEXT
            WM_USER+100

HICON               hIcon;
HINSTANCE           hInst;

DWORD                       versionExeMS;
DWORD                       versionExeLS;
DWORD                       versionExeMM;
DWORD                       versionDllMS;
DWORD                       versionDllLS;

// TPC-C registry settings
TPCCREGISTRYDATA            Reg;

static      int             iPoolThreadLimit;
static      int             iMaxPoolThreads;
static      int             iThreadTimeout;
static      int             iListenBackLog;
static      int             iAcceptExOutstanding;
static      int             iUriEnableCache;
static      int             iUriScavengerPeriod;
static      int             iMaxConnections;

static      int             iIISMajorVersion;
static      int             iNumberOfProcessors;

static      int             iMaxPhysicalMemory;
                    //max physical memory in MB
static      char        szLastFileName[64];             // last
file we worked on (for error reporting)


BOOL        CALLBACK        LicenseDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL        CALLBACK        UpdatedDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL        CALLBACK        MainDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL        CALLBACK        CopyDlgProc(HWND
hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
static      void            ProcessOK(HWND hwnd,
char *szDllPath, char *szWindowsPath);
static      void            ReadRegistrySettings(void);
static      void            WriteRegistrySettings(char
*szDllPath);
static      BOOL            RegisterDLL(char
*szFileName);
static      int
            CopyFiles(HWND hDlg, char *szDllPath, char
*szWindowsPath);
static      BOOL            GetInstallPath(char
*szDllPath);
static      BOOL
            GetWindowsInstallPath(char *szWindowsPath);
static      void            GetVersionInfo(char
*szDLLPath, char *szExePath);
static      BOOL
            CheckWWWebService(void);
static      BOOL            StartWWWebService(void);
static      BOOL            StopWWWebService(void);
static      void            UpdateDialog(HWND
hDlg);
static      void            ConfigureIIS6(HWND
hwnd, HWND hDlg);

SYSTEM_INFO siSysInfo;

BOOL install_com(char *szDllPath);

#include "..\..\common\src\ReadRegistry.cpp"

int WINAPI WinMain( HINSTANCE hInstance,
HINSTANCE hPrevInstance, LPSTR lpCmdLine, int
nCmdShow )
{
            int iRc;

            hInst = hInstance;

            InitCommonControls();

            hIcon = LoadIcon(hInstance,
MAKEINTRESOURCE(IDI_ICON1));

            iRc = DialogBox(hInstance,
MAKEINTRESOURCE(IDD_DIALOG4),
GetDesktopWindow(), LicenseDlgProc);
            if ( iRc )
            {
                        iRc = DialogBox(hInstance,
MAKEINTRESOURCE(IDD_DIALOG1),
GetDesktopWindow(), MainDlgProc);
                        if ( iRc )
                        {
                                    DialogBoxParam(hInstance,
MAKEINTRESOURCE(IDD_DIALOG2),
GetDesktopWindow(), UpdatedDlgProc, (LPARAM)iRc);
                        }
            }

            DestroyIcon(hIcon);
            return 0;
}

BOOL CALLBACK LicenseDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
            HGLOBAL                             hRes;
            HRSRC                       hResInfo;
            BYTE                        *pSrc, *pDst;
            DWORD                       dwSize;
            static HFONT        hFont;

            switch(uMsg)
            {
                        case WM_INITDIALOG:
                                    hFont = CreateFont(-12, 0,
0, 0, 400, 0, 0, 0, 0, 0, 0, 0, 0, "Arial");

            SendMessage( GetDlgItem(hwnd,
IDR_LICENSE1), WM_SETFONT, (WPARAM)hFont,
MAKELPARAM(0, 0) );
                                    PostMessage(hwnd,
WM_INITTEXT, (WPARAM)0, (LPARAM)0);
                                    return TRUE;
                        case WM_INITTEXT:
```

```
                        hResInfo =
FindResource(hInst,
MAKEINTRESOURCE(IDR_LICENSE1), "LICENSE");
                        dwSize =
SizeofResource(hInst, hResInfo);
                        hRes = LoadResource(hInst,
hResInfo );
                        pSrc = (BYTE
*)LockResource(hRes);
                        pDst = (unsigned char
*)malloc(dwSize+1);
                        if ( pDst )
                        {
                                memcpy(pDst,
pSrc, dwSize);
                                pDst[dwSize] =
0;

        SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pDst);
                                free(pDst);
                        }
                        else

        SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pSrc);
                        return TRUE;
                case WM_DESTROY:
                        DeleteObject(hFont);
                        return TRUE;
                case WM_COMMAND:
                        if ( wParam == IDOK )

        EndDialog(hwnd, TRUE);
                        if ( wParam ==
IDCANCEL )

        EndDialog(hwnd, FALSE);
                default:
                        break;
        }
        return FALSE;
}

BOOL CALLBACK UpdatedDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
        switch(uMsg)
        {
                case WM_INITDIALOG:
                        switch(lParam)
                        {
                                case 1:
                                case 2:

        SetDlgItemText(hwnd, IDC_RESULTS, "TPC-C
Web Client Installed");
                                                break;
                        }
                        return TRUE;
                case WM_COMMAND:
                        if ( wParam == IDOK )

        EndDialog(hwnd, TRUE);
                        break;
                default:
                        break;
        }
        return FALSE;
}
```

```
BOOL CALLBACK MainDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
        PAINTSTRUCT             ps;
        MEMORYSTATUS    memoryStatus;
        OSVERSIONINFO   VI;
        char                    szTmp[256];
        static char             szDllPath[256];
        static char             szWindowsPath[256];
        static char             szExePath[256];

        switch(uMsg)
        {
                case WM_INITDIALOG:

        GlobalMemoryStatus(&memoryStatus);
                        iMaxPhysicalMemory=
(memoryStatus.dwTotalPhys/ 1048576);

                        if
( GetWindowsInstallPath(szWindowsPath) )
                        {

        MessageBox(hwnd, "Error: Cannot determine
Windows System Root.", NULL, MB_ICONSTOP |
MB_OK);

        EndDialog(hwnd, FALSE);
                                return TRUE;
                        }

                        if
( GetInstallPath(szDllPath) )
                        {

        MessageBox(hwnd, "Error internet service inetsrv
is not installed.", NULL, MB_ICONSTOP | MB_OK);

        EndDialog(hwnd, FALSE);
                                return TRUE;
                        }

                        // set default values
                        ZeroMemory( &Reg,
sizeof(Reg) );

        Reg.dwNumberOfDeliveryThreads = 4;
                        Reg.dwMaxConnections =
100;

        Reg.dwMaxPendingDeliveries    = 100;
                        Reg.eDB_Protocol =
DBLIB;
                        Reg.eTxnMon = None;
                        strcpy(Reg.szDbServer,
                ");
                        strcpy(Reg.szDbName,
                "tpcc");
                        strcpy(Reg.szDbUser,
        "sa");
                        strcpy(Reg.szDbPassword,
        "");

                        iPoolThreadLimit =
iMaxPhysicalMemory * 2;
                        iThreadTimeout = 86400;
                        iListenBackLog = 15;
                        iAcceptExOutstanding = 40;
```

```
        ReadTPCCRegistrySettings( &Reg );
                        ReadRegistrySettings();

                        // copy the hardware
information to the SYSTEM_INFO structure

        GetSystemInfo(&siSysInfo);
                        // store the number of
processors on this system
                        iNumberOfProcessors =
siSysInfo.dwNumberOfProcessors;

                        GetModuleFileName(hInst,
szExePath, sizeof(szExePath));
                        GetVersionInfo(szDllPath,
szExePath);

                        wsprintf(szTmp, "Version
%d.%2.2d.%3.3d", versionExeMS, versionExeMM,
versionExeLS);
                        SetDlgItemText(hwnd,
IDC_VERSION, szTmp);

                        SetDlgItemText(hwnd,
IDC_PATH, szDllPath);

                        SetDlgItemText(hwnd,
ED_DB_SERVER, Reg.szDbServer);
                        SetDlgItemText(hwnd,
ED_DB_USER_ID, Reg.szDbUser);
                        SetDlgItemText(hwnd,
ED_DB_PASSWORD, Reg.szDbPassword);
                        SetDlgItemText(hwnd,
ED_DB_NAME, Reg.szDbName);

                        SetDlgItemInt(hwnd,
ED_THREADS, Reg.dwNumberOfDeliveryThreads,
FALSE);
                        SetDlgItemInt(hwnd,
ED_MAXCONNECTION, Reg.dwMaxConnections,
FALSE);
                        SetDlgItemInt(hwnd,
ED_MAXDELIVERIES, Reg.dwMaxPendingDeliveries,
FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_MAX_THEAD_POOL_LIMIT, iPoolThreadLimit,
FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_THREAD_TIMEOUT, iThreadTimeout, FALSE);
                        SetDlgItemInt(hwnd,
ED_IIS_LISTEN_BACKLOG, iListenBackLog, FALSE);
                        SetDlgItemInt(hwnd,
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,
iAcceptExOutstanding, FALSE);

                        CheckDlgButton(hwnd,
IDC_DBLIB, 0);
                        CheckDlgButton(hwnd,
IDC_ODBC,  0);
                        if ( Reg.eDB_Protocol ==
DBLIB )

        CheckDlgButton(hwnd, IDC_DBLIB, 1);
                        else

        CheckDlgButton(hwnd, IDC_ODBC,  1);

                        // check OS version level
for COM.  Must be at least Windows 2000
                        VI.dwOSVersionInfoSize =
sizeof(VI);
                        GetVersionEx( &VI );
                        if (VI.dwMajorVersion < 5)
                        {
                                HWND hDlg =
GetDlgItem( hwnd, IDC_TM_MTS );

        EnableWindow( hDlg, 0 );        // disable COM
option
                                if
(Reg.eTxnMon == COM)

        Reg.eTxnMon = None;
                        }

                        CheckDlgButton(hwnd,
IDC_TM_NONE,   0);
                        CheckDlgButton(hwnd,
IDC_TM_TUXEDO, 0);
                        CheckDlgButton(hwnd,
IDC_TM_MTS,    0);
                        CheckDlgButton(hwnd,
IDC_TM_ENCINA,   0);
                        switch (Reg.eTxnMon)
                        {
                        case None:

        CheckDlgButton(hwnd, IDC_TM_NONE,   1);
                                break;
                        case TUXEDO:

        CheckDlgButton(hwnd, IDC_TM_TUXEDO, 1);
                                break;
                        case ENCINA:

        CheckDlgButton(hwnd, IDC_TM_ENCINA, 1);
                                break;
                        case COM:

        CheckDlgButton(hwnd, IDC_TM_MTS,      1);
                                break;
                        }

                        return TRUE;
                case WM_PAINT:
                        if ( IsIconic(hwnd) )
                        {

        BeginPaint(hwnd, &ps);

        DrawIcon(ps.hdc, 0, 0, hIcon);
                                EndPaint(hwnd,
&ps);
                                return TRUE;
                        }
                        break;
                case WM_COMMAND:
                        if ( HIWORD(wParam) ==
BN_CLICKED )
                        {

        switch( LOWORD(wParam) )
                                {
                                        case
IDC_DBLIB:

        return TRUE;
                                        case
IDC_ODBC:
```

```
            return TRUE;
                                                    case
IDOK:

            ProcessOK(hwnd, szDllPath, szWindowsPath);

            return TRUE;
                                                    case
IDCANCEL:

            EndDialog(hwnd, FALSE);

            return TRUE;

            default:

            return FALSE;
                                                }
                        }
                        break;
                default:
                        break;
            }
            return FALSE;
}

static void ProcessOK(HWND hwnd, char *szDllPath, char
*szWindowsPath)
{
            int             d;
            HWND    hDlg;
            int             rc;
            BOOL    bSvcRunning;

            char    szFullName[256];
            char    szErrTxt[128];

            // read settings from dialog
            Reg.dwNumberOfDeliveryThreads  =
GetDlgItemInt(hwnd, ED_THREADS, &d, FALSE);
            Reg.dwMaxConnections = GetDlgItemInt(hwnd,
ED_MAXCONNECTION, &d, FALSE);
            Reg.dwMaxPendingDeliveries =
GetDlgItemInt(hwnd, ED_MAXDELIVERIES, &d, FALSE);

            GetDlgItemText(hwnd, ED_DB_SERVER,
Reg.szDbServer, sizeof(Reg.szDbServer));
            GetDlgItemText(hwnd, ED_DB_USER_ID,
Reg.szDbUser, sizeof(Reg.szDbUser));
            GetDlgItemText(hwnd, ED_DB_PASSWORD,
Reg.szDbPassword, sizeof(Reg.szDbPassword));
            GetDlgItemText(hwnd, ED_DB_NAME,
Reg.szDbName, sizeof(Reg.szDbName));

            if ( IsDlgButtonChecked(hwnd, IDC_DBLIB) )
            {
                        Reg.eDB_Protocol = DBLIB;
                        rc = 1;
            }
            else if ( IsDlgButtonChecked(hwnd,
IDC_ODBC) )
            {
                        Reg.eDB_Protocol = ODBC;
                        rc = 2;
            }

            if ( IsDlgButtonChecked(hwnd,
IDC_TM_NONE) )
                        Reg.eTxnMon = None;
            else if ( IsDlgButtonChecked(hwnd,
IDC_TM_TUXEDO) )
                        Reg.eTxnMon = TUXEDO;
            else if ( IsDlgButtonChecked(hwnd,
IDC_TM_MTS) )
                        Reg.eTxnMon = COM;
            else if ( IsDlgButtonChecked(hwnd,
IDC_TM_ENCINA) )
                        Reg.eTxnMon = ENCINA;

            iPoolThreadLimit = GetDlgItemInt(hwnd,
ED_IIS_MAX_THEAD_POOL_LIMIT, &d, FALSE);
            iThreadTimeout = GetDlgItemInt(hwnd,
ED_IIS_THREAD_TIMEOUT,  &d, FALSE);
            iListenBackLog = GetDlgItemInt(hwnd,
ED_IIS_LISTEN_BACKLOG, &d, FALSE);
            iAcceptExOutstanding = GetDlgItemInt(hwnd,
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE, &d,
FALSE);



            ShowWindow(hwnd, SW_HIDE);
            hDlg = CreateDialog(hInst,
MAKEINTRESOURCE(IDD_DIALOG3), hwnd,
CopyDlgProc);
            ShowWindow(hDlg, SW_SHOWNA);
            UpdateDialog(hDlg);

            // check to see if the web services are running
            bSvcRunning = CheckWWWebService();
            if ( bSvcRunning )
            {
                        SetDlgItemText(hDlg, IDC_STATUS,
"Stopping Web Service.");
                        SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                        UpdateDialog(hDlg);

                        StopWWWebService();
                        SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                        UpdateDialog(hDlg);
            }

            // write binaries to inetpub\wwwroot
            rc = CopyFiles(hDlg, szDllPath, szWindowsPath);
            if ( !rc )
            {
                       ShowWindow(hwnd,  SW_SHOWNA);
                        DestroyWindow(hDlg);
                        strcpy( szErrTxt, "Error(s) occured
when creating " );
                        strcat( szErrTxt, szLastFileName );
                        MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                        EndDialog(hwnd, 0);
                        return;
            }

            // while we have the web services shutdown,
check to see if this
            // is IIS6.  If it is, then call ConfigureIIS6
            if ( iIISMajorVersion == 6)
            {
                        ConfigureIIS6(hwnd, hDlg);
            }

            //if we stopped service restart it.
            if ( bSvcRunning )
            {
```

```
                        SetDlgItemText(hDlg, IDC_STATUS,
"Starting Web Service.");
                        SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                        UpdateDialog(hDlg);
                        StartWWWebService();
                }

                // update registry
                SetDlgItemText(hDlg, IDC_STATUS, "Updating
Registry.");
                SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);
                WriteRegistrySettings(szDllPath);

                // register com proxy stub
                strcpy(szFullName, szDllPath);
                strcat(szFullName, "tpcc_com_ps.dll");
                if (!RegisterDLL(szFullName))
                {
                        ShowWindow(hwnd,  SW_SHOWNA);
                        DestroyWindow(hDlg);
                        strcpy( szErrTxt, "Error occured when
registering " );
                        strcat( szErrTxt, szFullName );
                        MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                        EndDialog(hwnd, 0);
                        return;
                }

                // if using COM
                if (Reg.eTxnMon == COM)
                {
                        SetDlgItemText(hDlg, IDC_STATUS,
"Configuring COM.");
                        SendDlgItemMessage(hDlg,
IDC_PROGRESS1, PBM_STEPIT, 0, 0);
                        UpdateDialog(hDlg);

                        if (install_com(szDllPath))
                        {
                                ShowWindow(hwnd,
SW_SHOWNA);
                                DestroyWindow(hDlg);
                                strcpy( szErrTxt, "Error
occured when configuring COM settings." );
                                MessageBox(hwnd,
szErrTxt, NULL, MB_ICONSTOP | MB_OK);
                                EndDialog(hwnd, 0);
                                return;
                        }
                }

                Sleep(100);

                ShowWindow(hwnd, SW_SHOWNA);
                DestroyWindow(hDlg);

                EndDialog(hwnd, rc);
                return;
}

static void ReadRegistrySettings(void)
{
                HKEY      hKey;
                DWORD   size;
                DWORD   type;

                if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\InetStp", 0, KEY_READ, &hKey)
== ERROR_SUCCESS )
                {
                        size = sizeof(iIISMajorVersion);
                        if ( RegQueryValueEx(hKey,
"MajorVersion", 0, &type, (char *)&iIISMajorVersion,
&size) == ERROR_SUCCESS )
                                if ( !iIISMajorVersion )

                iIISMajorVersion = 5;
                }

                if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameter
s", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
                {
                        if ( iIISMajorVersion == 6)
                        {
                                // since IIS6 handles the
pool thread parameters differently, we need to fill in the
dialog
                                // with the MaxPoolThreads
rather thatn PoolThreadLimit
                                // for ease of coding, we are
just going to stuff the value into iPoolThreadLimit
                        size = sizeof(iPoolThreadLimit);
                                if
( RegQueryValueEx(hKey, "MaxPoolThreads", 0, &type,
(char *)&iPoolThreadLimit, &size) == ERROR_SUCCESS )
                                if ( !iPoolThreadLimit )

                iPoolThreadLimit =  iMaxPhysicalMemory * 2;
                        }
                        else
                        {
                                size =
sizeof(iPoolThreadLimit);
                                if
( RegQueryValueEx(hKey, "MaxPoolThreads", 0, &type,
(char *)&iPoolThreadLimit, &size) == ERROR_SUCCESS )
                                if ( !iPoolThreadLimit )

                iPoolThreadLimit =  iMaxPhysicalMemory * 2;
                        }

                        size = sizeof(iThreadTimeout);
                        if ( RegQueryValueEx(hKey,
"ThreadTimeout", 0, &type, (char *)&iThreadTimeout,
&size) == ERROR_SUCCESS )
                                if ( !iThreadTimeout )
                                        iThreadTimeout
= 86400;

                        size = sizeof(iListenBackLog);
                        if ( RegQueryValueEx(hKey,
"ListenBackLog", 0, &type, (char *)&iListenBackLog, &size)
== ERROR_SUCCESS )
                                if ( !iListenBackLog )
                                        iListenBackLog
= 15;

                        RegCloseKey(hKey);
                }

                if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Paramete
rs", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
                {
                        size = sizeof(iAcceptExOutstanding);
```

```
                        if ( RegQueryValueEx(hKey,
"AcceptExOutstanding", 0, &type, (char
*)&iAcceptExOutstanding, &size) == ERROR_SUCCESS )
                                if ( !iAcceptExOutstanding )

                iAcceptExOutstanding = 40;

                        RegCloseKey(hKey);
                }
                if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\HTTP\\Parameters",
0, KEY_READ, &hKey) == ERROR_SUCCESS )
                {
                        size = sizeof(iUriEnableCache);
                        if ( RegQueryValueEx(hKey,
"UriEnableCache", 0, &type, (char *)&iUriEnableCache,
&size) == ERROR_SUCCESS )
                                if ( !iUriEnableCache )

                iUriEnableCache = 0;

                        size = sizeof(iUriScavengerPeriod);
                        if ( RegQueryValueEx(hKey,
"UriScavengerPeriod", 0, &type, (char
*)&iUriScavengerPeriod, &size) == ERROR_SUCCESS )
                                if ( !iUriScavengerPeriod )

                iUriScavengerPeriod = 10800;

                        size = sizeof(iMaxConnections);
                        if ( RegQueryValueEx(hKey,
"MaxConnections", 0, &type, (char *)&iMaxConnections,
&size) == ERROR_SUCCESS )
                                if ( !iMaxConnections )

                iMaxConnections = 100000;

                        RegCloseKey(hKey);
                }
}


static void WriteRegistrySettings(char *szDllPath)
{
                HKEY    hKey;
                DWORD   dwDisposition;
                char    szTmp[256];
                char    *ptr;
                int             iRc;

                if
( RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\TPCC", 0, NULL,
REG_OPTION_NON_VOLATILE, KEY_ALL_ACCESS,
NULL, &hKey, &dwDisposition) == ERROR_SUCCESS )
                {
                        strcpy(szTmp, szDllPath);
                        ptr = strstr(szTmp, "tpcc");
                        if ( ptr )
                                *ptr = 0;

                        RegSetValueEx(hKey, "Path", 0,
REG_SZ, szTmp, strlen(szTmp)+1);

                        RegSetValueEx(hKey,
"NumberOfDeliveryThreads", 0, REG_DWORD, (char
*)&Reg.dwNumberOfDeliveryThreads,
sizeof(Reg.dwNumberOfDeliveryThreads));
                        RegSetValueEx(hKey,
"MaxConnections", 0, REG_DWORD, (char
*)&Reg.dwMaxConnections,
sizeof(Reg.dwMaxConnections));
                        RegSetValueEx(hKey,
"MaxPendingDeliveries", 0, REG_DWORD, (char
*)&Reg.dwMaxPendingDeliveries,
sizeof(Reg.dwMaxPendingDeliveries));

                        RegSetValueEx(hKey, "DB_Protocol",
0, REG_SZ, szDBNames[Reg.eDB_Protocol],
strlen(szDBNames[Reg.eDB_Protocol])+1);
                        RegSetValueEx(hKey, "TxnMonitor",
0, REG_SZ, szTxnMonNames[Reg.eTxnMon],
strlen(szTxnMonNames[Reg.eTxnMon])+1);

                        RegSetValueEx(hKey, "DbServer", 0,
REG_SZ, Reg.szDbServer, strlen(Reg.szDbServer)+1);
                        RegSetValueEx(hKey, "DbName", 0,
REG_SZ, Reg.szDbName, strlen(Reg.szDbName)+1);
                        RegSetValueEx(hKey, "DbUser", 0,
REG_SZ, Reg.szDbUser, strlen(Reg.szDbUser)+1);
                        RegSetValueEx(hKey, "DbPassword",
0, REG_SZ, Reg.szDbPassword,
strlen(Reg.szDbPassword)+1);

                        strcpy(szTmp, "YES");
                        RegSetValueEx(hKey,
"COM_SinglePool", 0, REG_SZ, szTmp, strlen(szTmp)+1);

                        RegFlushKey(hKey);
                        RegCloseKey(hKey);
                }

                if
( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameter
s", 0, NULL, REG_OPTION_NON_VOLATILE,
KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
                {
                        // if this is IIS6, then we need to treat
the PoolThreadLimit differently
                        // if IIS6, then PoolThreadLimit is the
maximum number of threads for the entire system.
                        // IIS6 added MaxPoolThreads which
controls the number of threads per processor.  For IIS6
                        // we will set MaxPoolThreads to the
value the user proivided in the dialog and then set
                        // PoolThreadLimit to
MaxPoolThreads * number of processors on this system
                        if ( iIISMajorVersion == 6 )
                        {
                                iMaxPoolThreads =
iPoolThreadLimit;
                                iPoolThreadLimit =
iMaxPoolThreads * iNumberOfProcessors;
                                RegSetValueEx(hKey,
"PoolThreadLimit", 0, REG_DWORD, (char
*)&iPoolThreadLimit, sizeof(iPoolThreadLimit));
                                RegSetValueEx(hKey,
"MaxPoolThreads", 0, REG_DWORD, (char
*)&iMaxPoolThreads, sizeof(iMaxPoolThreads));
                        }
                        else
                        {
                                RegSetValueEx(hKey,
"PoolThreadLimit", 0, REG_DWORD, (char
*)&iPoolThreadLimit, sizeof(iPoolThreadLimit));
                        }
```

```
                        RegSetValueEx(hKey,
"ThreadTimeout", 0, REG_DWORD, (char
*)&iThreadTimeout, sizeof(iThreadTimeout));
                        RegSetValueEx(hKey,
"ListenBackLog", 0, REG_DWORD, (char
*)&iListenBackLog, sizeof(iListenBackLog));

                        RegFlushKey(hKey);
                        RegCloseKey(hKey);
                }

                if
( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Paramete
rs", 0, NULL, REG_OPTION_NON_VOLATILE,
KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
                {
                        RegSetValueEx(hKey,
"AcceptExOutstanding", 0, REG_DWORD, (char
*)&iAcceptExOutstanding, sizeof(iAcceptExOutstanding));

                        RegFlushKey(hKey);
                        RegCloseKey(hKey);
                }

                return;
}

BOOL CALLBACK CopyDlgProc(HWND hwnd, UINT
uMsg, WPARAM wParam, LPARAM lParam)
{
                if ( uMsg == WM_INITDIALOG )
                {
                        SendDlgItemMessage(hwnd,
IDC_PROGRESS1, PBM_SETRANGE, 0,
MAKELPARAM(0, 16));
                        SendDlgItemMessage(hwnd,
IDC_PROGRESS1, PBM_SETSTEP, (WPARAM)1, 0);
                        return TRUE;
                }
                return FALSE;
}

BOOL RegisterDLL(char *szFileName)
{
                HINSTANCE               hLib;
                FARPROC                         lpDllEntryPoint;

                hLib = LoadLibrary(szFileName);
                if ( hLib == NULL )
                        return FALSE;
                // Find the entry point.
                lpDllEntryPoint = GetProcAddress(hLib,
"DllRegisterServer");
                if (lpDllEntryPoint != NULL)
                {
                        return ((*lpDllEntryPoint)() == S_OK);
                }
                else
                        return FALSE;           //unable to
locate entry point
}

BOOL FileFromResource( char *szResourceName, int
iResourceId, char *szDllPath, char *szFileName )
{
                HGLOBAL
                hDLL;
                HRSRC                           hResInfo;
                HANDLE                          hFile;
                DWORD                           dwSize;
                BYTE                            *pSrc;
                DWORD                           d;
                char
                szFullName[256];

                hResInfo = FindResource(hInst,
MAKEINTRESOURCE(iResourceId), szResourceName);

                strcpy(szFullName, szDllPath);
                strcat(szFullName, szFileName);

                dwSize = SizeofResource(hInst, hResInfo);
                hDLL = LoadResource(hInst, hResInfo );
                pSrc = (BYTE *)LockResource(hDLL);
                remove(szFullName);

                if ( !(hFile = CreateFile(szFullName,
GENERIC_WRITE, 0, NULL, CREATE_ALWAYS,
FILE_ATTRIBUTE_NORMAL, NULL)) )
                        return FALSE;

                if ( !WriteFile(hFile, pSrc, dwSize, &d, NULL) )
                        return FALSE;

                CloseHandle(hFile);

                UnlockResource(hDLL);
                FreeResource(hDLL);
                return TRUE;
}

static int CopyFiles(HWND hDlg, char *szDllPath, char
*szWindowsPath)
{
                SetDlgItemText(hDlg, IDC_STATUS, "Copying
Files...");
                SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);

                // install TPCC.DLL
                strcpy( szLastFileName, "tpcc.dll" );
                if (!FileFromResource( "TPCCDLL",
IDR_TPCCDLL, szDllPath, szLastFileName ))
                        return 0;
                SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);


                // install MSVCR70.DLL
                strcpy( szLastFileName, "msvcr70.dll" );
                if (!FileFromResource( "MSVCRT70",
IDR_MSVCRT701, szWindowsPath, szLastFileName ))
                        return 0;
                SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);

                // install tpcc_dblib.dll
                strcpy( szLastFileName, "tpcc_dblib.dll" );
                if (!FileFromResource( "DBLIB_DLL",
IDR_DBLIB_DLL, szDllPath, szLastFileName ))
                        return 0;
                SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
                UpdateDialog(hDlg);
```

```
        // install tpcc_odbc.dll
        strcpy( szLastFileName, "tpcc_odbc.dll" );
        if (!FileFromResource( "ODBC_DLL",
IDR_ODBC_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        // install tuxapp.exe
        strcpy( szLastFileName, "tuxapp.exe" );
        if (!FileFromResource( "TUXEDO_APP",
IDR_TUXEDO_APP, szDllPath, szLastFileName ))
                return 0;
        //SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        //UpdateDialog(hDlg);

        // install tpcc_tuxedo.dll
        strcpy( szLastFileName, "tpcc_tuxedo.dll" );
        if (!FileFromResource( "TUXEDO_DLL",
IDR_TUXEDO_DLL, szDllPath, szLastFileName ))
                return 0;
        //SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        //UpdateDialog(hDlg);

        // install tpcc_com.dll
        strcpy( szLastFileName, "tpcc_com.dll" );
        if (!FileFromResource( "COM_DLL",
IDR_COM_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        // install tpcc_com_all.tlb
        strcpy( szLastFileName, "tpcc_com_all.tlb" );
        if (!FileFromResource( "COM_TYPLIB",
IDR_COMTYPLIB_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        // install tpcc_com_ps.dll
        strcpy( szLastFileName, "tpcc_com_ps.dll" );
        if (!FileFromResource( "COM_PS_DLL",
IDR_COMPS_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        // install tpcc_com_all.dll
        strcpy( szLastFileName, "tpcc_com_all.dll" );
        if (!FileFromResource( "COM_ALL_DLL",
IDR_COMALL_DLL, szDllPath, szLastFileName ))
                return 0;
        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        return 1;
}

static BOOL GetInstallPath(char *szDllPath)
{
   HKEY   hKey;
        BYTE    szData[256];
        DWORD   sv;
        BOOL    bRc;
        int             len;
        int             iRc;


        // Registry key
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\InetSt
p\PathWWWRoot is used to find the
        // IIS default web site directory and determine that
IIS is installed.

        szDllPath[0] =  0;
        bRc = TRUE;
        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\InetStp", 0, KEY_ALL_ACCESS,
&hKey) == ERROR_SUCCESS )
        {
                sv = sizeof(szData);
                iRc = RegQueryValueEx( hKey,
"PathWWWRoot", NULL, NULL, szData, &sv );  // used by
IIS 5.0 & 6.0
                if (iRc == ERROR_SUCCESS)
                {
                        bRc = FALSE;
                        strcpy(szDllPath, szData);
                        len = strlen(szDllPath);
                        if ( szDllPath[len-1] != '\\' )
                        {
                                szDllPath[len] =
'\\';
                                szDllPath[len+1]
= 0;
                        }
                }

                RegCloseKey(hKey);
        }

        return bRc;
}

static BOOL GetWindowsInstallPath(char *szWindowsPath)
{
   HKEY   hKey;
        BYTE    szData[256];
        DWORD   sv;
        BOOL    bRc;
        int             len;
        int             iRc;


        // Registry key
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windo
ws NT\CurrentVersion\SystemRoot is used to find the
        // system root to install the VC70 DLL.

        szWindowsPath[0] =  0;
        bRc = TRUE;
        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\Windows NT\\CurrentVersion", 0,
KEY_ALL_ACCESS, &hKey) == ERROR_SUCCESS )
        {
                sv = sizeof(szData);
                iRc = RegQueryValueEx( hKey,
"SystemRoot", NULL, NULL, szData, &sv );
```

```
                        if (iRc == ERROR_SUCCESS)
                        {
                                bRc = FALSE;
                                strcpy(szWindowsPath,
szData);
                                len =
strlen(szWindowsPath);
                                if ( szWindowsPath[len-
1] != '\\' )
                                {

        szWindowsPath[len] = '\\';

        szWindowsPath[len+1] = 0;
                                }
                                // now append the path to
SYSTEM32
                                strcat(szWindowsPath,
"SYSTEM32\\");
                        }

                        RegCloseKey(hKey);
        }

        return bRc;
}
static void GetVersionInfo(char *szDLLPath, char
*szExePath)
{
        DWORD                                   d;
        DWORD
        dwSize;
        DWORD
        dwBytes;
        char                                    *ptr;
        VS_FIXEDFILEINFO        *vs;

        versionDllMS = 0;
        versionDllLS = 0;
        if ( _access(szDLLPath, 00) == 0 )
        {
                dwSize =
GetFileVersionInfoSize(szDLLPath, &d);
                if ( dwSize )
                {
                        ptr = (char
*)malloc(dwSize);

        GetFileVersionInfo(szDLLPath, 0, dwSize, ptr);
                        VerQueryValue(ptr,
"\\",&vs, &dwBytes);
                        versionDllMS = vs-
>dwProductVersionMS;
                        versionDllLS = vs-
>dwProductVersionLS;
                        free(ptr);
                }
        }

        versionExeMS = 0x7FFF;
        versionExeLS = 0x7FFF;
       dwSize = GetFileVersionInfoSize(szExePath, &d);
        if ( dwSize )
        {
                ptr = (char *)malloc(dwSize);
                GetFileVersionInfo(szExePath, 0,
dwSize, ptr);
                VerQueryValue(ptr, "\\",&vs,
&dwBytes);
                        versionExeMS = vs-
>dwProductVersionMS;
                        versionExeLS = LOWORD(vs-
>dwProductVersionLS);
                        versionExeMM = HIWORD(vs-
>dwProductVersionLS);
                        free(ptr);
        }
        return;
}

static BOOL CheckWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! QueryServiceStatus(schService, &ssStatus) )
                goto ServiceNotRunning;

        if ( !ControlService(schService,
SERVICE_CONTROL_STOP, &ssStatus) )
                goto ServiceNotRunning;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto ServiceNotRunning;

        CloseServiceHandle(schService);
        return TRUE;

ServiceNotRunning:

        CloseServiceHandle(schService);
        return FALSE;
}

static BOOL StartWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;
        DWORD
        dwOldCheckPoint;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! StartService(schService, 0, NULL) )
                goto StartWWWebErr;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StartWWWebErr;
        while( ssStatus.dwCurrentState !=
SERVICE_RUNNING)
        {
```

```
                dwOldCheckPoint =
ssStatus.dwCheckPoint;
        //Save the current checkpoint.
                Sleep(ssStatus.dwWaitHint);

        //Wait for the specified interval.
                if ( !QueryServiceStatus(schService,
&ssStatus) )        //Check the status again.
                        break;
                if (dwOldCheckPoint >=
ssStatus.dwCheckPoint)                  //Break if the
checkpoint has not been incremented.
                        break;
        }

        if (ssStatus.dwCurrentState ==
SERVICE_RUNNING)
                goto StartWWWebErr;

        CloseServiceHandle(schService);
        return TRUE;

StartWWWebErr:
        CloseServiceHandle(schService);
        return FALSE;
}

static BOOL StopWWWebService(void)
{
        SC_HANDLE               schSCManager;
        SC_HANDLE               schService;
        SERVICE_STATUS  ssStatus;
        DWORD
        dwOldCheckPoint;

        schSCManager = OpenSCManager(NULL,
NULL, SC_MANAGER_ALL_ACCESS);
        //schService = OpenService(schSCManager,
TEXT("W3SVC"), SERVICE_ALL_ACCESS);
        schService = OpenService(schSCManager,
TEXT("IISADMIN"), SERVICE_ALL_ACCESS);
        if (schService == NULL)
                return FALSE;

        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StopWWWebErr;

        if ( !ControlService(schService,
SERVICE_CONTROL_STOP, &ssStatus) )
                goto StopWWWebErr;
        //start Service pending, Check the status until the
service is running.
        if (! QueryServiceStatus(schService, &ssStatus) )
                goto StopWWWebErr;
        while( ssStatus.dwCurrentState ==
SERVICE_RUNNING)
        {

                dwOldCheckPoint =
ssStatus.dwCheckPoint;
        //Save the current checkpoint.
                Sleep(ssStatus.dwWaitHint);

        //Wait for the specified interval.
                if ( !QueryServiceStatus(schService,
&ssStatus) )        //Check the status again.
                        break;
                if (dwOldCheckPoint >=
ssStatus.dwCheckPoint)                  //Break if the
checkpoint has not been incremented.
                        break;
        }

        if (ssStatus.dwCurrentState ==
SERVICE_RUNNING)
                goto StopWWWebErr;

        CloseServiceHandle(schService);
        return TRUE;

StopWWWebErr:
        CloseServiceHandle(schService);
        return FALSE;
}

static void UpdateDialog(HWND hDlg)
{
        MSG msg;

        UpdateWindow(hDlg);
        while( PeekMessage(&msg, hDlg, 0, 0,
PM_REMOVE) )
        {
                TranslateMessage(&msg);
                DispatchMessage(&msg);
        }
        Sleep(250);
        return;
}

static void ConfigureIIS6(HWND hwnd, HWND hDlg)
{
        int                     irc;
        char    szErrTxt[128];
        FILE    *fErrorFile;

        SetDlgItemText(hDlg, IDC_STATUS,
"Configuring IIS6...");
        //SendDlgItemMessage(hDlg, IDC_PROGRESS1,
PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        irc = system("IIS6_CONFIG.CMD");

        // since the return code from the command file is
always 1,
        // check to see if the file iis6_config.err exists
        // if it does, then something hosed
        fErrorFile = fopen("IIS6_CONFIG.err","r");
        if ( fErrorFile != NULL )
        {
                ShowWindow(hwnd,  SW_SHOWNA);
                DestroyWindow(hDlg);
                strcpy( szErrTxt, "IIS6 configuration
error." );
                strcat( szErrTxt, "Check
iis6_config.err" );
                MessageBox(hwnd, szErrTxt, NULL,
MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, 0);
                return;
        }
}
```

## resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Visual C++ generated include file.
```

```
// Used by install.rc
//
#define IDD_DIALOG1                 101
#define IDI_ICON1                   102
#define IDR_TPCCDLL                 103
#define IDD_DIALOG2                 105
#define IDI_ICON2                   106
#define IDR_DELIVERY                107
#define IDD_DIALOG3                 108
#define IDR_LICENSE1                112
#define IDD_DIALOG4                 113
#define IDR_TPCCOBJ1                117
#define IDR_TPCCSTUB1               118
#define IDR_ODBC_DLL                123
#define IDR_COM_DLL                 126
#define IDR_COMPS_DLL               127
#define IDR_COMALL_DLL              128
#define IDR_COMTYPLIB_DLL           129
#define IDR_MSVCR71                 130
#define BN_LOG                      1001
#define ED_KEEP                     1002
#define ED_THREADS                  1003
#define ED_THREADS2                 1004
#define IDC_PATH                    1007
#define IDC_VERSION                 1009
#define IDC_RESULTS                 1010
#define IDC_PROGRESS1               1011
#define IDC_STATUS                  1012
#define IDC_BUTTON1                 1013
#define ED_MAXCONNECTION            1014
#define ED_IIS_MAX_THEAD_POOL_LIMIT 1015
#define ED_MAXDELIVERIES            1016
#define ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE
1017
#define ED_IIS_THREAD_TIMEOUT       1018
#define ED_IIS_LISTEN_BACKLOG       1019
#define IDC_DBLIB                   1021
#define IDC_LICENSE                 1022
#define IDC_ODBC                    1022
#define IDC_CONNECT_POOL            1023
#define ED_DB_SERVER                1023
#define ED_USER_CONNECT_DELAY_TIME  1024
#define ED_DB_USER_ID               1024
#define IDC_MTS                     1025
#define IDC_TM_MTS                  1025
#define IDC_TM_TUXEDO               1026
#define IDC_TM_NONE                 1027
#define ED_DB_PASSWORD              1028
#define ED_DB_NAME                  1029
#define IDC_TM_ENCINA               1030

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE    131
#define _APS_NEXT_COMMAND_VALUE     40001
#define _APS_NEXT_CONTROL_VALUE     1031
#define _APS_NEXT_SYMED_VALUE       101
#endif
#endif
```

## install.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by install.rc
//

#define IDD_DIALOG1                 101
#define IDI_ICON1                   102
#define IDR_TPCCDLL                 103
#define IDD_DIALOG2                 105
#define IDI_ICON2                   106
#define IDR_DELIVERY                107
#define IDD_DIALOG3                 108

#define BN_LOG                      1001
#define ED_KEEP                     1002
#define ED_THREADS                  1003
#define ED_THREADS2                 1004
#define IDC_PATH                    1007
#define IDC_VERSION                 1009
#define IDC_RESULTS                 1010
#define IDC_PROGRESS1               1011
#define IDC_STATUS                  1012
#define IDC_BUTTON1                 1013
#define ED_MAXCONNECTION            1014
#define ED_IIS_MAX_THEAD_POOL_LIMIT 1015
#define ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE
        1017
#define ED_IIS_THREAD_TIMEOUT       1018
#define ED_IIS_LISTEN_BACKLOG       1019
#define IDC_ODBC                    1022
#define IDC_CONNECT_POOL
                    1023
#define ED_USER_CONNECT_DELAY_TIME
                    1024

// Next default values for new objects
//
```

## install.rc

```
// Microsoft Visual C++ generated resource script.
//
#include "resource.h"

#define APSTUDIO_READONLY_SYMBOLS
//////////////////////////////////////////////////////////////////////////
//
```

```
// Generated from the TEXTINCLUDE 2 resource.
//
#include "afxres.h"

/////////////////////////////////////////////////////////////////////////////
#undef APSTUDIO_READONLY_SYMBOLS

/////////////////////////////////////////////////////////////////////////////
// English (U.S.) resources

#if !defined(AFX_RESOURCE_DLL) ||
defined(AFX_TARG_ENU)
#ifdef _WIN32
LANGUAGE LANG_ENGLISH,
SUBLANG_ENGLISH_US
#pragma code_page(1252)
#endif //_WIN32

/////////////////////////////////////////////////////////////////////////////
//
// Dialog
//

IDD_DIALOG1 DIALOGEX 0, 0, 219, 324
STYLE DS_SETFONT | DS_MODALFRAME |
DS_CENTER | WS_MINIMIZEBOX | WS_POPUP |
    WS_CAPTION | WS_SYSMENU
CAPTION "TPC-C Web Client Installation Utility"
FONT 8, "MS Sans Serif", 0, 0, 0x1
BEGIN
    EDITTEXT       ED_THREADS,164,45,34,12,ES_RIGHT
| ES_NUMBER,
                WS_EX_RTLREADING
    EDITTEXT
ED_MAXDELIVERIES,164,59,34,12,ES_RIGHT |
ES_NUMBER,
                WS_EX_RTLREADING
    EDITTEXT
ED_MAXCONNECTION,164,73,34,12,ES_RIGHT |
ES_NUMBER,
                WS_EX_RTLREADING
    CONTROL
"None",IDC_TM_NONE,"Button",BS_AUTORADIOBUTT
ON |
                WS_GROUP | WS_TABSTOP,43,104,33,10
    CONTROL
"COM",IDC_TM_MTS,"Button",BS_AUTORADIOBUTTO
N |
                WS_TABSTOP,94,104,32,10
    EDITTEXT
ED_DB_SERVER,131,145,67,12,ES_AUTOHSCROLL
    EDITTEXT
ED_DB_USER_ID,131,158,67,12,ES_AUTOHSCROLL
    EDITTEXT
ED_DB_PASSWORD,131,171,67,12,ES_AUTOHSCROLL
    EDITTEXT
ED_DB_NAME,131,184,67,12,ES_AUTOHSCROLL
    EDITTEXT
ED_IIS_MAX_THEAD_POOL_LIMIT,164,226,34,12,ES_R
IGHT |
                ES_NUMBER,WS_EX_RTLREADING
    EDITTEXT
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,164,240,
34,12,ES_RIGHT |
                ES_NUMBER,WS_EX_RTLREADING
    EDITTEXT
ED_IIS_THREAD_TIMEOUT,164,254,34,12,ES_RIGHT |
ES_NUMBER,
                WS_EX_RTLREADING
    EDITTEXT
ED_IIS_LISTEN_BACKLOG,164,268,34,12,ES_RIGHT |
ES_NUMBER,
                WS_EX_RTLREADING
    DEFPUSHBUTTON   "OK",IDOK,53,296,50,14
    PUSHBUTTON      "Cancel",IDCANCEL,119,296,50,14
    EDITTEXT
IDC_PATH,106,26,91,13,ES_AUTOHSCROLL |
ES_READONLY
    LTEXT          "Number of Delivery
Threads:",IDC_STATIC,35,45,115,12
    LTEXT          "Max Number of
Connections:",IDC_STATIC,35,73,115,12
    RTEXT          "Version 4.11",IDC_VERSION,120,4,89,9
    LTEXT          "IIS Max Thread Pool
Limit:",IDC_STATIC,36,226,115,12
    LTEXT          "Web Service Backlog Queue
Size:",IDC_STATIC,36,240,115,
                12
    LTEXT          "IIS Thread Timeout
(seconds):",IDC_STATIC,36,254,115,12
    LTEXT          "IIS Listen
Backlog:",IDC_STATIC,36,270,115,10
    LTEXT          "Installation
directory:",IDC_STATIC,35,29,71,10
    GROUPBOX       "Transaction
Monitor",IDC_STATIC,33,90,165,33
    LTEXT          "Server Name:",IDC_STATIC,35,148,56,8
    LTEXT          "User ID:",IDC_STATIC,35,161,60,8
    LTEXT          "User
Password:",IDC_STATIC,35,174,83,8
    LTEXT          "Database
Name:",IDC_STATIC,35,187,54,8
    GROUPBOX       "SQL Server Connection
Properties",IDC_STATIC,22,132,187,
                74
    GROUPBOX       "Web Client
Properties",IDC_STATIC,22,15,187,113
    GROUPBOX       "IIS
Settings",IDC_STATIC,22,210,187,79
    LTEXT          "Max Pending
Deliveries:",IDC_STATIC,35,59,115,12
END
```

```
IDD_DIALOG2 DIALOGEX 0, 0, 117, 62
STYLE DS_SETFONT | DS_SETFOREGROUND |
DS_3DLOOK | DS_CENTER | WS_POPUP |
    WS_BORDER
EXSTYLE WS_EX_STATICEDGE
FONT 12, "MS Sans Serif", 0, 0, 0x1
BEGIN
    DEFPUSHBUTTON   "OK",IDOK,33,45,50,9
    CTEXT           "HTML TPC-C Installation
Successfull",IDC_RESULTS,7,22,
                    102,18,0,WS_EX_CLIENTEDGE
    ICON
IDI_ICON2,IDC_STATIC,50,7,18,20,SS_REALSIZEIMAG
E,
                    WS_EX_TRANSPARENT
END

IDD_DIALOG3 DIALOG  0, 0, 91, 40
STYLE DS_SYSMODAL | DS_SETFONT |
DS_MODALFRAME | DS_3DLOOK | DS_CENTER |
    WS_CAPTION
CAPTION "Installing TPC-C Web Client"
FONT 12, "Arial Black"
BEGIN
    CONTROL
"Progress1",IDC_PROGRESS1,"msctls_progress32",WS_B
ORDER,
                    7,20,77,13
    CTEXT
"Static",IDC_STATUS,7,7,77,12,SS_SUNKEN
END

IDD_DIALOG4 DIALOG  0, 0, 291, 202
STYLE DS_SETFONT | DS_MODALFRAME |
DS_CENTER | WS_POPUP | WS_CAPTION |
    WS_SYSMENU
CAPTION "Client End User License"
FONT 8, "MS Sans Serif"
BEGIN
    EDITTEXT
IDC_LICENSE,7,7,271,167,ES_MULTILINE |
ES_AUTOVSCROLL |
                    ES_AUTOHSCROLL | ES_READONLY |
WS_VSCROLL | WS_HSCROLL
    DEFPUSHBUTTON   "I &Agree",IDOK,87,181,50,14
    PUSHBUTTON
"&Cancel",IDCANCEL,153,181,50,14
END



//////////////////////////////////////////////////////////////////////
//
// DESIGNINFO
//

#ifdef APSTUDIO_INVOKED
GUIDELINES DESIGNINFO
BEGIN
    IDD_DIALOG1, DIALOG
    BEGIN
        LEFTMARGIN, 22
        RIGHTMARGIN, 209
        VERTGUIDE, 35
        VERTGUIDE, 198
        TOPMARGIN, 4
        BOTTOMMARGIN, 318
    END

    IDD_DIALOG2, DIALOG
    BEGIN
        LEFTMARGIN, 7
        RIGHTMARGIN, 109
        TOPMARGIN, 7
        BOTTOMMARGIN, 54
    END

    IDD_DIALOG3, DIALOG
    BEGIN
        LEFTMARGIN, 7
        RIGHTMARGIN, 84
        TOPMARGIN, 7
        BOTTOMMARGIN, 33
    END

    IDD_DIALOG4, DIALOG
    BEGIN
        LEFTMARGIN, 7
        RIGHTMARGIN, 278
        TOPMARGIN, 7
        BOTTOMMARGIN, 195
    END
END
#endif    // APSTUDIO_INVOKED


#ifdef APSTUDIO_INVOKED
//////////////////////////////////////////////////////////////////////
//
// TEXTINCLUDE
//

1 TEXTINCLUDE
BEGIN
```

```
    "resource.h\0"
END

2 TEXTINCLUDE
BEGIN
    "#include ""afxres.h""\r\n"
    "\0"
END

3 TEXTINCLUDE
BEGIN
    "\r\n"
    "\0"
END

#endif    // APSTUDIO_INVOKED


/////////////////////////////////////////////////////////////////////////////
//
// Icon
//

// Icon with lowest ID value placed first to ensure application icon
// remains consistent on all systems.
IDI_ICON1               ICON                    "icon1.ico"
IDI_ICON2               ICON                    "icon2.ico"


/////////////////////////////////////////////////////////////////////////////
//
// TPCCDLL
//

IDR_TPCCDLL             TPCCDLL
"..\\..\\isapi_dll\\bin\\tpcc.dll"


/////////////////////////////////////////////////////////////////////////////
//
// Version
//

VS_VERSION_INFO VERSIONINFO
 FILEVERSION 0,4,50,0
 PRODUCTVERSION 0,4,50,0
 FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
 FILEFLAGS 0x1L
#else
 FILEFLAGS 0x0L
#endif
 FILEOS 0x40004L
 FILETYPE 0x1L
 FILESUBTYPE 0x0L
BEGIN
    BLOCK "StringFileInfo"
    BEGIN
        BLOCK "040904b0"
        BEGIN
            VALUE "Comments", "TPC-C Web Client Installer"
            VALUE "CompanyName", "Microsoft"
            VALUE "FileDescription", "install"
            VALUE "FileVersion", "0, 4, 20, 0"
            VALUE "InternalName", "install"
            VALUE "LegalCopyright", "Copyright © 1999"
            VALUE "OriginalFilename", "install.exe"
            VALUE "ProductName", "Microsoft install"
            VALUE "ProductVersion", "0, 4, 20, 0"
        END
    END
    BLOCK "VarFileInfo"
    BEGIN
        VALUE "Translation", 0x409, 1200
    END
END


/////////////////////////////////////////////////////////////////////////////
//
// LICENSE
//

IDR_LICENSE1            LICENSE                 "license.txt"

/////////////////////////////////////////////////////////////////////////////
//
// ODBC_DLL
//

IDR_ODBC_DLL            ODBC_DLL
"..\\..\\db_odbc_dll\\bin\\Release\\tpcc_odbc.dll"

/////////////////////////////////////////////////////////////////////////////
//
// COM_DLL
//

IDR_COM_DLL             COM_DLL
"..\\..\\tm_com_dll\\bin\\tpcc_com.dll"

/////////////////////////////////////////////////////////////////////////////
//
```

```
// COM_PS_DLL
//

IDR_COMPS_DLL           COM_PS_DLL
"..\\..\\tpcc_com_ps\\bin\\tpcc_com_ps.dll"

/////////////////////////////////////////////////////////////////////////////
//
// COM_ALL_DLL
//

IDR_COMALL_DLL          COM_ALL_DLL
"..\\..\\tpcc_com_all\\bin\\tpcc_com_all.dll"

/////////////////////////////////////////////////////////////////////////////
//
// COM_TYPLIB
//

IDR_COMTYPLIB_DLL       COM_TYPLIB
"..\\..\\tpcc_com_all\\src\\tpcc_com_all.tlb"

/////////////////////////////////////////////////////////////////////////////
//
// MSVCRT71
//

IDR_MSVCR71             MSVCR71
"C:\\WINDOWS\\system32\\msvcr71.dll"
#endif    // English (U.S.) resources
/////////////////////////////////////////////////////////////////////////////



#ifndef APSTUDIO_INVOKED
/////////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//



/////////////////////////////////////////////////////////////////////////////
#endif    // not APSTUDIO_INVOKED
```

## install_com.cpp

```
/*          FILE:                   INSTALL_COM.CPP
 *                                          Microsoft TPC-
C Kit Ver. 4.51.000
 *                                          Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                          not audited
 *
 *          PURPOSE:            installation code for COM
application for TPC-C Web Kit
 *          Contact:    Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *                      4.20.000 - first version
 */


#define _WIN32_WINNT 0x0500

#include <comdef.h>
#include <comadmin.h>
#include <stdio.h>
#include <tchar.h>


extern "C"
{
          BOOL install_com(char *szDllPath);
}

BOOL install_com(char *szDllPath)
{
          ICOMAdminCatalog*pCOMAdminCat = NULL;
          ICatalogCollection*   pCatalogCollectionApp   =
NULL;
          ICatalogCollection*   pCatalogCollectionCo    =
NULL;
          ICatalogCollection*   pCatalogCollectionItf   =
NULL;
          ICatalogCollection*   pCatalogCollectionMethod
= NULL;


          ICatalogObject*
          pCatalogObjectApp    = NULL;
          ICatalogObject*
          pCatalogObjectCo     = NULL;
          ICatalogObject*
          pCatalogObjectItf    = NULL;
          ICatalogObject*
          pCatalogObjectMethod = NULL;


          _bstr_t
          bstrTemp, bstrTemp2, bstrTemp3, bstrTemp4;
          _bstr_t
          bstrDllPath = szDllPath;
          _variant_t                    vTmp, vKey;
          long
          lActProp, lCount, lCountCo, lCountItf,
lCountMethod;
          bool
          bTmp;
```

```
	CoInitializeEx(NULL,
COINIT_MULTITHREADED);

	HRESULT hr =
CoCreateInstance(CLSID_COMAdminCatalog,
                                        NULL,

	CLSCTX_INPROC_SERVER,

	IID_ICOMAdminCatalog,
                                        (void**)
&pCOMAdminCat);

	if (!SUCCEEDED(hr)) goto Error;

	bstrTemp = "Applications";

	// Attempt to connect to "Applications" in the
Catalog
	hr = pCOMAdminCat->GetCollection(bstrTemp,
                                        (IDispatch**)
&pCatalogCollectionApp);
	if (!SUCCEEDED(hr)) goto Error;

	// Attempt to load the "Applications" collection
	hr = pCatalogCollectionApp->Populate();
	if (!SUCCEEDED(hr)) goto Error;

	hr = pCatalogCollectionApp-
>get_Count(&lCount);
	if (!SUCCEEDED(hr)) goto Error;

	// iterate through applications to delete existing
"TPC-C" application (if any)
	while (lCount > 0)
	{
		hr = pCatalogCollectionApp-
>get_Item(lCount - 1, (IDispatch**) &pCatalogObjectApp);
		if (!SUCCEEDED(hr)) goto Error;

		hr = pCatalogObjectApp-
>get_Name(&vTmp);
		if (!SUCCEEDED(hr)) goto Error;

		if (wcscmp(vTmp.bstrVal, L"TPC-C"))
		{
			lCount--;
			continue;
		}
		else
		{
			hr =
pCatalogCollectionApp->Remove(lCount - 1);
			if (!SUCCEEDED(hr))
goto Error;
			break;
		}
	}

	hr = pCatalogCollectionApp-
>SaveChanges(&lActProp);
	if (!SUCCEEDED(hr)) goto Error;

	// add the new application
	hr = pCatalogCollectionApp->Add((IDispatch**)
&pCatalogObjectApp);
	if (!SUCCEEDED(hr)) goto Error;

	// set properties
	bstrTemp = "Name";
	vTmp = "TPC-C";
	hr = pCatalogObjectApp->put_Value(bstrTemp,
vTmp);
	if (!SUCCEEDED(hr)) goto Error;

	// set as a library (in process) application
	bstrTemp = "Activation";
	lActProp = COMAdminActivationInproc;
	vTmp = lActProp;
	hr = pCatalogObjectApp->put_Value(bstrTemp,
vTmp);
	if (!SUCCEEDED(hr)) goto Error;

	// set security level to process
	bstrTemp = "AccessChecksLevel";
	lActProp =
COMAdminAccessChecksApplicationLevel;
	vTmp = lActProp;
	hr = pCatalogObjectApp->put_Value(bstrTemp,
vTmp);
	if (!SUCCEEDED(hr)) goto Error;

	// save key to get the Components collection later
	hr = pCatalogObjectApp->get_Key(&vKey);
	if (!SUCCEEDED(hr)) goto Error;

	// save changes (app creation) so component
installation will work
	hr = pCatalogCollectionApp-
>SaveChanges(&lActProp);
	if (!SUCCEEDED(hr)) goto Error;
```

```
            pCatalogObjectApp->Release();
            pCatalogObjectApp = NULL;

            bstrTemp  = "TPC-C";
                        // app name
            bstrTemp2 =         bstrDllPath +
"tpcc_com_all.dll";         // DLL
            bstrTemp3 =         bstrDllPath +
"tpcc_com_all.tlb";         // type library (TLB)
            bstrTemp4 =         bstrDllPath +
"tpcc_com_ps.dll";          // proxy/stub dll

            hr = pCOMAdminCat-
>InstallComponent(bstrTemp,

            bstrTemp2,

            bstrTemp3,

            bstrTemp4);
            if (!SUCCEEDED(hr)) goto Error;

            bstrTemp = "Components";
            hr = pCatalogCollectionApp-
>GetCollection(bstrTemp, vKey, (IDispatch**)
&pCatalogCollectionCo);
            if (!SUCCEEDED(hr)) goto Error;

            hr = pCatalogCollectionCo->Populate();
            if (!SUCCEEDED(hr)) goto Error;

            hr = pCatalogCollectionCo-
>get_Count(&lCountCo);
            if (!SUCCEEDED(hr)) goto Error;

            // iterate through components in application and
set the properties
            while (lCountCo > 0)
            {
                        hr = pCatalogCollectionCo-
>get_Item(lCountCo - 1, (IDispatch**) &pCatalogObjectCo);
                        if (!SUCCEEDED(hr)) goto Error;

                        // used for debugging (view the name)
                        hr = pCatalogObjectCo-
>get_Name(&vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "ConstructionEnabled";
                        bTmp = TRUE;
                        vTmp = bTmp;
                        hr = pCatalogObjectCo-
>put_Value(bstrTemp, vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "ConstructorString";
                        bstrTemp2 = "dummy string (do not
remove)";
                        vTmp = bstrTemp2;
                        hr = pCatalogObjectCo-
>put_Value(bstrTemp, vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "JustInTimeActivation";
                        bTmp = TRUE;
                        vTmp = bTmp;
                        hr = pCatalogObjectCo-
>put_Value(bstrTemp, vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "MaxPoolSize";
                        vTmp.Clear();         // clear variant
so it isn't stored as a bool (_variant_t feature)
                        vTmp = (long)30;
                        hr = pCatalogObjectCo-
>put_Value(bstrTemp, vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "ObjectPoolingEnabled";
                        bTmp = TRUE;
                        vTmp = bTmp;
                        hr = pCatalogObjectCo-
>put_Value(bstrTemp, vTmp);
                        if (!SUCCEEDED(hr)) goto Error;

                        // save key to get the
InterfacesForComponent collection
                        hr = pCatalogObjectCo-
>get_Key(&vKey);
                        if (!SUCCEEDED(hr)) goto Error;

                        bstrTemp = "InterfacesForComponent";
                        hr = pCatalogCollectionCo-
>GetCollection(bstrTemp, vKey, (IDispatch**)
&pCatalogCollectionItf);
                        if (!SUCCEEDED(hr)) goto Error;

                        hr = pCatalogCollectionItf->Populate();
                        if (!SUCCEEDED(hr)) goto Error;

                        hr = pCatalogCollectionItf-
>get_Count(&lCountItf);
```

```
                if (!SUCCEEDED(hr)) goto Error;

                // iterate through interfaces in
component
                while (lCountItf > 0)
                {
                        hr = pCatalogCollectionItf-
>get_Item(lCountItf - 1, (IDispatch**) &pCatalogObjectItf);
                        if (!SUCCEEDED(hr))
goto Error;

                        // save key to get the
MethodsForInterface collection
                        hr = pCatalogObjectItf-
>get_Key(&vKey);
                        if (!SUCCEEDED(hr))
goto Error;

                        bstrTemp =
"MethodsForInterface";
                        hr = pCatalogCollectionItf-
>GetCollection(bstrTemp, vKey, (IDispatch**)
&pCatalogCollectionMethod);
                        if (!SUCCEEDED(hr))
goto Error;

                        hr =
pCatalogCollectionMethod->Populate();
                        if (!SUCCEEDED(hr))
goto Error;

                        hr =
pCatalogCollectionMethod->get_Count(&lCountMethod);
                        if (!SUCCEEDED(hr))
goto Error;

                        // iterate through methods
of interface
                        while (lCountMethod > 0)
                        {
                                hr =
pCatalogCollectionMethod->get_Item(lCountMethod - 1,
(IDispatch**) &pCatalogObjectMethod);
                                if
(!SUCCEEDED(hr)) goto Error;

                                bstrTemp =
"AutoComplete";
                                bTmp = TRUE;
                                vTmp = bTmp;
                                hr =
pCatalogObjectMethod->put_Value(bstrTemp, vTmp);
                                if
(!SUCCEEDED(hr)) goto Error;

                        pCatalogObjectMethod->Release();
                        pCatalogObjectMethod = NULL;

                                lCountMethod--;
                        }

                        // save changes
                        hr =
pCatalogCollectionMethod->SaveChanges(&lActProp);
                        if (!SUCCEEDED(hr))
goto Error;

                        pCatalogObjectItf-
>Release();
                        pCatalogObjectItf = NULL;

                        lCountItf--;

                }


                pCatalogObjectCo->Release();
                pCatalogObjectCo = NULL;

                lCountCo--;
        }


        // save changes
        hr = pCatalogCollectionCo-
>SaveChanges(&lActProp);
        if (!SUCCEEDED(hr)) goto Error;

        pCatalogCollectionApp->Release();
        pCatalogCollectionApp = NULL;

        pCatalogCollectionCo->Release();
        pCatalogCollectionCo = NULL;

        pCatalogCollectionItf->Release();
        pCatalogCollectionItf = NULL;

        pCatalogCollectionMethod->Release();
        pCatalogCollectionMethod = NULL;


Error:
        CoUninitialize();

        if (!SUCCEEDED(hr))
        {
                LPTSTR lpBuf;
```

```
                DWORD dwRes =
FormatMessage(FORMAT_MESSAGE_ALLOCATE_BUF
FER | FORMAT_MESSAGE_FROM_SYSTEM,

                                        NULL,

                                        hr,


          MAKELANGID(LANG_NEUTRAL,
SUBLANG_DEFAULT),

                                        (LPTSTR)
&lpBuf,

                                        0,

                                        NULL);
//                      _tprintf(__T("Error adding
components.  HRESULT: 0x%x\n%s"), hr, lpBuf);
                        return TRUE;
                }
                else
                        return FALSE;
}
```

## isapi_dll_resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc.rc
//
#define IDD_DIALOG1                     101

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE        102
#define _APS_NEXT_COMMAND_VALUE         40001
#define _APS_NEXT_CONTROL_VALUE         1000
#define _APS_NEXT_SYMED_VALUE           101
#endif
#endif
```

## license.txt

END-USER LICENSE AGREEMENT FOR MICROSOFT TPC-C BENCHMARK KIT

IMPORTANT READ CAREFULLY: This Microsoft End-User License Agreement (EULA) is a legal agreement between you (either an individual or a single entity) and Microsoft Corporation for the Microsoft software product identified above, which includes computer software and may include associated media, printed materials, and online or electronic documentation (SOFTWARE PRODUCT). By installing, copying, or otherwise using the SOFTWARE PRODUCT, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this Agreement, you are not
authorized to use the SOFTWARE PRODUCT.

The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.

1. GRANT OF LICENSE. This EULA grants you the following rights:
Use. Microsoft grants to you the right to install and use copies of the SOFTWARE PRODUCT only in conjunction with validly licensed copies of Microsoft SQL Server and/or Microsoft Windows NT Server software. You may also make
copies of the SOFTWARE PRODUCT for backup and archival purposes.

2. RESTRICTIONS.
--You must maintain all copyright notices on all copies of the SOFTWARE PRODUCT.
--You may not distribute copies of the SOFTWARE PRODUCT to third parties.
--You may not rent, lease or lend the SOFTWARE PRODUCT.
--You may not use the SOFTWARE PRODUCT or any derivative works thereof to internally test database management system software other than Microsoft SQL Server and/or operating system software other than Microsoft Windows NT.
-- You may not disclose the results of any benchmark tests using the SOFTWARE PRODUCT to any third party without Microsoft's prior written approval.
-- You may not disclose or provide the SOFTWARE PRODUCT or any derivative works thereof, or any information relating to the SOFTWARE PRODUCT (including the existence of the SOFTWARE PRODUCT or the results of use and testing or benchmark testing), to any third party without Microsoft's written permission.

3. TERMINATION. Without prejudice to any other rights, Microsoft may terminate this EULA if you fail to comply with
the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE PRODUCT.

4. COPYRIGHT. All title and copyrights in and to the SOFTWARE PRODUCT and any copies thereof are owned

by Microsoft or its suppliers. All title and intellectual property
rights in and to the content which may be accessed through use of the SOFTWARE PRODUCT is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This
EULA grants you no rights to use such content.

5. UPGRADES. If the SOFTWARE PRODUCT is labeled as
an upgrade, you must be properly licensed to use a product identified by Microsoft as being eligible for the upgrade in order to use the SOFTWARE PRODUCT. A SOFTWARE PRODUCT labeled as an upgrade replaces and/or supplements
the product that formed the basis for your eligibility for the upgrade. You may use the resulting upgraded product only in
accordance with the terms of this EULA.

6. U.S. GOVERNMENT RESTRICTED RIGHTS.
The SOFTWARE PRODUCT is provided with RESTRICTED
RIGHTS. Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at
DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software Restricted Rights at 48 CFR 52.227-19, as applicable. Manufacturer is Microsoft Corporation/One Microsoft Way/Redmond, WA 98052-6399.

7. EXPORT RESTRICTIONS.
You agree that you will not export or re-export the SOFTWARE PRODUCT to any country, person, entity or end
user subject to U.S.A. export restrictions. Restricted countries
currently include, but are not necessarily limited to Cuba, Iran,
Iraq, Libya, North Korea, Syria, and the Federal Republic of Yugoslavia (Serbia and Montenegro, U.N. Protected Areas and areas of Republic of Bosnia and Herzegovina under the control of Bosnian Serb forces). You warrant and represent that neither the U.S.A. Bureau of Export Administration nor any other federal agency has suspended, revoked or denied your export privileges.

8. NO WARRANTY. ANY USE OF THE SOFTWARE PRODUCT IS AT YOUR OWN RISK. THE SOFTWARE PRODUCT IS PROVIDED FOR USE ONLY WITH MICROSOFT SQL SERVER AND/OR MICROSOFT WINDOWS NT SERVER SOFTWARE. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, MICROSOFT AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES AND CONDITIONS, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT.

9. NO LIABILITY FOR CONSEQUENTIAL DAMAGES. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL MICROSOFT
OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE PRODUCT, EVEN IF MICROSOFT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES AND JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

10. LIMITATION OF LIABILITY. MICROSOFT'S ENTIRE LIABILITY AND YOUR EXCLUSIVE REMEDY UNDER THIS EULA SHALL NOT EXCEED FIVE DOLLARS (US$5.00).

11. MISCELLANEOUS
This EULA is governed by the laws of the State of Washington, U.S.A.
Should you have any questions concerning this EULA, or if you desire to contact Microsoft for any reason, please contact the Microsoft subsidiary serving your country, or write: Microsoft Sales Information Center/One Microsoft Way/Redmond, WA 98052-6399.

Si vous avez acquis votre produit Microsoft au CANADA, la garantie limit,e suivante vous concerne:

EXCLUSION DE GARANTIES. Microsoft renonce entiŠrement … toute garantie pour le LOGICIEL. Le LOGICIEL et toute autre documentation s'y rapportant sont fournis ® comme tels ¯ sans aucune garantie quelle qu'elle soit, expresse ou implicite, y compris, mais ne se limitant pas aux garanties implicites de la qualit, marchande ou un usage

particulier. Le risque total d,coulant de l'utilisation ou de la performance du LOGICIEL est entre vos mains.

RESPONSABILIT LIMIT E. La seule obligation de Microsoft et votre recours exclusif concernant ce contrat n'excŠderont pas cinq dollare (US$5.00).

ABSENCE DE RESPONSABILIT POUR LES DOMMAGES INDIRECTS.
Microsoft ou ses fournisseurs ne pourront ˆtre tenus responsables en aucune circonstance de tout dommage quel qu'il soit (y compris mais non de fa‡on limitative les dommages directs ou indirects caus,s par la perte de b,n,fices commerciaux, l'interruption des affaires, la perte d'information
commerciale ou toute autre perte p,cuniaire) r,sultant de l'utilisation ou de l'impossibilit, d'utilisation de ce produit, et ce, mˆme si la soci,t, Microsoft a ,t, avis,e de l' ,ventualit, de tels dommages. Certains ,tats/juridictions ne permettent pas l'exclusion ou la limitation de responsabilit, relative aux dommages indirects ou cons,cutifs, et la limitation ci-dessus peut ne pas s'appliquer … votre ,gard. La pr,sente Convention
est r,gie par les lois de la province d'Ontario, Canada. Chacune des parties … la pr,sente reconnaŒt irr,vocablement la
comp,tence des tribunaux de la province d'Ontario et consent … instituer tout litige qui pourrait d,couler de la pr,sente auprŠs des tribunaux situ,s dans le district judiciaire de York, province d'Ontario. Au cas o— vous auriez des questions concernant cette licence ou que vous d,siriez vous mettre en rapport avec Microsoft pour quelque raison que ce soit, veuillez contacter la succursale Microsoft desservant votre pays, dont l'adresse est fournie dans ce produit, ou ,crire …: Microsoft Customer Sales and Service, One Microsoft Way, Redmond, Washington 98052 6399.

## methods.h

```
/*          FILE:                   METHODS.H
 *                                          Microsoft TPC-C Kit Ver. 4.20.000
 *                                          Copyright Microsoft, 1999
 *          All Rights Reserved
 *
 *                                          not yet audited
 *
 *          PURPOSE:            Header file for COM components.
 *
 *  Change history:
 *                      4.20.000 - first version
 */

enum COMPONENT_ERROR
{
        ERR_MISSING_REGISTRY_ENTRIES = 1,
        ERR_LOADDLL_FAILED,
        ERR_GETPROCADDR_FAILED,
        ERR_UNKNOWN_DB_PROTOCOL
};

class CCOMPONENT_ERR : public CBaseErr
{
        public:

        CCOMPONENT_ERR(COMPONENT_ERROR Err)
                {
                        m_Error = Err;
                        m_szTextDetail = NULL;
                        m_SystemErr = 0;
                        m_szErrorText = NULL;
                };


        CCOMPONENT_ERR(COMPONENT_ERROR Err, char *szTextDetail, DWORD dwSystemErr)
                {
                        m_Error = Err;
                        m_szTextDetail = new char[strlen(szTextDetail)+1];
                        strcpy( m_szTextDetail, szTextDetail );
                        m_SystemErr = dwSystemErr;
                        m_szErrorText = NULL;
                };

                ~CCOMPONENT_ERR()
                {
                        if (m_szTextDetail != NULL)
                                delete [] m_szTextDetail;
                        if (m_szErrorText != NULL)
                                delete [] m_szErrorText;
                };

                COMPONENT_ERROR
        m_Error;
                char
        *m_szTextDetail;
                char
        *m_szErrorText;
                DWORD
        m_SystemErr;

                int ErrorType() {return ERR_TYPE_COMPONENT;};
                char *ErrorTypeStr() { return "COMPONENT"; }
                int ErrorNum() {return m_Error;};
                char *ErrorText();
};


static void WriteMessageToEventLog(LPTSTR lpszMsg);


////////////////////////////////////////////////////////////////////////
// CTPCC_Common
```

```
class CTPCC_Common :
	public ITPCC,
	public IObjectControl,
	public IObjectConstruct,
	public
CComObjectRootEx<CComSingleThreadModel>
{
public:
BEGIN_COM_MAP(CTPCC_Common)
	COM_INTERFACE_ENTRY(ITPCC)
	COM_INTERFACE_ENTRY(IObjectControl)
	COM_INTERFACE_ENTRY(IObjectConstruct)
END_COM_MAP()

	CTPCC_Common();
	~CTPCC_Common();

// ITPCC
public:
	HRESULT __stdcall NewOrder(
	VARIANT txn_in, VARIANT* txn_out);
	HRESULT __stdcall Payment(
	VARIANT txn_in, VARIANT* txn_out);
	HRESULT __stdcall Delivery(
	VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
	HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out);
	HRESULT __stdcall OrderStatus(
	VARIANT txn_in, VARIANT* txn_out);

	HRESULT __stdcall CallSetComplete();

// IObjectControl
	STDMETHODIMP_(BOOL) CanBePooled()
{ return m_bCanBePooled; }
	STDMETHODIMP Activate() { return S_OK; }
	// we don't support COM Services transactions (no
enlistment)
	STDMETHODIMP_(void) Deactivate() { /*
nothing to do */ }

// IObjectConstruct
	STDMETHODIMP Construct(IDispatch * pUnk);

	// helper methods
private:
	BOOL		m_bCanBePooled;
	CTPCC_BASE	*m_pTxn;

	struct COM_DATA
	{
		int retval;
		int error;
		union
		{
			NEW_ORDER_DATA
		NewOrder;
			PAYMENT_DATA
	Payment;
			DELIVERY_DATA
	Delivery;
			STOCK_LEVEL_DATA
	StockLevel;
			ORDER_STATUS_DATA
	OrderStatus;
		} u;
	};

};
```

```
//////////////////////////////////////////////////////////////////////
// CTPCC
class CTPCC :
	public CTPCC_Common,
	public CComCoClass<CTPCC, &CLSID_TPCC>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_TPCC)

BEGIN_COM_MAP(CTPCC)
	//COM_INTERFACE_ENTRY2(IUnknown,
CComObjectRootEx<CComSingleThreadModel>)
	COM_INTERFACE_ENTRY2(IUnknown,
ITPCC)
	COM_INTERFACE_ENTRY_CHAIN(CTPCC_
Common)
END_COM_MAP()

};


//////////////////////////////////////////////////////////////////////
// CNewOrder
class CNewOrder :
	public CTPCC_Common,
	public CComCoClass<CNewOrder,
&CLSID_NewOrder>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_NEWORDE
R)

BEGIN_COM_MAP(CNewOrder)
//	COM_INTERFACE_ENTRY2(IUnknown,
CComObjectRootEx)
	COM_INTERFACE_ENTRY2(IUnknown,
ITPCC)
	COM_INTERFACE_ENTRY_CHAIN(CTPCC_
Common)
END_COM_MAP()

// ITPCC
public:
//	HRESULT __stdcall NewOrder(
	VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
	HRESULT __stdcall Payment(
	VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
	HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall OrderStatus(
	VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
};


	//////////////////////////////////////////////////////////////////
/////
// COrderStatus
class COrderStatus :
	public CTPCC_Common,
	public CComCoClass<COrderStatus,
&CLSID_OrderStatus>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_ORDERSTA
TUS)
```

```
BEGIN_COM_MAP(COrderStatus)
//              COM_INTERFACE_ENTRY2(IUnknown,
CComObjectRootEx)
                COM_INTERFACE_ENTRY2(IUnknown,
ITPCC)
                COM_INTERFACE_ENTRY_CHAIN(CTPCC_
Common)
END_COM_MAP()

// ITPCC
public:
                HRESULT __stdcall NewOrder(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
                HRESULT __stdcall Payment(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
                HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
//              HRESULT __stdcall OrderStatus(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
};


////////////////////////////////////////////////////////////////////////
// CPayment
class CPayment :
                public CTPCC_Common,
                public CComCoClass<CPayment,
&CLSID_Payment>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_PAYMENT)

BEGIN_COM_MAP(CPayment)
//              COM_INTERFACE_ENTRY2(IUnknown,
CComObjectRootEx)
                COM_INTERFACE_ENTRY2(IUnknown,
ITPCC)
                COM_INTERFACE_ENTRY_CHAIN(CTPCC_
Common)
END_COM_MAP()

// ITPCC
public:
                HRESULT __stdcall NewOrder(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
//              HRESULT __stdcall Payment(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
                HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
                HRESULT __stdcall OrderStatus(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
};


////////////////////////////////////////////////////////////////////////
// CStockLevel
class CStockLevel :
                public CTPCC_Common,
                public CComCoClass<CStockLevel,
&CLSID_StockLevel>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_STOCKLEV
EL)

BEGIN_COM_MAP(CStockLevel)
//              COM_INTERFACE_ENTRY2(IUnknown,
CComObjectRootEx)
                COM_INTERFACE_ENTRY2(IUnknown,
ITPCC)
                COM_INTERFACE_ENTRY_CHAIN(CTPCC_
Common)
END_COM_MAP()

// ITPCC
public:
                HRESULT __stdcall NewOrder(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
                HRESULT __stdcall Payment(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
//              HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
                HRESULT __stdcall OrderStatus(
                VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
};
```

## readregistry.cpp

```
/*              FILE:                   READREGISTRY.CPP
 *                                              Microsoft TPC-
C Kit Ver. 4.20.000
 *                                              Copyright
Microsoft, 1999
 *              All Rights Reserved
 *
 *                                              not yet audited
 *
 *              PURPOSE:                Implementation for TPC-C
Tuxedo class.
 *              Contact:    Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *                      4.20.000 - first version
 */


/* FUNCTION: ReadTPCCRegistrySettings
 *
 * PURPOSE:             This function reads the NT registry for
startup parameters. There parameters are
 *                                      under the TPCC key.
 *
 * RETURNS              FALSE = no errors
 *                                      TRUE  = error reading
registry
 */
BOOL
ReadTPCCRegistrySettings( TPCCREGISTRYDATA
*pReg )
{
                HKEY    hKey;
                DWORD   size;
                DWORD   type;
                DWORD   dwTmp;
                char    szTmp[256];
```

```
        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SOFTWARE\\Microsoft\\TPCC", 0, KEY_READ,
&hKey) != ERROR_SUCCESS )
                return TRUE;

        // determine database protocol to use; may be
either ODBC or DBLIB
        pReg->eDB_Protocol = Unspecified;
        size = sizeof(szTmp);
        if ( RegQueryValueEx(hKey, "DB_Protocol", 0,
&type, (BYTE *)&szTmp, &size) == ERROR_SUCCESS )
        {
                if ( !stricmp(szTmp,
szDBNames[ODBC]) )
                        pReg->eDB_Protocol =
ODBC;
                else if ( !stricmp(szTmp,
szDBNames[DBLIB]) )
                        pReg->eDB_Protocol =
DBLIB;
        }

        pReg->eTxnMon = None;
        // determine txn monitor to use; may be either
TUXEDO, or blank
        size = sizeof(szTmp);
        if ( RegQueryValueEx(hKey, "TxnMonitor", 0,
&type, (BYTE *)&szTmp, &size) == ERROR_SUCCESS )
        {
                if ( !stricmp(szTmp,
szTxnMonNames[TUXEDO]) )
                        pReg->eTxnMon =
TUXEDO;
                else if ( !stricmp(szTmp,
szTxnMonNames[ENCINA]) )
                        pReg->eTxnMon =
ENCINA;
                else if ( !stricmp(szTmp,
szTxnMonNames[COM]) )
                        pReg->eTxnMon = COM;
        }

        pReg->bCOM_SinglePool = FALSE;
        size = sizeof(szTmp);
       if ( RegQueryValueEx(hKey, "COM_SinglePool",
0, &type, (BYTE *)&szTmp, &size) == ERROR_SUCCESS )
        {
                if ( !stricmp(szTmp, "YES") )
                        pReg->bCOM_SinglePool
= TRUE;
        }

        pReg->dwMaxConnections = 0;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey,
"MaxConnections", 0, &type, (LPBYTE)&dwTmp, &size)
== ERROR_SUCCESS )
                && (type == REG_DWORD) )
                pReg->dwMaxConnections = dwTmp;

        pReg->dwMaxPendingDeliveries = 0;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey,
"MaxPendingDeliveries", 0, &type, (LPBYTE)&dwTmp,
&size) == ERROR_SUCCESS )
                && (type == REG_DWORD) )
                pReg->dwMaxPendingDeliveries =
dwTmp;

        pReg->dwNumberOfDeliveryThreads = 0;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey,
"NumberOfDeliveryThreads", 0, &type, (LPBYTE)&dwTmp,
&size) == ERROR_SUCCESS )
                && (type == REG_DWORD) )
                pReg->dwNumberOfDeliveryThreads
= dwTmp;

        size = sizeof( pReg->szPath );
        if ( RegQueryValueEx(hKey, "Path", 0, &type,
(BYTE *)&pReg->szPath, &size) != ERROR_SUCCESS )
                pReg->szPath[0] = 0;

        size = sizeof( pReg->szDbServer );
        if ( RegQueryValueEx(hKey, "DbServer", 0,
&type, (BYTE *)&pReg->szDbServer, &size) !=
ERROR_SUCCESS )
                pReg->szDbServer[0] = 0;

        size = sizeof( pReg->szDbName );
        if ( RegQueryValueEx(hKey, "DbName", 0,
&type, (BYTE *)&pReg->szDbName, &size) !=
ERROR_SUCCESS )
                pReg->szDbName[0] = 0;

        size = sizeof( pReg->szDbUser );
        if ( RegQueryValueEx(hKey, "DbUser", 0, &type,
(BYTE *)&pReg->szDbUser, &size) != ERROR_SUCCESS )
                pReg->szDbUser[0] = 0;

        size = sizeof( pReg->szDbPassword );
        if ( RegQueryValueEx(hKey, "DbPassword", 0,
&type, (BYTE *)&pReg->szDbPassword, &size) !=
ERROR_SUCCESS )
                pReg->szDbPassword[0] = 0;

        size = sizeof( pReg->szSPPrefix );
        if ( RegQueryValueExW(hKey, L"SPPrefix", 0,
&type, (BYTE *)&pReg->szSPPrefix, &size) !=
ERROR_SUCCESS )
                pReg->szSPPrefix[0] = L'\0';

        pReg->dwConnectDelay = 0;
        size = sizeof(dwTmp);
       if ( ( RegQueryValueEx(hKey, "ConnectDelay", 0,
&type, (LPBYTE)&dwTmp, &size) == ERROR_SUCCESS )
                && (type == REG_DWORD) )
                pReg->dwConnectDelay = dwTmp;

        pReg->bCallNoDuplicatesNewOrder = FALSE;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey,
"CallNoDuplicatesNewOrder", 0, &type,
(LPBYTE)&dwTmp, &size) == ERROR_SUCCESS )
                && (type == REG_DWORD) )
                pReg->bCallNoDuplicatesNewOrder =
dwTmp;

        RegCloseKey(hKey);

        return FALSE;
}
```

## readregistry.h

```
/*      FILE:           ReadRegistry.h
 *                              Microsoft TPC-
C Kit Ver. 4.20.000
```

```
 *                                                  Copyright
Microsoft, 1999
 *            All Rights Reserved
 *
 *                                                  not audited
 *
 *            PURPOSE:                Header for registry related
code.
 *
 *  Change history:
 *                          4.20.000 - first version
 */

enum DBPROTOCOL { Unspecified, ODBC, DBLIB };
const char *szDBNames[] = { "Unspecified", "ODBC",
"DBLIB" };

enum TXNMON { None, TUXEDO, ENCINA, COM };
const char *szTxnMonNames[] = { "NONE", "TUXEDO",
"ENCINA", "COM" };

//This structure defines the data necessary to keep distinct for
each terminal or client connection.
typedef struct _TPCCREGISTRYDATA
{
            enum DBPROTOCOL eDB_Protocol;
            enum TXNMON eTxnMon;
            BOOL bCOM_SinglePool;
            DWORD dwMaxConnections;
            DWORD dwMaxPendingDeliveries;
            DWORD dwNumberOfDeliveryThreads;
            char szPath[128];
            char szDbServer[32];
            char szDbName[32];
            char szDbUser[32];
            char szDbPassword[32];
            wchar_t szSPPrefix[32];          //tpcc_odbc.dll
stored procedures prefix
            DWORD dwConnectDelay;       // delay in ms to
use in pacing connection open and close
            BOOL bCallNoDuplicatesNewOrder;          //
whether to check for non-duplicate item ids and call a
different New Order SP
} TPCCREGISTRYDATA, *PTPCCREGISTRYDATA;

BOOL
ReadTPCCRegistrySettings( TPCCREGISTRYDATA
*pReg );
```

## resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Visual C++ generated include file.
// Used by install.rc
//
#define IDD_DIALOG1                 101
#define IDI_ICON1                   102
#define IDR_TPCCDLL                 103
#define IDD_DIALOG2                 105
#define IDI_ICON2                   106
#define IDR_DELIVERY                107
#define IDD_DIALOG3                 108
#define IDR_LICENSE1                112
#define IDD_DIALOG4                 113
#define IDR_TPCCOBJ1                117
#define IDR_TPCCSTUB1               118
#define IDR_DBLIB_DLL               122
#define IDR_ODBC_DLL                123
#define IDR_TUXEDO_APP              124
#define IDR_TUXEDO_DLL              125
#define IDR_COM_DLL                 126
#define IDR_COMPS_DLL               127
#define IDR_COMALL_DLL              128
#define IDR_COMTYPLIB_DLL           129
#define IDR_MSVCRT701               130
#define BN_LOG                      1001
#define ED_KEEP                     1002
#define ED_THREADS                  1003
#define ED_THREADS2                 1004
#define IDC_PATH                    1007
#define IDC_VERSION                 1009
#define IDC_RESULTS                 1010
#define IDC_PROGRESS1               1011
#define IDC_STATUS                  1012
#define IDC_BUTTON1                 1013
#define ED_MAXCONNECTION            1014
#define ED_IIS_MAX_THEAD_POOL_LIMIT     1015
#define ED_MAXDELIVERIES            1016
#define ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE
1017
#define ED_IIS_THREAD_TIMEOUT       1018
#define ED_IIS_LISTEN_BACKLOG       1019
#define IDC_DBLIB                   1021
#define IDC_LICENSE                 1022
#define IDC_ODBC                    1022
#define IDC_CONNECT_POOL            1023
#define ED_DB_SERVER                1023
#define ED_USER_CONNECT_DELAY_TIME      1024
#define ED_DB_USER_ID               1024
#define IDC_MTS                     1025
#define IDC_TM_MTS                  1025
#define IDC_TM_TUXEDO               1026
#define IDC_TM_NONE                 1027
#define ED_DB_PASSWORD              1028
#define ED_DB_NAME                  1029
#define IDC_TM_ENCINA               1030

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE        131
#define _APS_NEXT_COMMAND_VALUE         40001
#define _APS_NEXT_CONTROL_VALUE         1031
#define _APS_NEXT_SYMED_VALUE           101
#endif
#endif
```

## tpcc.cpp

```
 /*          FILE:                   TPCC.C
 *                                              Microsoft TPC-
C Kit Ver. 4.20.000
 *                                              Copyright
Microsoft, 1999
 *            All Rights Reserved
 *
 *                                              Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *
 *            PURPOSE:            Main module for
TPCC.DLL which is an ISAPI service dll.
 *            Contact:    Charles Levine
(clevine@microsoft.com)
 *
```

```
 *  Change history:
 *                      4.20.000 - reworked error handling;
added options for COM and Encina txn monitors
 */

#include <windows.h>
#include <process.h>
#include <tchar.h>
#include <stdio.h>
#include <stdarg.h>
#include <malloc.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <sys\timeb.h>
#include <io.h>
#include <assert.h>

#include <sqltypes.h>

#ifdef ICECAP
#include <icapexp.h>
#endif

#include "..\..\common\src\trans.h"
        //tpckit transaction header contains definations of
structures specific to TPC-C
#include "..\..\common\src\error.h"
#include "..\..\common\src\txn_base.h"
#include "..\..\common\src\ReadRegistry.h"

#include "..\..\common\txnlog\include\rtetime.h"
#include "..\..\common\txnlog\include\spinlock.h"
#include "..\..\common\txnlog\include\txnlog.h"

// Database layer includes
#include "..\..\db_odbc_dll\src\tpcc_odbc.h"            //
ODBC implementation of TPC-C txns

// Txn monitor layer includes
#include "..\..\tm_com_dll\src\tpcc_com.h"
        // COM Services implementation on TPC-C txns

#include "httpext.h"
        //ISAPI DLL information header
#include "tpcc.h"
        //this dlls specific structure, value e.t. header.


#define     LEN_ERR_STRING  256

// defines for Make<Txn>Form calls to distinguish input and
output flavors
#define     OUTPUT_FORM     0
#define INPUT_FORM          1

char
        szMyComputerName[MAX_COMPUTERNAME
_LENGTH+1];

//Terminal client id structure
TERM    Term = { 0, 0, 0, NULL };

// The WEBCLIENT_VERSION string specifies the version
level of this web client interface.
// The RTE must be synchronized with the interface level on
login, otherwise the login
// will fail.  This is a sanity check to catch problems resulting
from mismatched versions
// of the RTE and web client.
#define WEBCLIENT_VERSION "420"

static      CRITICAL_SECTION
        TermCriticalSection;

static  HINSTANCE hLibInstanceTm = NULL;
static  HINSTANCE hLibInstanceDb = NULL;

TYPE_CTPCC_ODBC
        *pCTPCC_ODBC_new;
TYPE_CTPCC_COM          *pCTPCC_COM_new;

// For deferred Delivery txns:

CTxnLog
        *txnDelilog = NULL;
        //used to log delivery transaction information

HANDLE
        hWorkerSemaphore    =
INVALID_HANDLE_VALUE;
HANDLE
        hDoneEvent                                  =
INVALID_HANDLE_VALUE;
HANDLE
        *pDeliHandles                   = NULL;

// configuration settings from registry
TPCCREGISTRYDATA                Reg;


DWORD
        dwNumDeliveryThreads = 4;
CRITICAL_SECTION
        DelBuffCriticalSection;
        //critical section for delivery transactions cache
DELIVERY_TRANSACTION    *pDelBuff
        = NULL;
DWORD
        dwDelBuffSize                   = 100;
        // size of circular buffer for delivery txns
DWORD
        dwDelBuffFreeCount;
        // number of buffers free
DWORD
        dwDelBuffBusyIndex = 0;                 //
index position of entry waiting to be delivered
DWORD
        dwDelBuffFreeIndex  = 0;                //
index position of unused entry

// Critical section to synchronize connection open and close.
//
CRITICAL_SECTION hConnectCriticalSection;

#include "..\..\common\src\ReadRegistry.cpp"

/* FUNCTION: DllMain
 *
 * PURPOSE:         This function is the entry point for the
DLL.  This implementation is based on the
 *                                  fact that
DLL_PROCESS_ATTACH is only called from the inet
service once.
 *
 * ARGUMENTS:   HANDLE  hModule
                        module handle
 *                                          DWORD
        ul_reason_for_call      reason for call
```

```
 *                                      LPVOID
        lpReserved                      reserved for
future use
 *
 * RETURNS:                     BOOL    FALSE
                                errors occured in
initialization
 *
        TRUE                                    DLL
successfully initialized
 */

BOOL APIENTRY DllMain(HANDLE hModule, DWORD
ul_reason_for_call, LPVOID lpReserved)
{
        DWORD  i;
        char szEvent[LEN_ERR_STRING] = "\0";
        char szLogFile[128];
        char szDllName[128];

// debugging....
// DebugBreak();

        try
        {
                switch( ul_reason_for_call )
                {
                        case
DLL_PROCESS_ATTACH:
                                        {

        DWORD dwSize =
MAX_COMPUTERNAME_LENGTH+1;

        GetComputerName(szMyComputerName,
&dwSize);

        szMyComputerName[dwSize] = 0;
                                        }


        DisableThreadLibraryCalls((HMODULE)hModul
e);

        InitializeCriticalSection(&TermCriticalSection);

                                        if
( ReadTPCCRegistrySettings( &Reg ) )

        throw new
CWEBCLNT_ERR( ERR_MISSING_REGISTRY_ENTRIE
S );

                                        dwDelBuffSize
= min( Reg.dwMaxPendingDeliveries, 10000 );  // min with
10000 as a sanity constraint

        dwNumDeliveryThreads =
min( Reg.dwNumberOfDeliveryThreads, 100 );  // min with
100 as a sanity constraint

                                        TermInit();

                                        if
(Reg.eTxnMon == COM)
                                        {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_com.dll");

        hLibInstanceTm = LoadLibrary( szDllName );
                                                        if
(hLibInstanceTm == NULL)

        throw new
CWEBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName,
GetLastError() );

                                                        // get
function pointer to wrapper for class constructor

        pCTPCC_COM_new = (TYPE_CTPCC_COM*)
GetProcAddress(hLibInstanceTm,"CTPCC_COM_new");
                                                        if
(pCTPCC_COM_new == NULL)

        throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                                                }

                                                // load DLL for
database connection
                                                if
((Reg.eTxnMon == None) || (dwNumDeliveryThreads > 0))
                                                {
                                                        if
(Reg.eDB_Protocol == ODBC)
                                                        {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_odbc.dll");

        hLibInstanceDb = LoadLibrary( szDllName );

        if (hLibInstanceDb == NULL)

                throw new
CWEBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName,
GetLastError() );


        // get function pointer to wrapper for class
constructor

        pCTPCC_ODBC_new =
(TYPE_CTPCC_ODBC*)
GetProcAddress(hLibInstanceDb,"CTPCC_ODBC_new");

        if (pCTPCC_ODBC_new == NULL)

                throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );


                                                        }
                                                }

                                                // Check
whether Service Pack 1 has been installed if
                                                // running on
Windows Server 2003. The RTM version has
                                                // a limitation on
concurrent HTTP connections.
                                                //
```

```
        OSVERSIONINFOEX
        VersionInfo;

        VersionInfo.dwOSVersionInfoSize =
sizeof(OSVERSIONINFOEX);
                                if
(GetVersionEx((LPOSVERSIONINFO)&VersionInfo))
                                {
                                        if
(VersionInfo.dwMajorVersion == 5 &&     // Windows
2000/2003 Server?
        VersionInfo.dwMinorVersion == 2 &&      //
Windows 2003 Server?
        VersionInfo.wServicePackMajor == 0)     //
Service Pack installed?
                                        {
        TCHAR szMsg[256];

        _sntprintf(szMsg, sizeof(szMsg),
                                "\nRunning on
Windows Server 2003 without at least Service Pack 1\n"
                                "limits the
number of concurrent HTTP connections to around 8000");

        // Use event logging to log the error.
        //
        HANDLE  hEventSource =
RegisterEventSource(NULL, TEXT("TPCC.DLL"));
        LPTSTR  lpszStrings[1] = { szMsg };

        if (hEventSource != NULL)
        {
                ReportEvent(hEventSource, // handle
of event source

        EVENTLOG_WARNING_TYPE,  // event type
                        0,              // event
category
                        0,              // event ID
                        NULL,           // current
user's SID
                        1,              // strings in
lpszStrings
                        0,              // no bytes of
raw data
                        (LPCTSTR *)lpszStrings,
// array of error strings

                                NULL);          // no raw
data

                (VOID)
DeregisterEventSource(hEventSource);
        }
                                        }
                                }
                                if
(dwNumDeliveryThreads)
                                {
                                        //
Initialize delivery delay critical section
                                        //
        InitializeCriticalSection(&hConnectCriticalSectio
n);
                                        // for
deferred delivery txns:
        hDoneEvent = CreateEvent( NULL, TRUE /*
manual reset */, FALSE /* initially not signalled */, NULL );
        InitializeCriticalSection(&DelBuffCriticalSection
);
        hWorkerSemaphore = CreateSemaphore( NULL,
0, dwDelBuffSize, NULL );
        dwDelBuffFreeCount = dwDelBuffSize;

        InitJulianTime(NULL);

                                        //
create unique log file name based on delilog-yymmdd-
hhmm.log
        SYSTEMTIME Time;
        GetLocalTime( &Time );
        wsprintf( szLogFile, "%sdelivery-
%2.2d%2.2d%2.2d-%2.2d%2.2d-%2.2ds%2.2dms.log",
        Reg.szPath, Time.wYear % 100, Time.wMonth,
Time.wDay, Time.wHour, Time.wMinute, Time.wSecond,
Time.wMilliseconds );
        txnDelilog = new CTxnLog(szLogFile,
TXN_LOG_WRITE);

        //write event into txn log for START
        txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_START,
szMyComputerName, sizeof(szMyComputerName));

                                        //
allocate structures for delivery buffers and thread mgmt
```

```
            pDeliHandles = new
HANDLE[dwNumDeliveryThreads];

            pDelBuff = new
DELIVERY_TRANSACTION[dwDelBuffSize];
                                                //
launch DeliveryWorkerThread to perform actual delivery
txns

            for(i=0; i<dwNumDeliveryThreads; i++)
                                                {

            pDeliHandles[i] = (HANDLE)
_beginthread( DeliveryWorkerThread, 0, NULL );

            if (pDeliHandles[i] ==
INVALID_HANDLE_VALUE)

                        throw new
CWEBCLNT_ERR( ERR_DELIVERY_THREAD_FAILED
 );
                                                }
                                          }

                                          break;

                                    case
DLL_PROCESS_DETACH:
                                          if
(dwNumDeliveryThreads)
                                          {
                                                if
(txnDelilog != NULL)
                                                {

            //write event into txn log for STOP

            txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_STOP,
szMyComputerName, sizeof(szMyComputerName));


            // This will do a clean shutdown of the delivery
log file

            CTxnLog  *txnDelilogLocal = txnDelilog;

            txnDelilog= NULL;

            delete txnDelilogLocal;
                                                }


            delete [] pDeliHandles;

            delete [] pDelBuff;


            CloseHandle( hWorkerSemaphore );

            CloseHandle( hDoneEvent );

            DeleteCriticalSection(&DelBuffCriticalSection);

                                                //
Delete delivery delay critical section
                                                //

            DeleteCriticalSection(&hConnectCriticalSection);
                                                }


            DeleteCriticalSection(&TermCriticalSection);

                                                if
(hLibInstanceTm != NULL)

            FreeLibrary( hLibInstanceTm );
                                                hLibInstanceTm
= NULL;

                                                if
(hLibInstanceDb != NULL)

            FreeLibrary( hLibInstanceDb );
                                                hLibInstanceDb
= NULL;

                                                Sleep(500);
                                                break;

                                    default:
                                                /* nothing */;
                        }
            }
            catch (CBaseErr *e)
            {
                        TCHAR szMsg[256];

                        _sntprintf(szMsg, sizeof(szMsg), "%s
error, code %d: %s",
                                                e-
>ErrorTypeStr(), e->ErrorNum(), e->ErrorText());
                        WriteMessageToEventLog( szMsg );
                        delete e;
                        TerminateExtension(0);
                        return FALSE;
            }
            catch (...)
            {

            WriteMessageToEventLog(TEXT("Unhandled
exception.  DLL could not load."));
                        TerminateExtension(0);
                        return FALSE;
            }

            return TRUE;
}


/* FUNCTION: GetExtensionVersion
 *
 * PURPOSE:          This function is called by the inet
service when the DLL is first loaded.
 *
 * ARGUMENTS:     HSE_VERSION_INFO
            *pVer       passed in structure in which to place
expected version number.
 *
 * RETURNS:                     TRUE       inet service
expected return value.
 */

BOOL WINAPI
GetExtensionVersion(HSE_VERSION_INFO *pVer)
{
```

```
	pVer->dwExtensionVersion =
MAKELONG(HSE_VERSION_MINOR,
HSE_VERSION_MAJOR);
	lstrcpyn(pVer->lpszExtensionDesc, "TPC-C
Server.", HSE_MAX_EXT_DLL_NAME_LEN);

	return TRUE;
}

/* FUNCTION: TerminateExtension
 *
 * PURPOSE:	This function is called by the inet
service when the DLL is about to be unloaded.
 *			Release all resources in
anticipation of being unloaded.
 *
 * RETURNS:		TRUE	inet service
expected return value.
 */

BOOL WINAPI TerminateExtension( DWORD dwFlags )
{
	if (pDeliHandles)
	{
		SetEvent( hDoneEvent );
		for(DWORD i=0;
i<dwNumDeliveryThreads; i++)

	WaitForSingleObject( pDeliHandles[i],
INFINITE );
	}

	TermDeleteAll();
	return TRUE;
}


/* FUNCTION: HttpExtensionProc
 *
 * PURPOSE:	This function is the main entry point
for the TPCC DLL. The internet service
 *			calls this function passing
in the http string.
 *
 * ARGUMENTS:	EXTENSION_CONTROL_BLOCK
	*pECB	structure pointer to passed in internet
 *
		service information.
 *
 * RETURNS:		DWORD
	HSE_STATUS_SUCCESS
			connection can be dropped
if error
 *
	HSE_STATUS_SUCCESS_AND_KEEP_CONN
	keep connect valid comment sent
 *
 * COMMENTS:	None
 *
 */

DWORD WINAPI
HttpExtensionProc(EXTENSION_CONTROL_BLOCK
*pECB)
{
	int			TermId, iSyncId;
	char		szBuffer[4096];

	int			lpbSize;
	static char  szHeader[] = "200 Ok";
	DWORD		dwSize = 6;
	// initial value is strlen(szHeader)
	char		szHeader1[4096];
	DWORD		dwAddr;	// used to store
Win32 exception address
	LPEXCEPTION_POINTERS	pExceptionInfo;
	// pointer to Win32 exception info


#ifdef ICECAP
	StartCAP();
#endif

	// Use structured exception handling for Win32
exceptions
	//
	__try
	{
		ProcessCommand(pECB, szBuffer,
TermId, iSyncId);
	}
	__except ( pExceptionInfo =
GetExceptionInformation(), // can call
GetExceptionInformation only in filter (not handler)
			dwAddr =
(DWORD)pExceptionInfo->ExceptionRecord-
>ExceptionAddress,	// save the address

	EXCEPTION_EXECUTE_HANDLER)	//
handle all exceptions
	{
		char
	szMsg[512];
		int
	iLen;

		MEMORY_BASIC_INFORMATION
mbi ;
		VirtualQuery( (void*)dwAddr, &mbi,
sizeof( mbi ) ) ;
		DWORD hInstance =
(DWORD)mbi.AllocationBase ;

		iLen = wsprintf(szMsg,
TEXT("Unhandled exception (%#x) in Web Client's
HttpExtensionProc. "
			"Occured at
address %#x, base %#x, tpcc_com.dll at %#x, tpcc.dll at %#x,
tpcc_com_all.dll at %#x"),

	GetExceptionCode(), dwAddr, hInstance,

	GetModuleHandle("tpcc_com.dll"),
GetModuleHandle("tpcc.dll"),
GetModuleHandle("tpcc_com_all.dll"));

		if (txnDelilog != NULL)
		{
			txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_WARNING, szMsg,
iLen + 1);

		}
		ErrorForm( pECB,
ERR_TYPE_WEBDLL, GetExceptionCode(), TermId,
iSyncId, szMsg, szBuffer );
	}

#ifdef ICECAP
```

```
	StopCAP();
#endif

	lpbSize = strlen(szBuffer);
	dwSize += lpbSize;
	dwSize += wsprintf(szHeader1,
				"Content-Type:
text/html\r\n"
				"Content-Length: %d\r\n"
				"Connection: Keep-
Alive\r\n\r\n" , lpbSize);
	strcat( szHeader1, szBuffer );

	(*pECB->ServerSupportFunction)(pECB-
>ConnID, HSE_REQ_SEND_RESPONSE_HEADER,
szHeader, (LPDWORD) &dwSize, (LPDWORD)szHeader1);

	//finish up and keep connection
	pECB->dwHttpStatusCode = 200;
	return
HSE_STATUS_SUCCESS_AND_KEEP_CONN;
}

/* FUNCTION: ProcessCommand
 *
 * PURPOSE:	This function parses the commands
from the driver and executes corresponding transactions.
 *
 * ARGUMENTS:	EXTENSION_CONTROL_BLOCK
	*pECB	structure pointer to passed in internet
 *
			service information.
 *
 * RETURNS:		None (outputs into the
szBuffer parameter).
 *
 * COMMENTS:	Separated from HttpExtensionProc to
be able to use structured exception handling in
 *
	HttpExtensionProc (cannot mix C++ and Win32
exceptions in one functions).
 *
 */
void ProcessCommand(EXTENSION_CONTROL_BLOCK
*pECB, char* szBuffer, int& TermId, int& iSyncId)
{
	int				iCmd, FormId;

	try
	{
		//process http query
		ProcessQueryString(pECB, &iCmd,
&FormId, &TermId, &iSyncId);

		if (TermId != 0)
		{
			if ( TermId < 0 || TermId
>= Term.iNumEntries ||
Term.pClientData[TermId].iNextFree != -1 )
			{
				// debugging...
				char
szTmp[128];
				wsprintf( szTmp,
"Invalid term ID; TermId = %d", TermId );

	WriteMessageToEventLog( szTmp );
				throw new
CWEBCLNT_ERR( ERR_INVALID_TERMID );
			}

			//must have a valid syncid
here since termid is valid
			if (iSyncId !=
Term.pClientData[TermId].iSyncId)
				throw new
CWEBCLNT_ERR( ERR_INVALID_SYNC_CONNECTIO
N );

			//set use time

	Term.pClientData[TermId].iTickCount =
GetTickCount();
		}


		switch(iCmd)
		{
		case 0:
			WelcomeForm(pECB,
szBuffer);
			break;
		case 1:
			switch( FormId )
			{
			case WELCOME_FORM:
			case
MAIN_MENU_FORM:
				break;
			case
NEW_ORDER_FORM:

	ProcessNewOrderForm(pECB, TermId, szBuffer);
				break;
			case PAYMENT_FORM:

	ProcessPaymentForm(pECB, TermId, szBuffer);
				break;
			case DELIVERY_FORM:

	ProcessDeliveryForm(pECB, TermId, szBuffer);
				break;
			case
ORDER_STATUS_FORM:

	ProcessOrderStatusForm(pECB, TermId,
szBuffer);
				break;
			case
STOCK_LEVEL_FORM:

	ProcessStockLevelForm(pECB, TermId,
szBuffer);
				break;
			}
			break;
		case 2:
			// new-order selected from
menu; display new-order input form

	MakeNewOrderForm(TermId, NULL,
INPUT_FORM, szBuffer);
			break;
		case 3:
			// payment selected from
menu; display payment input form
```

```
                MakePaymentForm(TermId, NULL,
INPUT_FORM, szBuffer);
                                break;
                        case 4:
                                // delivery selected from
menu; display delivery input form

                MakeDeliveryForm(TermId, NULL,
INPUT_FORM, szBuffer);
                                break;
                        case 5:
                                // order-status selected from
menu; display order-status input form

                MakeOrderStatusForm(TermId, NULL,
INPUT_FORM, szBuffer);
                                break;
                        case 6:
                                // stock-level selected from
menu; display stock-level input form

                MakeStockLevelForm(TermId, NULL,
INPUT_FORM, szBuffer);
                                break;
                        case 7:
                                // ExitCmd
                                TermDelete(TermId);
                                WelcomeForm(pECB,
szBuffer);
                                break;
                        case 8:
                                SubmitCmd(pECB,
szBuffer);
                                break;
                        case 9:
                                // menu

                MakeMainMenuForm(TermId,
Term.pClientData[TermId].iSyncId, szBuffer);
                                break;
                        case 10:
                                // CMD=Clear
                                // resets all connections;
should only be used when no other connections are active
                                TermDeleteAll();
                                TermInit();
                                WelcomeForm(pECB,
szBuffer);
                                break;
                        case 11:    // CMD=Stats
                                StatsCmd(pECB, szBuffer);
                                break;
                        }
                }
                catch (CBaseErr *e)
                {
                        ErrorForm( pECB, e->ErrorType(), e-
>ErrorNum(), TermId, iSyncId, e->ErrorText(), szBuffer );
                        delete e;
                }
}

void WriteMessageToEventLog(LPTSTR lpszMsg)
{
   TCHAR   szMsg[256];
   HANDLE  hEventSource;
   LPTSTR  lpszStrings[2];

   // Use event logging to log the error.
   //
   hEventSource = RegisterEventSource(NULL,
TEXT("TPCC.DLL"));

   _stprintf(szMsg, TEXT("Error in TPCC.DLL: "));
   lpszStrings[0] = szMsg;
   lpszStrings[1] = lpszMsg;

   if (hEventSource != NULL)
           {
      ReportEvent(hEventSource, // handle of event source
         EVENTLOG_ERROR_TYPE,  // event type
         0,                    // event category
         0,                    // event ID
         NULL,                 // current user's SID
         2,                    // strings in lpszStrings
         0,                    // no bytes of raw data
         (LPCTSTR *)lpszStrings,    // array of error strings
         NULL);                // no raw data

      (VOID) DeregisterEventSource(hEventSource);
   }
}


/* FUNCTION: DeliveryWorkerThread
 *
 * PURPOSE:            This function processes deferred
delivery txns.  There are typically several
 *                                    threads running this routine.
The number of threads is determined by an entry
 *                                    read from the registry.  The
thread waits for work by waiting on semaphore.
 *                                    When a delivery txn is
posted, the semaphore is released.  After processing
 *                                    the delivery txn,
information is logged to record the txn status and execution
 *                                    time.
 */

/*static*/ void DeliveryWorkerThread(void *ptr)
{
        CTPCC_BASE                      *pTxn = NULL;

        DELIVERY_TRANSACTION
        delivery;
        PDELIVERY_DATA
        pDeliveryData;
        TXN_RECORD_TPCC_DELIV_DEF
        txnDeliRec;

        DWORD
        index;
        HANDLE
        handles[2];

        SYSTEMTIME                      trans_end;
        //delivery transaction finished time
        SYSTEMTIME                      trans_start;
        //delivery transaction start time

        assert(txnDelilog != NULL);

        try
        {
                if (Reg.eDB_Protocol == ODBC)
                {
                        if (Reg.dwConnectDelay >
0)
                        {
```

```
                                        // Synchronize
connect (for VIA)
                                        //
        EnterCriticalSection(&hConnectCriticalSection);

        Sleep(Reg.dwConnectDelay);

        LeaveCriticalSection(&hConnectCriticalSection);
                                }

                                pTxn =
pCTPCC_ODBC_new( Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword,
        szMyComputerName, Reg.szDbName,
                                        Reg.szSPPrefix,
Reg.bCallNoDuplicatesNewOrder );

                }
                pDeliveryData = pTxn-
>BuffAddr_Delivery();
        }
        catch (CBaseErr *e)
        {
                char szTmp[1024];
                wsprintf( szTmp, "Error in Delivery
Txn thread.  Could not connect to database.  "
                                        "%s.
Server=%s, User=%s, Password=%s, Database=%s",
                                        e->ErrorText(),
Reg.szDbServer, Reg.szDbUser, Reg.szDbPassword,
Reg.szDbName );
                WriteMessageToEventLog( szTmp );
                delete e;
                goto ErrorExit;
        }
        catch (...)
        {

        WriteMessageToEventLog(TEXT("Unhandled
exception caught in DeliveryWorkerThread."));
                goto ErrorExit;
        }

        while (TRUE)
        {
                try
                {
                        //while delivery thread
running, i.e. user has not requested termination
                        while (TRUE)
                        {
                                        // need to wait
for multiple objects: program exit or worker semaphore;
                                        handles[0] =
hDoneEvent;
                                        handles[1] =
hWorkerSemaphore;
                                        index =
WaitForMultipleObjects( 2, &handles[0], FALSE,
INFINITE );
                                        if (index ==
WAIT_OBJECT_0)
                                                goto
ErrorExit;

        ZeroMemory(&txnDeliRec, sizeof(txnDeliRec));

        txnDeliRec.TxnType =
TXN_REC_TYPE_TPCC_DELIV_DEF;

                                        // make a local
copy of current entry from delivery buffer and increment
buffer index

        EnterCriticalSection(&DelBuffCriticalSection);
                                        delivery =
*(pDelBuff+dwDelBuffBusyIndex);

        dwDelBuffFreeCount++;

        dwDelBuffBusyIndex++;
                                        if
(dwDelBuffBusyIndex == dwDelBuffSize)  // wrap-around
if at end of buffer

        dwDelBuffBusyIndex = 0;

        LeaveCriticalSection(&DelBuffCriticalSection);

                                        pDeliveryData-
>w_id = delivery.w_id;
                                        pDeliveryData-
>o_carrier_id = delivery.o_carrier_id;

        txnDeliRec.w_id = pDeliveryData->w_id;

        txnDeliRec.o_carrier_id = pDeliveryData-
>o_carrier_id;

        txnDeliRec.TxnStartT0 =
Get64BitTime(&delivery.queue);

        GetLocalTime( &trans_start );
                                        pTxn-
>Delivery();

        GetLocalTime( &trans_end );

                                        //log txn

        txnDeliRec.TxnStatus = ERR_SUCCESS;
                                        for (int i=0;
i<10; i++)

        txnDeliRec.o_id[i] = pDeliveryData->o_id[i];

        txnDeliRec.DeltaT4 =
(int)(Get64BitTime(&trans_end) - txnDeliRec.TxnStartT0);

        txnDeliRec.DeltaTxnExec =
(int)(Get64BitTime(&trans_end) -
Get64BitTime(&trans_start));

                                        if (txnDelilog !=
NULL)

        txnDelilog->WriteToLog(&txnDeliRec);
                                }
                }
                catch (CBaseErr *e)
                {
```

```
                                char szTmp[1024];
                                wsprintf( szTmp, "%s Error
(code %d) in Delivery Txn thread. %s",
                                                                e-
>ErrorTypeStr(), e->ErrorNum(), e->ErrorText() );

        WriteMessageToEventLog( szTmp );

                                // log the error txn
                                txnDeliRec.TxnStatus = e-
>ErrorType();
                                if (txnDelilog != NULL)
                                        txnDelilog-
>WriteToLog(&txnDeliRec);

                                delete e;
                        }
                        catch (...)
                        {
                                // unhandled exception;
shouldn't happen; not much we can do...

        WriteMessageToEventLog(TEXT("Unhandled
exception caught in DeliveryWorkerThread."));
                        }
        }

ErrorExit:
        if (Reg.dwConnectDelay > 0)
        {
                // Synchronize disconnect (for VIA)
                //

        EnterCriticalSection(&hConnectCriticalSection);

                Sleep(Reg.dwConnectDelay);
        }

        delete pTxn;

        if (Reg.dwConnectDelay > 0)
        {
                // Synchronize disconnect (for VIA)
                //

        LeaveCriticalSection(&hConnectCriticalSection);
        }

        _endthread();
}

/* FUNCTION: PostDeliveryInfo
 *
 * PURPOSE:         This function enters the delivery txn
into the deferred delivery buffer.
 *
 * RETURNS:                 BOOL    FALSE
        delivery information posted successfully
 *
        TRUE    error cannot post delivery info
 */

BOOL PostDeliveryInfo(long w_id, short o_carrier_id)
{
        BOOL bError;

        EnterCriticalSection(&DelBuffCriticalSection);
        if (dwDelBuffFreeCount > 0)
        {
                bError = FALSE;
                (pDelBuff+dwDelBuffFreeIndex)-
>w_id                   = w_id;
                (pDelBuff+dwDelBuffFreeIndex)-
>o_carrier_id   = o_carrier_id;

        GetLocalTime(&(pDelBuff+dwDelBuffFreeIndex
)->queue);

                dwDelBuffFreeCount--;
                dwDelBuffFreeIndex++;
                if (dwDelBuffFreeIndex ==
dwDelBuffSize)
                        dwDelBuffFreeIndex = 0;
                // wrap-around if at end of buffer
        }
        else
                // No free buffers.  Return an error,
which indicates that the delivery buffer is full.
                // Most likely, the number of delivery
worker threads needs to be increased to keep up
                // with the txn rate.
                bError = TRUE;
        LeaveCriticalSection(&DelBuffCriticalSection);

        if (!bError)
                // increment worker semaphore to
wake up a worker thread

        ReleaseSemaphore( hWorkerSemaphore, 1,
NULL );

        return bError;
}

/* FUNCTION: ProcessQueryString
 *
 * PURPOSE:         This function extracts the relevent
information out of the http command passed in from
 *                                the browser.
 *
 * COMMENTS:        If this is the initial connection i.e.
client is at welcome screen then
 *                                        there will not be
a terminal id or current form id.  If this is the case
 *                                        then the
pTermid and pFormid return values are undefined.
 */

void
ProcessQueryString(EXTENSION_CONTROL_BLOCK
*pECB, int *pCmd, int *pFormId, int *pTermId, int
*pSyncId)
{
        char *ptr = pECB->lpszQueryString;
        char szBuffer[25];
        int i;

        //allowable client command strings i.e.
CMD=command
        static char *szCmds[] =
        {
                "Process", "..NewOrder..",
"..Payment..", "..Delivery..", "..Order-Status..", "..Stock-
Level..",
                "..Exit..", "Submit", "Menu", "Clear",
"Stats", ""
        };

        *pCmd       = 0;                        // default is the
login screen
```

```
		*pTermId = 0;

		// if no params (i.e., empty query string), then
return login screen
		if (strlen(pECB->lpszQueryString) == 0)
			return;

		// parse FORMID, TERMID, and SYNCID
		*pFormId = GetIntKeyValue(&ptr, "FORMID",
NO_ERR, NO_ERR);
		*pTermId = GetIntKeyValue(&ptr, "TERMID",
NO_ERR, NO_ERR);
		*pSyncId = GetIntKeyValue(&ptr, "SYNCID",
NO_ERR, NO_ERR);

		// parse CMD
		GetKeyValue(&ptr, "CMD", szBuffer,
sizeof(szBuffer), ERR_COMMAND_UNDEFINED);

		// see which command it matches
		for(i=0; ; i++)
		{
			if (szCmds[i][0] == 0)
				// no more; no match; return
error
				throw new
CWEBCLNT_ERR( ERR_COMMAND_UNDEFINED );
			if ( !strcmp(szCmds[i], szBuffer) )
			{
				*pCmd = i+1;
				break;
			}
		}
}

/* FUNCTION: void WelcomeForm
 *
 */

void WelcomeForm(EXTENSION_CONTROL_BLOCK
*pECB, char *szBuffer)
{
		char szTmp[1024];

		//welcome to tpc-c html form buffer, this is first
form client sees.
		strcpy( szBuffer,
		"<HTML><HEAD><TITLE>TPC-C Web
Client</TITLE></HEAD><BODY>"

		"<B><BIG>Microsoft TPC-C Web Client (ver
4.20)</BIG></B> <BR> <BR>"

		"<font face=\"Courier New\"><PRE>"

		"Compiled: "__DATE__", "__TIME__" <BR>"

		"Source:  "__FILE__" ("__TIMESTAMP__")
<BR>"

		"</PRE></font>"

		"<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"

		"<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"

		"<INPUT TYPE=\"hidden\" NAME=\"ERROR\"
VALUE=\"0\">"

		"<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"1\">"

		"<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"0\">"

		"<INPUT TYPE=\"hidden\" NAME=\"SYNCID\"
VALUE=\"0\">"

		"<INPUT TYPE=\"hidden\"
NAME=\"VERSION\" VALUE=\""
WEBCLIENT_VERSION "\">"
				);

		sprintf( szTmp,		"Configuration Settings:
<BR><font face=\"Courier New\" color=\"blue\"><PRE>"
							"Txn
Monitor		= <B>%s</B><BR>"

		"Database protocol	= <B>%s</B><BR>"
							"Max
Connections	= <B>%d</B><BR>"
							"# of
Delivery Threads  = <B>%d</B><BR>"
							"Max
Pending Deliveries = <B>%d</B><BR>"
				,
szTxnMonNames[Reg.eTxnMon],
szDBNames[Reg.eDB_Protocol],
				Reg.dwMaxConnections,
dwNumDeliveryThreads, dwDelBuffSize );
		strcat( szBuffer, szTmp);

		if (Reg.eTxnMon == COM)
		{
			sprintf( szTmp,		"COM Single
Pool	= <B>%s</B><BR>",
				Reg.bCOM_SinglePool ?
"YES" : "NO" );
			strcat( szBuffer, szTmp);
		}
		strcat( szBuffer, "</PRE></font>");

		if (Reg.eTxnMon == None)
			// connection options may be specified
when not using a txn monitor
			sprintf( szTmp,		"Please enter
your database options for this connection:<BR>"

		"<font face=\"Courier New\"
color=\"blue\"><PRE>"

		"DB Server	= <INPUT NAME=\"db_server\"
SIZE=20 VALUE=\"%s\"><BR>"

		"DB User ID	= <INPUT NAME=\"db_user\"
SIZE=20 VALUE=\"%s\"><BR>"

		"DB Password  = <INPUT
NAME=\"db_passwd\" SIZE=20 VALUE=\"%s\"><BR>"

		"DB Name	= <INPUT NAME=\"db_name\"
SIZE=20 VALUE=\"%s\"><BR>"

		"</PRE></font>"
				,
Reg.szDbServer, Reg.szDbUser, Reg.szDbPassword,
Reg.szDbName );
		else
```

```
                        // if using a txn monitor, connection
options are determined from registry; can't
                        // set per user.  show options fyi
                        sprintf( szTmp,         "Database
options which will be used by the transaction monitor:<BR>"

        "<font face=\"Courier New\"
color=\"blue\"><PRE>"

        "DB Server          = <B>%s</B><BR>"

        "DB User ID         = <B>%s</B><BR>"

        "DB Password        = <B>%s</B><BR>"

        "DB Name            = <B>%s</B><BR>"

        "</PRE></font>"
                                                ,
Reg.szDbServer, Reg.szDbUser, Reg.szDbPassword,
Reg.szDbName );
        strcat( szBuffer, szTmp);

        sprintf( szTmp,         "Please enter your
Warehouse and District for this session:<BR>"

        "<font face=\"Courier New\"
color=\"blue\"><PRE>" );
        strcat( szBuffer, szTmp);
        strcat( szBuffer,       "Warehouse ID = <INPUT
NAME=\"w_id\" SIZE=6><BR>"

        "District ID  = <INPUT NAME=\"d_id\"
SIZE=2><BR>"

        "</PRE></font><HR>"

        "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Submit\">"

        "</FORM></BODY></HTML>");
}

/* FUNCTION: SubmitCmd
 *
 * PURPOSE:         This function allocated a new terminal
id in the Term structure array.
 *
 */

void SubmitCmd(EXTENSION_CONTROL_BLOCK
*pECB, char *szBuffer)
{
        int                     iNewTerm;
        char        *ptr = pECB->lpszQueryString;

        char        szVersion[32]       = { 0 };
        char        szServer[32]        = { 0 };
        char        szUser[32]          = "sa";
        char        szPassword[32]      = { 0 };
        char        szDatabase[32]      = "tpcc";

        // validate version field; the version field ensures
that the RTE is synchronized with the web client
        GetKeyValue(&ptr, "VERSION", szVersion,
sizeof(szVersion), ERR_VERSION_MISMATCH);
        if ( strcmp( szVersion,
WEBCLIENT_VERSION ) )
                        throw new
CWEBCLNT_ERR( ERR_VERSION_MISMATCH );

        if (Reg.eTxnMon == None)
        {
                        // parse Server name
                        GetKeyValue(&ptr, "db_server",
szServer, sizeof(szServer),
ERR_NO_SERVER_SPECIFIED);
                        // parse User name
                        GetKeyValue(&ptr, "db_user", szUser,
sizeof(szUser), NO_ERR);
                        // parse Password
                        GetKeyValue(&ptr, "db_passwd",
szPassword, sizeof(szPassword), NO_ERR);
                        // parse Database name
                        GetKeyValue(&ptr, "db_name",
szDatabase, sizeof(szDatabase), NO_ERR);
        }

        // parse warehouse ID
        int w_id = GetIntKeyValue(&ptr, "w_id",
ERR_HTML_ILL_FORMED, ERR_W_ID_INVALID);
        if ( w_id < 1 )
                        throw new
CWEBCLNT_ERR( ERR_W_ID_INVALID );

        // parse district ID
        int d_id = GetIntKeyValue(&ptr, "d_id",
ERR_HTML_ILL_FORMED, ERR_D_ID_INVALID);
        if ( d_id < 1 || d_id > 10 )
                        throw new
CWEBCLNT_ERR( ERR_D_ID_INVALID );


        iNewTerm = TermAdd();

        Term.pClientData[iNewTerm].w_id = w_id;
        Term.pClientData[iNewTerm].d_id = d_id;

        try
        {
                        if (Reg.eTxnMon == COM)

        Term.pClientData[iNewTerm].pTxn =
pCTPCC_COM_new( Reg.bCOM_SinglePool );
                        else if (Reg.eDB_Protocol == ODBC)

        Term.pClientData[iNewTerm].pTxn =
pCTPCC_ODBC_new(                szServer, szUser,
szPassword, szMyComputerName,



        szDatabase, Reg.szSPPrefix,



        Reg.bCallNoDuplicatesNewOrder );
        }
        catch (...)
        {
                        TermDelete(iNewTerm);
                        throw;                  // pass exception
upward
        }

        MakeMainMenuForm(iNewTerm,
Term.pClientData[iNewTerm].iSyncId, szBuffer);
}

/* FUNCTION: StatsCmd
```

```
 *
 * PURPOSE:          This function returns to the browser
the total number of active terminal ids.
 *                   This routine is for
development/debugging purposes.
 *
 */

void StatsCmd(EXTENSION_CONTROL_BLOCK *pECB,
char *szBuffer)
{
        int i;
        int         iTotal;

        EnterCriticalSection(&TermCriticalSection);

        iTotal = 0;
        for(i=0; i<Term.iNumEntries; i++)
        {
                if (Term.pClientData[i].iNextFree == -
1)
                        iTotal++;
        }

        LeaveCriticalSection(&TermCriticalSection);

        wsprintf( szBuffer,

        "<HTML><HEAD><TITLE>TPC-C Web Client
Stats</TITLE></HEAD>"
                        "<BODY><B><BIG>
Total Active Connections: %d
</BIG></B><BR></BODY></HTML>"
                        , iTotal );
}

char *CWEBCLNT_ERR::ErrorText()
{
        static SERRORMSG errorMsgs[] =
        {
                {
        ERR_COMMAND_UNDEFINED,
                                "Command
undefined."

                        },
                {       ERR_D_ID_INVALID,

        "Invalid District ID Must be 1 to 10."

                },
                {
        ERR_DELIVERY_CARRIER_ID_RANGE,
                        "Delivery Carrier ID out of
range must be 1 - 10."
        },
                {
        ERR_DELIVERY_CARRIER_INVALID,
                "Delivery Carrier ID invalid must be
numeric 1 - 10."                                },
                {
        ERR_DELIVERY_MISSING_OCD_KEY,
                "Delivery missing Carrier ID key
\"OCD*\"."
                        },
                {
        ERR_DELIVERY_THREAD_FAILED,
                        "Could not start delivery
worker thread."
                        },
                {
        ERR_GETPROCADDR_FAILED,
                                "Could not map
proc in DLL.  GetProcAddr error.  DLL="
                },
                {
        ERR_HTML_ILL_FORMED,
                        "Required key field is
missing from HTML string."
                },
                {
        ERR_INVALID_SYNC_CONNECTION,
                "Invalid Terminal Sync ID."

                                                },
                {       ERR_INVALID_TERMID,

        "Invalid Terminal ID."

                                                },
                {       ERR_LOADDLL_FAILED,

        "Load of DLL failed.  DLL="

                                        },
                {
        ERR_MAX_CONNECTIONS_EXCEEDED,
                        "No connections available.
Max Connections is probably too low."   },
                {
        ERR_MISSING_REGISTRY_ENTRIES,
                "Required registry entries are missing.
Rerun INSTALL to correct."      },
                {
        ERR_NEWORDER_CUSTOMER_INVALID,
                        "New Order customer id
invalid data type, range = 1 to 3000."          },
                {
        ERR_NEWORDER_CUSTOMER_KEY,
                        "New Order missing
Customer key \"CID*\"."
                                        },
                {
        ERR_NEWORDER_DISTRICT_INVALID,
                        "New Order District ID
Invalid range 1 - 10."
                },
                {
        ERR_NEWORDER_FORM_MISSING_DID,
                        "New Order missing
District key \"DID*\"."
                                        },
                {
        ERR_NEWORDER_ITEMID_INVALID,
                    "New Order Item Id is wrong data type,
must be numeric."                       },
                {
        ERR_NEWORDER_ITEMID_RANGE,
                        "New Order Item Id is out
of range. Range = 1 to 999999."                 },
                {
        ERR_NEWORDER_ITEMID_WITHOUT_SUPP
W,                      "New Order Item_Id field entered
without a corresponding Supp_W."        },
                {
        ERR_NEWORDER_MISSING_IID_KEY,
                        "New Order missing Item Id key
\"IID*\"."
                },
```

```
                {
        ERR_NEWORDER_MISSING_QTY_KEY,
                        "New Order Missing Qty
key \"Qty##*\"."
                        },
                {
        ERR_NEWORDER_MISSING_SUPPW_KEY,
                        "New Order missing
Supp_W key \"SP##*\"."
                        },
                {
        ERR_NEWORDER_NOITEMS_ENTERED,
                        "New Order No order lines
entered."
                        },
                {
        ERR_NEWORDER_QTY_INVALID,
                        "New Order Qty invalid
must be numeric range 1 - 99."
        },
                {
        ERR_NEWORDER_QTY_RANGE,
                        "New Order Qty
is out of range. Range = 1 to 99."
                },
                {
        ERR_NEWORDER_QTY_WITHOUT_SUPPW,
                        "New Order Qty field
entered without a corresponding Supp_W."        },
                {
        ERR_NEWORDER_SUPPW_INVALID,
                        "New Order Supp_W
invalid data type must be numeric."
                },
                {
        ERR_NO_SERVER_SPECIFIED,
                        "No Server name
specified."

        },
                {
        ERR_ORDERSTATUS_CID_AND_CLT,
                "Order Status Only Customer ID or
Last Name may be entered, not both."    },
                {
        ERR_ORDERSTATUS_CID_INVALID,
                "Order Status Customer ID invalid,
range must be numeric 1 - 3000." },
                {
        ERR_ORDERSTATUS_CLT_RANGE,
                        "Order Status Customer last
name longer than 16 characters."        },
                {
        ERR_ORDERSTATUS_DID_INVALID,
                "Order Status District invalid, value
must be numeric 1 - 10."                },
                {
        ERR_ORDERSTATUS_MISSING_CID_CLT,
                "Order Status Either Customer ID or
Last Name must be entered."             },
                {
        ERR_ORDERSTATUS_MISSING_CID_KEY,
                "Order Status missing Customer key
\"CID*\"."
        },
                {
        ERR_ORDERSTATUS_MISSING_CLT_KEY,
                "Order Status missing Customer Last
Name key \"CLT*\"."                     },
                {
        ERR_ORDERSTATUS_MISSING_DID_KEY,
                "Order Status missing District key
\"DID*\"."
        },
                {
        ERR_PAYMENT_CDI_INVALID,
                        "Payment Customer district
invalid must be numeric."
        },
                {
        ERR_PAYMENT_CID_AND_CLT,
                        "Payment Only Customer
ID or Last Name may be entered, not both."  },
                {
        ERR_PAYMENT_CUSTOMER_INVALID,
                        "Payment Customer data
type invalid, must be numeric."
        },
                {
        ERR_PAYMENT_CWI_INVALID,
                        "Payment Customer
Warehouse invalid, must be numeric."
                },
                {
        ERR_PAYMENT_DISTRICT_INVALID,
                "Payment District ID is invalid, must
be 1 - 10."                              },
                {
        ERR_PAYMENT_HAM_INVALID,
                        "Payment Amount invalid
data type must be numeric."
                },
                {
        ERR_PAYMENT_HAM_RANGE,
                                "Payment
Amount out of range, 0 - 9999.99."
                                        },
                {
        ERR_PAYMENT_LAST_NAME_TO_LONG,
                        "Payment Customer last
name longer than 16 characters."
        },
                {
        ERR_PAYMENT_MISSING_CDI_KEY,
                        "Payment missing Customer district
key \"CDI*\"."
        },
                {
        ERR_PAYMENT_MISSING_CID_CLT,
                "Payment Either Customer ID or Last
Name must be entered."                  },
                {
        ERR_PAYMENT_MISSING_CID_KEY,
                        "Payment missing Customer Key
\"CID*\"."
                },
                {
        ERR_PAYMENT_MISSING_CLT_KEY,
                        "Payment missing Customer Last
Name key \"CLT*\"."
        },
                {
        ERR_PAYMENT_MISSING_CWI_KEY,
                        "Payment missing Customer
Warehouse key \"CWI*\"."
                },
                {
        ERR_PAYMENT_MISSING_DID_KEY,
                        "Payment missing District Key
```

```
\"DID*\"."
                        },
                        {
                ERR_PAYMENT_MISSING_HAM_KEY,
                        "Payment missing Amount key
\"HAM*\"."
                                                },
                        {
                ERR_STOCKLEVEL_MISSING_THRESHOLD
_KEY,       "Stock Level; missing Threshold key \"TT*\"."

                },
                        {
                ERR_STOCKLEVEL_THRESHOLD_INVALID,
                        "Stock Level; Threshold value must be
in the range = 1 - 99."         },
                        {
                ERR_STOCKLEVEL_THRESHOLD_RANGE,
                                "Stock Level Threshold out
of range, range must be 1 - 99."                },
                        {
                ERR_VERSION_MISMATCH,
                                "Invalid version field.  RTE
and Web Client are probably out of sync." },
                        {       ERR_W_ID_INVALID,

                "Invalid Warehouse ID."

                                                        },
                        {       0,

                                ""



                                                        }
                };

                char szTmp[256];
                int i = 0;
                while (TRUE)
                {
                        if (errorMsgs[i].szMsg[0] == 0)
                        {
                                strcpy( szTmp, "Unknown
error number." );
                                break;
                        }
                        if (m_Error == errorMsgs[i].iError)
                        {
                                strcpy( szTmp,
errorMsgs[i].szMsg );
                                break;
                        }
                        i++;
                }

                if (m_szTextDetail)
                        strcat( szTmp, m_szTextDetail );
                if (m_SystemErr)
                        wsprintf( szTmp+strlen(szTmp), "
Error=%d", m_SystemErr );

                m_szErrorText = new char[strlen(szTmp)+1];
                strcpy( m_szErrorText, szTmp );
                return m_szErrorText;

}

/* FUNCTION: GetKeyValue
 *
 * PURPOSE:             This function parses a http formatted
string for specific key values.
 *
 * ARGUMENTS:   char
                *pQueryString           http string from client
browser
 *                                              char
                *pKey                                   key
value to look for
 *                                              char
                *pValue
        character array into which to place key's value
 *                                              int
                        iMax
        maximum length of key value array.
 *                                              WEBERROR
                err
        error value to throw
 *
 * RETURNS:                     nothing.
 *
 * ERROR:                       if (the pKey value is not
found) then
 *                                                      if
(err == 0)
 *
        return (empty string)
 *                                                      else
 *
        throw CWEBCLNT_ERR(err)
 *
 * COMMENTS:    http keys are formatted either
KEY=value& or KEY=value\0. This DLL formats
 *                                              TPC-C input
fields in such a manner that the keys can be extracted in the
 *                                              above manner.
 */

void GetKeyValue(char **pQueryString, char *pKey, char
*pValue, int iMax, WEBERROR err)
{
        char *ptr;

        if ( !(ptr=strstr(*pQueryString, pKey)) )
                goto ErrorExit;
        ptr += strlen(pKey);
        if ( *ptr != '=' )
                goto ErrorExit;
        ptr++;

        iMax--;  // one position is for terminating null
        while( *ptr && *ptr != '&' && iMax)
        {
                *pValue++ = *ptr++;
                iMax--;
        }
        *pValue = 0;  // terminating null

        *pQueryString = ptr;
        return;

ErrorExit:
        if (err != NO_ERR)
                throw new CWEBCLNT_ERR( err );
        *pValue = 0;  // return empty result string
}

/* FUNCTION: GetIntKeyValue
 *
```

```
 * PURPOSE:          This function parses a http formatted
string for a specific key value.
 *
 * ARGUMENTS:     char
            *pQueryString          http string from client
browser
 *                                          char
                  *pKey                          key
value to look for
 *                                          WEBERROR
                  NoKeyErr               error value to
throw if key not found
 *                                          WEBERROR
                  NotIntErr              error value to
throw if value not numeric
 *
 * RETURNS:                  integer
 *
 * ERROR:                    if (the pKey value is not
found) then
 *                                                   if
(NoKeyErr != NO_ERR)
 *
            throw CWEBCLNT_ERR(err)
 *                                                   else
 *
            return 0
 *                                          else if (non-
numeric char found) then
 *                                                   if
(NotIntErr != NO_ERR) then
 *
            throw CWEBCLNT_ERR(err)
 *                                                   else
 *
            return 0
 *
 * COMMENTS:       http keys are formatted either
KEY=value& or KEY=value\0. This DLL formats
 *                                          TPC-C input
fields in such a manner that the keys can be extracted in the
 *                                          above manner.
 */

int GetIntKeyValue(char **pQueryString, char *pKey,
WEBERROR NoKeyErr, WEBERROR NotIntErr)
{
            char *ptr0;
            char *ptr;

            if ( !(ptr=strstr(*pQueryString, pKey)) )
                        goto ErrorNoKey;
            ptr += strlen(pKey);
            if ( *ptr != '=' )
                        goto ErrorNoKey;
            ptr++;

            ptr0 = ptr;                // remember starting point
            // scan string until a terminator (null or &) or a
non-digit
            while( *ptr && *ptr != '&' && isdigit(*ptr) )
                        ptr++;

            // make sure we stopped scanning for the right
reason
            if ((ptr0 == ptr) || (*ptr && *ptr != '&'))
            {
                        if (NotIntErr != NO_ERR)
                                    throw new
CWEBCLNT_ERR( NoKeyErr );
                        return 0;
            }

            *pQueryString = ptr;
            return atoi(ptr0);

ErrorNoKey:
            if (NoKeyErr != NO_ERR)
                        throw new
CWEBCLNT_ERR( NoKeyErr );
            return 0;
}

/* FUNCTION: TermInit
 *
 * PURPOSE:          This function initializes the client
terminal structure; it is called when the TPCC.DLL
 *                                    is first loaded by the inet
service.
 *
 */

void TermInit(void)
{
            EnterCriticalSection(&TermCriticalSection);

            Term.iMasterSyncId  = 1;
            Term.iNumEntries    =
Reg.dwMaxConnections+1;

            Term.pClientData    = NULL;
            Term.pClientData    =
(PCLIENTDATA)malloc(Term.iNumEntries *
sizeof(CLIENTDATA));
            if (Term.pClientData == NULL)
            {

            LeaveCriticalSection(&TermCriticalSection);
                        throw new
CWEBCLNT_ERR( ERR_MEM_ALLOC_FAILED );
            }

            ZeroMemory( Term.pClientData,
Term.iNumEntries * sizeof(CLIENTDATA) );

            Term.iFreeList                    =
Term.iNumEntries-1;
            // build free list
            // note: Term.pClientData[0].iNextFree gets set to
-1, which marks it as "in use".
            //    This is intentional, as the zero entry is used
as an anchor and never
            //                    allocated as an actual
terminal.
            for(int i=0; i<Term.iNumEntries; i++)
                        Term.pClientData[i].iNextFree = i-1;

            LeaveCriticalSection(&TermCriticalSection);
}

/* FUNCTION: TermDeleteAll
 *
 * PURPOSE:          This function frees allocated resources
associated with the terminal structure.
 *
 * ARGUMENTS:     none
 *
 * RETURNS:                  None
 *
```

```
 * COMMENTS:	This function is called only when the
inet service unloads the TPCC.DLL
 *
 */

void TermDeleteAll(void)
{
	EnterCriticalSection(&TermCriticalSection);

	for(int i=1; i<Term.iNumEntries; i++)
	{
		if (Term.pClientData[i].iNextFree == -
1)
			delete
Term.pClientData[i].pTxn;
	}

	Term.iFreeList			= 0;
	Term.iNumEntries	= 0;
	if ( Term.pClientData )
		free(Term.pClientData);
	Term.pClientData	= NULL;

	LeaveCriticalSection(&TermCriticalSection);
}

/* FUNCTION: TermAdd
 *
 * PURPOSE:		This function assigns a terminal id
which is used to identify a client browser.
 *
 * RETURNS:		int
	assigned terminal id
 *
 */

int TermAdd(void)
{
	DWORD	i;
	int		iNewTerm, iTickCount;

	if (Term.iNumEntries == 0)
		return -1;

	EnterCriticalSection(&TermCriticalSection);
	if (Term.iFreeList != 0)
	{	// position is available
		iNewTerm = Term.iFreeList;
		Term.iFreeList =
Term.pClientData[iNewTerm].iNextFree;

	Term.pClientData[iNewTerm].iNextFree = -1;  //
indicates this position is in use
	}
	else
	{	// no open slots, so find the slot that
hasn't been used in the longest time and reuse it
		for(iNewTerm=1, i=1,
iTickCount=0x7FFFFFFF; i<Reg.dwMaxConnections; i++)
		{
			if (iTickCount >
Term.pClientData[i].iTickCount)
			{
				iTickCount =
Term.pClientData[i].iTickCount;
				iNewTerm = i;
			}
		}
		// if oldest term is less than one minute
old, it probably means that more connections
		// are being attempted than were
specified as "Max Connections" at install.  In this case,
		// do not bump existing connection;
instead, return error to requestor.
		if ((GetTickCount() - iTickCount) <
60000)
		{

	LeaveCriticalSection(&TermCriticalSection);
			throw new
CWEBCLNT_ERR( ERR_MAX_CONNECTIONS_EXCEE
DED );
		}
	}

	Term.pClientData[iNewTerm].iTickCount =
GetTickCount();
	Term.pClientData[iNewTerm].iSyncId =
Term.iMasterSyncId++;
	Term.pClientData[iNewTerm].pTxn = NULL;

	LeaveCriticalSection(&TermCriticalSection);
	return iNewTerm;
}

/* FUNCTION: TermDelete
 *
 * PURPOSE:		This function makes a terminal entry
in the Term array available for reuse.
 *
 * ARGUMENTS:	int
			id
	Terminal id of client exiting
 *
 */

void TermDelete(int id)
{
	if ( id > 0 && id < Term.iNumEntries )
	{
		delete Term.pClientData[id].pTxn;

		// put onto free list

	EnterCriticalSection(&TermCriticalSection);

		Term.pClientData[id].iNextFree =
Term.iFreeList;
		Term.iFreeList = id;


	LeaveCriticalSection(&TermCriticalSection);
	}
}


/* FUNCTION: MakeErrorForm
 */

void ErrorForm(EXTENSION_CONTROL_BLOCK *pECB,
int iType, int iErrorNum, int iTermId, int iSyncId, char
*szErrorText, char *szBuffer )
{
	wsprintf(szBuffer,
		"<HTML><HEAD><TITLE>TPC-C
Error</TITLE></HEAD><BODY>"
		"<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
		"<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"%d\">"
```

```
                        "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                        "<BOLD>An Error
Occurred</BOLD><BR><BR>"
                        "%s"
                        "<BR><BR><HR>"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..NewOrder..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Payment..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Delivery..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Order-Status..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Exit..\">"
                        "</FORM></BODY></HTML>"
                        , iType, iErrorNum,
MAIN_MENU_FORM, iTermId, iSyncId, szErrorText );
}

/* FUNCTION: MakeMainMenuForm
 */

void MakeMainMenuForm(int iTermId, int iSyncId, char
*szForm)
{
        wsprintf(szForm,
                        "<HTML><HEAD><TITLE>TPC-C
Main Menu</TITLE></HEAD><BODY>"
                        "Select Desired
Transaction.<BR><HR>"
                        "<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..NewOrder..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Payment..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Delivery..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Order-Status..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
                        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Exit..\">"
                        "</FORM></BODY></HTML>"
                        , MAIN_MENU_FORM, iTermId,
iSyncId);
}

/* FUNCTION: MakeStockLevelForm
 *
 * PURPOSE:         This function constructs the Stock
Level HTML page.
 *
 * COMMENTS:        The internal client buffer is created
when the terminal id is assigned and should not
 *                                                      be freed except
when the client terminal id is no longer needed.
 */

void MakeStockLevelForm(int iTermId,
STOCK_LEVEL_DATA *pStockLevelData, BOOL bInput,
char *szForm)
{
        int             c;

        c = wsprintf(szForm,
                        "<HTML><HEAD><TITLE>TPC-C
Stock Level</TITLE></HEAD><FORM
ACTION=\"tpcc.dll\" METHOD=\"GET\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                        "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                        "<PRE><font face=\"Courier\">
Stock-Level<BR>"
                        "Warehouse: %6.6d   District:
%2.2d<BR> <BR>",
                        STOCK_LEVEL_FORM, iTermId,
Term.pClientData[iTermId].iSyncId,
                        Term.pClientData[iTermId].w_id,
Term.pClientData[iTermId].d_id);

        if ( bInput )
        {
                strcpy(szForm+c,
                        "Stock Level Threshold:
<INPUT NAME=\"TT*\" SIZE=2><BR> <BR>"
                        "low stock:    </font><BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>"
                        " <BR> <BR> <BR>
<BR> <BR> <BR> <BR></PRE><HR>"
                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Process\">"
                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                        "</FORM></HTML>" );
        }
        else
        {
                wsprintf(szForm+c,
                        "Stock Level Threshold:
%2.2d<BR> <BR>"
                        "low stock: %3.3d</font>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>"
                        " <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR></PRE><HR>"
                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
```

```
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"
                                        "</FORM></HTML>"
                                        , pStockLevelData-
>threshold, pStockLevelData->low_stock);
        }
}

/* FUNCTION: MakeNewOrderForm
 *
 * COMMENTS:    The internal client buffer is created
when the terminal id is assigned and should not
 *                                              be freed except
when the client terminal id is no longer needed.
 */

void MakeNewOrderForm(int iTermId,
NEW_ORDER_DATA *pNewOrderData, BOOL bInput,
char *szForm)
{
        int                     i, c;
        BOOL    bValid;
        static  char szBR[] = " <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR> <BR>";

        if (!bInput)
                assert( pNewOrderData-
>exec_status_code == eOK || pNewOrderData-
>exec_status_code == eInvalidItem );

        bValid = (bInput || (pNewOrderData-
>exec_status_code == eOK));

        c = wsprintf(szForm,
                "<HTML><HEAD><TITLE>TPC-C
New Order</TITLE></HEAD><BODY>"
                "<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                "<PRE><font face=\"Courier\">
New Order<BR>"
                , bValid ? 0 : ERR_BAD_ITEM_ID,
NEW_ORDER_FORM, iTermId,
Term.pClientData[iTermId].iSyncId);

        if ( bInput )
        {
                c += wsprintf(szForm+c, "Warehouse:
%6.6d   ", Term.pClientData[iTermId].w_id );

                strcpy( szForm+c,
                                        "District: <INPUT
NAME=\"DID*\" SIZE=1>                   Date:<BR>"
                                        "Customer:  <INPUT
NAME=\"CID*\" SIZE=4>   Name:           Credit:
%Disc:<BR>"
                                        "Order Number:
Number of Lines:        W_tax:      D_tax:<BR> <BR>"
                                        " Supp_W  Item_Id  Item
Name            Qty  Stock  B/G  Price    Amount<BR>"
                                        "  <INPUT
NAME=\"SP00*\" SIZE=4>  <INPUT NAME=\"IID00*\"
SIZE=6>                 <INPUT NAME=\"Qty00*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP01*\" SIZE=4>  <INPUT NAME=\"IID01*\"
SIZE=6>                 <INPUT NAME=\"Qty01*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP02*\" SIZE=4>  <INPUT NAME=\"IID02*\"
SIZE=6>                 <INPUT NAME=\"Qty02*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP03*\" SIZE=4>  <INPUT NAME=\"IID03*\"
SIZE=6>                 <INPUT NAME=\"Qty03*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP04*\" SIZE=4>  <INPUT NAME=\"IID04*\"
SIZE=6>                 <INPUT NAME=\"Qty04*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP05*\" SIZE=4>  <INPUT NAME=\"IID05*\"
SIZE=6>                 <INPUT NAME=\"Qty05*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP06*\" SIZE=4>  <INPUT NAME=\"IID06*\"
SIZE=6>                 <INPUT NAME=\"Qty06*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP07*\" SIZE=4>  <INPUT NAME=\"IID07*\"
SIZE=6>                 <INPUT NAME=\"Qty07*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP08*\" SIZE=4>  <INPUT NAME=\"IID08*\"
SIZE=6>                 <INPUT NAME=\"Qty08*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP09*\" SIZE=4>  <INPUT NAME=\"IID09*\"
SIZE=6>                 <INPUT NAME=\"Qty09*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP10*\" SIZE=4>  <INPUT NAME=\"IID10*\"
SIZE=6>                 <INPUT NAME=\"Qty10*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP11*\" SIZE=4>  <INPUT NAME=\"IID11*\"
SIZE=6>                 <INPUT NAME=\"Qty11*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP12*\" SIZE=4>  <INPUT NAME=\"IID12*\"
SIZE=6>                 <INPUT NAME=\"Qty12*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP13*\" SIZE=4>  <INPUT NAME=\"IID13*\"
SIZE=6>                 <INPUT NAME=\"Qty13*\"
SIZE=1><BR>"
                                        "  <INPUT
NAME=\"SP14*\" SIZE=4>  <INPUT NAME=\"IID14*\"
SIZE=6>                 <INPUT NAME=\"Qty14*\"
SIZE=1><BR>"
```

```
                                "Execution Status:
Total:<BR>"
                                "</font></PRE><HR>"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Process\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                                "</FORM></HTML>"
                                );
        }
        else
        {
                c += wsprintf(szForm+c, "Warehouse:
%6.6d   District: %2.2d                 Date: ",
                                pNewOrderData->w_id,
                                pNewOrderData->d_id);

                if ( bValid )
                {
                        c += wsprintf(szForm+c,
"%2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d",

        pNewOrderData->o_entry_d.day,

        pNewOrderData->o_entry_d.month,

        pNewOrderData->o_entry_d.year,

        pNewOrderData->o_entry_d.hour,

        pNewOrderData->o_entry_d.minute,

        pNewOrderData->o_entry_d.second);
                }

                c += wsprintf(szForm+c,
"<BR>Customer:  %4.4d   Name: %-16s   Credit: %-2s   ",
                                pNewOrderData->c_id,
pNewOrderData->c_last, pNewOrderData->c_credit);

                if ( bValid )
                {
                        c += sprintf(szForm+c,

        "%%Disc: %5.2f          <BR>"

        "Order Number: %8.8d  Number of Lines: %2.2d
W_tax: %5.2f   D_tax: %5.2f  <BR> <BR>"

        " Supp_W  Item_Id  Item Name               Qty
Stock  B/G  Price    Amount<BR>",

        100.0*pNewOrderData->c_discount,

        pNewOrderData->o_id,

        pNewOrderData->o_ol_cnt,
                                        100.0 *
pNewOrderData->w_tax,
                                        100.0 *
pNewOrderData->d_tax);

                                for(i=0; i<pNewOrderData-
>o_ol_cnt; i++)
                                {
                                        c +=
sprintf(szForm+c, "%6.6d   %6.6d   %-24s  %2.2d    %3.3d
%1.1s   $%6.2f  $%7.2f  <BR>",

        pNewOrderData->OL[i].ol_supply_w_id,

        pNewOrderData->OL[i].ol_i_id,

        pNewOrderData->OL[i].ol_i_name,

        pNewOrderData->OL[i].ol_quantity,

        pNewOrderData->OL[i].ol_stock,

        pNewOrderData->OL[i].ol_brand_generic,

        pNewOrderData->OL[i].ol_i_price,

        pNewOrderData->OL[i].ol_amount );
                                }
                        }
                        else
                        {
                                c += wsprintf(szForm+c,
                                        "%Disc:<BR>"
                                        "Order Number:
%8.8d  Number of Lines:          W_tax:       D_tax:<BR>
<BR>"
                                        " Supp_W
Item_Id  Item Name               Qty  Stock  B/G  Price
Amount<BR>"
                                        ,
pNewOrderData->o_id);

                                i = 0;
                        }

                        strncpy( szForm+c, szBR, (15-i)*5 );
                        c += (15-i)*5;

                        if ( bValid )
                                c += sprintf(szForm+c,
"Execution Status: Transaction commited.                 Total:
$%8.2f  ",

        pNewOrderData->total_amount);
                        else
                                c += wsprintf(szForm+c,
"Execution Status: Item number is not valid.
Total:");

                        strcpy(szForm+c,
                                "
<BR></font></PRE><HR>"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
                                "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"
                                "</FORM></HTML>"
                                );
        }
}
```

```
/* FUNCTION: MakePaymentForm
 *
 * COMMENTS:       The internal client buffer is created
when the terminal id is assigned and should not
 *                                                 be freed except
when the client terminal id is no longer needed.
 */

void MakePaymentForm(int iTermId, PAYMENT_DATA
*pPaymentData, BOOL bInput, char *szForm)
{
        int c;

        c = wsprintf(szForm,
                "<HTML><HEAD><TITLE>TPC-C
Payment</TITLE></HEAD><BODY>"
                "<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                "<PRE><font face=\"Courier\">
Payment<BR>"
                "Date: "
                , PAYMENT_FORM, iTermId,
Term.pClientData[iTermId].iSyncId);

        if ( !bInput )
        {
                c += wsprintf(szForm+c, "%2.2d-
%2.2d-%4.4d %2.2d:%2.2d:%2.2d",
                        pPaymentData->h_date.day,
                        pPaymentData-
>h_date.month,
                        pPaymentData-
>h_date.year,
                        pPaymentData-
>h_date.hour,
                        pPaymentData-
>h_date.minute,
                        pPaymentData-
>h_date.second);
        }

        if ( bInput )
        {
                c += wsprintf(szForm+c,
                        "<BR> <BR>Warehouse:
%6.6d"
                        "                District:
<INPUT NAME=\"DID*\" SIZE=1><BR> <BR> <BR>
<BR> <BR>"
                        "Customer: <INPUT
NAME=\"CID*\" SIZE=4>"
                        "Cust-Warehouse: <INPUT
NAME=\"CWI*\" SIZE=4>  "
                        "Cust-District: <INPUT
NAME=\"CDI*\" SIZE=1><BR>"
                        "Name:
<INPUT NAME=\"CLT*\" SIZE=16>
Since:<BR>"
                        "
Credit:<BR>"
                        "
Disc:<BR>"
                        "
Phone:<BR> <BR>"
                        "Amount Paid:
$<INPUT NAME=\"HAM*\" SIZE=7>      New Cust-
Balance:<BR>"
                        "Credit Limit:<BR>
<BR>Cust-Data: <BR> <BR> <BR> <BR>
<BR></font></PRE><HR>"
                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\"><INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu\">"

                "</BODY></FORM></HTML>"
                        ,
Term.pClientData[iTermId].w_id);
        }
        else
        {
                c += wsprintf(szForm+c,
                        "<BR> <BR>Warehouse:
%6.6d                District: %2.2d<BR>"
                        "%-20s                %-
20s<BR>"
                        "%-20s                %-
20s<BR>"
                        "%-20s %-2s %5.5s-%4.4s
%-20s %-2s %5.5s-%4.4s<BR> <BR>"
                        "Customer: %4.4d  Cust-
Warehouse: %6.6d  Cust-District: %2.2d<BR>"
                        "Name:   %-16s %-2s %-
16s     Since:  %2.2d-%2.2d-%4.4d<BR>"
                        "       %-20s
Credit: %-2s<BR>"

                        ,
Term.pClientData[iTermId].w_id, pPaymentData->d_id
                        , pPaymentData-
>w_street_1, pPaymentData->d_street_1
                        , pPaymentData-
>w_street_2, pPaymentData->d_street_2
                        , pPaymentData->w_city,
pPaymentData->w_state, pPaymentData->w_zip,
pPaymentData->w_zip+5
                        , pPaymentData->d_city,
pPaymentData->d_state, pPaymentData->d_zip,
pPaymentData->d_zip+5
                        , pPaymentData->c_id,
pPaymentData->c_w_id,           pPaymentData->c_d_id
                        , pPaymentData->c_first,
pPaymentData->c_middle, pPaymentData->c_last
                        , pPaymentData-
>c_since.day, pPaymentData->c_since.month,
                pPaymentData->c_since.year
                        , pPaymentData-
>c_street_1, pPaymentData->c_credit
                        );

        c += sprintf(szForm+c,
                        "       %-20s
%%Disc:  %5.2f<BR>",
                        pPaymentData->c_street_2,
100.0*pPaymentData->c_discount);

                        c += wsprintf(szForm+c,
```

```
                                        "       %-20s %-2s %5.5s-
%4.4s       Phone:  %6.6s-%3.3s-%3.3s-%4.4s<BR> <BR>",
                                        pPaymentData->c_city,
pPaymentData->c_state, pPaymentData->c_zip,
pPaymentData->c_zip+5,
                                        pPaymentData->c_phone,
pPaymentData->c_phone+6, pPaymentData->c_phone+9,
pPaymentData->c_phone+12 );

                        c += sprintf(szForm+c,
                                        "Amount Paid:
$%7.2f      New Cust-Balance: $%14.2f<BR>"
                                        "Credit Limit:
$%13.2f<BR> <BR>"
                                        , pPaymentData-
>h_amount, pPaymentData->c_balance
                                        , pPaymentData-
>c_credit_lim
                                        );

                        if ( pPaymentData->c_credit[0] == 'B'
&& pPaymentData->c_credit[1] == 'C' )
                                        c += wsprintf(szForm+c,

                "Cust-Data: %-50.50s<BR>            %-
50.50s<BR>          %-50.50s<BR>          %-50.50s<BR>",

                pPaymentData->c_data, pPaymentData-
>c_data+50, pPaymentData->c_data+100, pPaymentData-
>c_data+150 );
                        else
                                        strcpy(szForm+c, "Cust-
Data: <BR> <BR> <BR> <BR>");

                        strcat(szForm,          "
<BR></font></PRE><HR>"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Order-Status..\">"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Stock-Level..\">"

                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"

                "</BODY></FORM></HTML>");
                }

}

/* FUNCTION: MakeOrderStatusForm
 *
 * COMMENTS:        The internal client buffer is created
when the terminal id is assigned and should not
 *                                                be freed except
when the client terminal id is no longer needed.
 */

void MakeOrderStatusForm(int iTermId,
ORDER_STATUS_DATA *pOrderStatusData, BOOL
bInput, char *szForm)
{
                int                     i, c;
                static char szBR[] = " <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>";

                c = wsprintf(szForm,
                                "<HTML><HEAD><TITLE>TPC-C
Order-Status</TITLE></HEAD><BODY>"
                                "<FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
                                "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
                                "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                                "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
                                "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"%d\">"
                                "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
                                "<PRE><font face=\"Courier\">
Order-Status<BR>"
                                "Warehouse: %6.6d   ",
                                ORDER_STATUS_FORM, iTermId,
Term.pClientData[iTermId].iSyncId,
Term.pClientData[iTermId].w_id);

                if ( bInput )
                {
                        strcpy(szForm+c,
                                "District: <INPUT
NAME=\"DID*\" SIZE=1><BR>"
                                "Customer: <INPUT
NAME=\"CID*\" SIZE=4>   Name:                   <INPUT
NAME=\"CLT*\" SIZE=23><BR>"
                                "Cust-Balance:<BR>
<BR>"
                                "Order-Number:
Entry-Date:                     Carrier-Number:<BR>"
                                "Supply-W     Item-Id
Qty    Amount     Delivery-Date<BR> <BR> <BR> <BR>
<BR>"
                                " <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR></font></PRE>"
                                "<HR><INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\"><INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu\">"

                "</BODY></FORM></HTML>" );
                }
                else
                {
                        c += wsprintf(szForm+c,
                                "District: %2.2d<BR>"
                                "Customer: %4.4d   Name:
%-16s %-2s %-16s<BR>",
                                pOrderStatusData->d_id,
pOrderStatusData->c_id,
                                pOrderStatusData->c_first,
pOrderStatusData->c_middle, pOrderStatusData->c_last);

                        c += sprintf(szForm+c, "Cust-Balance:
$%9.2f<BR> <BR>",
```

```
                                pOrderStatusData->c_balance);

                        c += wsprintf(szForm+c,
                                "Order-Number: %8.8d Entry-Date: %2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d Carrier-Number: %2.2d<BR>"
                                "Supply-W     Item-Id     Qty     Amount     Delivery-Date<BR>",
                                pOrderStatusData->o_id,
                                pOrderStatusData->o_entry_d.day,
                                pOrderStatusData->o_entry_d.month,
                                pOrderStatusData->o_entry_d.year,
                                pOrderStatusData->o_entry_d.hour,
                                pOrderStatusData->o_entry_d.minute,
                                pOrderStatusData->o_entry_d.second,
                                pOrderStatusData->o_carrier_id);

                        for(i=0; i< pOrderStatusData->o_ol_cnt; i++)
                        {
                                c += sprintf(szForm+c, "%6.6d    %6.6d    %2.2d    $%8.2f    %2.2d-%2.2d-%4.4d<BR>",
                pOrderStatusData->OL[i].ol_supply_w_id,
                pOrderStatusData->OL[i].ol_i_id,
                pOrderStatusData->OL[i].ol_quantity,
                pOrderStatusData->OL[i].ol_amount,
                pOrderStatusData->OL[i].ol_delivery_d.day,
                pOrderStatusData->OL[i].ol_delivery_d.month,
                pOrderStatusData->OL[i].ol_delivery_d.year);
                        }

                        strncpy( szForm+c, szBR, (15-i)*5 );
                        c += (15-i)*5;

                        strcpy(szForm+c,
                "</font></PRE><HR><INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..NewOrder..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Payment..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Delivery..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-Status..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"
                "</BODY></FORM></HTML>" );
        }
}

/* FUNCTION: MakeDeliveryForm
 *
 * COMMENTS:        The internal client buffer is created when the terminal id is assigned and should not
 *                                                 be freed except when the client terminal id is no longer needed.
 */

void MakeDeliveryForm(int iTermId, DELIVERY_DATA *pDeliveryData, BOOL bInput, char *szForm)
{
        int             c;

        c = wsprintf(szForm,
                "<HTML><HEAD><TITLE>TPC-C Delivery</TITLE></HEAD><BODY>"
                "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
                "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">"
                "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\" NAME=\"TERMID\" VALUE=\"%d\">"
                "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
                "<PRE><font face=\"Courier\">
Delivery<BR>"
                "Warehouse: %6.6d<BR> <BR>",
                (!bInput && (pDeliveryData->exec_status_code != eOK)) ? ERR_TYPE_DELIVERY_POST : 0,
                DELIVERY_FORM, iTermId, Term.pClientData[iTermId].iSyncId, Term.pClientData[iTermId].w_id);

        if ( bInput )
        {
                strcpy( szForm+c,
                        "Carrier Number: <INPUT NAME=\"OCD*\" SIZE=1><BR> <BR>"
                        "Execution Status: <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>"
                        " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> </font></PRE><HR>"
                        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Process\">"
                        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"

        "</BODY></FORM></HTML>" );
        }
        else
        {
                wsprintf( szForm+c,
                        "Carrier Number: %2.2d<BR> <BR>"
                        "Execution Status: %s <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>"
                        " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> </font></PRE>"
                        "<HR><INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..NewOrder..\">"
```

```
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
                                        "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"

                "</BODY></FORM></HTML>"

                                        , pDeliveryData-
>o_carrier_id,
                                        (pDeliveryData-
>exec_status_code == eOK) ? "Delivery has been queued." :
"Delivery Post Failed     "
                                        );
                }
}

/* FUNCTION: ProcessNewOrderForm
 *
 * PURPOSE:             This function gets and validates the
input data from the new order form
 *                                      filling in the required input
variables. it then calls the SQLNewOrder
 *                                      transaction, constructs the
output form and writes it back to client
 *                                      browser.
 */

void
ProcessNewOrderForm(EXTENSION_CONTROL_BLOCK
                *pECB, int iTermId, char *szBuffer)
{
                PNEW_ORDER_DATA
                pNewOrder;

                pNewOrder = Term.pClientData[iTermId].pTxn-
>BuffAddr_NewOrder();

                ZeroMemory(pNewOrder,
sizeof(NEW_ORDER_DATA));
                pNewOrder->w_id =
Term.pClientData[iTermId].w_id;
                GetNewOrderData(pECB->lpszQueryString,
pNewOrder);

                Term.pClientData[iTermId].pTxn->NewOrder();

                pNewOrder = Term.pClientData[iTermId].pTxn-
>BuffAddr_NewOrder();
                MakeNewOrderForm(iTermId, pNewOrder,
OUTPUT_FORM, szBuffer );
}

/* FUNCTION: void ProcessPaymentForm
 *
 * PURPOSE:             This function gets and validates the
input data from the payment form
 *                                      filling in the required input
variables. It then calls the SQLPayment
 *                                      transaction, constructs the
output form and writes it back to client
 *                                      browser.
 *
 * ARGUMENTS:     EXTENSION_CONTROL_BLOCK
                *pECB     passed in structure pointer from inetsrv.
 *                                      int

                iTermId     client browser terminal id
 *
 */

void
ProcessPaymentForm(EXTENSION_CONTROL_BLOCK
*pECB, int iTermId, char *szBuffer)
{
                PPAYMENT_DATA pPayment;

                pPayment = Term.pClientData[iTermId].pTxn-
>BuffAddr_Payment();
                ZeroMemory(pPayment,
sizeof(PAYMENT_DATA));
                pPayment->w_id =
Term.pClientData[iTermId].w_id;
                GetPaymentData(pECB->lpszQueryString,
pPayment);

                Term.pClientData[iTermId].pTxn->Payment();

                pPayment = Term.pClientData[iTermId].pTxn-
>BuffAddr_Payment();
                MakePaymentForm(iTermId, pPayment,
OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessOrderStatusForm
 *
 * PURPOSE:             This function gets and validates the
input data from the Order Status
 *                                      form filling in the required
input variables. It then calls the
 *                                      SQLOrderStatus
transaction, constructs the output form and writes it
 *                                      back to client browser.
 *
 * ARGUMENTS:     EXTENSION_CONTROL_BLOCK
                *pECB     passed in structure pointer from inetsrv.
 *                                      int

                iTermId     client browser terminal id
 *
 */

void
ProcessOrderStatusForm(EXTENSION_CONTROL_BLOC
K *pECB, int iTermId, char *szBuffer)
{
                PORDER_STATUS_DATA        pOrderStatus;

                pOrderStatus = Term.pClientData[iTermId].pTxn-
>BuffAddr_OrderStatus();
                ZeroMemory(pOrderStatus,
sizeof(ORDER_STATUS_DATA));
                pOrderStatus->w_id =
Term.pClientData[iTermId].w_id;
                GetOrderStatusData(pECB->lpszQueryString,
pOrderStatus);

                Term.pClientData[iTermId].pTxn->OrderStatus();

                pOrderStatus = Term.pClientData[iTermId].pTxn-
>BuffAddr_OrderStatus();
```

```
        MakeOrderStatusForm(iTermId, pOrderStatus,
OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessDeliveryForm
 *
 * PURPOSE:          This function gets and validates the
input data from the delivery form
 *                   filling in the required input
variables. It then calls the PostDeliveryInfo
 *                   Api, The client is then
informed that the transaction has been posted.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK
        *pECB    passed in structure pointer from inetsrv.
 *                                   int

        iTermId    client browser terminal id
 *
 */

void
ProcessDeliveryForm(EXTENSION_CONTROL_BLOCK
*pECB, int iTermId, char *szBuffer)
{
        char        *ptr = pECB->lpszQueryString;

        PDELIVERY_DATA pDelivery;

        pDelivery = Term.pClientData[iTermId].pTxn-
>BuffAddr_Delivery();
        ZeroMemory(pDelivery,
sizeof(DELIVERY_DATA));
        pDelivery->w_id =
Term.pClientData[iTermId].w_id;

        pDelivery->o_carrier_id          =
GetIntKeyValue(&ptr, "OCD*",
ERR_DELIVERY_MISSING_OCD_KEY,
ERR_DELIVERY_CARRIER_INVALID);
        if ( pDelivery->o_carrier_id > 10 || pDelivery-
>o_carrier_id < 1 )
                throw new
CWEBCLNT_ERR( ERR_DELIVERY_CARRIER_ID_RA
NGE );

        if (dwNumDeliveryThreads)
        {
                //post delivery info
                if ( PostDeliveryInfo(pDelivery->w_id,
pDelivery->o_carrier_id) )
                        pDelivery-
>exec_status_code = eDeliveryFailed;
                else
                        pDelivery-
>exec_status_code = eOK;
        }
        else // delivery is done synchronously if no
delivery threads configured
                Term.pClientData[iTermId].pTxn-
>Delivery();

        pDelivery = Term.pClientData[iTermId].pTxn-
>BuffAddr_Delivery();
        MakeDeliveryForm(iTermId, pDelivery,
OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessStockLevelForm
 *
 * PURPOSE:          This function gets and validates the
input data from the Stock Level
 *                   form filling in the required
input variables. It then calls the
 *                   SQLStockLevel  transaction,
constructs the output form and writes it
 *                   back to client browser.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK
        *pECB    passed in structure pointer from inetsrv.
 *                                   int

        iTermId    client browser terminal id
 *
 */

void
ProcessStockLevelForm(EXTENSION_CONTROL_BLOC
K *pECB, int iTermId, char *szBuffer)
{
        char                *ptr = pECB-
>lpszQueryString;

        PSTOCK_LEVEL_DATA        pStockLevel;

        pStockLevel = Term.pClientData[iTermId].pTxn-
>BuffAddr_StockLevel();
        ZeroMemory( pStockLevel,
sizeof(STOCK_LEVEL_DATA) );

        pStockLevel->w_id =
Term.pClientData[iTermId].w_id;
        pStockLevel->d_id =
Term.pClientData[iTermId].d_id;

        pStockLevel->threshold = GetIntKeyValue(&ptr,
"TT*",
ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY,
ERR_STOCKLEVEL_THRESHOLD_INVALID);
        if ( pStockLevel->threshold >= 100 ||
pStockLevel->threshold < 0 )
                throw new
CWEBCLNT_ERR( ERR_STOCKLEVEL_THRESHOLD_
RANGE );

        Term.pClientData[iTermId].pTxn->StockLevel();

        pStockLevel = Term.pClientData[iTermId].pTxn-
>BuffAddr_StockLevel();
        MakeStockLevelForm(iTermId, pStockLevel,
OUTPUT_FORM, szBuffer);
}

/* FUNCTION: GetNewOrderData
 *
 * PURPOSE:          This function extracts and validates the
new order form data from an http command string.
 *
 * ARGUMENTS:    LPSTR
        lpszQueryString                client browser
http command string
 *
        NEW_ORDER_DATA
        *pNewOrderData                 pointer to new
order data structure
 *
 */

void GetNewOrderData(LPSTR lpszQueryString,
NEW_ORDER_DATA *pNewOrderData)
```

```
{
	char	szTmp[26];
	int		i;
	short	items;
	int		ol_i_id, ol_quantity;
	char	*ptr = lpszQueryString;

	static char
szSP[MAX_OL_NEW_ORDER_ITEMS][6] =
		{ "SP00*", "SP01*", "SP02*",
"SP03*", "SP04*",
		 "SP05*", "SP06*", "SP07*", "SP08*",
"SP09*",
		 "SP10*", "SP11*", "SP12*", "SP13*",
"SP14*" };
	static char
szIID[MAX_OL_NEW_ORDER_ITEMS][7] =
		{ "IID00*", "IID01*", "IID02*",
"IID03*", "IID04*",
		 "IID05*", "IID06*", "IID07*",
"IID08*", "IID09*",
		 "IID10*", "IID11*", "IID12*",
"IID13*", "IID14*" };
	static char
szQty[MAX_OL_NEW_ORDER_ITEMS][7] =
		{ "Qty00*", "Qty01*", "Qty02*",
"Qty03*", "Qty04*",
		 "Qty05*", "Qty06*", "Qty07*",
"Qty08*", "Qty09*",
		 "Qty10*", "Qty11*", "Qty12*",
"Qty13*", "Qty14*" };

	pNewOrderData->d_id = GetIntKeyValue(&ptr,
"DID*", ERR_NEWORDER_FORM_MISSING_DID,
ERR_NEWORDER_DISTRICT_INVALID);
	pNewOrderData->c_id = GetIntKeyValue(&ptr,
"CID*", ERR_NEWORDER_CUSTOMER_KEY,
ERR_NEWORDER_CUSTOMER_INVALID);

	for(i=0, items=0;
i<MAX_OL_NEW_ORDER_ITEMS; i++)
	{
		GetKeyValue(&ptr, szSP[i], szTmp,
sizeof(szTmp),
ERR_NEWORDER_MISSING_SUPPW_KEY);
		if ( szTmp[0] )
		{
			if ( !IsNumeric(szTmp) )
				throw new
CWEBCLNT_ERR( ERR_NEWORDER_SUPPW_INVALI
D );
			pNewOrderData-
>OL[items].ol_supply_w_id = atoi(szTmp);

			ol_i_id = pNewOrderData-
>OL[items].ol_i_id =

	GetIntKeyValue(&ptr, szIID[i],
ERR_NEWORDER_MISSING_IID_KEY,
ERR_NEWORDER_ITEMID_INVALID);
			if ( ol_i_id > 999999 ||
ol_i_id < 1 )
				throw new
CWEBCLNT_ERR( ERR_NEWORDER_ITEMID_RANGE
 );

			ol_quantity =
pNewOrderData->OL[items].ol_quantity =

	GetIntKeyValue(&ptr, szQty[i],
ERR_NEWORDER_MISSING_QTY_KEY,
ERR_NEWORDER_QTY_INVALID);
			if ( ol_quantity > 99 ||
ol_quantity < 1 )
				throw new
CWEBCLNT_ERR( ERR_NEWORDER_QTY_RANGE );

			items++;
		}
		else
		{	// nothing entered for
supply warehouse, so item id and qty must also be blank
			GetKeyValue(&ptr,
szIID[i], szTmp, sizeof(szTmp),
ERR_NEWORDER_MISSING_IID_KEY);
			if ( szTmp[0] )
				throw new
CWEBCLNT_ERR( ERR_NEWORDER_ITEMID_WITHO
UT_SUPPW );

			GetKeyValue(&ptr,
szQty[i], szTmp, sizeof(szTmp),
ERR_NEWORDER_MISSING_QTY_KEY);
			if ( szTmp[0] )
				throw new
CWEBCLNT_ERR( ERR_NEWORDER_QTY_WITHOUT
_SUPPW );
		}
	}
	if ( items == 0 )
		throw new
CWEBCLNT_ERR( ERR_NEWORDER_NOITEMS_ENTE
RED );

	pNewOrderData->o_ol_cnt = items;
}

/* FUNCTION: GetPaymentData
 *
 * PURPOSE:	This function extracts and validates the
payment form data from an http command string.
 *
 * ARGUMENTS:	LPSTR
	lpszQueryString		client browser
http command string
 *
	PAYMENT_DATA	*pPaymentData
	pointer to payment data structure
 */

void GetPaymentData(LPSTR lpszQueryString,
PAYMENT_DATA *pPaymentData)
{
	char	szTmp[26];
	char	*ptr = lpszQueryString;
	BOOL	bCustIdBlank;
	int		iLen;

	pPaymentData->d_id = GetIntKeyValue(&ptr,
"DID*", ERR_PAYMENT_MISSING_DID_KEY,
ERR_PAYMENT_DISTRICT_INVALID);

	GetKeyValue(&ptr, "CID*", szTmp,
sizeof(szTmp), ERR_PAYMENT_MISSING_CID_KEY);
	if ( szTmp[0] == 0 )
	{
		bCustIdBlank = TRUE;
		pPaymentData->c_id = 0;
	}
	else
```

```
		{		// parse customer id and verify that last
name was NOT entered
			bCustIdBlank = FALSE;
			if ( !IsNumeric(szTmp) )
				throw new
CWEBCLNT_ERR( ERR_PAYMENT_CUSTOMER_INV
ALID );
			pPaymentData->c_id = atoi(szTmp);
		}

		pPaymentData->c_w_id = GetIntKeyValue(&ptr,
"CWI*", ERR_PAYMENT_MISSING_CWI_KEY,
ERR_PAYMENT_CWI_INVALID);
		pPaymentData->c_d_id = GetIntKeyValue(&ptr,
"CDI*", ERR_PAYMENT_MISSING_CDI_KEY,
ERR_PAYMENT_CDI_INVALID);

		if ( bCustIdBlank )
		{		// customer id is blank, so last name
must be entered
			GetKeyValue(&ptr, "CLT*", szTmp,
sizeof(szTmp), ERR_PAYMENT_MISSING_CLT_KEY);
			if ( szTmp[0] == 0 )
				throw new
CWEBCLNT_ERR( ERR_PAYMENT_MISSING_CID_CL
T );

			_strupr( szTmp );
			if ( strlen(szTmp) >
LAST_NAME_LEN )
				throw new
CWEBCLNT_ERR( ERR_PAYMENT_LAST_NAME_TO_
LONG );

			strcpy(pPaymentData->c_last, szTmp);
			// pad with spaces so that the client
layer doesn't have to do it
			// before passing parameters to stored
procedure
			iLen = strlen(pPaymentData->c_last);
			memset(pPaymentData->c_last + iLen,
' ', LAST_NAME_LEN - iLen);
			pPaymentData-
>c_last[LAST_NAME_LEN] = 0;
		}
		else
		{		// parse customer id and verify that last
name was NOT entered
			GetKeyValue(&ptr, "CLT*", szTmp,
sizeof(szTmp), ERR_PAYMENT_MISSING_CLT_KEY);
			if ( szTmp[0] != 0 )
				throw new
CWEBCLNT_ERR( ERR_PAYMENT_CID_AND_CLT );
		}

		GetKeyValue(&ptr, "HAM*", szTmp,
sizeof(szTmp), ERR_PAYMENT_MISSING_HAM_KEY);
		if (!IsDecimal(szTmp))
			throw new
CWEBCLNT_ERR( ERR_PAYMENT_HAM_INVALID );
		pPaymentData->h_amount = atof(szTmp);
		if ( pPaymentData->h_amount >= 10000.00 ||
pPaymentData->h_amount < 0 )
			throw new
CWEBCLNT_ERR( ERR_PAYMENT_HAM_RANGE );
}

/* FUNCTION: GetOrderStatusData
 *
 * PURPOSE:		This function extracts and validates the
payment form data from an http command string.
 *
 */
void GetOrderStatusData(LPSTR lpszQueryString,
ORDER_STATUS_DATA *pOrderStatusData)
{
		char		szTmp[26];
		char		*ptr = lpszQueryString;
		int			iLen;

		pOrderStatusData->d_id = GetIntKeyValue(&ptr,
"DID*", ERR_ORDERSTATUS_MISSING_DID_KEY,
ERR_ORDERSTATUS_DID_INVALID);

		GetKeyValue(&ptr, "CID*", szTmp,
sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CID_KEY);
		if ( szTmp[0] == 0 )
		{		// customer id is blank, so last name
must be entered
			pOrderStatusData->c_id = 0;
			GetKeyValue(&ptr, "CLT*", szTmp,
sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CLT_KEY);
			if ( szTmp[0] == 0 )
				throw new
CWEBCLNT_ERR( ERR_ORDERSTATUS_MISSING_CI
D_CLT );

			_strupr( szTmp );
			if ( strlen(szTmp) >
LAST_NAME_LEN )
				throw new
CWEBCLNT_ERR( ERR_ORDERSTATUS_CLT_RANGE
);

			strcpy(pOrderStatusData->c_last,
szTmp);
			// pad with spaces so that the client
layer doesn't have to do it
			// before passing parameters to stored
procedure
			iLen = strlen(pOrderStatusData-
>c_last);
			memset(pOrderStatusData->c_last +
iLen, ' ', LAST_NAME_LEN - iLen);
			pOrderStatusData-
>c_last[LAST_NAME_LEN] = 0;
		}
		else
		{		// parse customer id and verify that last
name was NOT entered
			if ( !IsNumeric(szTmp) )
				throw new
CWEBCLNT_ERR( ERR_ORDERSTATUS_CID_INVALI
D );
			pOrderStatusData->c_id = atoi(szTmp);
			GetKeyValue(&ptr, "CLT*", szTmp,
sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CLT_KEY);
			if ( szTmp[0] != 0 )
				throw new
CWEBCLNT_ERR( ERR_ORDERSTATUS_CID_AND_C
LT );
		}

}

/* FUNCTION: BOOL IsNumeric(char *ptr)
```

```
 *
 * PURPOSE:          This function determines if a string is
numeric. It fails if any characters other
 *                   than numeric and null
terminator are present.
 *
 * ARGUMENTS:     char                    *ptr
          pointer to string to check.
 *
 * RETURNS:       BOOL     FALSE     if
string is not all numeric
 *
          TRUE     if string contains only numeric
characters i.e. '0' - '9'
 */

BOOL IsNumeric(char *ptr)
{
          if ( *ptr == 0 )
                    return FALSE;

          while( *ptr && isdigit(*ptr) )
                    ptr++;
          return ( !*ptr );
}

/* FUNCTION: BOOL IsDecimal(char *ptr)
 *
 * PURPOSE:          This function determines if a string is a
non-negative decimal value.
 *        It fails if any characters other than a series of
numbers followed by
 *                   a decimal point, another
series of numbers, and a null terminator are present.
 *
 * ARGUMENTS:     char                    *ptr
          pointer to string to check.
 *
 * RETURNS:       BOOL     FALSE     if
string is not a valid non-negative decimal value
 *
          TRUE     if string is OK
 */

BOOL IsDecimal(char *ptr)
{
          char *dotptr;
          BOOL  bValid;

          if ( *ptr == 0 )
                    return FALSE;

          // find decimal point
          dotptr = strchr( ptr, '.' );
          if (dotptr == NULL)
                    // no decimal point, so just check for
numeric
                    return IsNumeric(ptr);
          *dotptr = 0;  // temporarily replace decimal with a
terminator

          if ( *ptr != 0 )
                    bValid = IsNumeric(ptr);
          // string starts with decimal point
          else if (*(dotptr+1) == 0)
                    return FALSE;  // nothing but a
decimal point is bad
          else
                    bValid = TRUE;

          if (*(dotptr+1) != 0)
                    // check text after decimal point
                    bValid &= IsNumeric(dotptr+1);

          *dotptr = '.';  // replace decimal point
          return bValid;
}
```

## tpcc.def

```
LIBRARY TPCC.DLL

EXPORTS

          GetExtensionVersion  @1
          HttpExtensionProc    @2
          TerminateExtension   @3
```

## tpcc.h

```
/*        FILE:             TPCC.H
 *                                  Microsoft TPC-
C Kit Ver. 4.20.000
 *                                  Copyright
Microsoft, 1999
 *         All Rights Reserved
 *
 *                                  Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *
 *        PURPOSE:          Header file for ISAPI
TPCC.DLL, defines structures and functions used in the isapi
tpcc.dll.
 *
 */


//VERSION RESOURCE DEFINES
#define _APS_NEXT_RESOURCE_VALUE
                                  101
#define _APS_NEXT_COMMAND_VALUE
                                  40001
#define _APS_NEXT_CONTROL_VALUE
                                  1000
#define _APS_NEXT_SYMED_VALUE
                                  101


#define TP_MAX_RETRIES
                                  50



//note that the welcome form must be processed first as
terminal ids assigned here, once the
//terminal id is assigned then the forms can be processed in
any order.
```

```
#define WELCOME_FORM                    1
        //beginning form no term id assigned, form id
#define MAIN_MENU_FORM                  2
        //term id assigned main menu form id
#define NEW_ORDER_FORM                  3               //new
order form id
#define PAYMENT_FORM                    4
        //payment form id
#define DELIVERY_FORM                   5
        //delivery form id
#define ORDER_STATUS_FORM               6
        //order status id
#define STOCK_LEVEL_FORM                7
        //stock level form id


//This macro is used to prevent the compiler error unused
formal parameter
#define UNUSEDPARAM(x) (x = x)



//This structure defines the data necessary to keep distinct for
each terminal or client connection.
typedef struct _CLIENTDATA
{
        int                     iNextFree;
                                //index of next free element
or -1 if this entry in use.
        int                     w_id;
                                //warehouse id
assigned at welcome form
        int                     d_id;
                                //district id
assigned at welcome form

        int                     iSyncId;
                                //syncronization id
        int                     iTickCount;
                                //time of last
access;

        CTPCC_BASE      *pTxn;

} CLIENTDATA, *PCLIENTDATA;



//This structure is used to define the operational interface for
terminal id support
typedef struct _TERM
{
        int                     iNumEntries;

        //total allocated terminal array entries
        int                     iFreeList;

        //next available terminal array element or -1 if
none
        int                     iMasterSyncId;

        //syncronization id
        CLIENTDATA      *pClientData;
                                //pointer to
allocated client data
} TERM;

typedef TERM *PTERM;
                                //pointer to
terminal structure type



        enum WEBERROR
        {
                NO_ERR,
                ERR_COMMAND_UNDEFINED,
                ERR_D_ID_INVALID,

        ERR_DELIVERY_CARRIER_ID_RANGE,

        ERR_DELIVERY_CARRIER_INVALID,

        ERR_DELIVERY_MISSING_OCD_KEY,

        ERR_DELIVERY_THREAD_FAILED,
                ERR_GETPROCADDR_FAILED,
                ERR_HTML_ILL_FORMED,

        ERR_INVALID_SYNC_CONNECTION,
                ERR_INVALID_TERMID,
                ERR_LOADDLL_FAILED,

        ERR_MAX_CONNECTIONS_EXCEEDED,
                ERR_MEM_ALLOC_FAILED,

        ERR_MISSING_REGISTRY_ENTRIES,

        ERR_NEWORDER_CUSTOMER_INVALID,

        ERR_NEWORDER_CUSTOMER_KEY,

        ERR_NEWORDER_DISTRICT_INVALID,

        ERR_NEWORDER_FORM_MISSING_DID,

        ERR_NEWORDER_ITEMID_INVALID,

        ERR_NEWORDER_ITEMID_RANGE,
```

```
        ERR_NEWORDER_ITEMID_WITHOUT_SUPP
W,

        ERR_NEWORDER_MISSING_IID_KEY,

        ERR_NEWORDER_MISSING_QTY_KEY,

        ERR_NEWORDER_MISSING_SUPPW_KEY,

        ERR_NEWORDER_NOITEMS_ENTERED,
                ERR_NEWORDER_QTY_INVALID,
                ERR_NEWORDER_QTY_RANGE,

        ERR_NEWORDER_QTY_WITHOUT_SUPPW,

        ERR_NEWORDER_SUPPW_INVALID,
                ERR_NO_SERVER_SPECIFIED,

        ERR_ORDERSTATUS_CID_AND_CLT,

        ERR_ORDERSTATUS_CID_INVALID,

        ERR_ORDERSTATUS_CLT_RANGE,

        ERR_ORDERSTATUS_DID_INVALID,

        ERR_ORDERSTATUS_MISSING_CID_CLT,

        ERR_ORDERSTATUS_MISSING_CID_KEY,

        ERR_ORDERSTATUS_MISSING_CLT_KEY,

        ERR_ORDERSTATUS_MISSING_DID_KEY,
                ERR_PAYMENT_CDI_INVALID,
                ERR_PAYMENT_CID_AND_CLT,

        ERR_PAYMENT_CUSTOMER_INVALID,
                ERR_PAYMENT_CWI_INVALID,

        ERR_PAYMENT_DISTRICT_INVALID,
                ERR_PAYMENT_HAM_INVALID,
                ERR_PAYMENT_HAM_RANGE,

        ERR_PAYMENT_LAST_NAME_TO_LONG,

        ERR_PAYMENT_MISSING_CDI_KEY,

        ERR_PAYMENT_MISSING_CID_CLT,

        ERR_PAYMENT_MISSING_CID_KEY,
                ERR_PAYMENT_MISSING_CLT,

        ERR_PAYMENT_MISSING_CLT_KEY,

        ERR_PAYMENT_MISSING_CWI_KEY,

        ERR_PAYMENT_MISSING_DID_KEY,

        ERR_PAYMENT_MISSING_HAM_KEY,

        ERR_STOCKLEVEL_MISSING_THRESHOLD
_KEY,

        ERR_STOCKLEVEL_THRESHOLD_INVALID,

        ERR_STOCKLEVEL_THRESHOLD_RANGE,
                ERR_VERSION_MISMATCH,
                ERR_W_ID_INVALID
        };

class CWEBCLNT_ERR : public CBaseErr
{
        public:

                CWEBCLNT_ERR(WEBERROR Err)
                {
                        m_Error = Err;
                        m_szTextDetail = NULL;
                        m_SystemErr = 0;
                        m_szErrorText = NULL;
                };

                CWEBCLNT_ERR(WEBERROR Err,
char *szTextDetail, DWORD dwSystemErr)
                {
                        m_Error = Err;
                        m_szTextDetail = new
char[strlen(szTextDetail)+1];
                        strcpy( m_szTextDetail,
szTextDetail );
                        m_SystemErr =
dwSystemErr;
                        m_szErrorText = NULL;
                };

                ~CWEBCLNT_ERR()
                {
                        if (m_szTextDetail !=
NULL)
                                delete []
m_szTextDetail;
                        if (m_szErrorText !=
NULL)
                                delete []
m_szErrorText;
                };

                WEBERROR        m_Error;
                char
        *m_szTextDetail;    //
```

```
                    char                *m_szErrorText;
                    DWORD               m_SystemErr;

                    int ErrorType() {return
ERR_TYPE_WEBDLL;};
                    char *ErrorTypeStr() { return
"WEBCLIENT"; }
                    int ErrorNum() {return m_Error;};
                    char *ErrorText();

};

//These constants have already been defined in engstut.h, but
since we do
//not want to include it in the delisrv executable
#define     TXN_EVENT_START                 2
#define     TXN_EVENT_STOP          4
#define TXN_EVENT_WARNING           6
            //used to record a warning into the log

//function prototypes

BOOL APIENTRY DllMain(HANDLE hModule, DWORD
ul_reason_for_call, LPVOID lpReserved);
void WriteMessageToEventLog(LPTSTR lpszMsg);
void
ProcessQueryString(EXTENSION_CONTROL_BLOCK
*pECB, int *pCmd, int *pFormId, int *pTermId, int
*pSyncId);
void WelcomeForm(EXTENSION_CONTROL_BLOCK
*pECB, char *szBuffer);
void SubmitCmd(EXTENSION_CONTROL_BLOCK
*pECB, char *szBuffer);
void BeginCmd(EXTENSION_CONTROL_BLOCK *pECB,
int iFormId, int iTermId);
void ProcessCmd(EXTENSION_CONTROL_BLOCK
*pECB, int iFormId, int iTermId);
void StatsCmd(EXTENSION_CONTROL_BLOCK *pECB,
char *szBuffer);
void ErrorMessage(EXTENSION_CONTROL_BLOCK
*pECB, int iError, int iErrorType, char *szMsg, int iTermId);
void GetKeyValue(char **pQueryString, char *pKey, char
*pValue, int iMax, WEBERROR err);
int  GetIntKeyValue(char **pQueryString, char *pKey,
WEBERROR NoKeyErr, WEBERROR NotIntErr);
void TermInit(void);
void TermDeleteAll(void);
int  TermAdd(void);
void TermDelete(int id);
void ErrorForm(EXTENSION_CONTROL_BLOCK *pECB,
int iType, int iErrorNum, int iTermId, int iSyncId, char
*szErrorText, char *szBuffer );
void MakeMainMenuForm(int iTermId, int iSyncId, char
*szForm);
void MakeStockLevelForm(int iTermId,
STOCK_LEVEL_DATA *pStockLevelData, BOOL bInput,
char *szForm);
void MakeNewOrderForm(int iTermId,
NEW_ORDER_DATA *pNewOrderData, BOOL bInput,
char *szForm);
void MakePaymentForm(int iTermId, PAYMENT_DATA
*pPaymentData, BOOL bInput, char *szForm);
void MakeOrderStatusForm(int iTermId,
ORDER_STATUS_DATA *pOrderStatusData, BOOL
bInput, char *szForm);
void MakeDeliveryForm(int iTermId, DELIVERY_DATA
*pDeliveryData, BOOL bInput, char *szForm);
void
ProcessNewOrderForm(EXTENSION_CONTROL_BLOCK
            *pECB, int iTermId, char *szBuffer);
void
ProcessPaymentForm(EXTENSION_CONTROL_BLOCK
*pECB, int iTermId, char *szBuffer);
void
ProcessOrderStatusForm(EXTENSION_CONTROL_BLOC
K *pECB, int iTermId, char *szBuffer);
void
ProcessDeliveryForm(EXTENSION_CONTROL_BLOCK
*pECB, int iTermId, char *szBuffer);
void
ProcessStockLevelForm(EXTENSION_CONTROL_BLOC
K *pECB, int iTermId, char *szBuffer);
void GetNewOrderData(LPSTR lpszQueryString,
NEW_ORDER_DATA *pNewOrderData);
void GetPaymentData(LPSTR lpszQueryString,
PAYMENT_DATA *pPaymentData);
void GetOrderStatusData(LPSTR lpszQueryString,
ORDER_STATUS_DATA *pOrderStatusData);
BOOL PostDeliveryInfo(long w_id, short o_carrier_id);
BOOL IsNumeric(char *ptr);
BOOL IsDecimal(char *ptr);
void DeliveryWorkerThread(void *ptr);
// Separate function to be able to use Win32 exception
handling in
// HttpExtensionProc.
void ProcessCommand(EXTENSION_CONTROL_BLOCK
*pECB, char* szBuffer, int& TermId, int& iSyncId);
```

## resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc.rc
//
#define IDD_DIALOG1                 101

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE        102
```

```
#define _APS_NEXT_COMMAND_VALUE        40001
#define _APS_NEXT_CONTROL_VALUE        1000
#define _APS_NEXT_SYMED_VALUE          101
#endif
#endif
```

## tpcc.rc

```
//Microsoft Developer Studio generated resource script.
//
#include "resource.h"

#define APSTUDIO_READONLY_SYMBOLS
////////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 2 resource.
//
#include "afxres.h"

////////////////////////////////////////////////////////////////////////////
#undef APSTUDIO_READONLY_SYMBOLS

////////////////////////////////////////////////////////////////////////////
// English (U.S.) resources

#if !defined(AFX_RESOURCE_DLL) ||
defined(AFX_TARG_ENU)
#ifdef _WIN32
LANGUAGE LANG_ENGLISH,
SUBLANG_ENGLISH_US
#pragma code_page(1252)
#endif //_WIN32

#ifndef _MAC
////////////////////////////////////////////////////////////////////////////
//
// Version
//

VS_VERSION_INFO VERSIONINFO
 FILEVERSION 0,4,0,0
 PRODUCTVERSION 0,4,0,0
 FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
 FILEFLAGS 0x1L
#else
 FILEFLAGS 0x0L
#endif
 FILEOS 0x40004L
 FILETYPE 0x2L
 FILESUBTYPE 0x0L
BEGIN
   BLOCK "StringFileInfo"
   BEGIN
      BLOCK "040904b0"
      BEGIN
         VALUE "Comments", "TPC-C HTML DLL
Server\0"
         VALUE "CompanyName", "Microsoft\0"
         VALUE "FileDescription", "TPC-C HTML DLL
Server\0"
         VALUE "FileVersion", "0, 4, 0, 0\0"
         VALUE "InternalName", "tpcc\0"
         VALUE "LegalCopyright", "Copyright © 1997\0"
         VALUE "OriginalFilename", "tpcc.dll\0"
         VALUE "ProductName", "Microsoft tpcc\0"
         VALUE "ProductVersion", "0, 4, 0, 0\0"
      END
   END
   BLOCK "VarFileInfo"
   BEGIN
      VALUE "Translation", 0x409, 1200
   END
END

#endif    // !_MAC


#ifdef APSTUDIO_INVOKED
////////////////////////////////////////////////////////////////////////////
//
// TEXTINCLUDE
//

1 TEXTINCLUDE DISCARDABLE
BEGIN
   "resource.h\0"
END

2 TEXTINCLUDE DISCARDABLE
BEGIN
   "#include ""afxres.h""\r\n"
   "\0"
END

3 TEXTINCLUDE DISCARDABLE
BEGIN
   "\r\n"
   "\0"
END

#endif    // APSTUDIO_INVOKED
```

```
//////////////////////////////////////////////////////////////////////////
//
// Dialog
//

IDD_DIALOG1 DIALOG DISCARDABLE  0, 0, 186, 95
STYLE DS_MODALFRAME | WS_POPUP |
WS_CAPTION | WS_SYSMENU
CAPTION "Dialog"
FONT 8, "MS Sans Serif"
BEGIN
   DEFPUSHBUTTON   "OK",IDOK,129,7,50,14
   PUSHBUTTON      "Cancel",IDCANCEL,129,24,50,14
END


//////////////////////////////////////////////////////////////////////////
//
// DESIGNINFO
//

#ifdef APSTUDIO_INVOKED
GUIDELINES DESIGNINFO DISCARDABLE
BEGIN
   IDD_DIALOG1, DIALOG
   BEGIN
      LEFTMARGIN, 7
      RIGHTMARGIN, 179
      TOPMARGIN, 7
      BOTTOMMARGIN, 88
   END
END
#endif    // APSTUDIO_INVOKED

#endif    // English (U.S.) resources
//////////////////////////////////////////////////////////////////////////



#ifndef APSTUDIO_INVOKED
//////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//


//////////////////////////////////////////////////////////////////////////
#endif    // not APSTUDIO_INVOKED
```

## tpcc_com.cpp

```
 /*          FILE:                   TPCC_COM.CPP
 *                                          Microsoft TPC-
C Kit Ver. 4.20.000
 *                                          Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                          not yet audited
 *
 *          PURPOSE:            Source file for TPC-C
COM+ class implementation.
 *          Contact:    Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *                      4.20.000 - first version
 */

// needed for CoinitializeEx
#define _WIN32_WINNT 0x0400

#include <windows.h>

// need to declare functions for export
#define DllDecl  __declspec( dllexport )

#include "..\..\common\src\trans.h"
          //tpckit transaction header contains definations of
structures specific to TPC-C
#include "..\..\common\src\error.h"
#include "..\..\common\src\txn_base.h"
#include "..\..\common\src\tpcc_com_errorcode.h"
#include "tpcc_com.h"

#include "..\..\tpcc_com_ps\src\tpcc_com_ps_i.c"
#include "..\..\tpcc_com_all\src\tpcc_com_all_i.c"

// wrapper routine for class constructor
__declspec(dllexport) CTPCC_COM*
CTPCC_COM_new(BOOL bSinglePool)
{
          return new CTPCC_COM(bSinglePool);
}

CTPCC_COM::CTPCC_COM(BOOL bSinglePool)
{
          HRESULT hr = NULL;
          long lRet = 0;
          ULONG ulTmpSize = 0;

          m_pTxn                    = NULL;
          m_pNewOrder               = NULL;
          m_pPayment                = NULL;
          m_pStockLevel     = NULL;
          m_pOrderStatus    = NULL;

          m_bSinglePool     = bSinglePool;

          ulTmpSize = (ULONG) sizeof(COM_DATA);
          VariantInit(&m_vTxn);
          m_vTxn.vt = VT_SAFEARRAY;

          m_vTxn.parray =
SafeArrayCreateVector(VT_UI1, ulTmpSize, ulTmpSize);
          if (!m_vTxn.parray)
                    throw new CCOMERR( E_FAIL );
```

```
		memset((void*)m_vTxn.parray->pvData,0,ulTmpSize);
		m_pTxn = (COM_DATA*)m_vTxn.parray->pvData;

		hr = CoInitializeEx(NULL, COINIT_MULTITHREADED);
		if (FAILED(hr))
		{
			throw new CCOMERR( hr );
		}

		// create components
		if (m_bSinglePool)
		{
			hr = CoCreateInstance(CLSID_TPCC, NULL, CLSCTX_SERVER, IID_ITPCC, (void **)&m_pNewOrder);
			if (FAILED(hr))
				throw new CCOMERR(hr);

			// all txns will use same component
			m_pPayment = m_pNewOrder;
			m_pStockLevel = m_pNewOrder;
			m_pOrderStatus = m_pNewOrder;
		}
		else
		{
			// use different components for each txn

			hr = CoCreateInstance(CLSID_NewOrder, NULL, CLSCTX_SERVER, IID_ITPCC, (void **)&m_pNewOrder);
			if (FAILED(hr))
				throw new CCOMERR(hr);

			hr = CoCreateInstance(CLSID_Payment, NULL, CLSCTX_SERVER, IID_ITPCC, (void **)&m_pPayment);
			if (FAILED(hr))
				throw new CCOMERR(hr);

			hr = CoCreateInstance(CLSID_StockLevel, NULL, CLSCTX_SERVER, IID_ITPCC, (void **)&m_pStockLevel);
			if (FAILED(hr))
				throw new CCOMERR(hr);

			hr = CoCreateInstance(CLSID_OrderStatus, NULL, CLSCTX_SERVER, IID_ITPCC, (void **)&m_pOrderStatus);
			if (FAILED(hr))
				throw new CCOMERR(hr);
		}

		// call setcomplete to release each component back into pool
		hr = m_pNewOrder->CallSetComplete();
		if (FAILED(hr))
			throw new CCOMERR(hr);

		if (!m_bSinglePool)
		{
			hr = m_pPayment->CallSetComplete();
			if (FAILED(hr))
				throw new CCOMERR(hr);

			hr = m_pStockLevel->CallSetComplete();
			if (FAILED(hr))
				throw new CCOMERR(hr);

			hr = m_pOrderStatus->CallSetComplete();
			if (FAILED(hr))
				throw new CCOMERR(hr);
		}
}

CTPCC_COM::~CTPCC_COM()
{
		if (m_pTxn)
			SafeArrayDestroy(m_vTxn.parray);

		ReleaseInterface(m_pNewOrder);
		if (!m_bSinglePool)
		{
			ReleaseInterface(m_pPayment);
			ReleaseInterface(m_pStockLevel);
			ReleaseInterface(m_pOrderStatus);
		}
		CoUninitialize();
}

void CTPCC_COM::NewOrder()
{
		VARIANT		vTxn_out;

		HRESULT hr = m_pNewOrder->NewOrder(m_vTxn, &vTxn_out);

		if (FAILED(hr) && hr != E_TPCCCOM)
			throw new CCOMERR( hr );	// COM call didn't succeed and there is no output structure

		memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray->rgsabound[0].cElements);
		hr = SafeArrayDestroy(vTxn_out.parray);
		if (hr != S_OK)
			throw new CCOMERR( hr );

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn->ErrorType, m_pTxn->error );
}

void CTPCC_COM::Payment()
{
		VARIANT		vTxn_out;

		HRESULT hr = m_pPayment->Payment(m_vTxn, &vTxn_out);

		if (FAILED(hr) && hr != E_TPCCCOM)
			throw new CCOMERR( hr );	// COM call didn't succeed and there is no output structure

		memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray->rgsabound[0].cElements);
		hr = SafeArrayDestroy(vTxn_out.parray);
		if (hr != S_OK)
			throw new CCOMERR( hr );

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn->ErrorType, m_pTxn->error );
}
```

```
void CTPCC_COM::StockLevel()
{
	VARIANT		vTxn_out;

	HRESULT hr = m_pStockLevel->StockLevel(m_vTxn, &vTxn_out);

	if (FAILED(hr) && hr != E_TPCCCOM)
		throw new CCOMERR( hr );	// COM call didn't succeed and there is no output structure

	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray->rgsabound[0].cElements);
	hr = SafeArrayDestroy(vTxn_out.parray);
	if (hr != S_OK)
		throw new CCOMERR( hr );

	if ( m_pTxn->ErrorType != ERR_SUCCESS )
		throw new CCOMERR( m_pTxn->ErrorType, m_pTxn->error );
}

void CTPCC_COM::OrderStatus()
{
	VARIANT		vTxn_out;

	HRESULT hr = m_pOrderStatus->OrderStatus(m_vTxn, &vTxn_out);

	if (FAILED(hr) && hr != E_TPCCCOM)
		throw new CCOMERR( hr );	// COM call didn't succeed and there is no output structure

	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray->rgsabound[0].cElements);
	hr = SafeArrayDestroy(vTxn_out.parray);
	if (hr != S_OK)
		throw new CCOMERR( hr );

	if ( m_pTxn->ErrorType != ERR_SUCCESS )
		throw new CCOMERR( m_pTxn->ErrorType, m_pTxn->error );
}
```

## tpcc_com.h

```
/*	FILE:		TPCC_COM.H
 *					Microsoft TPC-C Kit Ver. 4.20.000
 *					Copyright Microsoft, 1999
 *	All Rights Reserved
 *
 *					not yet audited
 *
 *	PURPOSE:	Header file for TPC-C COM+ class implementation.
 *
 *  Change history:
 *			4.20.000 - first version
 */

#pragma once

#include <stdio.h>
#include "..\..\tpcc_com_ps\src\tpcc_com_ps.h"

// need to declare functions for import, unless define has already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl  __declspec( dllimport )
#endif

class CCOMERR : public CBaseErr
{
	private:
		char m_szErrorText[64];

	public:
		// use this interface for genuine COM errors
		CCOMERR( HRESULT hr )
		{
			m_hr = hr;
			m_iErrorType = 0;
			m_iError = 0;
		}

		// use this interface to impersonate a non-COM error type
		CCOMERR( int iErrorType, int iError )
		{
			m_iErrorType = iErrorType;
			m_iError = iError;
			m_hr = S_OK;
		}

		int		m_hr;
		int		m_iErrorType;
		int		m_iError;

		// A CCOMERR class can impersonate another class, which happens if the error
		// was not actually a COM Services error, but was simply transmitted back via COM.
		int ErrorType()
		{
			if (m_iErrorType == 0)
				return ERR_TYPE_COM;
			else
				return m_iErrorType;
```

```
                }

                char *ErrorTypeStr() { return "COM"; }

                int ErrorNum()
                {
                        if (m_iErrorType == 0)
                                return m_hr;
                // return COM error
                        else
                                return m_iError;
        // return impersonated error
                }

                char *ErrorText()
                {
                        if (m_hr == S_OK)

        sprintf( m_szErrorText, "Error: Class %d, error #
%d", m_iErrorType, m_iError );
                        else

        sprintf( m_szErrorText, "Error: COM HRESULT
%x", m_hr );
                        return m_szErrorText;
                }
};

class DllDecl CTPCC_COM : public CTPCC_BASE
{
        private:
                BOOL m_bSinglePool;

                // COM Interface pointers
                ITPCC*
        m_pNewOrder;
                ITPCC*
        m_pPayment;
                ITPCC*
        m_pStockLevel;
                ITPCC*
        m_pOrderStatus;

                struct COM_DATA
                {
                        int ErrorType;
                        int error;
                        union
                        {

        NEW_ORDER_DATA
        NewOrder;

        PAYMENT_DATA            Payment;

        DELIVERY_DATA           Delivery;

        STOCK_LEVEL_DATA        StockLevel;

        ORDER_STATUS_DATA       OrderStatus;
                                } u;
                } *m_pTxn;

                VARIANT m_vTxn;
        public:
                CTPCC_COM(BOOL bSinglePool);
                ~CTPCC_COM(void);

                inline PNEW_ORDER_DATA
        BuffAddr_NewOrder()
        { return &m_pTxn->u.NewOrder;   };
                inline PPAYMENT_DATA
        BuffAddr_Payment()      { return
&m_pTxn->u.Payment;     };
                inline PDELIVERY_DATA
        BuffAddr_Delivery()     { return
&m_pTxn->u.Delivery;    };
                inline PSTOCK_LEVEL_DATA
        BuffAddr_StockLevel()   { return
&m_pTxn->u.StockLevel;  };
                inline PORDER_STATUS_DATA
        BuffAddr_OrderStatus()  { return
&m_pTxn->u.OrderStatus; };

                void NewOrder           ();
                void Payment            ();
                void StockLevel         ();
                void OrderStatus        ();
                void Delivery           ()
{ throw new CCOMERR(E_NOTIMPL); }  // not supported

};


inline void ReleaseInterface(IUnknown *pUnk)
{
        if (pUnk)
        {
                pUnk->Release();
                pUnk = NULL;
        }
}


// wrapper routine for class constructor
extern "C" __declspec(dllexport) CTPCC_COM*
CTPCC_COM_new(BOOL);
```

```
typedef CTPCC_COM* (TYPE_CTPCC_COM)(BOOL);
```

## tpcc_com_all.cpp

```
/*          FILE:                   TPCC_COM_ALL.CPP
 *                                          Microsoft TPC-C Kit Ver. 4.20.000
 *                                          Copyright Microsoft, 1999
 *          All Rights Reserved
 *
 *                                          Version 4.10.000 audited by Richard Gimarc, Performance Metrics, 3/17/99
 *
 *          PURPOSE:            Implementation for TPC-C class.
 *          Contact:    Charles Levine (clevine@microsoft.com)
 *
 *  Change history:
 *                      4.20.000 - updated rev number to match kit
 */

#define STRICT
#define _WIN32_WINNT 0x0400
#define _ATL_APARTMENT_THREADED

#include <stdio.h>
#include <atlbase.h>
//You may derive a class from CComModule and use it if you want to override
//something, but do not change the name of _Module
extern CComModule _Module;

#include <atlcom.h>
#include <initguid.h>
#include <transact.h>
//#include <atlimpl.cpp>
#include <comsvcs.h>

#include <sqltypes.h>
#include <sql.h>
#include <sqlext.h>

#include "tpcc_com_ps.h"
#include "..\..\common\src\trans.h"
                                    //tpckit transaction header contains definations of structures specific to TPC-C
#include "..\..\common\src\txn_base.h"
#include "..\..\common\src\error.h"
#include "..\..\common\src\ReadRegistry.h"
#include "..\..\common\src\tpcc_com_errorcode.h"
#include "..\..\db_odbc_dll\src\tpcc_odbc.h"            // ODBC implementation of TPC-C txns

#include "resource.h"
#include "tpcc_com_all.h"
#include "tpcc_com_all_i.c"
#include "Methods.h"
#include "..\..\tpcc_com_ps\src\tpcc_com_ps_i.c"
#include "..\..\common\src\ReadRegistry.cpp"

CComModule _Module;

BEGIN_OBJECT_MAP(ObjectMap)
        OBJECT_ENTRY(CLSID_TPCC, CTPCC)
        OBJECT_ENTRY(CLSID_NewOrder, CNewOrder)
        OBJECT_ENTRY(CLSID_OrderStatus, COrderStatus)
        OBJECT_ENTRY(CLSID_Payment, CPayment)
        OBJECT_ENTRY(CLSID_StockLevel, CStockLevel)
END_OBJECT_MAP()


// configuration settings from registry
TPCCREGISTRYDATA        Reg;
char
        szMyComputerName[MAX_COMPUTERNAME_LENGTH+1];

static  HINSTANCE hLibInstanceDb = NULL;

TYPE_CTPCC_ODBC
        *pCTPCC_ODBC_new;

// Critical section to synchronize connection open and close.
//
CRITICAL_SECTION hConnectCriticalSection;

////////////////////////////////////////////////////////////////////////////
// DLL Entry Point

extern "C"
BOOL WINAPI DllMain(HINSTANCE hInstance, DWORD dwReason, LPVOID /*lpReserved*/)
{
        char szDllName[128];


        try
        {
```

```
                if (dwReason ==
DLL_PROCESS_ATTACH)
                {
                        _Module.Init(ObjectMap,
hInstance);

        DisableThreadLibraryCalls(hInstance);

                        DWORD dwSize =
MAX_COMPUTERNAME_LENGTH+1;

        GetComputerName(szMyComputerName,
&dwSize);

        szMyComputerName[dwSize] = 0;

                        if
( ReadTPCCRegistrySettings( &Reg ) )
                                throw new
CCOMPONENT_ERR( ERR_MISSING_REGISTRY_ENT
RIES );

                        if (Reg.eDB_Protocol ==
ODBC)
                        {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_odbc.dll");
                                hLibInstanceDb
= LoadLibrary( szDllName );
                                if
(hLibInstanceDb == NULL)

        throw new
CCOMPONENT_ERR( ERR_LOADDLL_FAILED,
szDllName, GetLastError() );

                                // get function
pointer to wrapper for class constructor

        pCTPCC_ODBC_new =
(TYPE_CTPCC_ODBC*)
GetProcAddress(hLibInstanceDb,"CTPCC_ODBC_new");
                                if
(pCTPCC_ODBC_new == NULL)

        throw new
CCOMPONENT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                        }
                        else
                                throw new
CCOMPONENT_ERR( ERR_UNKNOWN_DB_PROTOCO
L );

                        if (Reg.dwConnectDelay >
0)
                        {
        InitializeCriticalSection(&hConnectCriticalSectio
n);
                                }

                }
                else if (dwReason ==
DLL_PROCESS_DETACH)
                        _Module.Term();

        }
        catch (CBaseErr *e)
        {
                TCHAR szMsg[256];

                _sntprintf(szMsg, sizeof(szMsg), "%s
error, code %d: %s",
                                e-
>ErrorTypeStr(), e->ErrorNum(), e->ErrorText());
                WriteMessageToEventLog( szMsg );

                delete e;
                return FALSE;
        }
        catch (...)
        {

        WriteMessageToEventLog(TEXT("Unhandled
exception in object DllMain"));
                return FALSE;
        }

        return TRUE;            // OK
}

//////////////////////////////////////////////////////////////////////
// Used to determine whether the DLL can be unloaded by
OLE

STDAPI DllCanUnloadNow(void)
{
        return (_Module.GetLockCount()==0) ? S_OK :
S_FALSE;
}

//////////////////////////////////////////////////////////////////////
// Returns a class factory to create an object of the requested
type

STDAPI DllGetClassObject(REFCLSID rclsid, REFIID riid,
LPVOID* ppv)
{
        return _Module.GetClassObject(rclsid, riid, ppv);
}
```

```
///////////////////////////////////////////////////////////////////////////
// DllRegisterServer - Adds entries to the system registry

STDAPI DllRegisterServer(void)
{
        // registers object, typelib and all interfaces in
typelib
        return _Module.RegisterServer(TRUE);
}

///////////////////////////////////////////////////////////////////////////
// DllUnregisterServer - Removes entries from the system
registry

STDAPI DllUnregisterServer(void)
{
        _Module.UnregisterServer();
        return S_OK;
}



static void WriteMessageToEventLog(LPTSTR lpszMsg)
{
   TCHAR   szMsg[256];
   HANDLE  hEventSource;
   LPTSTR  lpszStrings[2];

   // Use event logging to log the error.
   //
   hEventSource = RegisterEventSource(NULL,
TEXT("tpcc_com_all.dll"));

   _stprintf(szMsg, TEXT("Error in COM+ TPC-C
Component: "));
   lpszStrings[0] = szMsg;
   lpszStrings[1] = lpszMsg;

   if (hEventSource != NULL)
        {
     ReportEvent(hEventSource, // handle of event source
       EVENTLOG_ERROR_TYPE,  // event type
       0,              // event category
       0,              // event ID
       NULL,           // current user's SID
       2,              // strings in lpszStrings
       0,              // no bytes of raw data
       (LPCTSTR *)lpszStrings,    // array of error strings
       NULL);          // no raw data

     (VOID) DeregisterEventSource(hEventSource);
   }
}

inline void ReleaseInterface(IUnknown *pUnk)
{
        if (pUnk)
        {
                pUnk->Release();
                pUnk = NULL;
        }
}

/* FUNCTION: CCOMPONENT_ERR::ErrorText
 *
 */

char* CCOMPONENT_ERR::ErrorText(void)
{
        static SERRORMSG errorMsgs[] =
        {

        { ERR_MISSING_REGISTRY_ENTRIES,
        "Required entries missing from registry."
                        },
                { ERR_LOADDLL_FAILED,
                "Load of DLL failed.  DLL="

                },
                { ERR_GETPROCADDR_FAILED,
                "Could not map proc in DLL.
GetProcAddr error.  DLL="       },

        { ERR_UNKNOWN_DB_PROTOCOL,
        "Unknown database protocol specified in
registry."       },
                { 0,
                                ""


                        }
        };

        char szTmp[256];
        int i = 0;
        while (TRUE)
        {
                if (errorMsgs[i].szMsg[0] == 0)
                {
                        strcpy( szTmp, "Unknown
error number." );
                        break;
                }
                if (m_Error == errorMsgs[i].iError)
                {
                        strcpy( szTmp,
errorMsgs[i].szMsg );
```

```
                        break;
                }
                i++;
        }

        if (m_szTextDetail)
                strcat( szTmp, m_szTextDetail );
        if (m_SystemErr)
                wsprintf( szTmp+strlen(szTmp), "
Error=%d", m_SystemErr );

        m_szErrorText = new char[strlen(szTmp)+1];
        strcpy( m_szErrorText, szTmp );
        return m_szErrorText;
}


CTPCC_Common::CTPCC_Common()
{
        m_pTxn = NULL;
        m_bCanBePooled = TRUE;
}

CTPCC_Common::~CTPCC_Common()
{
        // Pace connection close for VIA.
        //
        if (Reg.dwConnectDelay > 0)
        {

        EnterCriticalSection(&hConnectCriticalSection);

                Sleep(Reg.dwConnectDelay);


        LeaveCriticalSection(&hConnectCriticalSection);
        }

        if (m_pTxn)
        {
                delete m_pTxn;
        }
}

HRESULT CTPCC_Common::CallSetComplete()
{
        IObjectContext* pObjectContext = NULL;

        // get our object context
        HRESULT hr =
CoGetObjectContext( IID_IObjectContext, (void
**)&pObjectContext );
        pObjectContext->SetComplete();
        ReleaseInterface(pObjectContext);
        return hr;
}

//
//      called by the ctor activator
//
STDMETHODIMP CTPCC_Common::Construct(IDispatch
* pUnk)
{
        // Code to access construction string, if needed
later...
        //      if (!pUnk)
        //              return E_UNEXPECTED;
        //      IObjectConstructString * pString =
NULL;
        //      HRESULT hr = pUnk-
>QueryInterface(IID_IObjectConstructString, (void
**)&pString);
        //      pString->Release();


        try
        {
                // Pace connection creation for VIA.
                //
                if (Reg.dwConnectDelay > 0)
                {

        EnterCriticalSection(&hConnectCriticalSection);


        Sleep(Reg.dwConnectDelay);


        LeaveCriticalSection(&hConnectCriticalSection);
                }

                if (Reg.eDB_Protocol == ODBC)
                        m_pTxn =
pCTPCC_ODBC_new(        Reg.szDbServer,
Reg.szDbUser, Reg.szDbPassword,


        szMyComputerName, Reg.szDbName,


        Reg.szSPPrefix,
Reg.bCallNoDuplicatesNewOrder );
        }
        catch (CBaseErr *e)
        {
                TCHAR szMsg[256];
```

```
                    _sntprintf(szMsg, sizeof(szMsg), "%s
error in CTPCC_Common::Construct, code %d: %s",
                                                e-
>ErrorTypeStr(), e->ErrorNum(), e->ErrorText());
                    WriteMessageToEventLog( szMsg );
                    delete e;
                    return E_FAIL;
          }
          catch (...)
          {

          WriteMessageToEventLog(TEXT("Unhandled
exception in object ::Construct"));
                    return E_FAIL;
          }


          return S_OK;
}


HRESULT CTPCC_Common::NewOrder(VARIANT txn_in,
VARIANT* txn_out)
{
          PNEW_ORDER_DATA          pNewOrder;
          COM_DATA                 *pData;
          COM_DATA                 *pOutData;


          try
          {
                    // Allocate output structure first
because it is also used in the catch clauses.
                    //
                    VariantInit(txn_out);
                    txn_out->vt = VT_SAFEARRAY;
                    txn_out->parray =
SafeArrayCreateVector( VT_UI1,

                    txn_in.parray->rgsabound->cElements,

                    txn_in.parray->rgsabound-
>cElements);
                    if (txn_out->parray == NULL)    //
sanity error checking - for very rare case, but to be sure
                    {
                              return
E_OUTOFMEMORY;
                    }


                    pOutData = (COM_DATA*)txn_out-
>parray->pvData;


                    pData =
(COM_DATA*)txn_in.parray->pvData;
                    pNewOrder = m_pTxn-
>BuffAddr_NewOrder();

                    memcpy(pNewOrder, &pData-
>u.NewOrder, sizeof(NEW_ORDER_DATA));


                    m_pTxn->NewOrder();
          // do the actual txn


                    memcpy( &pOutData->u.NewOrder,
pNewOrder, sizeof(NEW_ORDER_DATA));


                    pOutData->retval = ERR_SUCCESS;
                    pOutData->error = 0;
                    return S_OK;
          }
          catch (CBaseErr *e)
          {
                    // check for lost database connection; if
yes, component is toast
                    if ( ((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
                              m_bCanBePooled =
FALSE;


                    pOutData->retval = e->ErrorType();
                    pOutData->error = e->ErrorNum();
                    delete e;
                    return E_TPCCCOM;
          }
          catch (...)
          {

          WriteMessageToEventLog(TEXT("Unhandled
exception in CTPCC_Common::NewOrder."));
                    pOutData->retval =
ERR_TYPE_LOGIC;
                    pOutData->error = 0;
                    m_bCanBePooled = FALSE;
                    return E_TPCCCOM;
          }
}


HRESULT CTPCC_Common::Payment(VARIANT txn_in,
VARIANT* txn_out)
{
          PPAYMENT_DATA pPayment;
          COM_DATA                 *pData;
          COM_DATA                 *pOutData;


          try
          {
                    // Allocate output structure first
because it is also used in the catch clauses.
                    //
                    VariantInit(txn_out);
                    txn_out->vt = VT_SAFEARRAY;
```

```
                txn_out->parray =
SafeArrayCreateVector( VT_UI1,

                txn_in.parray->rgsabound->cElements,

                txn_in.parray->rgsabound-
>cElements);
                if (txn_out->parray == NULL)    //
sanity error checking - for very rare case, but to be sure
                {
                        return
E_OUTOFMEMORY;
                }

                pOutData = (COM_DATA*)txn_out-
>parray->pvData;

                pData =
(COM_DATA*)txn_in.parray->pvData;
                pPayment = m_pTxn-
>BuffAddr_Payment();

                memcpy(pPayment, &pData-
>u.Payment, sizeof(PAYMENT_DATA));

                m_pTxn->Payment();              // do
the actual txn

                memcpy( &pOutData->u.Payment,
pPayment, sizeof(PAYMENT_DATA));

                pOutData->retval = ERR_SUCCESS;
                pOutData->error = 0;
                return S_OK;
        }
        catch (CBaseErr *e)
        {
                // check for lost database connection; if
yes, component is toast
                if ( ((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
                        m_bCanBePooled =
FALSE;

                pOutData->retval = e->ErrorType();
                pOutData->error = e->ErrorNum();
                delete e;
                return E_TPCCCOM;
        }
        catch (...)
        {

        WriteMessageToEventLog(TEXT("Unhandled
exception in CTPCC_Common::Payment."));
                pOutData->retval =
ERR_TYPE_LOGIC;
                pOutData->error = 0;
                m_bCanBePooled = FALSE;
                return E_TPCCCOM;
        }
}

HRESULT CTPCC_Common::StockLevel(VARIANT
txn_in, VARIANT* txn_out)
{
        PSTOCK_LEVEL_DATA       pStockLevel;
        COM_DATA
        *pData;
        COM_DATA
        *pOutData;

        try
        {
                // Allocate output structure first
because it is also used in the catch clauses.
                //
                VariantInit(txn_out);
                txn_out->vt = VT_SAFEARRAY;
                txn_out->parray =
SafeArrayCreateVector( VT_UI1,

                txn_in.parray->rgsabound->cElements,

                txn_in.parray->rgsabound-
>cElements);
                if (txn_out->parray == NULL)    //
sanity error checking - for very rare case, but to be sure
                {
                        return
E_OUTOFMEMORY;
                }

                pOutData = (COM_DATA*)txn_out-
>parray->pvData;

                pData =
(COM_DATA*)txn_in.parray->pvData;
                pStockLevel = m_pTxn-
>BuffAddr_StockLevel();

                memcpy(pStockLevel, &pData-
>u.StockLevel, sizeof(STOCK_LEVEL_DATA));

                m_pTxn->StockLevel();

                memcpy( &pOutData->u.StockLevel,
pStockLevel, sizeof(STOCK_LEVEL_DATA));

                pOutData->retval = ERR_SUCCESS;
```

```
                pOutData->error = 0;
                return S_OK;
        }
        catch (CBaseErr *e)
        {
                // check for lost database connection; if yes, component is toast
                if ( ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
                        m_bCanBePooled = FALSE;

                pOutData->retval = e->ErrorType();
                pOutData->error = e->ErrorNum();
                delete e;
                return E_TPCCCOM;
        }
        catch (...)
        {

        WriteMessageToEventLog(TEXT("Unhandled exception in CTPCC_Common::StockLevel."));
                pOutData->retval = ERR_TYPE_LOGIC;
                pOutData->error = 0;
                m_bCanBePooled = FALSE;
                return E_TPCCCOM;
        }
}

HRESULT CTPCC_Common::OrderStatus(VARIANT txn_in, VARIANT* txn_out)
{
        PORDER_STATUS_DATA      pOrderStatus;
        COM_DATA *pData;
        COM_DATA *pOutData;
        try
        {
                // Allocate output structure first because it is also used in the catch clauses.
                //
                VariantInit(txn_out);
                txn_out->vt = VT_SAFEARRAY;
                txn_out->parray = SafeArrayCreateVector( VT_UI1,

                txn_in.parray->rgsabound->cElements,

                txn_in.parray->rgsabound->cElements);
                if (txn_out->parray == NULL)    // sanity error checking - for very rare case, but to be sure
                {
                        return E_OUTOFMEMORY;
                }

                pOutData = (COM_DATA*)txn_out->parray->pvData;

                pData = (COM_DATA*)txn_in.parray->pvData;
                pOrderStatus = m_pTxn->BuffAddr_OrderStatus();

                memcpy(pOrderStatus, &pData->u.OrderStatus, sizeof(ORDER_STATUS_DATA));

                m_pTxn->OrderStatus();

                memcpy( &pOutData->u.OrderStatus, pOrderStatus, sizeof(ORDER_STATUS_DATA));

                pOutData->retval = ERR_SUCCESS;
                pOutData->error = 0;
                return S_OK;
        }
        catch (CBaseErr *e)
        {
                // check for lost database connection; if yes, component is toast
                if ( ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
                        m_bCanBePooled = FALSE;

                pOutData->retval = e->ErrorType();
                pOutData->error = e->ErrorNum();
                delete e;
                return E_TPCCCOM;
        }
        catch (...)
        {

        WriteMessageToEventLog(TEXT("Unhandled exception in CTPCC_Common::OrderStatus."));
                pOutData->retval = ERR_TYPE_LOGIC;
                pOutData->error = 0;
                m_bCanBePooled = FALSE;
                return E_TPCCCOM;
        }
}
```

## tpcc_com_all.def

```
; tpcc_com_all.def : Declares the module parameters.
```

```
LIBRARY      "tpcc_com_all.dll"

EXPORTS
            DllCanUnloadNow     PRIVATE
            DllGetClassObject   PRIVATE
            DllRegisterServer   PRIVATE
            DllUnregisterServer    PRIVATE
```

## tpcc_com_all.h

```
/* this ALWAYS GENERATED file contains the definitions for the interfaces */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:15 2006
 */
/* Compiler settings for .\src\tpcc_com_all.idl:
    Oicf, W1, Zp8, env=Win32 (32b run)
    protocol : dce , ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany), __declspec(novtable)
        DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#pragma warning( disable: 4049 )  /* more than 64k source lines */


/* verify that the <rpcndr.h> version is high enough to compile this file*/
#ifndef __REQUIRED_RPCNDR_H_VERSION__
#define __REQUIRED_RPCNDR_H_VERSION__ 475
#endif

#include "rpc.h"
#include "rpcndr.h"

#ifndef __RPCNDR_H_VERSION__
#error this stub requires an updated version of <rpcndr.h>
#endif // __RPCNDR_H_VERSION__


#ifndef __tpcc_com_all_h__
#define __tpcc_com_all_h__

#if defined(_MSC_VER) && (_MSC_VER >= 1020)
#pragma once
#endif

/* Forward Declarations */

#ifndef __TPCC_FWD_DEFINED__
#define __TPCC_FWD_DEFINED__

#ifdef __cplusplus
typedef class TPCC TPCC;
#else
typedef struct TPCC TPCC;
#endif /* __cplusplus */

#endif      /* __TPCC_FWD_DEFINED__ */


#ifndef __NewOrder_FWD_DEFINED__
#define __NewOrder_FWD_DEFINED__

#ifdef __cplusplus
typedef class NewOrder NewOrder;
#else
typedef struct NewOrder NewOrder;
#endif /* __cplusplus */

#endif      /* __NewOrder_FWD_DEFINED__ */


#ifndef __OrderStatus_FWD_DEFINED__
#define __OrderStatus_FWD_DEFINED__

#ifdef __cplusplus
typedef class OrderStatus OrderStatus;
#else
typedef struct OrderStatus OrderStatus;
#endif /* __cplusplus */

#endif      /* __OrderStatus_FWD_DEFINED__ */


#ifndef __Payment_FWD_DEFINED__
#define __Payment_FWD_DEFINED__

#ifdef __cplusplus
typedef class Payment Payment;
#else
typedef struct Payment Payment;
#endif /* __cplusplus */

#endif      /* __Payment_FWD_DEFINED__ */
```

```
#ifndef __StockLevel_FWD_DEFINED__
#define __StockLevel_FWD_DEFINED__

#ifdef __cplusplus
typedef class StockLevel StockLevel;
#else
typedef struct StockLevel StockLevel;
#endif /* __cplusplus */

#endif      /* __StockLevel_FWD_DEFINED__ */


/* header files for imported files */
#include "oaidl.h"
#include "ocidl.h"
#include "tpcc_com_ps.h"

#ifdef __cplusplus
extern "C"{
#endif

void * __RPC_USER MIDL_user_allocate(size_t);
void __RPC_USER MIDL_user_free( void * );

/* interface __MIDL_itf_tpcc_com_all_0000 */
/* [local] */
extern RPC_IF_HANDLE
__MIDL_itf_tpcc_com_all_0000_v0_0_c_ifspec;
extern RPC_IF_HANDLE
__MIDL_itf_tpcc_com_all_0000_v0_0_s_ifspec;


#ifndef __TPCCLib_LIBRARY_DEFINED__
#define __TPCCLib_LIBRARY_DEFINED__

/* library TPCCLib */
/* [helpstring][version][uuid] */


EXTERN_C const IID LIBID_TPCCLib;

EXTERN_C const CLSID CLSID_TPCC;

#ifdef __cplusplus

class DECLSPEC_UUID("122A3128-2520-11D3-BA71-
00C04FBFE08B")
TPCC;
#endif

EXTERN_C const CLSID CLSID_NewOrder;

#ifdef __cplusplus

class DECLSPEC_UUID("975BAABF-84A7-11D2-BA47-
00C04FBFE08B")
NewOrder;
#endif

EXTERN_C const CLSID CLSID_OrderStatus;

#ifdef __cplusplus

class DECLSPEC_UUID("266836AD-A50D-11D2-BA4E-
00C04FBFE08B")
OrderStatus;
#endif

EXTERN_C const CLSID CLSID_Payment;

#ifdef __cplusplus

class DECLSPEC_UUID("CD02F7EF-A4FA-11D2-BA4E-
00C04FBFE08B")
Payment;
#endif

EXTERN_C const CLSID CLSID_StockLevel;

#ifdef __cplusplus

class DECLSPEC_UUID("2668369E-A50D-11D2-BA4E-
00C04FBFE08B")
StockLevel;
#endif
#endif /* __TPCCLib_LIBRARY_DEFINED__ */

/* Additional Prototypes for ALL interfaces */

/* end of Additional Prototypes */

#ifdef __cplusplus
}
#endif

#endif
```

## tpcc_com_all.idl

```
/*          FILE:                   TPCC.IDL
```

```
 *                                      Microsoft TPC-C Kit Ver. 4.20.000
 *                                      Copyright Microsoft, 1999
 *           All Rights Reserved
 *
 *                                      not yet audited
 *
 *           PURPOSE:           IDL source for TPCC.dll. This file is processed by the MIDL tool to
 *                                      produce the type library (TPCC.tlb) and marshalling code.
 *
 *  Change history:
 *                      4.20.000 - first version
 */

interface TPCC;
interface NewOrder;
interface OrderStatus;
interface Payment;
interface StockLevel;


import "oaidl.idl";
import "ocidl.idl";
import "..\tpcc_com_ps\src\tpcc_com_ps.idl";

[
        uuid(122A3117-2520-11D3-BA71-00C04FBFE08B),
        version(1.0),
        helpstring("TPC-C 1.0 Type Library")
]
library TPCCLib
{
        importlib("stdole32.tlb");
        importlib("stdole2.tlb");

        [
                uuid(122A3128-2520-11D3-BA71-00C04FBFE08B),
                helpstring("All Txns Class")
        ]
        coclass TPCC
        {
                [default] interface ITPCC;
        };


        [
                uuid(975BAABF-84A7-11D2-BA47-00C04FBFE08B),
                helpstring("NewOrder Class")
        ]
        coclass NewOrder
        {
                [default] interface ITPCC;
        };


        [
                uuid(266836AD-A50D-11D2-BA4E-00C04FBFE08B),
                helpstring("OrderStatus Class")
        ]
        coclass OrderStatus
        {
                [default] interface ITPCC;
        };


        [
                uuid(CD02F7EF-A4FA-11D2-BA4E-00C04FBFE08B),
                helpstring("Payment Class")
        ]
        coclass Payment
        {
                [default] interface ITPCC;
        };


        [
                uuid(2668369E-A50D-11D2-BA4E-00C04FBFE08B),
                helpstring("StockLevel Class")
        ]
        coclass StockLevel
        {
                [default] interface ITPCC;
        };

};
```

## tpcc_com_all.rc

```
//Microsoft Developer Studio generated resource script.
//
#include "resource.h"

#define APSTUDIO_READONLY_SYMBOLS
////////////////////////////////////////////////////////////////////////////
```

```
//
// Generated from the TEXTINCLUDE 2 resource.
//
#include "winres.h"

/////////////////////////////////////////////////////////////////////////////
#undef APSTUDIO_READONLY_SYMBOLS

/////////////////////////////////////////////////////////////////////////////
// English (U.S.) resources

#if !defined(AFX_RESOURCE_DLL) ||
defined(AFX_TARG_ENU)
#ifdef _WIN32
LANGUAGE LANG_ENGLISH,
SUBLANG_ENGLISH_US
#pragma code_page(1252)
#endif //_WIN32

#ifdef APSTUDIO_INVOKED
/////////////////////////////////////////////////////////////////////////////
//
// TEXTINCLUDE
//

1 TEXTINCLUDE DISCARDABLE
BEGIN
   "resource.h\0"
END

2 TEXTINCLUDE DISCARDABLE
BEGIN
   "#include ""winres.h""\r\n"
   "\0"
END

3 TEXTINCLUDE DISCARDABLE
BEGIN
   "1 TYPELIB ""tpcc_com_all.tlb""\r\n"
   "\0"
END

#endif    // APSTUDIO_INVOKED


#ifndef _MAC
/////////////////////////////////////////////////////////////////////////////
//
// Version
//

VS_VERSION_INFO VERSIONINFO
 FILEVERSION 1,0,0,1
 PRODUCTVERSION 1,0,0,1
 FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
 FILEFLAGS 0x1L
#else
 FILEFLAGS 0x0L
#endif
 FILEOS 0x4L
 FILETYPE 0x2L
 FILESUBTYPE 0x0L
BEGIN
   BLOCK "StringFileInfo"
   BEGIN
      BLOCK "040904B0"
      BEGIN
         VALUE "CompanyName", "\0"
         VALUE "FileDescription", "tpcc_com_all Module\0"
         VALUE "FileVersion", "1, 0, 0, 1\0"
         VALUE "InternalName", "TPCCNEWORDER\0"
         VALUE "LegalCopyright", "Copyright 1997\0"
         VALUE "OriginalFilename", "tpcc_com_all.DLL\0"
         VALUE "ProductName", "tpcc_com_all Module\0"
         VALUE "ProductVersion", "1, 0, 0, 1\0"
         VALUE "OLESelfRegister", "\0"
      END
   END
   BLOCK "VarFileInfo"
   BEGIN
      VALUE "Translation", 0x409, 1200
   END
END

#endif    // !_MAC


/////////////////////////////////////////////////////////////////////////////
//
// REGISTRY
//

IDR_TPCC              REGISTRY DISCARDABLE
"tpcc_com_all.rgs"
IDR_NEWORDER          REGISTRY DISCARDABLE
"tpcc_com_no.rgs"
IDR_ORDERSTATUS       REGISTRY DISCARDABLE
"tpcc_com_os.rgs"
IDR_PAYMENT           REGISTRY DISCARDABLE
"tpcc_com_pay.rgs"
IDR_STOCKLEVEL        REGISTRY DISCARDABLE
"tpcc_com_sl.rgs"
```

```
//////////////////////////////////////////////////////////////////////////
//
// String Table
//

STRINGTABLE DISCARDABLE
BEGIN
   IDS_PROJNAME            "tpcc_com_all"
END

#endif    // English (U.S.) resources
//////////////////////////////////////////////////////////////////////////



#ifndef APSTUDIO_INVOKED
//////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//
1 TYPELIB "tpcc_com_all.tlb"

//////////////////////////////////////////////////////////////////////////
#endif    // not APSTUDIO_INVOKED
```

## tpcc_com_all.rgs

```
HKCR
{
            TPCC.AllTxns.1 = s 'All Txns Class'
            {
                        CLSID = s '{122A3128-2520-11D3-
BA71-00C04FBFE08B}'
            }
            TPCC.AllTxns = s 'TPCC Class'
            {
                        CurVer = s 'TPCC.AllTxns.1'
            }
            NoRemove CLSID
            {
                        ForceRemove {122A3128-2520-
11D3-BA71-00C04FBFE08B} = s 'TPCC Class'
                        {
                                    ProgID = s
'TPCC.AllTxns.1'
                                    VersionIndependentProgID
= s 'TPCC.AllTxns'
                                    InprocServer32 = s
'%MODULE%'
                                    {
                                                val
ThreadingModel = s 'Both'
                                    }
                        }
            }
}
```

## tpcc_com_all_i.c

```
/* this ALWAYS GENERATED file contains the IIDs and
CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:15 2006
 */
/* Compiler settings for .\src\tpcc_com_all.idl:
    Oicf, W1, Zp8, env=Win32 (32b run)
    protocol : dce , ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if !defined(_M_IA64) && !defined(_M_AMD64)


#pragma warning( disable: 4049 )  /* more than 64k source
lines */


#ifdef __cplusplus
extern "C"{
#endif


#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

#ifndef INITGUID
#define INITGUID
#include <guiddef.h>
#undef INITGUID
#else
#include <guiddef.h>
#endif

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        DEFINE_GUID(name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8)

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
```

```
   unsigned long x;
   unsigned short s1;
   unsigned short s2;
   unsigned char  c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        const type name = {l,w1,w2,{b1,b2,b3,b4,b5,b6,b7,b8}}

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
LIBID_TPCCLib,0x122A3117,0x2520,0x11D3,0xBA,0x71,
0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_TPCC,0x122A3128,0x2520,0x11D3,0xBA,0x71,0x0
0,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_NewOrder,0x975BAABF,0x84A7,0x11D2,0xBA,0x
47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_OrderStatus,0x266836AD,0xA50D,0x11D2,0xBA,0
x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_Payment,0xCD02F7EF,0xA4FA,0x11D2,0xBA,0x4
E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_StockLevel,0x2668369E,0xA50D,0x11D2,0xBA,0x
4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif



#endif /* !defined(_M_IA64) && !defined(_M_AMD64)*/



/* this ALWAYS GENERATED file contains the IIDs and
CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:15 2006
 */
```

```
/* Compiler settings for .\src\tpcc_com_all.idl:
   Oicf, W1, Zp8, env=Win64 (32b run,appending)
   protocol : dce , ms_ext, c_ext, robust
   error checks: allocation ref bounds_check enum stub_data
   VC __declspec() decoration level:
        __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
        DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if defined(_M_IA64) || defined(_M_AMD64)


#pragma warning( disable: 4049 )  /* more than 64k source
lines */


#ifdef __cplusplus
extern "C"{
#endif


#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

#ifndef INITGUID
#define INITGUID
#include <guiddef.h>
#undef INITGUID
#else
#include <guiddef.h>
#endif

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        DEFINE_GUID(name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8)

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
   unsigned long x;
   unsigned short s1;
   unsigned short s2;
   unsigned char  c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        const type name = {l,w1,w2,{b1,b2,b3,b4,b5,b6,b7,b8}}

#endif !_MIDL_USE_GUIDDEF_
```

```
MIDL_DEFINE_GUID(IID,
LIBID_TPCCLib,0x122A3117,0x2520,0x11D3,0xBA,0x71,
0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_TPCC,0x122A3128,0x2520,0x11D3,0xBA,0x71,0x0
0,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_NewOrder,0x975BAABF,0x84A7,0x11D2,0xBA,0x
47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_OrderStatus,0x266836AD,0xA50D,0x11D2,0xBA,0
x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_Payment,0xCD02F7EF,0xA4FA,0x11D2,0xBA,0x4
E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);


MIDL_DEFINE_GUID(CLSID,
CLSID_StockLevel,0x2668369E,0xA50D,0x11D2,0xBA,0x
4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif



#endif /* defined(_M_IA64) || defined(_M_AMD64)*/
```

## tpcc_com_all_resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc_com_all.rc
//
#define IDS_PROJNAME                100
#define IDR_TPCC                    101
#define IDR_NEWORDER                102
#define IDR_ORDERSTATUS             103
#define IDR_PAYMENT                 104
#define IDR_STOCKLEVEL              105


// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE    202
#define _APS_NEXT_COMMAND_VALUE     32768
#define _APS_NEXT_CONTROL_VALUE     201
#define _APS_NEXT_SYMED_VALUE       106
#endif
```

```
#endif
```

## methods.h

```
/*          FILE:                   METHODS.H
 *                                  Microsoft TPC-
C Kit Ver. 4.20.000
 *                                  Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                  not yet audited
 *
 *          PURPOSE:                Header file for COM
components.
 *
 *  Change history:
 *                      4.20.000 - first version
 */



enum COMPONENT_ERROR
{
        ERR_MISSING_REGISTRY_ENTRIES = 1,
        ERR_LOADDLL_FAILED,
        ERR_GETPROCADDR_FAILED,
        ERR_UNKNOWN_DB_PROTOCOL,
        ERR_MEM_ALLOC_FAILED
};

class CCOMPONENT_ERR : public CBaseErr
{
        public:

        CCOMPONENT_ERR(COMPONENT_ERROR
Err)
                {
                        m_Error = Err;
                        m_szTextDetail = NULL;
                        m_SystemErr = 0;
                        m_szErrorText = NULL;
                };


        CCOMPONENT_ERR(COMPONENT_ERROR
Err, char *szTextDetail, DWORD dwSystemErr)
                {
                        m_Error = Err;
                        m_szTextDetail = new
char[strlen(szTextDetail)+1];
                        strcpy( m_szTextDetail,
szTextDetail );
```

```
                        m_SystemErr =
dwSystemErr;
                        m_szErrorText = NULL;
                };

                ~CCOMPONENT_ERR()
                {
                        if (m_szTextDetail !=
NULL)
                                delete []
m_szTextDetail;
                        if (m_szErrorText !=
NULL)
                                delete []
m_szErrorText;
                };

                COMPONENT_ERROR
        m_Error;
                char
        *m_szTextDetail;
                char
        *m_szErrorText;
                DWORD
        m_SystemErr;

                int ErrorType() {return
ERR_TYPE_COMPONENT;};
                char *ErrorTypeStr() { return
"COMPONENT"; }
                int ErrorNum() {return m_Error;};
                char *ErrorText();
};


static void WriteMessageToEventLog(LPTSTR lpszMsg);


///////////////////////////////////////////////////////////////////////////
// CTPCC_Common
class CTPCC_Common :
        public ITPCC,
        public IObjectControl,
        public IObjectConstruct,
        public
CComObjectRootEx<CComSingleThreadModel>
{
public:
BEGIN_COM_MAP(CTPCC_Common)
        COM_INTERFACE_ENTRY(ITPCC)
        COM_INTERFACE_ENTRY(IObjectControl)
        COM_INTERFACE_ENTRY(IObjectConstruct)
END_COM_MAP()

        CTPCC_Common();
        ~CTPCC_Common();


// ITPCC
public:
        HRESULT __stdcall NewOrder(
        VARIANT txn_in, VARIANT* txn_out);
        HRESULT __stdcall Payment(
        VARIANT txn_in, VARIANT* txn_out);
        HRESULT __stdcall Delivery(
        VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
        HRESULT __stdcall StockLevel(VARIANT
txn_in, VARIANT* txn_out);
        HRESULT __stdcall OrderStatus(
        VARIANT txn_in, VARIANT* txn_out);


        HRESULT __stdcall CallSetComplete();


// IObjectControl
        STDMETHODIMP_(BOOL) CanBePooled()
{ return m_bCanBePooled; }
        STDMETHODIMP Activate() { return S_OK; }
        // we don't support COM Services transactions (no
enlistment)
        STDMETHODIMP_(void) Deactivate() { /*
nothing to do */ }


// IObjectConstruct
        STDMETHODIMP Construct(IDispatch * pUnk);


        // helper methods
private:
        BOOL            m_bCanBePooled;
        CTPCC_BASE      *m_pTxn;


        struct COM_DATA
        {
                int retval;
                int error;
                union
                {
                        NEW_ORDER_DATA
                NewOrder;
                        PAYMENT_DATA
        Payment;
                        DELIVERY_DATA
        Delivery;
                        STOCK_LEVEL_DATA
        StockLevel;
                        ORDER_STATUS_DATA
        OrderStatus;
                } u;
        };
```

```
};

/////////////////////////////////////////////////////////////////////////////
// CTPCC
class CTPCC :
	public CTPCC_Common,
	public CComCoClass<CTPCC, &CLSID_TPCC>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_TPCC)

BEGIN_COM_MAP(CTPCC)
	//COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx<CComSingleThreadModel>)
	COM_INTERFACE_ENTRY2(IUnknown, ITPCC)
	COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
END_COM_MAP()

};


/////////////////////////////////////////////////////////////////////////////
// CNewOrder
class CNewOrder :
	public CTPCC_Common,
	public CComCoClass<CNewOrder, &CLSID_NewOrder>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_NEWORDER)

BEGIN_COM_MAP(CNewOrder)
//	COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
	COM_INTERFACE_ENTRY2(IUnknown, ITPCC)
	COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
END_COM_MAP()

// ITPCC
public:
//	HRESULT __stdcall NewOrder(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall Payment(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall StockLevel(VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall OrderStatus(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
};


	/////////////////////////////////////////////////////////////////////////////
/////
// COrderStatus
class COrderStatus :
	public CTPCC_Common,
	public CComCoClass<COrderStatus, &CLSID_OrderStatus>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_ORDERSTATUS)

BEGIN_COM_MAP(COrderStatus)
//	COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
	COM_INTERFACE_ENTRY2(IUnknown, ITPCC)
	COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
END_COM_MAP()

// ITPCC
public:
	HRESULT __stdcall NewOrder(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall Payment(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
	HRESULT __stdcall StockLevel(VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
//	HRESULT __stdcall OrderStatus(
	VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
};


/////////////////////////////////////////////////////////////////////////////
// CPayment
class CPayment :
	public CTPCC_Common,
	public CComCoClass<CPayment, &CLSID_Payment>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_PAYMENT)

BEGIN_COM_MAP(CPayment)
```

```
//		COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
		COM_INTERFACE_ENTRY2(IUnknown, ITPCC)
		COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
END_COM_MAP()

// ITPCC
public:
		HRESULT __stdcall NewOrder(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
//		HRESULT __stdcall Payment(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
		HRESULT __stdcall StockLevel(VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
		HRESULT __stdcall OrderStatus(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
};



////////////////////////////////////////////////////////////////////////////
// CStockLevel
class CStockLevel :
		public CTPCC_Common,
		public CComCoClass<CStockLevel, &CLSID_StockLevel>
{
public:
DECLARE_REGISTRY_RESOURCEID(IDR_STOCKLEVEL)

BEGIN_COM_MAP(CStockLevel)
//		COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
		COM_INTERFACE_ENTRY2(IUnknown, ITPCC)
		COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
END_COM_MAP()

// ITPCC
public:
		HRESULT __stdcall NewOrder(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
		HRESULT __stdcall Payment(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
//		HRESULT __stdcall StockLevel(VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
		HRESULT __stdcall OrderStatus(
		VARIANT txn_in, VARIANT* txn_out) {return E_NOTIMPL;}
};
```

## tpcc_com_no.rgs

```
HKCR
{
	TPCC.NewOrder.1 = s 'NewOrder Class'
	{
		CLSID = s '{975BAABF-84A7-11D2-BA47-00C04FBFE08B}'
	}
	TPCC.NewOrder = s 'NewOrder Class'
	{
		CurVer = s 'TPCC.NewOrder.1'
	}
	NoRemove CLSID
	{
		ForceRemove {975BAABF-84A7-11D2-BA47-00C04FBFE08B} = s 'NewOrder Class'
		{
			ProgID = s 'TPCC.NewOrder.1'
			VersionIndependentProgID = s 'TPCC.NewOrder'
			InprocServer32 = s '%MODULE%'
			{
				val ThreadingModel = s 'Both'
			}
		}
	}
}
```

## tpcc_com_os.rgs

```
HKCR
{
	TPCC.OrderStatus.1 = s 'OrderStatus Class'
	{
		CLSID = s '{266836AD-A50D-11D2-BA4E-00C04FBFE08B}'
	}
	TPCC.OrderStatus = s 'OrderStatus Class'
	{
		CurVer = s 'TPCC.OrderStatus.1'
	}
	NoRemove CLSID
	{
		ForceRemove {266836AD-A50D-11D2-BA4E-00C04FBFE08B} = s 'OrderStatus Class'
		{
```

```
                ProgID = s
'TPCC.OrderStatus.1'
                VersionIndependentProgID
= s 'TPCC.OrderStatus'
                InprocServer32 = s
'%MODULE%'
                {
                        val
ThreadingModel = s 'Both'
                }
        }
}
```

## tpcc_com_pay.rgs

```
HKCR
{
        TPCC.Payment.1 = s 'Payment Class'
        {
                CLSID = s '{CD02F7EF-A4FA-11D2-
BA4E-00C04FBFE08B}'
        }
        TPCC.Payment = s 'Payment Class'
        {
                CurVer = s 'TPCC.Payment.1'
        }
        NoRemove CLSID
        {
                ForceRemove {CD02F7EF-A4FA-
11D2-BA4E-00C04FBFE08B} = s 'Payment Class'
                {
                        ProgID = s
'TPCC.Payment.1'
                        VersionIndependentProgID
= s 'TPCC.Payment'
                        InprocServer32 = s
'%MODULE%'
                        {
                                val
ThreadingModel = s 'Both'
                        }
                }
        }
}
```

## tpcc_com_ps.def

```
LIBRARY      "tpcc_com_ps"

EXPORTS
        DllGetClassObject       PRIVATE
        DllCanUnloadNow         PRIVATE
        GetProxyDllInfo         PRIVATE
        DllRegisterServer               PRIVATE
        DllUnregisterServer             PRIVATE
```

## tpcc_com_ps.h

```
/* this ALWAYS GENERATED file contains the definitions
for the interfaces */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:12 2006
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf, W1, Zp8, env=Win32 (32b run)
    protocol : dce , ms_ext, c_ext
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#pragma warning( disable: 4049 )  /* more than 64k source
lines */


/* verify that the <rpcndr.h> version is high enough to
compile this file*/
#ifndef __REQUIRED_RPCNDR_H_VERSION__
#define __REQUIRED_RPCNDR_H_VERSION__ 440
#endif

#include "rpc.h"
#include "rpcndr.h"

#ifndef __RPCNDR_H_VERSION__
#error this stub requires an updated version of <rpcndr.h>
#endif // __RPCNDR_H_VERSION__

#ifndef COM_NO_WINDOWS_H
#include "windows.h"
#include "ole2.h"
#endif /*COM_NO_WINDOWS_H*/

#ifndef __tpcc_com_ps_h__
#define __tpcc_com_ps_h__

#if defined(_MSC_VER) && (_MSC_VER >= 1020)
#pragma once
#endif

/* Forward Declarations */

#ifndef __ITPCC_FWD_DEFINED__
#define __ITPCC_FWD_DEFINED__
typedef interface ITPCC ITPCC;
#endif       /* __ITPCC_FWD_DEFINED__ */


/* header files for imported files */
#include "oaidl.h"
#include "ocidl.h"

#ifdef __cplusplus
extern "C"{
#endif
```

```
void * __RPC_USER MIDL_user_allocate(size_t);
void __RPC_USER MIDL_user_free( void * );

/* interface __MIDL_itf_tpcc_com_ps_0000 */
/* [local] */



extern RPC_IF_HANDLE
__MIDL_itf_tpcc_com_ps_0000_v0_0_c_ifspec;
extern RPC_IF_HANDLE
__MIDL_itf_tpcc_com_ps_0000_v0_0_s_ifspec;

#ifndef __ITPCC_INTERFACE_DEFINED__
#define __ITPCC_INTERFACE_DEFINED__

/* interface ITPCC */
/* [unique][helpstring][uuid][oleautomation][object] */


EXTERN_C const IID IID_ITPCC;

#if defined(__cplusplus) && !defined(CINTERFACE)

   MIDL_INTERFACE("FEEE6AA2-84B1-11d2-BA47-
00C04FBFE08B")
   ITPCC : public IUnknown
   {
   public:
      virtual HRESULT __stdcall NewOrder(
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out) = 0;

      virtual HRESULT __stdcall Payment(
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out) = 0;

      virtual HRESULT __stdcall Delivery(
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out) = 0;

      virtual HRESULT __stdcall StockLevel(
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out) = 0;

      virtual HRESULT __stdcall OrderStatus(
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out) = 0;

      virtual HRESULT __stdcall CallSetComplete( void) = 0;

   };

#else      /* C style interface */

   typedef struct ITPCCVtbl
   {
      BEGIN_INTERFACE

      HRESULT ( STDMETHODCALLTYPE
*QueryInterface )(
         ITPCC * This,
         /* [in] */ REFIID riid,
         /* [iid_is][out] */ void **ppvObject);

      ULONG ( STDMETHODCALLTYPE *AddRef )(
         ITPCC * This);

      ULONG ( STDMETHODCALLTYPE *Release )(
         ITPCC * This);

      HRESULT ( __stdcall *NewOrder )(
         ITPCC * This,
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out);

      HRESULT ( __stdcall *Payment )(
         ITPCC * This,
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out);

      HRESULT ( __stdcall *Delivery )(
         ITPCC * This,
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out);

      HRESULT ( __stdcall *StockLevel )(
         ITPCC * This,
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out);

      HRESULT ( __stdcall *OrderStatus )(
         ITPCC * This,
         /* [in] */ VARIANT txn_in,
         /* [out] */ VARIANT *txn_out);

      HRESULT ( __stdcall *CallSetComplete )(
         ITPCC * This);

      END_INTERFACE
   } ITPCCVtbl;

   interface ITPCC
   {
      CONST_VTBL struct ITPCCVtbl *lpVtbl;
   };



#ifdef COBJMACROS


#define ITPCC_QueryInterface(This,riid,ppvObject)     \
   (This)->lpVtbl -> QueryInterface(This,riid,ppvObject)

#define ITPCC_AddRef(This)     \
   (This)->lpVtbl -> AddRef(This)

#define ITPCC_Release(This)     \
   (This)->lpVtbl -> Release(This)


#define ITPCC_NewOrder(This,txn_in,txn_out)          \
   (This)->lpVtbl -> NewOrder(This,txn_in,txn_out)

#define ITPCC_Payment(This,txn_in,txn_out)           \
   (This)->lpVtbl -> Payment(This,txn_in,txn_out)

#define ITPCC_Delivery(This,txn_in,txn_out)          \
   (This)->lpVtbl -> Delivery(This,txn_in,txn_out)

#define ITPCC_StockLevel(This,txn_in,txn_out)        \
   (This)->lpVtbl -> StockLevel(This,txn_in,txn_out)

#define ITPCC_OrderStatus(This,txn_in,txn_out)       \
   (This)->lpVtbl -> OrderStatus(This,txn_in,txn_out)

#define ITPCC_CallSetComplete(This)       \
```

```
    (This)->lpVtbl -> CallSetComplete(This)

#endif /* COBJMACROS */


#endif      /* C style interface */



HRESULT __stdcall ITPCC_NewOrder_Proxy(
    ITPCC * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT *txn_out);


void __RPC_STUB ITPCC_NewOrder_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);


HRESULT __stdcall ITPCC_Payment_Proxy(
    ITPCC * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT *txn_out);


void __RPC_STUB ITPCC_Payment_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);


HRESULT __stdcall ITPCC_Delivery_Proxy(
    ITPCC * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT *txn_out);


void __RPC_STUB ITPCC_Delivery_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);


HRESULT __stdcall ITPCC_StockLevel_Proxy(
    ITPCC * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT *txn_out);


void __RPC_STUB ITPCC_StockLevel_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);


HRESULT __stdcall ITPCC_OrderStatus_Proxy(
    ITPCC * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT *txn_out);


void __RPC_STUB ITPCC_OrderStatus_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);


HRESULT __stdcall ITPCC_CallSetComplete_Proxy(
    ITPCC * This);


void __RPC_STUB ITPCC_CallSetComplete_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);



#endif      /* __ITPCC_INTERFACE_DEFINED__ */


/* Additional Prototypes for ALL interfaces */

unsigned long           __RPC_USER
VARIANT_UserSize(     unsigned long *, unsigned
long           , VARIANT * );
unsigned char * __RPC_USER
VARIANT_UserMarshal(  unsigned long *, unsigned char *,
VARIANT * );
unsigned char * __RPC_USER
VARIANT_UserUnmarshal(unsigned long *, unsigned char
*, VARIANT * );
void                    __RPC_USER
VARIANT_UserFree(     unsigned long *, VARIANT * );

/* end of Additional Prototypes */

#ifdef __cplusplus
}
#endif

#endif
```

## tpcc_com_ps.idl

```
/*          FILE:                   ITPCC.IDL
 *                                              Microsoft TPC-
C Kit Ver. 4.20.000
 *                                              Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                              not yet audited
 *
 *          PURPOSE:            Defines the interface used
by TPCC. This interface can be implemented by C++
components.
 *
 *  Change history:
 *                      4.20.000 - first version
 */


// Forward declare all types defined
interface ITPCC;
```

```
import "oaidl.idl";
import "ocidl.idl";

        [
                object,
                oleautomation,
                uuid(FEEE6AA2-84B1-11d2-BA47-
00C04FBFE08B),
                helpstring("ITPCC Interface"),
                pointer_default(unique)
        ]
        interface ITPCC : IUnknown
        {

    HRESULT _stdcall NewOrder

        (

        [in] VARIANT  txn_in,

        [out] VARIANT *txn_out

        );

    HRESULT _stdcall Payment

        (

        [in] VARIANT txn_in,

        [out] VARIANT *txn_out

        );

    HRESULT _stdcall Delivery

        (

        [in] VARIANT txn_in,

        [out] VARIANT *txn_out

        );

    HRESULT _stdcall StockLevel

        (

        [in] VARIANT txn_in,

        [out] VARIANT *txn_out

        );

    HRESULT _stdcall OrderStatus

        (

        [in] VARIANT txn_in,

        [out] VARIANT *txn_out

        );

    HRESULT _stdcall CallSetComplete

        (

        );

  };        // interface ITPCC
```

## tpcc_com_ps_i.c

```
/* this ALWAYS GENERATED file contains the IIDs and
CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:12 2006
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf, W1, Zp8, env=Win32 (32b run)
    protocol : dce , ms_ext, c_ext
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
        __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
        DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if !defined(_M_IA64) && !defined(_M_AMD64)


#pragma warning( disable: 4049 )  /* more than 64k source
lines */


#ifdef __cplusplus
extern "C"{
#endif


#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

#ifndef INITGUID
#define INITGUID
#include <guiddef.h>
#undef INITGUID
#else
#include <guiddef.h>
#endif
```

```
#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        DEFINE_GUID(name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8)

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char  c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        const type name = {l,w1,w2,{b1,b2,b3,b4,b5,b6,b7,b8}}

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
IID_ITPCC,0xFEEE6AA2,0x84B1,0x11d2,0xBA,0x47,0x00
,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif



#endif /* !defined(_M_IA64) && !defined(_M_AMD64)*/



/* this ALWAYS GENERATED file contains the IIDs and
CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:12 2006
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf, W1, Zp8, env=Win64 (32b run,appending)
    protocol : dce , ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if defined(_M_IA64) || defined(_M_AMD64)

#pragma warning( disable: 4049 )  /* more than 64k source
lines */


#ifdef __cplusplus
extern "C"{
#endif


#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

#ifndef INITGUID
#define INITGUID
#include <guiddef.h>
#undef INITGUID
#else
#include <guiddef.h>
#endif

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        DEFINE_GUID(name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8)

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char  c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

#define
MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b
6,b7,b8) \
        const type name = {l,w1,w2,{b1,b2,b3,b4,b5,b6,b7,b8}}

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
IID_ITPCC,0xFEEE6AA2,0x84B1,0x11d2,0xBA,0x47,0x00
,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif



#endif /* defined(_M_IA64) || defined(_M_AMD64)*/
```

## tpcc_com_ps_p.c

```
/* this ALWAYS GENERATED file contains the proxy stub
code */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:12 2006
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf, W1, Zp8, env=Win32 (32b run)
    protocol : dce , ms_ext, c_ext
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if !defined(_M_IA64) && !defined(_M_AMD64)


#pragma warning( disable: 4049 )  /* more than 64k source
lines */
#if _MSC_VER >= 1200
#pragma warning(push)
#endif
#pragma warning( disable: 4100 ) /* unreferenced arguments
in x86 call */
#pragma warning( disable: 4211 )  /* redefine extent to static
*/
#pragma warning( disable: 4232 )  /* dllimport identity*/
#define USE_STUBLESS_PROXY


/* verify that the <rpcproxy.h> version is high enough to
compile this file*/
#ifndef __REDQ_RPCPROXY_H_VERSION__
#define __REQUIRED_RPCPROXY_H_VERSION__ 440
#endif


#include "rpcproxy.h"
#ifndef __RPCPROXY_H_VERSION__
#error this stub requires an updated version of <rpcproxy.h>
#endif // __RPCPROXY_H_VERSION__


#include "tpcc_com_ps.h"

#define TYPE_FORMAT_STRING_SIZE   1023
#define PROC_FORMAT_STRING_SIZE   193
#define TRANSMIT_AS_TABLE_SIZE    0
#define WIRE_MARSHAL_TABLE_SIZE   1

typedef struct _MIDL_TYPE_FORMAT_STRING
    {
    short          Pad;
    unsigned char
Format[ TYPE_FORMAT_STRING_SIZE ];
    } MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
    {
    short          Pad;
    unsigned char
Format[ PROC_FORMAT_STRING_SIZE ];
    } MIDL_PROC_FORMAT_STRING;


static RPC_SYNTAX_IDENTIFIER  _RpcTransferSyntax =
{{0x8A885D04,0x1CEB,0x11C9,{0x9F,0xE8,0x08,0x00,0x
2B,0x10,0x48,0x60}},{2,0}};


extern const MIDL_TYPE_FORMAT_STRING
__MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING
__MIDL_ProcFormatString;


extern const MIDL_STUB_DESC Object_StubDesc;


extern const MIDL_SERVER_INFO ITPCC_ServerInfo;
extern const MIDL_STUBLESS_PROXY_INFO
ITPCC_ProxyInfo;


extern const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ];

#if !defined(__RPC_WIN32__)
#error  Invalid build platform for this stub.
#endif

#if !(TARGET_IS_NT40_OR_LATER)
#error You need a Windows NT 4.0 or later to run this stub
because it uses these features:
#error   -Oif or -Oicf, [wire_marshal] or [user_marshal]
attribute.
#error However, your C/C++ compilation flags indicate you
intend to run this app on earlier systems.
#error This app will die there with the
RPC_X_WRONG_STUB_VERSION error.
#endif


static const MIDL_PROC_FORMAT_STRING
__MIDL_ProcFormatString =
    {
        0,
        {

                /* Procedure NewOrder */

                                        0x33,               /*
FC_AUTO_HANDLE */
                                        0x6c,               /*
Old Flags:  object, Oi2 */
/*  2 */    NdrFcLong( 0x0 ),   /* 0 */
/*  6 */    NdrFcShort( 0x3 ),  /* 3 */
/*  8 */    NdrFcShort( 0x1c ), /* x86 Stack size/offset =
28 */
/* 10 */    NdrFcShort( 0x0 ),  /* 0 */
/* 12 */    NdrFcShort( 0x8 ),  /* 8 */
/* 14 */    0x7,                /* Oi2 Flags:  srv must size,
clt must size, has return, */
                                        0x3,                /* 3
*/

                /* Parameter txn_in */

/* 16 */    NdrFcShort( 0x8b ), /* Flags:  must size, must
free, in, by val, */
/* 18 */    NdrFcShort( 0x4 ),  /* x86 Stack size/offset = 4
*/
```

```
/* 20 */    NdrFcShort( 0x3e2 ),  /* Type Offset=994 */

            /* Parameter txn_out */

/* 22 */    NdrFcShort( 0x4113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=16 */
/* 24 */    NdrFcShort( 0x14 ),   /* x86 Stack size/offset =
20 */
/* 26 */    NdrFcShort( 0x3f4 ),  /* Type Offset=1012 */

            /* Return value */

/* 28 */    NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 30 */    NdrFcShort( 0x18 ),   /* x86 Stack size/offset =
24 */
/* 32 */    0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure Payment */

/* 34 */    0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 36 */    NdrFcLong( 0x0 ),     /* 0 */
/* 40 */    NdrFcShort( 0x4 ),    /* 4 */
/* 42 */    NdrFcShort( 0x1c ),   /* x86 Stack size/offset =
28 */
/* 44 */    NdrFcShort( 0x0 ),    /* 0 */
/* 46 */    NdrFcShort( 0x8 ),    /* 8 */
/* 48 */    0x7,                  /* Oi2 Flags:  srv must size,
clt must size, has return, */
                                  0x3,                  /* 3
*/

            /* Parameter txn_in */

/* 50 */    NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 52 */    NdrFcShort( 0x4 ),    /* x86 Stack size/offset = 4
*/
/* 54 */    NdrFcShort( 0x3e2 ),  /* Type Offset=994 */

            /* Parameter txn_out */

/* 56 */    NdrFcShort( 0x4113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=16 */
/* 58 */    NdrFcShort( 0x14 ),   /* x86 Stack size/offset =
20 */
/* 60 */    NdrFcShort( 0x3f4 ),  /* Type Offset=1012 */

            /* Return value */

/* 62 */    NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 64 */    NdrFcShort( 0x18 ),   /* x86 Stack size/offset =
24 */
/* 66 */    0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure Delivery */

/* 68 */    0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 70 */    NdrFcLong( 0x0 ),     /* 0 */
/* 74 */    NdrFcShort( 0x5 ),    /* 5 */
/* 76 */    NdrFcShort( 0x1c ),   /* x86 Stack size/offset =
28 */
/* 78 */    NdrFcShort( 0x0 ),    /* 0 */
/* 80 */    NdrFcShort( 0x8 ),    /* 8 */
/* 82 */    0x7,                  /* Oi2 Flags:  srv must size,
clt must size, has return, */
                                  0x3,                  /* 3
*/

            /* Parameter txn_in */

/* 84 */    NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 86 */    NdrFcShort( 0x4 ),    /* x86 Stack size/offset = 4
*/
/* 88 */    NdrFcShort( 0x3e2 ),  /* Type Offset=994 */

            /* Parameter txn_out */

/* 90 */    NdrFcShort( 0x4113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=16 */
/* 92 */    NdrFcShort( 0x14 ),   /* x86 Stack size/offset =
20 */
/* 94 */    NdrFcShort( 0x3f4 ),  /* Type Offset=1012 */

            /* Return value */

/* 96 */    NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 98 */    NdrFcShort( 0x18 ),   /* x86 Stack size/offset =
24 */
/* 100 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure StockLevel */

/* 102 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 104 */   NdrFcLong( 0x0 ),     /* 0 */
/* 108 */   NdrFcShort( 0x6 ),    /* 6 */
/* 110 */   NdrFcShort( 0x1c ),   /* x86 Stack size/offset =
28 */
/* 112 */   NdrFcShort( 0x0 ),    /* 0 */
/* 114 */   NdrFcShort( 0x8 ),    /* 8 */
/* 116 */   0x7,                  /* Oi2 Flags:  srv must size,
clt must size, has return, */
                                  0x3,                  /* 3
*/

            /* Parameter txn_in */

/* 118 */   NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 120 */   NdrFcShort( 0x4 ),    /* x86 Stack size/offset = 4
*/
/* 122 */   NdrFcShort( 0x3e2 ),  /* Type Offset=994 */

            /* Parameter txn_out */

/* 124 */   NdrFcShort( 0x4113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=16 */
/* 126 */   NdrFcShort( 0x14 ),   /* x86 Stack size/offset =
20 */
/* 128 */   NdrFcShort( 0x3f4 ),  /* Type Offset=1012 */

            /* Return value */
```

```
/* 130 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 132 */   NdrFcShort( 0x18 ),   /* x86 Stack size/offset =
24 */
/* 134 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure OrderStatus */

/* 136 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 138 */   NdrFcLong( 0x0 ),     /* 0 */
/* 142 */   NdrFcShort( 0x7 ),    /* 7 */
/* 144 */   NdrFcShort( 0x1c ),   /* x86 Stack size/offset =
28 */
/* 146 */   NdrFcShort( 0x0 ),    /* 0 */
/* 148 */   NdrFcShort( 0x8 ),    /* 8 */
/* 150 */   0x7,                  /* Oi2 Flags:  srv must size,
clt must size, has return, */
                                  0x3,                  /* 3
*/

            /* Parameter txn_in */

/* 152 */   NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 154 */   NdrFcShort( 0x4 ),    /* x86 Stack size/offset = 4
*/
/* 156 */   NdrFcShort( 0x3e2 ),  /* Type Offset=994 */

            /* Parameter txn_out */

/* 158 */   NdrFcShort( 0x4113 ),             /* Flags:  must
size, must free, out, simple ref, srv alloc size=16 */
/* 160 */   NdrFcShort( 0x14 ),   /* x86 Stack size/offset =
20 */
/* 162 */   NdrFcShort( 0x3f4 ),  /* Type Offset=1012 */

            /* Return value */

/* 164 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 166 */   NdrFcShort( 0x18 ),   /* x86 Stack size/offset =
24 */
/* 168 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure CallSetComplete */

/* 170 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 172 */   NdrFcLong( 0x0 ),     /* 0 */
/* 176 */   NdrFcShort( 0x8 ),    /* 8 */
/* 178 */   NdrFcShort( 0x8 ),    /* x86 Stack size/offset = 8
*/
/* 180 */   NdrFcShort( 0x0 ),    /* 0 */
/* 182 */   NdrFcShort( 0x8 ),    /* 8 */
/* 184 */   0x4,                  /* Oi2 Flags:  has return, */
                                  0x1,                  /* 1
*/

            /* Return value */

/* 186 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 188 */   NdrFcShort( 0x4 ),    /* x86 Stack size/offset = 4
*/
/* 190 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

                                  0x0
    }
  };

static const MIDL_TYPE_FORMAT_STRING
__MIDL_TypeFormatString =
  {
    0,
    {
                                  NdrFcShort( 0x0 ),    /* 0
*/
/*  2 */
                                  0x12, 0x0, /* FC_UP */
/*  4 */    NdrFcShort( 0x3ca ), /* Offset= 970 (974) */
/*  6 */
                                  0x2b,                 /*
FC_NON_ENCAPSULATED_UNION */
                                  0x9,                  /*
FC_ULONG */
/*  8 */    0x7,                  /* Corr desc: FC_USHORT
*/
                                  0x0,                  /*  */
/* 10 */    NdrFcShort( 0xfff8 ), /* -8 */
/* 12 */    NdrFcShort( 0x2 ),    /* Offset= 2 (14) */
/* 14 */    NdrFcShort( 0x10 ),   /* 16 */
/* 16 */    NdrFcShort( 0x2f ),   /* 47 */
/* 18 */    NdrFcLong( 0x14 ),    /* 20 */
/* 22 */    NdrFcShort( 0x800b ),             /* Simple arm
type: FC_HYPER */
/* 24 */    NdrFcLong( 0x3 ),     /* 3 */
/* 28 */    NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 30 */    NdrFcLong( 0x11 ),    /* 17 */
/* 34 */    NdrFcShort( 0x8001 ),             /* Simple arm
type: FC_BYTE */
/* 36 */    NdrFcLong( 0x2 ),     /* 2 */
/* 40 */    NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 42 */    NdrFcLong( 0x4 ),     /* 4 */
/* 46 */    NdrFcShort( 0x800a ),             /* Simple arm
type: FC_FLOAT */
/* 48 */    NdrFcLong( 0x5 ),     /* 5 */
/* 52 */    NdrFcShort( 0x800c ),             /* Simple arm
type: FC_DOUBLE */
/* 54 */    NdrFcLong( 0xb ),     /* 11 */
/* 58 */    NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 60 */    NdrFcLong( 0xa ),     /* 10 */
/* 64 */    NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 66 */    NdrFcLong( 0x6 ),     /* 6 */
/* 70 */    NdrFcShort( 0xe8 ),   /* Offset= 232 (302) */
/* 72 */    NdrFcLong( 0x7 ),     /* 7 */
/* 76 */    NdrFcShort( 0x800c ),             /* Simple arm
type: FC_DOUBLE */
/* 78 */    NdrFcLong( 0x8 ),     /* 8 */
/* 82 */    NdrFcShort( 0xe2 ),   /* Offset= 226 (308) */
/* 84 */    NdrFcLong( 0xd ),     /* 13 */
/* 88 */    NdrFcShort( 0xf4 ),   /* Offset= 244 (332) */
/* 90 */    NdrFcLong( 0x9 ),     /* 9 */
/* 94 */    NdrFcShort( 0x100 ),  /* Offset= 256 (350) */
/* 96 */    NdrFcLong( 0x2000 ),              /* 8192 */
/* 100 */   NdrFcShort( 0x10c ),  /* Offset= 268 (368) */
/* 102 */   NdrFcLong( 0x24 ),    /* 36 */
```

```
/* 106 */   NdrFcShort( 0x31a ),  /* Offset= 794 (900) */
/* 108 */   NdrFcLong( 0x4024 ),              /* 16420 */
/* 112 */   NdrFcShort( 0x314 ),  /* Offset= 788 (900) */
/* 114 */   NdrFcLong( 0x4011 ),              /* 16401 */
/* 118 */   NdrFcShort( 0x312 ),  /* Offset= 786 (904) */
/* 120 */   NdrFcLong( 0x4002 ),              /* 16386 */
/* 124 */   NdrFcShort( 0x310 ),  /* Offset= 784 (908) */
/* 126 */   NdrFcLong( 0x4003 ),              /* 16387 */
/* 130 */   NdrFcShort( 0x30e ),  /* Offset= 782 (912) */
/* 132 */   NdrFcLong( 0x4014 ),              /* 16404 */
/* 136 */   NdrFcShort( 0x30c ),  /* Offset= 780 (916) */
/* 138 */   NdrFcLong( 0x4004 ),              /* 16388 */
/* 142 */   NdrFcShort( 0x30a ),  /* Offset= 778 (920) */
/* 144 */   NdrFcLong( 0x4005 ),              /* 16389 */
/* 148 */   NdrFcShort( 0x308 ),  /* Offset= 776 (924) */
/* 150 */   NdrFcLong( 0x400b ),              /* 16395 */
/* 154 */   NdrFcShort( 0x2f2 ),  /* Offset= 754 (908) */
/* 156 */   NdrFcLong( 0x400a ),              /* 16394 */
/* 160 */   NdrFcShort( 0x2f0 ),  /* Offset= 752 (912) */
/* 162 */   NdrFcLong( 0x4006 ),              /* 16390 */
/* 166 */   NdrFcShort( 0x2fa ),  /* Offset= 762 (928) */
/* 168 */   NdrFcLong( 0x4007 ),              /* 16391 */
/* 172 */   NdrFcShort( 0x2f0 ),  /* Offset= 752 (924) */
/* 174 */   NdrFcLong( 0x4008 ),              /* 16392 */
/* 178 */   NdrFcShort( 0x2f2 ),  /* Offset= 754 (932) */
/* 180 */   NdrFcLong( 0x400d ),              /* 16397 */
/* 184 */   NdrFcShort( 0x2f0 ),  /* Offset= 752 (936) */
/* 186 */   NdrFcLong( 0x4009 ),              /* 16393 */
/* 190 */   NdrFcShort( 0x2ee ),  /* Offset= 750 (940) */
/* 192 */   NdrFcLong( 0x6000 ),              /* 24576 */
/* 196 */   NdrFcShort( 0x2ec ),  /* Offset= 748 (944) */
/* 198 */   NdrFcLong( 0x400c ),              /* 16396 */
/* 202 */   NdrFcShort( 0x2ea ),  /* Offset= 746 (948) */
/* 204 */   NdrFcLong( 0x10 ),    /* 16 */
/* 208 */   NdrFcShort( 0x8002 ),             /* Simple arm
type: FC_CHAR */
/* 210 */   NdrFcLong( 0x12 ),    /* 18 */
/* 214 */   NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 216 */   NdrFcLong( 0x13 ),    /* 19 */
/* 220 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 222 */   NdrFcLong( 0x15 ),    /* 21 */
/* 226 */   NdrFcShort( 0x800b ),             /* Simple arm
type: FC_HYPER */
/* 228 */   NdrFcLong( 0x16 ),    /* 22 */
/* 232 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 234 */   NdrFcLong( 0x17 ),    /* 23 */
/* 238 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 240 */   NdrFcLong( 0xe ),     /* 14 */
/* 244 */   NdrFcShort( 0x2c8 ),  /* Offset= 712 (956) */
/* 246 */   NdrFcLong( 0x400e ),              /* 16398 */
/* 250 */   NdrFcShort( 0x2cc ),  /* Offset= 716 (966) */
/* 252 */   NdrFcLong( 0x4010 ),              /* 16400 */
/* 256 */   NdrFcShort( 0x2ca ),  /* Offset= 714 (970) */
/* 258 */   NdrFcLong( 0x4012 ),              /* 16402 */
/* 262 */   NdrFcShort( 0x286 ),  /* Offset= 646 (908) */
/* 264 */   NdrFcLong( 0x4013 ),              /* 16403 */
/* 268 */   NdrFcShort( 0x284 ),  /* Offset= 644 (912) */
/* 270 */   NdrFcLong( 0x4015 ),              /* 16405 */
/* 274 */   NdrFcShort( 0x282 ),  /* Offset= 642 (916) */
/* 276 */   NdrFcLong( 0x4016 ),              /* 16406 */
/* 280 */   NdrFcShort( 0x278 ),  /* Offset= 632 (912) */
/* 282 */   NdrFcLong( 0x4017 ),              /* 16407 */
/* 286 */   NdrFcShort( 0x272 ),  /* Offset= 626 (912) */
/* 288 */   NdrFcLong( 0x0 ),     /* 0 */
/* 292 */   NdrFcShort( 0x0 ),    /* Offset= 0 (292) */
/* 294 */   NdrFcLong( 0x1 ),     /* 1 */
/* 298 */   NdrFcShort( 0x0 ),    /* Offset= 0 (298) */
/* 300 */   NdrFcShort( 0xffff ), /* Offset= -1 (299) */
/* 302 */
                                  0x15,                 /*
FC_STRUCT */
                                  0x7,                  /* 7
*/
/* 304 */   NdrFcShort( 0x8 ),    /* 8 */
/* 306 */   0xb,                  /* FC_HYPER */
                                  0x5b,                 /*
FC_END */
/* 308 */
                                  0x12, 0x0, /* FC_UP */
/* 310 */   NdrFcShort( 0xc ),    /* Offset= 12 (322) */
/* 312 */
                                  0x1b,                 /*
FC_CARRAY */
                                  0x1,                  /* 1
*/
/* 314 */   NdrFcShort( 0x2 ),    /* 2 */
/* 316 */   0x9,                  /* Corr desc: FC_ULONG
*/
                                  0x0,                  /*  */
/* 318 */   NdrFcShort( 0xfffc ), /* -4 */
/* 320 */   0x6,                  /* FC_SHORT */
                                  0x5b,                 /*
FC_END */
/* 322 */
                                  0x17,                 /*
FC_CSTRUCT */
                                  0x3,                  /* 3
*/
/* 324 */   NdrFcShort( 0x8 ),    /* 8 */
/* 326 */   NdrFcShort( 0xfff2 ), /* Offset= -14 (312) */
/* 328 */   0x8,                  /* FC_LONG */
                                  0x8,                  /*
FC_LONG */
/* 330 */   0x5c,                 /* FC_PAD */
                                  0x5b,                 /*
FC_END */
/* 332 */
                                  0x2f,                 /*
FC_IP */
                                  0x5a,                 /*
FC_CONSTANT_IID */
/* 334 */   NdrFcLong( 0x0 ),     /* 0 */
/* 338 */   NdrFcShort( 0x0 ),    /* 0 */
/* 340 */   NdrFcShort( 0x0 ),    /* 0 */
/* 342 */   0xc0,                 /* 192 */
                                  0x0,                  /* 0
*/
/* 344 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 346 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 348 */   0x0,                  /* 0 */
                                  0x46,                 /* 70
*/
/* 350 */
                                  0x2f,                 /*
FC_IP */
                                  0x5a,                 /*
FC_CONSTANT_IID */
/* 352 */   NdrFcLong( 0x20400 ),             /* 132096 */
/* 356 */   NdrFcShort( 0x0 ),    /* 0 */
/* 358 */   NdrFcShort( 0x0 ),    /* 0 */
/* 360 */   0xc0,                 /* 192 */
```

```
                                0x0,                    /* 0
*/
/* 362 */   0x0,                 /* 0 */
                                0x0,                    /* 0
*/
/* 364 */   0x0,                 /* 0 */
                                0x0,                    /* 0
*/
/* 366 */   0x0,                 /* 0 */
                                0x46,                   /* 70
*/
/* 368 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 370 */   NdrFcShort( 0x2 ),   /* Offset= 2 (372) */
/* 372 */
                                0x12, 0x0, /* FC_UP */
/* 374 */   NdrFcShort( 0x1fc ), /* Offset= 508 (882) */
/* 376 */
                                0x2a,                   /*
FC_ENCAPSULATED_UNION */
                                0x49,                   /* 73
*/
/* 378 */   NdrFcShort( 0x18 ),  /* 24 */
/* 380 */   NdrFcShort( 0xa ),   /* 10 */
/* 382 */   NdrFcLong( 0x8 ),    /* 8 */
/* 386 */   NdrFcShort( 0x58 ),  /* Offset= 88 (474) */
/* 388 */   NdrFcLong( 0xd ),    /* 13 */
/* 392 */   NdrFcShort( 0x78 ),  /* Offset= 120 (512) */
/* 394 */   NdrFcLong( 0x9 ),    /* 9 */
/* 398 */   NdrFcShort( 0x94 ),  /* Offset= 148 (546) */
/* 400 */   NdrFcLong( 0xc ),    /* 12 */
/* 404 */   NdrFcShort( 0xbc ),  /* Offset= 188 (592) */
/* 406 */   NdrFcLong( 0x24 ),   /* 36 */
/* 410 */   NdrFcShort( 0x114 ), /* Offset= 276 (686) */
/* 412 */   NdrFcLong( 0x800d ),             /* 32781 */
/* 416 */   NdrFcShort( 0x130 ), /* Offset= 304 (720) */
/* 418 */   NdrFcLong( 0x10 ),   /* 16 */
/* 422 */   NdrFcShort( 0x148 ), /* Offset= 328 (750) */
/* 424 */   NdrFcLong( 0x2 ),    /* 2 */
/* 428 */   NdrFcShort( 0x160 ), /* Offset= 352 (780) */
/* 430 */   NdrFcLong( 0x3 ),    /* 3 */
/* 434 */   NdrFcShort( 0x178 ), /* Offset= 376 (810) */
/* 436 */   NdrFcLong( 0x14 ),   /* 20 */
/* 440 */   NdrFcShort( 0x190 ), /* Offset= 400 (840) */
/* 442 */   NdrFcShort( 0xffff ), /* Offset= -1 (441) */
/* 444 */
                                0x1b,                   /*
FC_CARRAY */
                                0x3,                    /* 3
*/
/* 446 */   NdrFcShort( 0x4 ),   /* 4 */
/* 448 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 450 */   NdrFcShort( 0x0 ),   /* 0 */
/* 452 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 454 */
                                0x48,                   /*
FC_VARIABLE_REPEAT */
                                0x49,                   /*
FC_FIXED_OFFSET */
/* 456 */   NdrFcShort( 0x4 ),   /* 4 */
/* 458 */   NdrFcShort( 0x0 ),   /* 0 */
/* 460 */   NdrFcShort( 0x1 ),   /* 1 */
/* 462 */   NdrFcShort( 0x0 ),   /* 0 */
/* 464 */   NdrFcShort( 0x0 ),   /* 0 */
/* 466 */   0x12, 0x0, /* FC_UP */
/* 468 */   NdrFcShort( 0xff6e ), /* Offset= -146 (322) */
/* 470 */
                                0x5b,                   /*
FC_END */
                                0x8,                    /*
FC_LONG */
/* 472 */   0x5c,                /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 474 */
                                0x16,                   /*
FC_PSTRUCT */
                                0x3,                    /* 3
*/
/* 476 */   NdrFcShort( 0x8 ),   /* 8 */
/* 478 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 480 */
                                0x46,                   /*
FC_NO_REPEAT */
                                0x5c,                   /*
FC_PAD */
/* 482 */   NdrFcShort( 0x4 ),   /* 4 */
/* 484 */   NdrFcShort( 0x4 ),   /* 4 */
/* 486 */   0x11, 0x0, /* FC_RP */
/* 488 */   NdrFcShort( 0xffd4 ), /* Offset= -44 (444) */
/* 490 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 492 */   0x8,                 /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 494 */
                                0x21,                   /*
FC_BOGUS_ARRAY */
                                0x3,                    /* 3
*/
/* 496 */   NdrFcShort( 0x0 ),   /* 0 */
/* 498 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 500 */   NdrFcShort( 0x0 ),   /* 0 */
/* 502 */   NdrFcLong( 0xffffffff ),         /* -1 */
/* 506 */   0x4c,                /*
FC_EMBEDDED_COMPLEX */
                                0x0,                    /* 0
*/
/* 508 */   NdrFcShort( 0xff50 ), /* Offset= -176 (332) */
/* 510 */   0x5c,                /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 512 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 514 */   NdrFcShort( 0x8 ),   /* 8 */
/* 516 */   NdrFcShort( 0x0 ),   /* 0 */
/* 518 */   NdrFcShort( 0x6 ),   /* Offset= 6 (524) */
/* 520 */   0x8,                 /* FC_LONG */
```

```
                                0x36,                   /*
FC_POINTER */
/* 522 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 524 */
                                0x11, 0x0, /* FC_RP */
/* 526 */   NdrFcShort( 0xffe0 ), /* Offset= -32 (494) */
/* 528 */
                                0x21,                   /*
FC_BOGUS_ARRAY */
                                0x3,                    /* 3
*/
/* 530 */   NdrFcShort( 0x0 ),  /* 0 */
/* 532 */   0x19,               /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 534 */   NdrFcShort( 0x0 ),  /* 0 */
/* 536 */   NdrFcLong( 0xffffffff ),        /* -1 */
/* 540 */   0x4c,               /*
FC_EMBEDDED_COMPLEX */
                                0x0,                    /* 0
*/
/* 542 */   NdrFcShort( 0xff40 ), /* Offset= -192 (350) */
/* 544 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 546 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 548 */   NdrFcShort( 0x8 ),  /* 8 */
/* 550 */   NdrFcShort( 0x0 ),  /* 0 */
/* 552 */   NdrFcShort( 0x6 ),  /* Offset= 6 (558) */
/* 554 */   0x8,                /* FC_LONG */
                                0x36,                   /*
FC_POINTER */
/* 556 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 558 */
                                0x11, 0x0, /* FC_RP */
/* 560 */   NdrFcShort( 0xffe0 ), /* Offset= -32 (528) */
/* 562 */
                                0x1b,                   /*
FC_CARRAY */
                                0x3,                    /* 3
*/
/* 564 */   NdrFcShort( 0x4 ),  /* 4 */
/* 566 */   0x19,               /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 568 */   NdrFcShort( 0x0 ),  /* 0 */
/* 570 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 572 */
                                0x48,                   /*
FC_VARIABLE_REPEAT */
                                0x49,                   /*
FC_FIXED_OFFSET */
/* 574 */   NdrFcShort( 0x4 ),  /* 4 */
/* 576 */   NdrFcShort( 0x0 ),  /* 0 */
/* 578 */   NdrFcShort( 0x1 ),  /* 1 */
/* 580 */   NdrFcShort( 0x0 ),  /* 0 */
/* 582 */   NdrFcShort( 0x0 ),  /* 0 */
/* 584 */   0x12, 0x0, /* FC_UP */
/* 586 */   NdrFcShort( 0x184 ), /* Offset= 388 (974) */
/* 588 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 590 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 592 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 594 */   NdrFcShort( 0x8 ),  /* 8 */
/* 596 */   NdrFcShort( 0x0 ),  /* 0 */
/* 598 */   NdrFcShort( 0x6 ),  /* Offset= 6 (604) */
/* 600 */   0x8,                /* FC_LONG */
                                0x36,                   /*
FC_POINTER */
/* 602 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 604 */
                                0x11, 0x0, /* FC_RP */
/* 606 */   NdrFcShort( 0xffd4 ), /* Offset= -44 (562) */
/* 608 */
                                0x2f,                   /*
FC_IP */
                                0x5a,                   /*
FC_CONSTANT_IID */
/* 610 */   NdrFcLong( 0x2f ),  /* 47 */
/* 614 */   NdrFcShort( 0x0 ),  /* 0 */
/* 616 */   NdrFcShort( 0x0 ),  /* 0 */
/* 618 */   0xc0,               /* 192 */
                                0x0,                    /* 0
*/
/* 620 */   0x0,                /* 0 */
                                0x0,                    /* 0
*/
/* 622 */   0x0,                /* 0 */
                                0x0,                    /* 0
*/
/* 624 */   0x0,                /* 0 */
                                0x46,                   /* 70
*/
/* 626 */
                                0x1b,                   /*
FC_CARRAY */
                                0x0,                    /* 0
*/
/* 628 */   NdrFcShort( 0x1 ),  /* 1 */
/* 630 */   0x19,               /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 632 */   NdrFcShort( 0x4 ),  /* 4 */
/* 634 */   0x1,                /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 636 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 638 */   NdrFcShort( 0x10 ), /* 16 */
/* 640 */   NdrFcShort( 0x0 ),  /* 0 */
/* 642 */   NdrFcShort( 0xa ),  /* Offset= 10 (652) */
/* 644 */   0x8,                /* FC_LONG */
```

```
                                0x8,                    /*
FC_LONG */
/* 646 */   0x4c,               /*
FC_EMBEDDED_COMPLEX */
                                0x0,                    /* 0
*/
/* 648 */   NdrFcShort( 0xffd8 ), /* Offset= -40 (608) */
/* 650 */   0x36,               /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 652 */
                                0x12, 0x0, /* FC_UP */
/* 654 */   NdrFcShort( 0xffe4 ), /* Offset= -28 (626) */
/* 656 */
                                0x1b,                   /*
FC_CARRAY */
                                0x3,                    /* 3
*/
/* 658 */   NdrFcShort( 0x4 ),  /* 4 */
/* 660 */   0x19,               /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 662 */   NdrFcShort( 0x0 ),  /* 0 */
/* 664 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 666 */
                                0x48,                   /*
FC_VARIABLE_REPEAT */
                                0x49,                   /*
FC_FIXED_OFFSET */
/* 668 */   NdrFcShort( 0x4 ),  /* 4 */
/* 670 */   NdrFcShort( 0x0 ),  /* 0 */
/* 672 */   NdrFcShort( 0x1 ),  /* 1 */
/* 674 */   NdrFcShort( 0x0 ),  /* 0 */
/* 676 */   NdrFcShort( 0x0 ),  /* 0 */
/* 678 */   0x12, 0x0, /* FC_UP */
/* 680 */   NdrFcShort( 0xffd4 ), /* Offset= -44 (636) */
/* 682 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 684 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 686 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 688 */   NdrFcShort( 0x8 ),  /* 8 */
/* 690 */   NdrFcShort( 0x0 ),  /* 0 */
/* 692 */   NdrFcShort( 0x6 ),  /* Offset= 6 (698) */
/* 694 */   0x8,                /* FC_LONG */
                                0x36,                   /*
FC_POINTER */
/* 696 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 698 */
                                0x11, 0x0, /* FC_RP */
/* 700 */   NdrFcShort( 0xffd4 ), /* Offset= -44 (656) */
/* 702 */
                                0x1d,                   /*
FC_SMFARRAY */
                                0x0,                    /* 0
*/
/* 704 */   NdrFcShort( 0x8 ),  /* 8 */
/* 706 */   0x1,                /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 708 */
                                0x15,                   /*
FC_STRUCT */
                                0x3,                    /* 3
*/
/* 710 */   NdrFcShort( 0x10 ), /* 16 */
/* 712 */   0x8,                /* FC_LONG */
                                0x6,                    /*
FC_SHORT */
/* 714 */   0x6,                /* FC_SHORT */
                                0x4c,                   /*
FC_EMBEDDED_COMPLEX */
/* 716 */   0x0,                /* 0 */
                                NdrFcShort( 0xfff1 ), /*
Offset= -15 (702) */
                                0x5b,                   /*
FC_END */
/* 720 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 722 */   NdrFcShort( 0x18 ), /* 24 */
/* 724 */   NdrFcShort( 0x0 ),  /* 0 */
/* 726 */   NdrFcShort( 0xa ),  /* Offset= 10 (736) */
/* 728 */   0x8,                /* FC_LONG */
                                0x36,                   /*
FC_POINTER */
/* 730 */   0x4c,               /*
FC_EMBEDDED_COMPLEX */
                                0x0,                    /* 0
*/
/* 732 */   NdrFcShort( 0xffe8 ), /* Offset= -24 (708) */
/* 734 */   0x5c,               /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 736 */
                                0x11, 0x0, /* FC_RP */
/* 738 */   NdrFcShort( 0xff0c ), /* Offset= -244 (494) */
/* 740 */
                                0x1b,                   /*
FC_CARRAY */
                                0x0,                    /* 0
*/
/* 742 */   NdrFcShort( 0x1 ),  /* 1 */
/* 744 */   0x19,               /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 746 */   NdrFcShort( 0x0 ),  /* 0 */
/* 748 */   0x1,                /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 750 */
                                0x16,                   /*
FC_PSTRUCT */
                                0x3,                    /* 3
*/
/* 752 */   NdrFcShort( 0x8 ),  /* 8 */
/* 754 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 756 */
```

```
                                0x46,                   /*
FC_NO_REPEAT */
                                0x5c,                   /*
FC_PAD */
/* 758 */   NdrFcShort( 0x4 ),      /* 4 */
/* 760 */   NdrFcShort( 0x4 ),      /* 4 */
/* 762 */   0x12, 0x0, /* FC_UP */
/* 764 */   NdrFcShort( 0xffe8 ), /* Offset= -24 (740) */
/* 766 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 768 */   0x8,                    /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 770 */
                                0x1b,                   /*
FC_CARRAY */
                                0x1,                    /* 1
*/
/* 772 */   NdrFcShort( 0x2 ),      /* 2 */
/* 774 */   0x19,                   /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 776 */   NdrFcShort( 0x0 ),      /* 0 */
/* 778 */   0x6,                    /* FC_SHORT */
                                0x5b,                   /*
FC_END */
/* 780 */
                                0x16,                   /*
FC_PSTRUCT */
                                0x3,                    /* 3
*/
/* 782 */   NdrFcShort( 0x8 ),      /* 8 */
/* 784 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 786 */
                                0x46,                   /*
FC_NO_REPEAT */
                                0x5c,                   /*
FC_PAD */
/* 788 */   NdrFcShort( 0x4 ),      /* 4 */
/* 790 */   NdrFcShort( 0x4 ),      /* 4 */
/* 792 */   0x12, 0x0, /* FC_UP */
/* 794 */   NdrFcShort( 0xffe8 ), /* Offset= -24 (770) */
/* 796 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 798 */   0x8,                    /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 800 */
                                0x1b,                   /*
FC_CARRAY */
                                0x3,                    /* 3
*/
/* 802 */   NdrFcShort( 0x4 ),      /* 4 */
/* 804 */   0x19,                   /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 806 */   NdrFcShort( 0x0 ),      /* 0 */
/* 808 */   0x8,                    /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 810 */
                                0x16,                   /*
FC_PSTRUCT */
                                0x3,                    /* 3
*/
/* 812 */   NdrFcShort( 0x8 ),      /* 8 */
/* 814 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 816 */
                                0x46,                   /*
FC_NO_REPEAT */
                                0x5c,                   /*
FC_PAD */
/* 818 */   NdrFcShort( 0x4 ),      /* 4 */
/* 820 */   NdrFcShort( 0x4 ),      /* 4 */
/* 822 */   0x12, 0x0, /* FC_UP */
/* 824 */   NdrFcShort( 0xffe8 ), /* Offset= -24 (800) */
/* 826 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
/* 828 */   0x8,                    /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 830 */
                                0x1b,                   /*
FC_CARRAY */
                                0x7,                    /* 7
*/
/* 832 */   NdrFcShort( 0x8 ),      /* 8 */
/* 834 */   0x19,                   /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 836 */   NdrFcShort( 0x0 ),      /* 0 */
/* 838 */   0xb,                    /* FC_HYPER */
                                0x5b,                   /*
FC_END */
/* 840 */
                                0x16,                   /*
FC_PSTRUCT */
                                0x3,                    /* 3
*/
/* 842 */   NdrFcShort( 0x8 ),      /* 8 */
/* 844 */
                                0x4b,                   /*
FC_PP */
                                0x5c,                   /*
FC_PAD */
/* 846 */
                                0x46,                   /*
FC_NO_REPEAT */
                                0x5c,                   /*
FC_PAD */
/* 848 */   NdrFcShort( 0x4 ),      /* 4 */
/* 850 */   NdrFcShort( 0x4 ),      /* 4 */
/* 852 */   0x12, 0x0, /* FC_UP */
/* 854 */   NdrFcShort( 0xffe8 ), /* Offset= -24 (830) */
/* 856 */
                                0x5b,                   /*
FC_END */

                                0x8,                    /*
FC_LONG */
```

```
/* 858 */   0x8,                    /* FC_LONG */
                                    0x5b,                   /*
FC_END */
/* 860 */
                                    0x15,                   /*
FC_STRUCT */
                                    0x3,                    /* 3
*/
/* 862 */   NdrFcShort( 0x8 ),      /* 8 */
/* 864 */   0x8,                    /* FC_LONG */
                                    0x8,                    /*
FC_LONG */
/* 866 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 868 */
                                    0x1b,                   /*
FC_CARRAY */
                                    0x3,                    /* 3
*/
/* 870 */   NdrFcShort( 0x8 ),      /* 8 */
/* 872 */   0x7,                    /* Corr desc: FC_USHORT
*/
                                    0x0,                    /*  */
/* 874 */   NdrFcShort( 0xffd8 ), /* -40 */
/* 876 */   0x4c,                   /*
FC_EMBEDDED_COMPLEX */
                                    0x0,                    /* 0
*/
/* 878 */   NdrFcShort( 0xffee ), /* Offset= -18 (860) */
/* 880 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 882 */
                                    0x1a,                   /*
FC_BOGUS_STRUCT */
                                    0x3,                    /* 3
*/
/* 884 */   NdrFcShort( 0x28 ),     /* 40 */
/* 886 */   NdrFcShort( 0xffee ), /* Offset= -18 (868) */
/* 888 */   NdrFcShort( 0x0 ),      /* Offset= 0 (888) */
/* 890 */   0x6,                    /* FC_SHORT */
                                    0x6,                    /*
FC_SHORT */
/* 892 */   0x8,                    /* FC_LONG */
                                    0x8,                    /*
FC_LONG */
/* 894 */   0x4c,                   /*
FC_EMBEDDED_COMPLEX */
                                    0x0,                    /* 0
*/
/* 896 */   NdrFcShort( 0xfdf8 ), /* Offset= -520 (376) */
/* 898 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 900 */
                                    0x12, 0x0, /* FC_UP */
/* 902 */   NdrFcShort( 0xfef6 ), /* Offset= -266 (636) */
/* 904 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 906 */   0x1,                    /* FC_BYTE */
                                    0x5c,                   /*
FC_PAD */
/* 908 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 910 */   0x6,                    /* FC_SHORT */
                                    0x5c,                   /*
FC_PAD */
/* 912 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 914 */   0x8,                    /* FC_LONG */
                                    0x5c,                   /*
FC_PAD */
/* 916 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 918 */   0xb,                    /* FC_HYPER */
                                    0x5c,                   /*
FC_PAD */
/* 920 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 922 */   0xa,                    /* FC_FLOAT */
                                    0x5c,                   /*
FC_PAD */
/* 924 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 926 */   0xc,                    /* FC_DOUBLE */
                                    0x5c,                   /*
FC_PAD */
/* 928 */
                                    0x12, 0x0, /* FC_UP */
/* 930 */   NdrFcShort( 0xfd8c ), /* Offset= -628 (302) */
/* 932 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 934 */   NdrFcShort( 0xfd8e ), /* Offset= -626 (308) */
/* 936 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 938 */   NdrFcShort( 0xfda2 ), /* Offset= -606 (332) */
/* 940 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 942 */   NdrFcShort( 0xfdb0 ), /* Offset= -592 (350) */
/* 944 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 946 */   NdrFcShort( 0xfdbe ), /* Offset= -578 (368) */
/* 948 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 950 */   NdrFcShort( 0x2 ),      /* Offset= 2 (952) */
/* 952 */
                                    0x12, 0x0, /* FC_UP */
/* 954 */   NdrFcShort( 0x14 ),     /* Offset= 20 (974) */
/* 956 */
                                    0x15,                   /*
FC_STRUCT */
                                    0x7,                    /* 7
*/
/* 958 */   NdrFcShort( 0x10 ),     /* 16 */
/* 960 */   0x6,                    /* FC_SHORT */
                                    0x1,                    /*
FC_BYTE */
/* 962 */   0x1,                    /* FC_BYTE */
                                    0x8,                    /*
FC_LONG */
/* 964 */   0xb,                    /* FC_HYPER */
                                    0x5b,                   /*
FC_END */
/* 966 */
                                    0x12, 0x0, /* FC_UP */
/* 968 */   NdrFcShort( 0xfff4 ), /* Offset= -12 (956) */
/* 970 */
```

```
                                0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 972 */   0x2,                /* FC_CHAR */
                                0x5c,               /*
FC_PAD */
/* 974 */
                                0x1a,               /*
FC_BOGUS_STRUCT */
                                0x7,                /* 7
*/
/* 976 */   NdrFcShort( 0x20 ), /* 32 */
/* 978 */   NdrFcShort( 0x0 ),  /* 0 */
/* 980 */   NdrFcShort( 0x0 ),  /* Offset= 0 (980) */
/* 982 */   0x8,                /* FC_LONG */
                                0x8,                /*
FC_LONG */
/* 984 */   0x6,                /* FC_SHORT */
                                0x6,                /*
FC_SHORT */
/* 986 */   0x6,                /* FC_SHORT */
                                0x6,                /*
FC_SHORT */
/* 988 */   0x4c,               /*
FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0
*/
/* 990 */   NdrFcShort( 0xfc28 ),/* Offset= -984 (6) */
/* 992 */   0x5c,               /* FC_PAD */
                                0x5b,               /*
FC_END */
/* 994 */   0xb4,               /* FC_USER_MARSHAL
*/
                                0x83,               /*
131 */
/* 996 */   NdrFcShort( 0x0 ),  /* 0 */
/* 998 */   NdrFcShort( 0x10 ), /* 16 */
/* 1000 */  NdrFcShort( 0x0 ),  /* 0 */
/* 1002 */  NdrFcShort( 0xfc18 ),/* Offset= -1000 (2) */
/* 1004 */
                                0x11, 0x4, /* FC_RP
[alloced_on_stack] */
/* 1006 */  NdrFcShort( 0x6 ),  /* Offset= 6 (1012) */
/* 1008 */
                                0x13, 0x0, /* FC_OP */
/* 1010 */  NdrFcShort( 0xffdc ), /* Offset= -36 (974) */
/* 1012 */  0xb4,               /* FC_USER_MARSHAL
*/
                                0x83,               /*
131 */
/* 1014 */  NdrFcShort( 0x0 ),  /* 0 */
/* 1016 */  NdrFcShort( 0x10 ), /* 16 */
/* 1018 */  NdrFcShort( 0x0 ),  /* 0 */
/* 1020 */  NdrFcShort( 0xfff4 ), /* Offset= -12 (1008) */

                                0x0
    }
  };

static const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ]
=
    {

        {
        VARIANT_UserSize
        ,VARIANT_UserMarshal
        ,VARIANT_UserUnmarshal
        ,VARIANT_UserFree
        }
    };



/* Standard interface: __MIDL_itf_tpcc_com_ps_0000, ver.
0.0,

GUID={0x00000000,0x0000,0x0000,{0x00,0x00,0x00,0x00
,0x00,0x00,0x00,0x00}} */


/* Object interface: IUnknown, ver. 0.0,

GUID={0x00000000,0x0000,0x0000,{0xC0,0x00,0x00,0x00
,0x00,0x00,0x00,0x46}} */


/* Object interface: ITPCC, ver. 0.0,

GUID={0xFEEE6AA2,0x84B1,0x11d2,{0xBA,0x47,0x00,0
xC0,0x4F,0xBF,0xE0,0x8B}} */

#pragma code_seg(".orpc")
static const unsigned short ITPCC_FormatStringOffsetTable[]
=
  {
  0,
  34,
  68,
  102,
  136,
  170
  };

static const MIDL_STUBLESS_PROXY_INFO
ITPCC_ProxyInfo =
  {
  &Object_StubDesc,
  __MIDL_ProcFormatString.Format,
  &ITPCC_FormatStringOffsetTable[-3],
  0,
  0,
  0
  };


static const MIDL_SERVER_INFO ITPCC_ServerInfo =
  {
  &Object_StubDesc,
  0,
  __MIDL_ProcFormatString.Format,
  &ITPCC_FormatStringOffsetTable[-3],
  0,
  0,
  0,
  0};
CINTERFACE_PROXY_VTABLE(9) _ITPCCProxyVtbl =
{
  &ITPCC_ProxyInfo,
  &IID_ITPCC,
  IUnknown_QueryInterface_Proxy,
  IUnknown_AddRef_Proxy,
  IUnknown_Release_Proxy ,
  (void *) (INT_PTR) -1 /* ITPCC::NewOrder */ ,
  (void *) (INT_PTR) -1 /* ITPCC::Payment */ ,
  (void *) (INT_PTR) -1 /* ITPCC::Delivery */ ,
  (void *) (INT_PTR) -1 /* ITPCC::StockLevel */ ,
  (void *) (INT_PTR) -1 /* ITPCC::OrderStatus */ ,
  (void *) (INT_PTR) -1 /* ITPCC::CallSetComplete */
};
```

```
const CInterfaceStubVtbl _ITPCCStubVtbl =
{
    &IID_ITPCC,
    &ITPCC_ServerInfo,
    9,
    0, /* pure interpreted */
    CStdStubBuffer_METHODS
};

static const MIDL_STUB_DESC Object_StubDesc =
    {
    0,
    NdrOleAllocate,
    NdrOleFree,
    0,
    0,
    0,
    0,
    0,
    __MIDL_TypeFormatString.Format,
    1, /* -error bounds_check flag */
    0x20000, /* Ndr library version */
    0,
    0x6000169, /* MIDL Version 6.0.361 */
    0,
    UserMarshalRoutines,
    0,  /* notify & notify_flag routine table */
    0x1, /* MIDL flag */
    0, /* cs routines */
    0,   /* proxy/server info */
    0   /* Reserved5 */
    };

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[]
=
{
    ( CInterfaceProxyVtbl *) &_ITPCCProxyVtbl,
    0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
    ( CInterfaceStubVtbl *) &_ITPCCStubVtbl,
    0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[]
=
{
    "ITPCC",
    0
};


#define _tpcc_com_ps_CHECK_IID(n)
                IID_GENERIC_CHECK_IID( _tpcc_com_ps,
pIID, n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID,
int * pIndex )
{

    if(!_tpcc_com_ps_CHECK_IID(0))
        {
        *pIndex = 0;
        return 1;
        }

    return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
    (PCInterfaceProxyVtblList *) &
_tpcc_com_ps_ProxyVtblList,
    (PCInterfaceStubVtblList *) &
_tpcc_com_ps_StubVtblList,
    (const PCInterfaceName * ) &
_tpcc_com_ps_InterfaceNamesList,
    0, // no delegation
    & _tpcc_com_ps_IID_Lookup,
    1,
    2,
    0, /* table of [async_uuid] interfaces */
    0, /* Filler1 */
    0, /* Filler2 */
    0  /* Filler3 */
};
#if _MSC_VER >= 1200
#pragma warning(pop)
#endif


#endif /* !defined(_M_IA64) && !defined(_M_AMD64)*/



/* this ALWAYS GENERATED file contains the proxy stub
code */


 /* File created by MIDL compiler version 6.00.0361 */
/* at Thu Mar 16 18:21:12 2006
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf, W1, Zp8, env=Win64 (32b run,appending)
    protocol : dce , ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany),
__declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if defined(_M_IA64) || defined(_M_AMD64)


#pragma warning( disable: 4049 )  /* more than 64k source
lines */
#if _MSC_VER >= 1200
#pragma warning(push)
#endif

#pragma warning( disable: 4211 )  /* redefine extent to static
*/
#pragma warning( disable: 4232 )  /* dllimport identity*/
#define USE_STUBLESS_PROXY


/* verify that the <rpcproxy.h> version is high enough to
compile this file*/
#ifndef __REDQ_RPCPROXY_H_VERSION__
#define __REQUIRED_RPCPROXY_H_VERSION__ 475
#endif


#include "rpcproxy.h"
#ifndef __RPCPROXY_H_VERSION__
```

```
#error this stub requires an updated version of <rpcproxy.h>
#endif // __RPCPROXY_H_VERSION__


#include "tpcc_com_ps.h"

#define TYPE_FORMAT_STRING_SIZE   1003
#define PROC_FORMAT_STRING_SIZE   253
#define TRANSMIT_AS_TABLE_SIZE    0
#define WIRE_MARSHAL_TABLE_SIZE   1

typedef struct _MIDL_TYPE_FORMAT_STRING
    {
    short          Pad;
    unsigned char
Format[ TYPE_FORMAT_STRING_SIZE ];
    } MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
    {
    short          Pad;
    unsigned char
Format[ PROC_FORMAT_STRING_SIZE ];
    } MIDL_PROC_FORMAT_STRING;


static RPC_SYNTAX_IDENTIFIER  _RpcTransferSyntax =
{{0x8A885D04,0x1CEB,0x11C9,{0x9F,0xE8,0x08,0x00,0x
2B,0x10,0x48,0x60}},{2,0}};


extern const MIDL_TYPE_FORMAT_STRING
__MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING
__MIDL_ProcFormatString;


extern const MIDL_STUB_DESC Object_StubDesc;


extern const MIDL_SERVER_INFO ITPCC_ServerInfo;
extern const MIDL_STUBLESS_PROXY_INFO
ITPCC_ProxyInfo;


extern const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ];

#if !defined(__RPC_WIN64__)
#error  Invalid build platform for this stub.
#endif

static const MIDL_PROC_FORMAT_STRING
__MIDL_ProcFormatString =
    {
        0,
        {

            /* Procedure NewOrder */

                                    0x33,               /*
FC_AUTO_HANDLE */
                                    0x6c,               /*
Old Flags:  object, Oi2 */
/*  2 */    NdrFcLong( 0x0 ),   /* 0 */
/*  6 */    NdrFcShort( 0x3 ),  /* 3 */
/*  8 */    NdrFcShort( 0x30 ), /* ia64 Stack size/offset =
48 */
/* 10 */    NdrFcShort( 0x0 ),  /* 0 */
/* 12 */    NdrFcShort( 0x8 ),  /* 8 */
/* 14 */    0x47,               /* Oi2 Flags:  srv must size,
clt must size, has return, has ext, */
                                    0x3,                /* 3
*/
/* 16 */    0xa,                /* 10 */
                                    0x7,                /*
Ext Flags:  new corr desc, clt corr check, srv corr check, */
/* 18 */    NdrFcShort( 0x20 ), /* 32 */
/* 20 */    NdrFcShort( 0x20 ), /* 32 */
/* 22 */    NdrFcShort( 0x0 ),  /* 0 */
/* 24 */    NdrFcShort( 0x0 ),  /* 0 */

            /* Parameter txn_in */

/* 26 */    NdrFcShort( 0x8b ), /* Flags:  must size, must
free, in, by val, */
/* 28 */    NdrFcShort( 0x8 ),  /* ia64 Stack size/offset = 8
*/
/* 30 */    NdrFcShort( 0x3ce ),/* Type Offset=974 */

            /* Parameter txn_out */

/* 32 */    NdrFcShort( 0x6113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=24 */
/* 34 */    NdrFcShort( 0x20 ), /* ia64 Stack size/offset =
32 */
/* 36 */    NdrFcShort( 0x3e0 ),/* Type Offset=992 */

            /* Return value */

/* 38 */    NdrFcShort( 0x70 ), /* Flags:  out, return, base
type, */
/* 40 */    NdrFcShort( 0x28 ), /* ia64 Stack size/offset =
40 */
/* 42 */    0x8,                /* FC_LONG */
                                    0x0,                /* 0
*/

            /* Procedure Payment */

/* 44 */    0x33,               /* FC_AUTO_HANDLE */
                                    0x6c,               /*
Old Flags:  object, Oi2 */
/* 46 */    NdrFcLong( 0x0 ),   /* 0 */
/* 50 */    NdrFcShort( 0x4 ),  /* 4 */
/* 52 */    NdrFcShort( 0x30 ), /* ia64 Stack size/offset =
48 */
/* 54 */    NdrFcShort( 0x0 ),  /* 0 */
/* 56 */    NdrFcShort( 0x8 ),  /* 8 */
/* 58 */    0x47,               /* Oi2 Flags:  srv must size,
clt must size, has return, has ext, */
                                    0x3,                /* 3
*/
/* 60 */    0xa,                /* 10 */
                                    0x7,                /*
Ext Flags:  new corr desc, clt corr check, srv corr check, */
/* 62 */    NdrFcShort( 0x20 ), /* 32 */
/* 64 */    NdrFcShort( 0x20 ), /* 32 */
/* 66 */    NdrFcShort( 0x0 ),  /* 0 */
/* 68 */    NdrFcShort( 0x0 ),  /* 0 */

            /* Parameter txn_in */

/* 70 */    NdrFcShort( 0x8b ), /* Flags:  must size, must
free, in, by val, */
/* 72 */    NdrFcShort( 0x8 ),  /* ia64 Stack size/offset = 8
*/
/* 74 */    NdrFcShort( 0x3ce ),/* Type Offset=974 */

            /* Parameter txn_out */
```

```
/* 76 */    NdrFcShort( 0x6113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=24 */
/* 78 */    NdrFcShort( 0x20 ),   /* ia64 Stack size/offset =
32 */
/* 80 */    NdrFcShort( 0x3e0 ),  /* Type Offset=992 */

            /* Return value */

/* 82 */    NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 84 */    NdrFcShort( 0x28 ),   /* ia64 Stack size/offset =
40 */
/* 86 */    0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure Delivery */

/* 88 */    0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 90 */    NdrFcLong( 0x0 ),     /* 0 */
/* 94 */    NdrFcShort( 0x5 ),    /* 5 */
/* 96 */    NdrFcShort( 0x30 ),   /* ia64 Stack size/offset =
48 */
/* 98 */    NdrFcShort( 0x0 ),    /* 0 */
/* 100 */   NdrFcShort( 0x8 ),    /* 8 */
/* 102 */   0x47,                 /* Oi2 Flags:  srv must size,
clt must size, has return, has ext, */
                                  0x3,                  /* 3
*/
/* 104 */   0xa,                  /* 10 */
                                  0x7,                  /*
Ext Flags:  new corr desc, clt corr check, srv corr check, */
/* 106 */   NdrFcShort( 0x20 ),   /* 32 */
/* 108 */   NdrFcShort( 0x20 ),   /* 32 */
/* 110 */   NdrFcShort( 0x0 ),    /* 0 */
/* 112 */   NdrFcShort( 0x0 ),    /* 0 */

            /* Parameter txn_in */

/* 114 */   NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 116 */   NdrFcShort( 0x8 ),    /* ia64 Stack size/offset = 8
*/
/* 118 */   NdrFcShort( 0x3ce ),  /* Type Offset=974 */

            /* Parameter txn_out */

/* 120 */   NdrFcShort( 0x6113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=24 */
/* 122 */   NdrFcShort( 0x20 ),   /* ia64 Stack size/offset =
32 */
/* 124 */   NdrFcShort( 0x3e0 ),  /* Type Offset=992 */

            /* Return value */

/* 126 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 128 */   NdrFcShort( 0x28 ),   /* ia64 Stack size/offset =
40 */
/* 130 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure StockLevel */

/* 132 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 134 */   NdrFcLong( 0x0 ),     /* 0 */
/* 138 */   NdrFcShort( 0x6 ),    /* 6 */
/* 140 */   NdrFcShort( 0x30 ),   /* ia64 Stack size/offset =
48 */
/* 142 */   NdrFcShort( 0x0 ),    /* 0 */
/* 144 */   NdrFcShort( 0x8 ),    /* 8 */
/* 146 */   0x47,                 /* Oi2 Flags:  srv must size,
clt must size, has return, has ext, */
                                  0x3,                  /* 3
*/
/* 148 */   0xa,                  /* 10 */
                                  0x7,                  /*
Ext Flags:  new corr desc, clt corr check, srv corr check, */
/* 150 */   NdrFcShort( 0x20 ),   /* 32 */
/* 152 */   NdrFcShort( 0x20 ),   /* 32 */
/* 154 */   NdrFcShort( 0x0 ),    /* 0 */
/* 156 */   NdrFcShort( 0x0 ),    /* 0 */

            /* Parameter txn_in */

/* 158 */   NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 160 */   NdrFcShort( 0x8 ),    /* ia64 Stack size/offset = 8
*/
/* 162 */   NdrFcShort( 0x3ce ),  /* Type Offset=974 */

            /* Parameter txn_out */

/* 164 */   NdrFcShort( 0x6113 ),           /* Flags:  must
size, must free, out, simple ref, srv alloc size=24 */
/* 166 */   NdrFcShort( 0x20 ),   /* ia64 Stack size/offset =
32 */
/* 168 */   NdrFcShort( 0x3e0 ),  /* Type Offset=992 */

            /* Return value */

/* 170 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 172 */   NdrFcShort( 0x28 ),   /* ia64 Stack size/offset =
40 */
/* 174 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure OrderStatus */

/* 176 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 178 */   NdrFcLong( 0x0 ),     /* 0 */
/* 182 */   NdrFcShort( 0x7 ),    /* 7 */
/* 184 */   NdrFcShort( 0x30 ),   /* ia64 Stack size/offset =
48 */
/* 186 */   NdrFcShort( 0x0 ),    /* 0 */
/* 188 */   NdrFcShort( 0x8 ),    /* 8 */
/* 190 */   0x47,                 /* Oi2 Flags:  srv must size,
clt must size, has return, has ext, */
                                  0x3,                  /* 3
*/
/* 192 */   0xa,                  /* 10 */
                                  0x7,                  /*
Ext Flags:  new corr desc, clt corr check, srv corr check, */
/* 194 */   NdrFcShort( 0x20 ),   /* 32 */
/* 196 */   NdrFcShort( 0x20 ),   /* 32 */
/* 198 */   NdrFcShort( 0x0 ),    /* 0 */
/* 200 */   NdrFcShort( 0x0 ),    /* 0 */

            /* Parameter txn_in */
```

```
/* 202 */   NdrFcShort( 0x8b ),   /* Flags:  must size, must
free, in, by val, */
/* 204 */   NdrFcShort( 0x8 ),    /* ia64 Stack size/offset = 8
*/
/* 206 */   NdrFcShort( 0x3ce ),  /* Type Offset=974 */

            /* Parameter txn_out */

/* 208 */   NdrFcShort( 0x6113 ),             /* Flags:  must
size, must free, out, simple ref, srv alloc size=24 */
/* 210 */   NdrFcShort( 0x20 ),   /* ia64 Stack size/offset =
32 */
/* 212 */   NdrFcShort( 0x3e0 ),  /* Type Offset=992 */

            /* Return value */

/* 214 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 216 */   NdrFcShort( 0x28 ),   /* ia64 Stack size/offset =
40 */
/* 218 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

            /* Procedure CallSetComplete */

/* 220 */   0x33,                 /* FC_AUTO_HANDLE */
                                  0x6c,                 /*
Old Flags:  object, Oi2 */
/* 222 */   NdrFcLong( 0x0 ),     /* 0 */
/* 226 */   NdrFcShort( 0x8 ),    /* 8 */
/* 228 */   NdrFcShort( 0x10 ),   /* ia64 Stack size/offset =
16 */
/* 230 */   NdrFcShort( 0x0 ),    /* 0 */
/* 232 */   NdrFcShort( 0x8 ),    /* 8 */
/* 234 */   0x44,                 /* Oi2 Flags:  has return,
has ext, */
                                  0x1,                  /* 1
*/
/* 236 */   0xa,                  /* 10 */
                                  0x1,                  /*
Ext Flags:  new corr desc, */
/* 238 */   NdrFcShort( 0x0 ),    /* 0 */
/* 240 */   NdrFcShort( 0x0 ),    /* 0 */
/* 242 */   NdrFcShort( 0x0 ),    /* 0 */
/* 244 */   NdrFcShort( 0x0 ),    /* 0 */

            /* Return value */

/* 246 */   NdrFcShort( 0x70 ),   /* Flags:  out, return, base
type, */
/* 248 */   NdrFcShort( 0x8 ),    /* ia64 Stack size/offset = 8
*/
/* 250 */   0x8,                  /* FC_LONG */
                                  0x0,                  /* 0
*/

                                  0x0

        }
    };

static const MIDL_TYPE_FORMAT_STRING
__MIDL_TypeFormatString =
    {
        0,
        {
                                  NdrFcShort( 0x0 ),    /* 0
*/
/*  2 */                                0x12, 0x0, /* FC_UP */
/*  4 */    NdrFcShort( 0x3b6 ), /* Offset= 950 (954) */
/*  6 */                                0x2b,                 /*
FC_NON_ENCAPSULATED_UNION */
                                    0x9,                  /*
FC_ULONG */
/*  8 */    0x7,                  /* Corr desc: FC_USHORT
*/
                                    0x0,                  /*  */
/* 10 */    NdrFcShort( 0xfff8 ), /* -8 */
/* 12 */    NdrFcShort( 0x1 ),    /* Corr flags:  early, */
/* 14 */    NdrFcShort( 0x2 ),    /* Offset= 2 (16) */
/* 16 */    NdrFcShort( 0x10 ),   /* 16 */
/* 18 */    NdrFcShort( 0x2f ),   /* 47 */
/* 20 */    NdrFcLong( 0x14 ),    /* 20 */
/* 24 */    NdrFcShort( 0x800b ),             /* Simple arm
type: FC_HYPER */
/* 26 */    NdrFcLong( 0x3 ),     /* 3 */
/* 30 */    NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 32 */    NdrFcLong( 0x11 ),    /* 17 */
/* 36 */    NdrFcShort( 0x8001 ),             /* Simple arm
type: FC_BYTE */
/* 38 */    NdrFcLong( 0x2 ),     /* 2 */
/* 42 */    NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 44 */    NdrFcLong( 0x4 ),     /* 4 */
/* 48 */    NdrFcShort( 0x800a ),             /* Simple arm
type: FC_FLOAT */
/* 50 */    NdrFcLong( 0x5 ),     /* 5 */
/* 54 */    NdrFcShort( 0x800c ),             /* Simple arm
type: FC_DOUBLE */
/* 56 */    NdrFcLong( 0xb ),     /* 11 */
/* 60 */    NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 62 */    NdrFcLong( 0xa ),     /* 10 */
/* 66 */    NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 68 */    NdrFcLong( 0x6 ),     /* 6 */
/* 72 */    NdrFcShort( 0xe8 ),   /* Offset= 232 (304) */
/* 74 */    NdrFcLong( 0x7 ),     /* 7 */
/* 78 */    NdrFcShort( 0x800c ),             /* Simple arm
type: FC_DOUBLE */
/* 80 */    NdrFcLong( 0x8 ),     /* 8 */
/* 84 */    NdrFcShort( 0xe2 ),   /* Offset= 226 (310) */
/* 86 */    NdrFcLong( 0xd ),     /* 13 */
/* 90 */    NdrFcShort( 0xf6 ),   /* Offset= 246 (336) */
/* 92 */    NdrFcLong( 0x9 ),     /* 9 */
/* 96 */    NdrFcShort( 0x102 ),  /* Offset= 258 (354) */
/* 98 */    NdrFcLong( 0x2000 ),              /* 8192 */
/* 102 */   NdrFcShort( 0x10e ),  /* Offset= 270 (372) */
/* 104 */   NdrFcLong( 0x24 ),    /* 36 */
/* 108 */   NdrFcShort( 0x304 ),  /* Offset= 772 (880) */
/* 110 */   NdrFcLong( 0x4024 ),              /* 16420 */
/* 114 */   NdrFcShort( 0x2fe ),  /* Offset= 766 (880) */
/* 116 */   NdrFcLong( 0x4011 ),              /* 16401 */
/* 120 */   NdrFcShort( 0x2fc ),  /* Offset= 764 (884) */
/* 122 */   NdrFcLong( 0x4002 ),              /* 16386 */
/* 126 */   NdrFcShort( 0x2fa ),  /* Offset= 762 (888) */
/* 128 */   NdrFcLong( 0x4003 ),              /* 16387 */
/* 132 */   NdrFcShort( 0x2f8 ),  /* Offset= 760 (892) */
/* 134 */   NdrFcLong( 0x4014 ),              /* 16404 */
/* 138 */   NdrFcShort( 0x2f6 ),  /* Offset= 758 (896) */
/* 140 */   NdrFcLong( 0x4004 ),              /* 16388 */
/* 144 */   NdrFcShort( 0x2f4 ),  /* Offset= 756 (900) */
/* 146 */   NdrFcLong( 0x4005 ),              /* 16389 */
/* 150 */   NdrFcShort( 0x2f2 ),  /* Offset= 754 (904) */
/* 152 */   NdrFcLong( 0x400b ),              /* 16395 */
/* 156 */   NdrFcShort( 0x2dc ),  /* Offset= 732 (888) */
```

```
/* 158 */   NdrFcLong( 0x400a ),              /* 16394 */
/* 162 */   NdrFcShort( 0x2da ),  /* Offset= 730 (892) */
/* 164 */   NdrFcLong( 0x4006 ),              /* 16390 */
/* 168 */   NdrFcShort( 0x2e4 ),  /* Offset= 740 (908) */
/* 170 */   NdrFcLong( 0x4007 ),              /* 16391 */
/* 174 */   NdrFcShort( 0x2da ),  /* Offset= 730 (904) */
/* 176 */   NdrFcLong( 0x4008 ),              /* 16392 */
/* 180 */   NdrFcShort( 0x2dc ),  /* Offset= 732 (912) */
/* 182 */   NdrFcLong( 0x400d ),              /* 16397 */
/* 186 */   NdrFcShort( 0x2da ),  /* Offset= 730 (916) */
/* 188 */   NdrFcLong( 0x4009 ),              /* 16393 */
/* 192 */   NdrFcShort( 0x2d8 ),  /* Offset= 728 (920) */
/* 194 */   NdrFcLong( 0x6000 ),              /* 24576 */
/* 198 */   NdrFcShort( 0x2d6 ),  /* Offset= 726 (924) */
/* 200 */   NdrFcLong( 0x400c ),              /* 16396 */
/* 204 */   NdrFcShort( 0x2d4 ),  /* Offset= 724 (928) */
/* 206 */   NdrFcLong( 0x10 ),    /* 16 */
/* 210 */   NdrFcShort( 0x8002 ),             /* Simple arm
type: FC_CHAR */
/* 212 */   NdrFcLong( 0x12 ),    /* 18 */
/* 216 */   NdrFcShort( 0x8006 ),             /* Simple arm
type: FC_SHORT */
/* 218 */   NdrFcLong( 0x13 ),    /* 19 */
/* 222 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 224 */   NdrFcLong( 0x15 ),    /* 21 */
/* 228 */   NdrFcShort( 0x800b ),             /* Simple arm
type: FC_HYPER */
/* 230 */   NdrFcLong( 0x16 ),    /* 22 */
/* 234 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 236 */   NdrFcLong( 0x17 ),    /* 23 */
/* 240 */   NdrFcShort( 0x8008 ),             /* Simple arm
type: FC_LONG */
/* 242 */   NdrFcLong( 0xe ),     /* 14 */
/* 246 */   NdrFcShort( 0x2b2 ),  /* Offset= 690 (936) */
/* 248 */   NdrFcLong( 0x400e ),              /* 16398 */
/* 252 */   NdrFcShort( 0x2b6 ),  /* Offset= 694 (946) */
/* 254 */   NdrFcLong( 0x4010 ),              /* 16400 */
/* 258 */   NdrFcShort( 0x2b4 ),  /* Offset= 692 (950) */
/* 260 */   NdrFcLong( 0x4012 ),              /* 16402 */
/* 264 */   NdrFcShort( 0x270 ),  /* Offset= 624 (888) */
/* 266 */   NdrFcLong( 0x4013 ),              /* 16403 */
/* 270 */   NdrFcShort( 0x26e ),  /* Offset= 622 (892) */
/* 272 */   NdrFcLong( 0x4015 ),              /* 16405 */
/* 276 */   NdrFcShort( 0x26c ),  /* Offset= 620 (896) */
/* 278 */   NdrFcLong( 0x4016 ),              /* 16406 */
/* 282 */   NdrFcShort( 0x262 ),  /* Offset= 610 (892) */
/* 284 */   NdrFcLong( 0x4017 ),              /* 16407 */
/* 288 */   NdrFcShort( 0x25c ),  /* Offset= 604 (892) */
/* 290 */   NdrFcLong( 0x0 ),     /* 0 */
/* 294 */   NdrFcShort( 0x0 ),    /* Offset= 0 (294) */
/* 296 */   NdrFcLong( 0x1 ),     /* 1 */
/* 300 */   NdrFcShort( 0x0 ),    /* Offset= 0 (300) */
/* 302 */   NdrFcShort( 0xffff ), /* Offset= -1 (301) */
/* 304 */
                                  0x15,                 /*
FC_STRUCT */
                                  0x7,                  /* 7
*/
/* 306 */   NdrFcShort( 0x8 ),    /* 8 */
/* 308 */   0xb,                  /* FC_HYPER */
                                  0x5b,                 /*
FC_END */
/* 310 */
                                  0x12, 0x0, /* FC_UP */
/* 312 */   NdrFcShort( 0xe ),    /* Offset= 14 (326) */
/* 314 */
                                  0x1b,                 /*
FC_CARRAY */
                                  0x1,                  /* 1
*/
/* 316 */   NdrFcShort( 0x2 ),    /* 2 */
/* 318 */   0x9,                  /* Corr desc: FC_ULONG
*/
                                  0x0,                  /*  */
/* 320 */   NdrFcShort( 0xfffc ), /* -4 */
/* 322 */   NdrFcShort( 0x1 ),    /* Corr flags:  early, */
/* 324 */   0x6,                  /* FC_SHORT */
                                  0x5b,                 /*
FC_END */
/* 326 */
                                  0x17,                 /*
FC_CSTRUCT */
                                  0x3,                  /* 3
*/
/* 328 */   NdrFcShort( 0x8 ),    /* 8 */
/* 330 */   NdrFcShort( 0xfff0 ), /* Offset= -16 (314) */
/* 332 */   0x8,                  /* FC_LONG */
                                  0x8,                  /*
FC_LONG */
/* 334 */   0x5c,                 /* FC_PAD */
                                  0x5b,                 /*
FC_END */
/* 336 */
                                  0x2f,                 /*
FC_IP */
                                  0x5a,                 /*
FC_CONSTANT_IID */
/* 338 */   NdrFcLong( 0x0 ),     /* 0 */
/* 342 */   NdrFcShort( 0x0 ),    /* 0 */
/* 344 */   NdrFcShort( 0x0 ),    /* 0 */
/* 346 */   0xc0,                 /* 192 */
                                  0x0,                  /* 0
*/
/* 348 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 350 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 352 */   0x0,                  /* 0 */
                                  0x46,                 /* 70
*/
/* 354 */
                                  0x2f,                 /*
FC_IP */
                                  0x5a,                 /*
FC_CONSTANT_IID */
/* 356 */   NdrFcLong( 0x20400 ),             /* 132096 */
/* 360 */   NdrFcShort( 0x0 ),    /* 0 */
/* 362 */   NdrFcShort( 0x0 ),    /* 0 */
/* 364 */   0xc0,                 /* 192 */
                                  0x0,                  /* 0
*/
/* 366 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 368 */   0x0,                  /* 0 */
                                  0x0,                  /* 0
*/
/* 370 */   0x0,                  /* 0 */
                                  0x46,                 /* 70
*/
/* 372 */
                                  0x12, 0x10,           /*
FC_UP [pointer_deref] */
/* 374 */   NdrFcShort( 0x2 ),    /* Offset= 2 (376) */
/* 376 */
                                  0x12, 0x0, /* FC_UP */
```

```
/* 378 */   NdrFcShort( 0x1e4 ), /* Offset= 484 (862) */
/* 380 */
                                 0x2a,                /*
FC_ENCAPSULATED_UNION */
                                 0x89,                /*
137 */
/* 382 */   NdrFcShort( 0x20 ),  /* 32 */
/* 384 */   NdrFcShort( 0xa ),   /* 10 */
/* 386 */   NdrFcLong( 0x8 ),    /* 8 */
/* 390 */   NdrFcShort( 0x50 ),  /* Offset= 80 (470) */
/* 392 */   NdrFcLong( 0xd ),    /* 13 */
/* 396 */   NdrFcShort( 0x70 ),  /* Offset= 112 (508) */
/* 398 */   NdrFcLong( 0x9 ),    /* 9 */
/* 402 */   NdrFcShort( 0x90 ),  /* Offset= 144 (546) */
/* 404 */   NdrFcLong( 0xc ),    /* 12 */
/* 408 */   NdrFcShort( 0xb0 ),  /* Offset= 176 (584) */
/* 410 */   NdrFcLong( 0x24 ),   /* 36 */
/* 414 */   NdrFcShort( 0x102 ), /* Offset= 258 (672) */
/* 416 */   NdrFcLong( 0x800d ),         /* 32781 */
/* 420 */   NdrFcShort( 0x11e ), /* Offset= 286 (706) */
/* 422 */   NdrFcLong( 0x10 ),   /* 16 */
/* 426 */   NdrFcShort( 0x138 ), /* Offset= 312 (738) */
/* 428 */   NdrFcLong( 0x2 ),    /* 2 */
/* 432 */   NdrFcShort( 0x14e ), /* Offset= 334 (766) */
/* 434 */   NdrFcLong( 0x3 ),    /* 3 */
/* 438 */   NdrFcShort( 0x164 ), /* Offset= 356 (794) */
/* 440 */   NdrFcLong( 0x14 ),   /* 20 */
/* 444 */   NdrFcShort( 0x17a ), /* Offset= 378 (822) */
/* 446 */   NdrFcShort( 0xffff ), /* Offset= -1 (445) */
/* 448 */
                                 0x21,                /*
FC_BOGUS_ARRAY */
                                 0x3,                 /* 3
*/
/* 450 */   NdrFcShort( 0x0 ),   /* 0 */
/* 452 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                 0x0,                 /*  */
/* 454 */   NdrFcShort( 0x0 ),   /* 0 */
/* 456 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 458 */   NdrFcLong( 0xffffffff ),         /* -1 */
/* 462 */   NdrFcShort( 0x0 ),   /* Corr flags:  */
/* 464 */
                                 0x12, 0x0, /* FC_UP */
/* 466 */   NdrFcShort( 0xff74 ), /* Offset= -140 (326) */
/* 468 */   0x5c,                /* FC_PAD */
                                 0x5b,                /*
FC_END */
/* 470 */
                                 0x1a,                /*
FC_BOGUS_STRUCT */
                                 0x3,                 /* 3
*/
/* 472 */   NdrFcShort( 0x10 ),  /* 16 */
/* 474 */   NdrFcShort( 0x0 ),   /* 0 */
/* 476 */   NdrFcShort( 0x6 ),   /* Offset= 6 (482) */
/* 478 */   0x8,                 /* FC_LONG */
                                 0x40,                /*
FC_STRUCTPAD4 */
/* 480 */   0x36,                /* FC_POINTER */
                                 0x5b,                /*
FC_END */
/* 482 */
                                 0x11, 0x0, /* FC_RP */
/* 484 */   NdrFcShort( 0xffdc ), /* Offset= -36 (448) */
/* 486 */
                                 0x21,                /*
FC_BOGUS_ARRAY */
                                 0x3,                 /* 3
*/
/* 488 */   NdrFcShort( 0x0 ),   /* 0 */
/* 490 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                 0x0,                 /*  */
/* 492 */   NdrFcShort( 0x0 ),   /* 0 */
/* 494 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 496 */   NdrFcLong( 0xffffffff ),         /* -1 */
/* 500 */   NdrFcShort( 0x0 ),   /* Corr flags:  */
/* 502 */   0x4c,                /*
FC_EMBEDDED_COMPLEX */
                                 0x0,                 /* 0
*/
/* 504 */   NdrFcShort( 0xff58 ), /* Offset= -168 (336) */
/* 506 */   0x5c,                /* FC_PAD */
                                 0x5b,                /*
FC_END */
/* 508 */
                                 0x1a,                /*
FC_BOGUS_STRUCT */
                                 0x3,                 /* 3
*/
/* 510 */   NdrFcShort( 0x10 ),  /* 16 */
/* 512 */   NdrFcShort( 0x0 ),   /* 0 */
/* 514 */   NdrFcShort( 0x6 ),   /* Offset= 6 (520) */
/* 516 */   0x8,                 /* FC_LONG */
                                 0x40,                /*
FC_STRUCTPAD4 */
/* 518 */   0x36,                /* FC_POINTER */
                                 0x5b,                /*
FC_END */
/* 520 */
                                 0x11, 0x0, /* FC_RP */
/* 522 */   NdrFcShort( 0xffdc ), /* Offset= -36 (486) */
/* 524 */
                                 0x21,                /*
FC_BOGUS_ARRAY */
                                 0x3,                 /* 3
*/
/* 526 */   NdrFcShort( 0x0 ),   /* 0 */
/* 528 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                 0x0,                 /*  */
/* 530 */   NdrFcShort( 0x0 ),   /* 0 */
/* 532 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 534 */   NdrFcLong( 0xffffffff ),         /* -1 */
/* 538 */   NdrFcShort( 0x0 ),   /* Corr flags:  */
/* 540 */   0x4c,                /*
FC_EMBEDDED_COMPLEX */
                                 0x0,                 /* 0
*/
/* 542 */   NdrFcShort( 0xff44 ), /* Offset= -188 (354) */
/* 544 */   0x5c,                /* FC_PAD */
                                 0x5b,                /*
FC_END */
/* 546 */
                                 0x1a,                /*
FC_BOGUS_STRUCT */
                                 0x3,                 /* 3
*/
/* 548 */   NdrFcShort( 0x10 ),  /* 16 */
/* 550 */   NdrFcShort( 0x0 ),   /* 0 */
/* 552 */   NdrFcShort( 0x6 ),   /* Offset= 6 (558) */
/* 554 */   0x8,                 /* FC_LONG */
                                 0x40,                /*
FC_STRUCTPAD4 */
/* 556 */   0x36,                /* FC_POINTER */
                                 0x5b,                /*
FC_END */
/* 558 */
                                 0x11, 0x0, /* FC_RP */
```

```
/* 560 */   NdrFcShort( 0xffdc ), /* Offset= -36 (524) */
/* 562 */
                                0x21,                   /*
FC_BOGUS_ARRAY */
                                0x3,                    /* 3
*/
/* 564 */   NdrFcShort( 0x0 ),    /* 0 */
/* 566 */   0x19,                 /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 568 */   NdrFcShort( 0x0 ),    /* 0 */
/* 570 */   NdrFcShort( 0x1 ),    /* Corr flags:  early, */
/* 572 */   NdrFcLong( 0xffffffff ),            /* -1 */
/* 576 */   NdrFcShort( 0x0 ),    /* Corr flags:  */
/* 578 */
                                0x12, 0x0, /* FC_UP */
/* 580 */   NdrFcShort( 0x176 ), /* Offset= 374 (954) */
/* 582 */   0x5c,                 /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 584 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 586 */   NdrFcShort( 0x10 ),   /* 16 */
/* 588 */   NdrFcShort( 0x0 ),    /* 0 */
/* 590 */   NdrFcShort( 0x6 ),    /* Offset= 6 (596) */
/* 592 */   0x8,                  /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 594 */   0x36,                 /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 596 */
                                0x11, 0x0, /* FC_RP */
/* 598 */   NdrFcShort( 0xffdc ), /* Offset= -36 (562) */
/* 600 */
                                0x2f,                   /*
FC_IP */
                                0x5a,                   /*
FC_CONSTANT_IID */
/* 602 */   NdrFcLong( 0x2f ),    /* 47 */
/* 606 */   NdrFcShort( 0x0 ),    /* 0 */
/* 608 */   NdrFcShort( 0x0 ),    /* 0 */
/* 610 */   0xc0,                 /* 192 */
                                0x0,                    /* 0
*/
/* 612 */   0x0,                  /* 0 */
                                0x0,                    /* 0
*/
/* 614 */   0x0,                  /* 0 */
                                0x0,                    /* 0
*/
/* 616 */   0x0,                  /* 0 */
                                0x46,                   /* 70
*/
/* 618 */
                                0x1b,                   /*
FC_CARRAY */
                                0x0,                    /* 0
*/
/* 620 */   NdrFcShort( 0x1 ),    /* 1 */
/* 622 */   0x19,                 /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 624 */   NdrFcShort( 0x4 ),    /* 4 */
/* 626 */   NdrFcShort( 0x1 ),    /* Corr flags:  early, */
/* 628 */   0x1,                  /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 630 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 632 */   NdrFcShort( 0x18 ),   /* 24 */
/* 634 */   NdrFcShort( 0x0 ),    /* 0 */
/* 636 */   NdrFcShort( 0xa ),    /* Offset= 10 (646) */
/* 638 */   0x8,                  /* FC_LONG */
                                0x8,                    /*
FC_LONG */
/* 640 */   0x4c,                 /*
FC_EMBEDDED_COMPLEX */
                                0x0,                    /* 0
*/
/* 642 */   NdrFcShort( 0xffd6 ), /* Offset= -42 (600) */
/* 644 */   0x36,                 /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 646 */
                                0x12, 0x0, /* FC_UP */
/* 648 */   NdrFcShort( 0xffe2 ), /* Offset= -30 (618) */
/* 650 */
                                0x21,                   /*
FC_BOGUS_ARRAY */
                                0x3,                    /* 3
*/
/* 652 */   NdrFcShort( 0x0 ),    /* 0 */
/* 654 */   0x19,                 /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 656 */   NdrFcShort( 0x0 ),    /* 0 */
/* 658 */   NdrFcShort( 0x1 ),    /* Corr flags:  early, */
/* 660 */   NdrFcLong( 0xffffffff ),            /* -1 */
/* 664 */   NdrFcShort( 0x0 ),    /* Corr flags:  */
/* 666 */
                                0x12, 0x0, /* FC_UP */
/* 668 */   NdrFcShort( 0xffda ), /* Offset= -38 (630) */
/* 670 */   0x5c,                 /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 672 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 674 */   NdrFcShort( 0x10 ),   /* 16 */
/* 676 */   NdrFcShort( 0x0 ),    /* 0 */
/* 678 */   NdrFcShort( 0x6 ),    /* Offset= 6 (684) */
/* 680 */   0x8,                  /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 682 */   0x36,                 /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 684 */
                                0x11, 0x0, /* FC_RP */
/* 686 */   NdrFcShort( 0xffdc ), /* Offset= -36 (650) */
/* 688 */
                                0x1d,                   /*
FC_SMFARRAY */
                                0x0,                    /* 0
*/
/* 690 */   NdrFcShort( 0x8 ),    /* 8 */
/* 692 */   0x1,                  /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 694 */
```

```
                                0x15,                   /*
FC_STRUCT */
                                0x3,                    /* 3
*/
/* 696 */   NdrFcShort( 0x10 ),  /* 16 */
/* 698 */   0x8,                 /* FC_LONG */
                                0x6,                    /*
FC_SHORT */
/* 700 */   0x6,                 /* FC_SHORT */
                                0x4c,                   /*
FC_EMBEDDED_COMPLEX */
/* 702 */   0x0,                 /* 0 */
                                NdrFcShort( 0xfff1 ), /*
Offset= -15 (688) */
                                0x5b,                   /*
FC_END */
/* 706 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 708 */   NdrFcShort( 0x20 ),  /* 32 */
/* 710 */   NdrFcShort( 0x0 ),   /* 0 */
/* 712 */   NdrFcShort( 0xa ),   /* Offset= 10 (722) */
/* 714 */   0x8,                 /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 716 */   0x36,                /* FC_POINTER */
                                0x4c,                   /*
FC_EMBEDDED_COMPLEX */
/* 718 */   0x0,                 /* 0 */
                                NdrFcShort( 0xffe7 ), /*
Offset= -25 (694) */
                                0x5b,                   /*
FC_END */
/* 722 */
                                0x11, 0x0, /* FC_RP */
/* 724 */   NdrFcShort( 0xff12 ), /* Offset= -238 (486) */
/* 726 */
                                0x1b,                   /*
FC_CARRAY */
                                0x0,                    /* 0
*/
/* 728 */   NdrFcShort( 0x1 ),   /* 1 */
/* 730 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 732 */   NdrFcShort( 0x0 ),   /* 0 */
/* 734 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 736 */   0x1,                 /* FC_BYTE */
                                0x5b,                   /*
FC_END */
/* 738 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 740 */   NdrFcShort( 0x10 ),  /* 16 */
/* 742 */   NdrFcShort( 0x0 ),   /* 0 */
/* 744 */   NdrFcShort( 0x6 ),   /* Offset= 6 (750) */
/* 746 */   0x8,                 /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 748 */   0x36,                /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 750 */
                                0x12, 0x0, /* FC_UP */
/* 752 */   NdrFcShort( 0xffe6 ), /* Offset= -26 (726) */
/* 754 */
                                0x1b,                   /*
FC_CARRAY */
                                0x1,                    /* 1
*/
/* 756 */   NdrFcShort( 0x2 ),   /* 2 */
/* 758 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 760 */   NdrFcShort( 0x0 ),   /* 0 */
/* 762 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 764 */   0x6,                 /* FC_SHORT */
                                0x5b,                   /*
FC_END */
/* 766 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 768 */   NdrFcShort( 0x10 ),  /* 16 */
/* 770 */   NdrFcShort( 0x0 ),   /* 0 */
/* 772 */   NdrFcShort( 0x6 ),   /* Offset= 6 (778) */
/* 774 */   0x8,                 /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 776 */   0x36,                /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 778 */
                                0x12, 0x0, /* FC_UP */
/* 780 */   NdrFcShort( 0xffe6 ), /* Offset= -26 (754) */
/* 782 */
                                0x1b,                   /*
FC_CARRAY */
                                0x3,                    /* 3
*/
/* 784 */   NdrFcShort( 0x4 ),   /* 4 */
/* 786 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
/* 788 */   NdrFcShort( 0x0 ),   /* 0 */
/* 790 */   NdrFcShort( 0x1 ),   /* Corr flags:  early, */
/* 792 */   0x8,                 /* FC_LONG */
                                0x5b,                   /*
FC_END */
/* 794 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 796 */   NdrFcShort( 0x10 ),  /* 16 */
/* 798 */   NdrFcShort( 0x0 ),   /* 0 */
/* 800 */   NdrFcShort( 0x6 ),   /* Offset= 6 (806) */
/* 802 */   0x8,                 /* FC_LONG */
                                0x40,                   /*
FC_STRUCTPAD4 */
/* 804 */   0x36,                /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 806 */
                                0x12, 0x0, /* FC_UP */
/* 808 */   NdrFcShort( 0xffe6 ), /* Offset= -26 (782) */
/* 810 */
                                0x1b,                   /*
FC_CARRAY */
                                0x7,                    /* 7
*/
/* 812 */   NdrFcShort( 0x8 ),   /* 8 */
/* 814 */   0x19,                /* Corr desc:  field pointer,
FC_ULONG */
                                0x0,                    /*  */
```

```
/* 816 */   NdrFcShort( 0x0 ),      /* 0 */
/* 818 */   NdrFcShort( 0x1 ),      /* Corr flags:  early, */
/* 820 */   0xb,                    /* FC_HYPER */
                                    0x5b,                   /*
FC_END */
/* 822 */
                                    0x1a,                   /*
FC_BOGUS_STRUCT */
                                    0x3,                    /* 3
*/
/* 824 */   NdrFcShort( 0x10 ),     /* 16 */
/* 826 */   NdrFcShort( 0x0 ),      /* 0 */
/* 828 */   NdrFcShort( 0x6 ),      /* Offset= 6 (834) */
/* 830 */   0x8,                    /* FC_LONG */
                                    0x40,                   /*
FC_STRUCTPAD4 */
/* 832 */   0x36,                   /* FC_POINTER */
                                    0x5b,                   /*
FC_END */
/* 834 */
                                    0x12, 0x0, /* FC_UP */
/* 836 */   NdrFcShort( 0xffe6 ), /* Offset= -26 (810) */
/* 838 */
                                    0x15,                   /*
FC_STRUCT */
                                    0x3,                    /* 3
*/
/* 840 */   NdrFcShort( 0x8 ),      /* 8 */
/* 842 */   0x8,                    /* FC_LONG */
                                    0x8,                    /*
FC_LONG */
/* 844 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 846 */
                                    0x1b,                   /*
FC_CARRAY */
                                    0x3,                    /* 3
*/
/* 848 */   NdrFcShort( 0x8 ),      /* 8 */
/* 850 */   0x7,                    /* Corr desc: FC_USHORT
*/
                                    0x0,                    /*  */
/* 852 */   NdrFcShort( 0xffc8 ), /* -56 */
/* 854 */   NdrFcShort( 0x1 ),      /* Corr flags:  early, */
/* 856 */   0x4c,                   /*
FC_EMBEDDED_COMPLEX */
                                    0x0,                    /* 0
*/
/* 858 */   NdrFcShort( 0xffec ), /* Offset= -20 (838) */
/* 860 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 862 */
                                    0x1a,                   /*
FC_BOGUS_STRUCT */
                                    0x3,                    /* 3
*/
/* 864 */   NdrFcShort( 0x38 ),     /* 56 */
/* 866 */   NdrFcShort( 0xffec ), /* Offset= -20 (846) */
/* 868 */   NdrFcShort( 0x0 ),      /* Offset= 0 (868) */
/* 870 */   0x6,                    /* FC_SHORT */
                                    0x6,                    /*
FC_SHORT */
/* 872 */   0x8,                    /* FC_LONG */
                                    0x8,                    /*
FC_LONG */
/* 874 */   0x40,                   /* FC_STRUCTPAD4 */
                                    0x4c,                   /*
FC_EMBEDDED_COMPLEX */
/* 876 */   0x0,                    /* 0 */
                                    NdrFcShort( 0xfe0f ), /*
Offset= -497 (380) */
                                    0x5b,                   /*
FC_END */
/* 880 */
                                    0x12, 0x0, /* FC_UP */
/* 882 */   NdrFcShort( 0xff04 ), /* Offset= -252 (630) */
/* 884 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 886 */   0x1,                    /* FC_BYTE */
                                    0x5c,                   /*
FC_PAD */
/* 888 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 890 */   0x6,                    /* FC_SHORT */
                                    0x5c,                   /*
FC_PAD */
/* 892 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 894 */   0x8,                    /* FC_LONG */
                                    0x5c,                   /*
FC_PAD */
/* 896 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 898 */   0xb,                    /* FC_HYPER */
                                    0x5c,                   /*
FC_PAD */
/* 900 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 902 */   0xa,                    /* FC_FLOAT */
                                    0x5c,                   /*
FC_PAD */
/* 904 */
                                    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 906 */   0xc,                    /* FC_DOUBLE */
                                    0x5c,                   /*
FC_PAD */
/* 908 */
                                    0x12, 0x0, /* FC_UP */
/* 910 */   NdrFcShort( 0xfda2 ),/* Offset= -606 (304) */
/* 912 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 914 */   NdrFcShort( 0xfda4 ),/* Offset= -604 (310) */
/* 916 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 918 */   NdrFcShort( 0xfdba ),/* Offset= -582 (336) */
/* 920 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 922 */   NdrFcShort( 0xfdc8 ),/* Offset= -568 (354) */
/* 924 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 926 */   NdrFcShort( 0xfdd6 ),/* Offset= -554 (372) */
/* 928 */
                                    0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 930 */   NdrFcShort( 0x2 ),      /* Offset= 2 (932) */
/* 932 */
                                    0x12, 0x0, /* FC_UP */
/* 934 */   NdrFcShort( 0x14 ),     /* Offset= 20 (954) */
```

```
/* 936 */
                                0x15,               /*
FC_STRUCT */
                                0x7,                /* 7
*/
/* 938 */   NdrFcShort( 0x10 ),  /* 16 */
/* 940 */   0x6,                 /* FC_SHORT */
                                0x1,                /*
FC_BYTE */
/* 942 */   0x1,                 /* FC_BYTE */
                                0x8,                /*
FC_LONG */
/* 944 */   0xb,                 /* FC_HYPER */
                                0x5b,               /*
FC_END */
/* 946 */
                                0x12, 0x0, /* FC_UP */
/* 948 */   NdrFcShort( 0xfff4 ), /* Offset= -12 (936) */
/* 950 */
                                0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 952 */   0x2,                 /* FC_CHAR */
                                0x5c,               /*
FC_PAD */
/* 954 */
                                0x1a,               /*
FC_BOGUS_STRUCT */
                                0x7,                /* 7
*/
/* 956 */   NdrFcShort( 0x20 ),  /* 32 */
/* 958 */   NdrFcShort( 0x0 ),   /* 0 */
/* 960 */   NdrFcShort( 0x0 ),   /* Offset= 0 (960) */
/* 962 */   0x8,                 /* FC_LONG */
                                0x8,                /*
FC_LONG */
/* 964 */   0x6,                 /* FC_SHORT */
                                0x6,                /*
FC_SHORT */
/* 966 */   0x6,                 /* FC_SHORT */
                                0x6,                /*
FC_SHORT */
/* 968 */   0x4c,                /*
FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0
*/
/* 970 */   NdrFcShort( 0xfc3c ),/* Offset= -964 (6) */
/* 972 */   0x5c,                /* FC_PAD */
                                0x5b,               /*
FC_END */
/* 974 */   0xb4,                /* FC_USER_MARSHAL
*/
                                0x83,               /*
131 */
/* 976 */   NdrFcShort( 0x0 ),   /* 0 */
/* 978 */   NdrFcShort( 0x18 ),  /* 24 */
/* 980 */   NdrFcShort( 0x0 ),   /* 0 */
/* 982 */   NdrFcShort( 0xfc2c ),/* Offset= -980 (2) */
/* 984 */
                                0x11, 0x4, /* FC_RP
[alloced_on_stack] */
/* 986 */   NdrFcShort( 0x6 ),   /* Offset= 6 (992) */
/* 988 */
                                0x13, 0x0, /* FC_OP */
/* 990 */   NdrFcShort( 0xffdc ), /* Offset= -36 (954) */
/* 992 */   0xb4,                /* FC_USER_MARSHAL
*/
                                0x83,               /*
131 */
/* 994 */   NdrFcShort( 0x0 ),   /* 0 */
/* 996 */   NdrFcShort( 0x18 ),  /* 24 */
/* 998 */   NdrFcShort( 0x0 ),   /* 0 */
/* 1000 */  NdrFcShort( 0xfff4 ), /* Offset= -12 (988) */

                                0x0
        }
    };

static const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ]
=
        {

            {
            VARIANT_UserSize
            ,VARIANT_UserMarshal
            ,VARIANT_UserUnmarshal
            ,VARIANT_UserFree
            }

        };



/* Standard interface: __MIDL_itf_tpcc_com_ps_0000, ver.
0.0,

GUID={0x00000000,0x0000,0x0000,{0x00,0x00,0x00,0x00
,0x00,0x00,0x00,0x00}} */


/* Object interface: IUnknown, ver. 0.0,

GUID={0x00000000,0x0000,0x0000,{0xC0,0x00,0x00,0x00
,0x00,0x00,0x00,0x46}} */


/* Object interface: ITPCC, ver. 0.0,

GUID={0xFEEE6AA2,0x84B1,0x11d2,{0xBA,0x47,0x00,0
xC0,0x4F,0xBF,0xE0,0x8B}} */

#pragma code_seg(".orpc")
static const unsigned short ITPCC_FormatStringOffsetTable[]
=
    {
    0,
    44,
    88,
    132,
    176,
    220
    };

static const MIDL_STUBLESS_PROXY_INFO
ITPCC_ProxyInfo =
    {
    &Object_StubDesc,
    __MIDL_ProcFormatString.Format,
    &ITPCC_FormatStringOffsetTable[-3],
    0,
    0,
    0
    };


static const MIDL_SERVER_INFO ITPCC_ServerInfo =
    {
    &Object_StubDesc,
    0,
    __MIDL_ProcFormatString.Format,
```

```
    &ITPCC_FormatStringOffsetTable[-3],
    0,
    0,
    0,
    0};
CINTERFACE_PROXY_VTABLE(9) _ITPCCProxyVtbl =
{
    &ITPCC_ProxyInfo,
    &IID_ITPCC,
    IUnknown_QueryInterface_Proxy,
    IUnknown_AddRef_Proxy,
    IUnknown_Release_Proxy ,
    (void *) (INT_PTR) -1 /* ITPCC::NewOrder */ ,
    (void *) (INT_PTR) -1 /* ITPCC::Payment */ ,
    (void *) (INT_PTR) -1 /* ITPCC::Delivery */ ,
    (void *) (INT_PTR) -1 /* ITPCC::StockLevel */ ,
    (void *) (INT_PTR) -1 /* ITPCC::OrderStatus */ ,
    (void *) (INT_PTR) -1 /* ITPCC::CallSetComplete */
};

const CInterfaceStubVtbl _ITPCCStubVtbl =
{
    &IID_ITPCC,
    &ITPCC_ServerInfo,
    9,
    0, /* pure interpreted */
    CStdStubBuffer_METHODS
};

static const MIDL_STUB_DESC Object_StubDesc =
    {
    0,
    NdrOleAllocate,
    NdrOleFree,
    0,
    0,
    0,
    0,
    0,
    __MIDL_TypeFormatString.Format,
    1, /* -error bounds_check flag */
    0x50002, /* Ndr library version */
    0,
    0x6000169, /* MIDL Version 6.0.361 */
    0,
    UserMarshalRoutines,
    0,  /* notify & notify_flag routine table */
    0x1, /* MIDL flag */
    0, /* cs routines */
    0,   /* proxy/server info */
    0   /* Reserved5 */
    };

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[]
=
{
    ( CInterfaceProxyVtbl *) &_ITPCCProxyVtbl,
    0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
    ( CInterfaceStubVtbl *) &_ITPCCStubVtbl,
    0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[]
=
{
    "ITPCC",
    0
};


#define _tpcc_com_ps_CHECK_IID(n)
            IID_GENERIC_CHECK_IID( _tpcc_com_ps,
pIID, n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID,
int * pIndex )
{

    if(!_tpcc_com_ps_CHECK_IID(0))
        {
        *pIndex = 0;
        return 1;
        }

    return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
    (PCInterfaceProxyVtblList *) &
_tpcc_com_ps_ProxyVtblList,
    (PCInterfaceStubVtblList *) &
_tpcc_com_ps_StubVtblList,
    (const PCInterfaceName * ) &
_tpcc_com_ps_InterfaceNamesList,
    0, // no delegation
    & _tpcc_com_ps_IID_Lookup,
    1,
    2,
    0, /* table of [async_uuid] interfaces */
    0, /* Filler1 */
    0, /* Filler2 */
    0  /* Filler3 */
};
#if _MSC_VER >= 1200
#pragma warning(pop)
#endif


#endif /* defined(_M_IA64) || defined(_M_AMD64)*/
```

## tpcc_com_sl.rgs

```
 HKCR
{
            TPCC.StockLevel.1 = s 'StockLevel Class'
            {
                        CLSID = s '{2668369E-A50D-11D2-
BA4E-00C04FBFE08B}'
            }
            TPCC.StockLevel = s 'StockLevel Class'
            {
                        CurVer = s 'TPCC.StockLevel.1'
            }
            NoRemove CLSID
            {
                        ForceRemove {2668369E-A50D-
11D2-BA4E-00C04FBFE08B} = s 'StockLevel Class'
                        {
                                    ProgID = s
'TPCC.StockLevel.1'
                                    VersionIndependentProgID
= s 'TPCC.StockLevel'
```

```
                                InprocServer32 = s
'%MODULE%'
                                {
                                        val
ThreadingModel = s 'Both'
                                }
                        }
                }
}
```

## tpcc_odbc.cpp

```
/*          FILE:           TPCC_ODBC.CPP
 *                                  Microsoft TPC-
C Kit Ver. 4.42.000
 *                                  Copyright
Microsoft, 2002
 *          All Rights Reserved
 *
 *                                  Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *
 *          PURPOSE:        Implements ODBC calls for
TPC-C txns.
 *          Contact:    Charles Levine
(clevine@microsoft.com)
 *
 *  Change history:
 *                  4.42.000 - changed w_id fields from
short to long to support >32K warehouses
 *                  4.20.000 - updated rev number to
match kit
 *                  4.10.001 - not deleting error class in
catch handler on deadlock retry;
 *                                  not a
functional bug, but a memory leak
 */

#include <windows.h>
#include <stdio.h>
#include <assert.h>

#define DBNTWIN32
#include <sqltypes.h>
#include <sql.h>
#include <sqlext.h>

//#define COMPILE_FOR_SNAC          // define that to
compile for SQL Native Client; comment out to use MDAC

#ifndef COMPILE_FOR_SNAC
#include <odbcss.h>
#else
// Compile for SNAC
#include <sqlncli.h>
#endif

#ifdef ICECAP
#include <icapexp.h>
#endif

// need to declare functions for export
#define DllDecl  __declspec( dllexport )

#include "..\..\common\src\error.h"
#include "..\..\common\src\trans.h"
#include "..\..\common\src\txn_base.h"
#include "tpcc_odbc.h"

// version string; must match return value from tpcc_version
stored proc
const char  sVersion[] = "4.20.000";

const iMaxRetries = 3;                  // how many
retries on deadlock
//const iMaxRetries = 0;                // for debugging

const int iErrOleDbProvider = 7312;
const char sErrTimeoutExpired[] = "Timeout expired";

static SQLHENV henv = SQL_NULL_HENV;
                                // ODBC environment
handle

BOOL APIENTRY DllMain(HMODULE hModule,
DWORD ul_reason_for_call, LPVOID lpReserved)
{
        switch( ul_reason_for_call )
        {
                case DLL_PROCESS_ATTACH:

        DisableThreadLibraryCalls(hModule);
                        if
( SQLAllocHandleStd(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv) != SQL_SUCCESS )
                                return FALSE;
                        break;

                case DLL_PROCESS_DETACH:
                        if (henv != NULL)

        SQLFreeEnv(henv);
                        break;

                default:
                        /* nothing */;
        }
```

```
	return TRUE;
}

/* FUNCTION: CTPCC_ODBC_ERR::ErrorText
 *
 */

char* CTPCC_ODBC_ERR::ErrorText(void)
{
	int i;

	static SERRORMSG errorMsgs[] =
	{
		{ ERR_WRONG_SP_VERSION,
		"Wrong version of stored procs on database server" },
		{ ERR_INVALID_CUST,
		"Invalid Customer id,name."
	},
		{ ERR_NO_SUCH_ORDER,
	"No orders found for customer."
				},
		{ ERR_RETRIED_TRANS,
	"Retries before transaction succeeded."
				},
	{ ERR_INVALID_NEW_ORDER_PARAM,
	"New Order parameter invalid."
				},
		{ 0,
				""


	}
	};

	static char szNotFound[] = "Unknown error number.";

	for(i=0; errorMsgs[i].szMsg[0]; i++)
	{
		if ( m_errno == errorMsgs[i].iError )
			break;
	}
	if ( !errorMsgs[i].szMsg[0] )
		return szNotFound;
	else
		return errorMsgs[i].szMsg;
}

// wrapper routine for class constructor
__declspec(dllexport) CTPCC_ODBC* CTPCC_ODBC_new(
	LPCSTR szServer,		// name of SQL server
	LPCSTR szUser,			// user name for login
	LPCSTR szPassword,		// password for login
	LPCSTR szHost,			// not used
	LPCSTR szDatabase,		// name of database to use
	LPCWSTR szSPPrefix,		// prefix to append to the stored procedure names
	BOOL bCallNoDuplicatesNewOrder ) // whether to check for non-duplicate items in NewOrder and call a new SP
{
	return new CTPCC_ODBC( szServer, szUser, szPassword, szHost, szDatabase, szSPPrefix, bCallNoDuplicatesNewOrder );
}



CTPCC_ODBC::CTPCC_ODBC (
	LPCSTR szServer,
	// name of SQL server
	LPCSTR szUser,
		// user name for login
	LPCSTR szPassword,
	// password for login
	LPCSTR szHost,
		// not used
	LPCSTR szDatabase,
	// name of database to use
	LPCWSTR szSPPrefix,
		// prefix to append to the stored procedure names
	BOOL	bCallNoDuplicatesNewOrder // whether to check for non-duplicate items in NewOrder and call a new SP
	)
:
m_bCallNoDuplicatesNewOrder(bCallNoDuplicatesNewOrder)
{
	RETCODE			rc;

	// initialization
	m_hdbc = SQL_NULL_HDBC;
	m_hstmt = SQL_NULL_HSTMT;

	m_hstmtNewOrder = SQL_NULL_HSTMT;
	m_hstmtPayment = SQL_NULL_HSTMT;
	m_hstmtDelivery = SQL_NULL_HSTMT;
	m_hstmtOrderStatus = SQL_NULL_HSTMT;
	m_hstmtStockLevel = SQL_NULL_HSTMT;

	m_descNewOrderCols1 = SQL_NULL_HDESC;
	m_descNewOrderCols2 = SQL_NULL_HDESC;
```

```
	m_descOrderStatusCols1 = SQL_NULL_HDESC;
	m_descOrderStatusCols2 = SQL_NULL_HDESC;

	wcsncpy(m_szSPPrefix, szSPPrefix,
sizeof(m_szSPPrefix)/sizeof(m_szSPPrefix[0]));

	if ( SQLAllocHandle(SQL_HANDLE_DBC,
henv, &m_hdbc) != SQL_SUCCESS )

	ThrowError(CODBCERR::eAllocHandle);

	if ( SQLSetConnectOption(m_hdbc,
SQL_PACKET_SIZE, 4096) != SQL_SUCCESS )

	ThrowError(CODBCERR::eConnOption);

	{
		char
	szConnectStr[256];
		char
	szOutStr[1024];
		SQLSMALLINT
	iOutStrLen;

#ifndef COMPILE_FOR_SNAC
		sprintf( szConnectStr, "DRIVER=SQL
Server;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s",
			szServer, szUser,
szPassword, szDatabase );
#else
		// Compile for SNAC
		sprintf( szConnectStr, "DRIVER=SQL
Native
Client;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s",
			szServer, szUser,
szPassword, szDatabase );
#endif
		rc = SQLDriverConnect(m_hdbc,
NULL, (SQLCHAR*)szConnectStr, sizeof(szConnectStr),
			(SQLCHAR*)szOutStr,
sizeof(szOutStr), &iOutStrLen,
SQL_DRIVER_NOPROMPT );

		if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)

	ThrowError(CODBCERR::eConnect);
	}

	if (SQLAllocHandle(SQL_HANDLE_STMT,
m_hdbc, &m_hstmt) != SQL_SUCCESS)

	ThrowError(CODBCERR::eAllocHandle);

	{
		char		buffer[128];

		// set some options affecting
connection behavior
		strcpy(buffer, "set nocount on set
XACT_ABORT ON");
		rc = SQLExecDirect(m_hstmt,
(unsigned char *)buffer, SQL_NTS);
		if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)

	ThrowError(CODBCERR::eExecDirect);

		// verify that version of stored procs on
server is correct
		char db_sp_version[10];
		strcpy(buffer, "{call tpcc_version}");
		rc = SQLExecDirect(m_hstmt,
(unsigned char *)buffer, SQL_NTS);
		if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)

	ThrowError(CODBCERR::eExecDirect);
		if ( SQLBindCol(m_hstmt, 1,
SQL_C_CHAR, &db_sp_version, sizeof(db_sp_version),
NULL) != SQL_SUCCESS )

	ThrowError(CODBCERR::eBindCol);
		if ( SQLFetch(m_hstmt) ==
SQL_ERROR )

	ThrowError(CODBCERR::eFetch);
		if (strcmp(db_sp_version,sVersion))
			throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_WRON
G_SP_VERSION );

	SQLFreeHandle(SQL_HANDLE_STMT,
m_hstmt);
	}

	// Bind parameters for each of the transactions
	InitNewOrderParams();
	InitPaymentParams();
	InitOrderStatusParams();
	InitDeliveryParams();
	InitStockLevelParams();
}

CTPCC_ODBC::~CTPCC_ODBC( void )
{
	// note: descriptors are automatically released
when the connection is dropped
	SQLFreeHandle(SQL_HANDLE_STMT,
m_hstmtNewOrder);
```

```
		SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtPayment);
		SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtDelivery);
		SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtOrderStatus);
		SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtStockLevel);

		SQLDisconnect(m_hdbc);
		SQLFreeHandle(SQL_HANDLE_DBC,  m_hdbc);
}

//void CTPCC_ODBC::ThrowError( CODBCERR::ACTION eAction )
void CTPCC_ODBC::ThrowError( RETCODE eAction )
{
		RETCODE			rc;
		SDWORD		lNativeError;
		char			szState[6];
		char		szMsg[SQL_MAX_MESSAGE_LENGTH];
		char		szTmp[6*SQL_MAX_MESSAGE_LENGTH];
		CODBCERR   *pODBCErr;
		// not allocated until needed (maybe never)

		pODBCErr = new CODBCERR();

		pODBCErr->m_NativeError = 0;
		//pODBCErr->m_eAction = eAction;
		pODBCErr->m_eAction = (CODBCERR::ACTION)eAction;
		pODBCErr->m_bDeadLock = FALSE;

		szTmp[0] = 0;
		szMsg[0] = 0;
		while (TRUE)
		{
			rc = SQLError(henv, m_hdbc, m_hstmt, (BYTE *)&szState, &lNativeError,

(BYTE *)&szMsg, sizeof(szMsg), NULL);
			if (rc == SQL_NO_DATA)
			{
				break;
			}

			if (rc != SQL_SUCCESS)
			{
				break;
			}

			// check for deadlock
			if (lNativeError == 1205 || (lNativeError == iErrOleDbProvider &&
				strstr(szMsg, sErrTimeoutExpired) != NULL))
				pODBCErr->m_bDeadLock = TRUE;


			// capture the (first) database error
			if (pODBCErr->m_NativeError == 0 && lNativeError != 0)
				pODBCErr->m_NativeError = lNativeError;


			// quit if there isn't enough room to concatenate error text
			if ( (strlen(szMsg) + 2) > (sizeof(szTmp) - strlen(szTmp)) )
				break;


			// include line break after first error msg
			if (szTmp[0] != 0)
				strcat( szTmp, "\n");
			strcat( szTmp, szMsg );
		}

		if (pODBCErr->m_odbcerrstr != NULL)
		{
			delete [] pODBCErr->m_odbcerrstr;
			pODBCErr->m_odbcerrstr = NULL;
		}

		if (strlen(szTmp) > 0)
		{
			pODBCErr->m_odbcerrstr = new char[ strlen(szTmp)+1 ];
			strcpy( pODBCErr->m_odbcerrstr, szTmp );
		}

		SQLFreeStmt(m_hstmt, SQL_CLOSE);
		throw pODBCErr;
}

void CTPCC_ODBC::InitStockLevelParams()
{
		if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtStockLevel) != SQL_SUCCESS )

		ThrowError(CODBCERR::eAllocHandle);

		m_hstmt = m_hstmtStockLevel;

		int i = 0;
```

```
		if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.StockLevel.w_id, 0, NULL) !=
SQL_SUCCESS
			|| SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.StockLevel.d_id, 0,
NULL) != SQL_SUCCESS
			|| SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SSHORT,
SQL_SMALLINT, 0, 0, &m_txn.StockLevel.threshold, 0,
NULL) != SQL_SUCCESS
			)

		ThrowError(CODBCERR::eBindParam);


		if ( SQLBindCol(m_hstmt, 1, SQL_C_SLONG,
&m_txn.StockLevel.low_stock, 0, NULL) !=
SQL_SUCCESS )
			ThrowError(CODBCERR::eBindCol);


		//Compose Stock Level statement
		_snwprintf(m_szStockLevelCommand,
sizeof(m_szStockLevelCommand)/sizeof(m_szStockLevelCo
mmand[0]),
			L"{call %stpcc_stocklevel (?,?,?)}",
m_szSPPrefix);
}


void CTPCC_ODBC::StockLevel()
{
		RETCODE			rc;
		int			iTryCount = 0;


		m_hstmt = m_hstmtStockLevel;


		while (TRUE)
		{
			try
			{
				rc =
SQLExecDirectW(m_hstmt, m_szStockLevelCommand,
SQL_NTS);
				if (rc != SQL_SUCCESS
&& rc != SQL_SUCCESS_WITH_INFO)

		ThrowError(CODBCERR::eExecDirect);


				if ( SQLFetch(m_hstmt) ==
SQL_ERROR )

		ThrowError(CODBCERR::eFetch);


				SQLFreeStmt(m_hstmt,
SQL_CLOSE);

		m_txn.StockLevel.exec_status_code = eOK;
				break;
			}
			catch (CODBCERR *e)
			{
				if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
					throw;


				// hit deadlock; backoff for
increasingly longer period
				delete e;
				Sleep(10 * iTryCount);
			}
		}

//		if (iTryCount)
//			throw new
CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIE
D_TRANS, iTryCount);
}


void CTPCC_ODBC::InitNewOrderParams()
{
		if (   SQLAllocHandle(SQL_HANDLE_STMT,
m_hdbc, &m_hstmtNewOrder) != SQL_SUCCESS
			||
SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc,
&m_hstmtNewOrderNoDuplicates) != SQL_SUCCESS
			||
SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descNewOrderCols1) != SQL_SUCCESS
			||
SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descNewOrderCols2) != SQL_SUCCESS
			||
SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descNewOrderNoDuplicatesCols1) != SQL_SUCCESS
			||
SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descNewOrderNoDuplicatesCols2) != SQL_SUCCESS
			)

		ThrowError(CODBCERR::eAllocHandle);


		m_hstmt = m_hstmtNewOrder;


		if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )

		ThrowError(CODBCERR::eSetStmtAttr);


		int i = 0;
```

```
            if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.w_id, 0, NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.d_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.c_id, 0, NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_ol_cnt, 0,
NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_all_local, 0,
NULL) != SQL_SUCCESS
                        )

            ThrowError(CODBCERR::eBindParam);


            for (int j=0; j<MAX_OL_NEW_ORDER_ITEMS;
j++)
            {
                        if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.OL[j].ol_i_id, 0, NULL) !=
SQL_SUCCESS
                                    ||
SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_txn.NewOrder.OL[j].ol_supply_w_id, 0, NULL) !=
SQL_SUCCESS
                                    ||
SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SSHORT, SQL_SMALLINT, 0, 0,
&m_txn.NewOrder.OL[j].ol_quantity, 0, NULL) !=
SQL_SUCCESS
                                    )

            ThrowError(CODBCERR::eBindParam);
            }


            // set the bind offset pointer
            if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_ROW_BIND_OFFSET_PTR, &m_BindOffset,
SQL_IS_POINTER ) != SQL_SUCCESS )

            ThrowError(CODBCERR::eSetStmtAttr);


            i = 0;
            if (   SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_i_name,
sizeof(m_txn.NewOrder.OL[0].ol_i_name), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_txn.NewOrder.OL[0].ol_stock, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_brand_generic,
sizeof(m_txn.NewOrder.OL[0].ol_brand_generic), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.NewOrder.OL[0].ol_i_price, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.NewOrder.OL[0].ol_amount, 0,
NULL) != SQL_SUCCESS
                        )
                        ThrowError(CODBCERR::eBindCol);


            // associate the column bindings for the second
result set
            if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )

            ThrowError(CODBCERR::eSetStmtAttr);


            i = 0;
            if (   SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.w_tax, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.d_tax, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,     &m_txn.NewOrder.o_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.NewOrder.c_last,
sizeof(m_txn.NewOrder.c_last), NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.c_discount, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.NewOrder.c_credit,
sizeof(m_txn.NewOrder.c_credit), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP,
&m_txn.NewOrder.o_entry_d, 0, NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,     &m_no_commit_flag, 0, NULL) !=
SQL_SUCCESS
                )
                        ThrowError(CODBCERR::eBindCol);


            //Compose the New Order statement
            _snwprintf(m_szNewOrderCommand,
sizeof(m_szNewOrderCommand)/sizeof(m_szNewOrderCo
mmand[0]),
                                    // 0        1        2
                                    //
012345678901234567890123456789
                                    L"{call
%stpcc_neworder(?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?
,"
```

```
            L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)}",
m_szSPPrefix);


            m_iBeginNewOrderVariablePart = 29 +
wcslen(m_szSPPrefix);               // fixed part + prefix part


            ////////////////////////////////////////////////////////////////
////////////////
            //
            //              Now initialize New Order that works
on no duplicate (w_id,i_id) pairs
            //              and returns one result set for lineitem
details.
            //
            //
            m_hstmt = m_hstmtNewOrderNoDuplicates;


            if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC,
m_descNewOrderNoDuplicatesCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )


            ThrowError(CODBCERR::eSetStmtAttr);


            i = 0;
            if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.w_id, 0, NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.d_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.c_id, 0, NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_ol_cnt, 0,
NULL) != SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_all_local, 0,
NULL) != SQL_SUCCESS
                        )


            ThrowError(CODBCERR::eBindParam);


           for (int j=0; j<MAX_OL_NEW_ORDER_ITEMS;
j++)
            {
                        if (    SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.NewOrder.OL[j].ol_i_id, 0, NULL) !=
SQL_SUCCESS
                                    ||
SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_txn.NewOrder.OL[j].ol_supply_w_id, 0, NULL) !=
SQL_SUCCESS
                                    ||
SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SSHORT, SQL_SMALLINT, 0, 0,
&m_txn.NewOrder.OL[j].ol_quantity, 0, NULL) !=
SQL_SUCCESS
                                    )

            ThrowError(CODBCERR::eBindParam);
            }


            // set row-wise binding
            if (   SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_BIND_TYPE,
(SQLPOINTER)sizeof(m_txn.NewOrder.OL[0]),
SQL_IS_UINTEGER) != SQL_SUCCESS
                        || SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROWS_FETCHED_PTR, &m_RowsFetched,
0) != SQL_SUCCESS )


            ThrowError(CODBCERR::eSetStmtAttr);


            i = 0;
            if (   SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_i_name,
sizeof(m_txn.NewOrder.OL[0].ol_i_name), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_txn.NewOrder.OL[0].ol_stock, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_brand_generic,
sizeof(m_txn.NewOrder.OL[0].ol_brand_generic), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.NewOrder.OL[0].ol_i_price, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.NewOrder.OL[0].ol_amount, 0,
NULL) != SQL_SUCCESS
                        )
                        ThrowError(CODBCERR::eBindCol);


            // associate the column bindings for the second
result set
            if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC,
m_descNewOrderNoDuplicatesCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )


            ThrowError(CODBCERR::eSetStmtAttr);


            i = 0;
            if (   SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.w_tax, 0,
NULL) != SQL_SUCCESS
```

```
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.d_tax, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,     &m_txn.NewOrder.o_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.NewOrder.c_last,
sizeof(m_txn.NewOrder.c_last), NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.NewOrder.c_discount, 0,
NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.NewOrder.c_credit,
sizeof(m_txn.NewOrder.c_credit), NULL) !=
SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP,
&m_txn.NewOrder.o_entry_d, 0, NULL) != SQL_SUCCESS
                        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,     &m_no_commit_flag, 0, NULL) !=
SQL_SUCCESS
                )
                        ThrowError(CODBCERR::eBindCol);


        //Compose the New Order statement
        _snwprintf(m_szNewOrderNoDuplicatesComman
d,
sizeof(m_szNewOrderNoDuplicatesCommand)/sizeof(m_sz
NewOrderNoDuplicatesCommand[0]),
                                L"{call
%stpcc_neworder_new(?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?
,?,?,?,"

        L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)}",
m_szSPPrefix);


        m_iBeginNewOrderNoDuplicatesVariablePart =
33 + wcslen(m_szSPPrefix);      // fixed part + prefix part
}


//
//      Returns true if there are duplicate (warehouse_id,
item_id)
//      lineitem pairs in New Order input parameters.
//
bool CTPCC_ODBC::DuplicatesInNewOrder()
{
        int i, j;


        for (i = 0; i < m_txn.NewOrder.o_ol_cnt; ++i)
        {
                for (j = i+1; j<
m_txn.NewOrder.o_ol_cnt; ++j)
                {
                        if
(m_txn.NewOrder.OL[i].ol_i_id ==
m_txn.NewOrder.OL[j].ol_i_id)
                        {
                                return true;
                        }
                }
        }

        return false;
}

void CTPCC_ODBC::NewOrder()
{
        if (m_bCallNoDuplicatesNewOrder)
        {
                if (DuplicatesInNewOrder())
                {
                        NewOrderDuplicates();
                }
                else
                {
                        NewOrderNoDuplicates();
                }
        }
        else
        {
                NewOrderDuplicates();
        }
}

void CTPCC_ODBC::NewOrderDuplicates()
{
        int
        i;
        RETCODE
        rc;
        int
        iTryCount = 0;

                                                        // 0
1       2

                                                        //
01234567890123456789012345678 9
        wchar_t
        szSqlTemplate[iMAX_SP_NAME_LEN];

                                                //= L"{call
tpcc_neworder(?,?,?,?,?,?,"

                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"

                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"
```

```
                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)}";

        m_hstmt = m_hstmtNewOrder;

        // associate the parameter and column bindings for
this transaction
        if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);

        // clip statement buffer based on number of
parameters
        // fixed part is 29 chars and variable part is 6 chars
per line item
        wcscpy(szSqlTemplate,
m_szNewOrderCommand);
        i = m_iBeginNewOrderVariablePart +
m_txn.NewOrder.o_ol_cnt*6;
        wcscpy( &szSqlTemplate[i], L")}" );

        // check whether any order lines are for a remote
warehouse
        m_txn.NewOrder.o_all_local = 1;
        for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
        {
                if
(m_txn.NewOrder.OL[i].ol_supply_w_id !=
m_txn.NewOrder.w_id)
                {

        m_txn.NewOrder.o_all_local = 0;  // at least one
remote warehouse
                        break;
                }
        }

        while (TRUE)
        {
                try
                {
                        m_BindOffset = 0;
                        rc =
SQLExecDirectW(m_hstmt, szSqlTemplate, SQL_NTS);
                        if (rc != SQL_SUCCESS
&& rc != SQL_SUCCESS_WITH_INFO)

        ThrowError(CODBCERR::eExecDirect);

                        // Get order line results

        m_txn.NewOrder.total_amount = 0;
                        for (i = 0;
i<m_txn.NewOrder.o_ol_cnt; i++)
                        {
                                // set the bind
offset value...
                                m_BindOffset =
i * sizeof(m_txn.NewOrder.OL[0]);

                                if
( SQLFetch(m_hstmt) == SQL_ERROR)

        ThrowError(CODBCERR::eFetch);

                                // move to the
next resultset
                                if
( SQLMoreResults(m_hstmt) == SQL_ERROR )

        ThrowError(CODBCERR::eMoreResults);


        m_txn.NewOrder.total_amount +=
m_txn.NewOrder.OL[i].ol_amount;
                        }

                        // associate the column
bindings for the second result set
                        if
( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);

                        if ( SQLFetch(m_hstmt) ==
SQL_ERROR)

        ThrowError(CODBCERR::eFetch);

                        SQLFreeStmt(m_hstmt,
SQL_CLOSE);

                       if (m_no_commit_flag == 1)
                        {

        m_txn.NewOrder.total_amount *= ((1 +
m_txn.NewOrder.w_tax + m_txn.NewOrder.d_tax) * (1 -
m_txn.NewOrder.c_discount));

        m_txn.NewOrder.exec_status_code = eOK;
                        }
                        else

        m_txn.NewOrder.exec_status_code =
eInvalidItem;

                        break;
```

```
                }
                catch (CODBCERR *e)
                {
                        if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                                throw;

                        // hit deadlock; backoff for
increasingly longer period
                        delete e;
                        Sleep(10 * iTryCount);
                }
        }

//      if (iTryCount)
//              throw new
CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIE
D_TRANS, iTryCount);
}

//
//      No lineitem duplicates optimized version.
//
void CTPCC_ODBC::NewOrderNoDuplicates()
{
        int
        i;
        RETCODE
        rc;
        int
        iTryCount = 0;

                                                // 0
1       2       3

                                                //
012345678901234567890123456789012345678901234
        wchar_t
        szSqlTemplate[iMAX_SP_NAME_LEN];

                                                //= L"{call
tpcc_neworder_new(?,?,?,?,?,?,"

                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"

                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"

                                                //
L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)}";

        m_hstmt = m_hstmtNewOrderNoDuplicates;

        // associate the parameter and column bindings for
this transaction
        if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC,
m_descNewOrderNoDuplicatesCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);

        // clip statement buffer based on number of
parameters
        // fixed part is 33 chars and variable part is 6 chars
per line item
        wcscpy(szSqlTemplate,
m_szNewOrderNoDuplicatesCommand);
        i = m_iBeginNewOrderNoDuplicatesVariablePart
+ m_txn.NewOrder.o_ol_cnt*6;
        wcscpy( &szSqlTemplate[i], L")}" );

        // check whether any order lines are for a remote
warehouse
        m_txn.NewOrder.o_all_local = 1;
        for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
        {
                if
(m_txn.NewOrder.OL[i].ol_supply_w_id !=
m_txn.NewOrder.w_id)
                {

        m_txn.NewOrder.o_all_local = 0;  // at least one
remote warehouse
                        break;
                }
        }

        while (TRUE)
        {
                try
                {
                        // configure block cursor
                        if
( SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_ARRAY_SIZE, (SQLPOINTER)1, 0) !=
SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);

                        rc =
SQLExecDirectW(m_hstmt, szSqlTemplate, SQL_NTS);
                        if (rc != SQL_SUCCESS
&& rc != SQL_SUCCESS_WITH_INFO)

        ThrowError(CODBCERR::eExecDirect);

                        // configure block cursor
                        if
(SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_ARRAY_SIZE,
```

```
(SQLPOINTER)MAX_OL_NEW_ORDER_ITEMS, 0) !=
SQL_SUCCESS)

        ThrowError(CODBCERR::eSetStmtAttr);

                        // Get order line results

                        if ( SQLFetch(m_hstmt) ==
SQL_ERROR)

        ThrowError(CODBCERR::eFetch);



        m_txn.NewOrder.total_amount = 0;
                        for (i = 0;
i<m_txn.NewOrder.o_ol_cnt; i++)
                        {


        m_txn.NewOrder.total_amount +=
m_txn.NewOrder.OL[i].ol_amount;
                        }


                        // associate the column
bindings for the second result set
                        if
( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC,
m_descNewOrderNoDuplicatesCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);


                        // move to the next resultset
                        if
( SQLMoreResults(m_hstmt) == SQL_ERROR )

        ThrowError(CODBCERR::eMoreResults);

                        if ( (rc =
SQLFetch(m_hstmt)) == SQL_ERROR)

        ThrowError(CODBCERR::eFetch);

                        SQLFreeStmt(m_hstmt,
SQL_CLOSE);

                        // Check Fetch return code
for no rows returned.
                        // It means customer id or
warehouse id were invalid.
                        //
                        if (rc == SQL_NO_DATA)
                                throw new
CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_INVALI
D_NEW_ORDER_PARAM);
                        if (m_no_commit_flag == 1)
                        {

        m_txn.NewOrder.total_amount *= ((1 +
m_txn.NewOrder.w_tax + m_txn.NewOrder.d_tax) * (1 -
m_txn.NewOrder.c_discount));

        m_txn.NewOrder.exec_status_code = eOK;
                        }
                        else

        m_txn.NewOrder.exec_status_code =
eInvalidItem;

                        break;
                }
                catch (CODBCERR *e)
                {
                        if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                                throw;

                        // hit deadlock; backoff for
increasingly longer period
                        delete e;
                        Sleep(10 * iTryCount);
                }
        }

//      if (iTryCount)
//              throw new
CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIE
D_TRANS, iTryCount);
}

void CTPCC_ODBC::InitPaymentParams()
{
        if (   SQLAllocHandle(SQL_HANDLE_STMT,
m_hdbc, &m_hstmtPayment) != SQL_SUCCESS )

        ThrowError(CODBCERR::eAllocHandle);


        m_hstmt = m_hstmtPayment;


        int i = 0;
        if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.Payment.w_id, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.Payment.c_w_id, 0, NULL) !=
SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_DOUBLE,
SQL_NUMERIC, 6, 2, &m_txn.Payment.h_amount, 0,
NULL) != SQL_SUCCESS
```

```
                    || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.Payment.d_id, 0, NULL) !=
SQL_SUCCESS
                    || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT,
SQL_TINYINT, 0, 0, &m_txn.Payment.c_d_id, 0, NULL) !=
SQL_SUCCESS
                    || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.Payment.c_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_CHAR, SQL_CHAR,
sizeof(m_txn.Payment.c_last), 0, &m_txn.Payment.c_last,
sizeof(m_txn.Payment.c_last), NULL) != SQL_SUCCESS
                    )

          ThrowError(CODBCERR::eBindParam);


          i = 0;
          if (   SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,     &m_txn.Payment.c_id,              0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_last,
          sizeof(m_txn.Payment.c_last), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_txn.Payment.h_date,
                    0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.w_street_1,
          sizeof(m_txn.Payment.w_street_1), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.w_street_2,
          sizeof(m_txn.Payment.w_street_2), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.w_city,
          sizeof(m_txn.Payment.w_city), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.w_state,
          sizeof(m_txn.Payment.w_state), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.w_zip,
          sizeof(m_txn.Payment.w_zip), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.d_street_1,
          sizeof(m_txn.Payment.d_street_1), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.d_street_2,
          sizeof(m_txn.Payment.d_street_2), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.d_city,
          sizeof(m_txn.Payment.d_city), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.d_state,
          sizeof(m_txn.Payment.d_state), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.d_zip,
          sizeof(m_txn.Payment.d_zip), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_first,
          sizeof(m_txn.Payment.c_first), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_middle,
          sizeof(m_txn.Payment.c_middle), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_street_1,
          sizeof(m_txn.Payment.c_street_1), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_street_2,
          sizeof(m_txn.Payment.c_street_2), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_city,
          sizeof(m_txn.Payment.c_city), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_state,
          sizeof(m_txn.Payment.c_state), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_zip,
          sizeof(m_txn.Payment.c_zip), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_phone,
          sizeof(m_txn.Payment.c_phone), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_txn.Payment.c_since,
                    0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_credit,
          sizeof(m_txn.Payment.c_credit), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.Payment.c_credit_lim,0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.Payment.c_discount,       0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE,    &m_txn.Payment.c_balance,        0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR,      &m_txn.Payment.c_data,
          sizeof(m_txn.Payment.c_data), NULL) !=
SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eBindCol);
```

```
	//Compose Payment statement
	_snwprintf(m_szPaymentCommand, sizeof(m_szPaymentCommand)/sizeof(m_szPaymentCommand[0]),
		L"{call %stpcc_payment (?,?,?,?,?,?,?,?)}", m_szSPPrefix);
}

void CTPCC_ODBC::Payment()
{
	RETCODE			rc;
	int			iTryCount = 0;

	m_hstmt = m_hstmtPayment;

	if (m_txn.Payment.c_id != 0)
		m_txn.Payment.c_last[0] = 0;

	while (TRUE)
	{
		try
		{
			rc = SQLExecDirectW(m_hstmt, m_szPaymentCommand, SQL_NTS);
			if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)

	ThrowError(CODBCERR::eExecDirect);

			if ( SQLFetch(m_hstmt) == SQL_ERROR)

	ThrowError(CODBCERR::eFetch);

			SQLFreeStmt(m_hstmt, SQL_CLOSE);

			if (m_txn.Payment.c_id == 0)
				throw new CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_INVALID_CUST );
			else

	m_txn.Payment.exec_status_code = eOK;

			break;
		}
		catch (CODBCERR *e)
		{
			if ((!e->m_bDeadLock) || (++iTryCount > iMaxRetries))
				throw;
			// hit deadlock; backoff for increasingly longer period
			delete e;
			Sleep(10 * iTryCount);
		}
	}

//	if (iTryCount)
//		throw new CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIED_TRANS, iTryCount);
}

void CTPCC_ODBC::InitOrderStatusParams()
{
	if (	SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtOrderStatus) != SQL_SUCCESS
		||
		SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc, &m_descOrderStatusCols1) != SQL_SUCCESS
		||
		SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc, &m_descOrderStatusCols2) != SQL_SUCCESS
		)

	ThrowError(CODBCERR::eAllocHandle);

	m_hstmt = m_hstmtOrderStatus;

	if (	SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols1, SQL_IS_POINTER ) != SQL_SUCCESS )

	ThrowError(CODBCERR::eSetStmtAttr);

	int i = 0;
	if (	SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0, &m_txn.OrderStatus.w_id, 0, NULL) != SQL_SUCCESS
		|| SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_UTINYINT, SQL_TINYINT, 0, 0, &m_txn.OrderStatus.d_id, 0, NULL) != SQL_SUCCESS
		|| SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0, &m_txn.OrderStatus.c_id, 0, NULL) != SQL_SUCCESS
		|| SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_CHAR, SQL_CHAR, sizeof(m_txn.OrderStatus.c_last), 0, &m_txn.OrderStatus.c_last, sizeof(m_txn.OrderStatus.c_last), NULL) != SQL_SUCCESS
		)

	ThrowError(CODBCERR::eBindParam);

	// configure block cursor
```

```
		if (   SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_BIND_TYPE,
(SQLPOINTER)sizeof(m_txn.OrderStatus.OL[0]), 0) !=
SQL_SUCCESS
			|| SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROWS_FETCHED_PTR, &m_RowsFetched,
0) != SQL_SUCCESS
			)

		ThrowError(CODBCERR::eSetStmtAttr);


		i = 0;
		if (   SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG,
&m_txn.OrderStatus.OL[0].ol_supply_w_id, 0, NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG, &m_txn.OrderStatus.OL[0].ol_i_id, 0,
NULL) != SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_txn.OrderStatus.OL[0].ol_quantity,
0, NULL) != SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.OrderStatus.OL[0].ol_amount, 0,
NULL) != SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP,
&m_txn.OrderStatus.OL[0].ol_delivery_d, 0, NULL) !=
SQL_SUCCESS
			)
			ThrowError(CODBCERR::eBindCol);



		if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )

		ThrowError(CODBCERR::eSetStmtAttr);


		i = 0;
		if (   SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG, &m_txn.OrderStatus.c_id, 0, NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR, &m_txn.OrderStatus.c_last,
sizeof(m_txn.OrderStatus.c_last), NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR, &m_txn.OrderStatus.c_first,
sizeof(m_txn.OrderStatus.c_first), NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_CHAR, &m_txn.OrderStatus.c_middle,
sizeof(m_txn.OrderStatus.c_middle), NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP,
&m_txn.OrderStatus.o_entry_d, 0, NULL) !=
SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_txn.OrderStatus.o_carrier_id, 0,
NULL) != SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_txn.OrderStatus.c_balance, 0,
NULL) != SQL_SUCCESS
			|| SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG, &m_txn.OrderStatus.o_id, 0, NULL) !=
SQL_SUCCESS
			)
			ThrowError(CODBCERR::eBindCol);


		//Compose Order Status statement
		_snwprintf(m_szOrderStatusCommand,
sizeof(m_szOrderStatusCommand)/sizeof(m_szOrderStatusC
ommand[0]),
			L"{call %stpcc_orderstatus (?,?,?,?)}",
m_szSPPrefix);
}


void CTPCC_ODBC::OrderStatus()
{
		int
			iTryCount = 0;
		RETCODE
			rc;


		m_hstmt = m_hstmtOrderStatus;


		if (m_txn.OrderStatus.c_id != 0)
			m_txn.OrderStatus.c_last[0] = 0;


		while (TRUE)
		{
			try
			{
				if
( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )

			ThrowError(CODBCERR::eSetStmtAttr);


				// configure block cursor
				if
( SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_ARRAY_SIZE, (SQLPOINTER)1, 0) !=
SQL_SUCCESS )

			ThrowError(CODBCERR::eSetStmtAttr);


				rc =
SQLExecDirectW(m_hstmt, m_szOrderStatusCommand,
SQL_NTS);
				if (rc != SQL_SUCCESS
&& rc != SQL_SUCCESS_WITH_INFO)
```

```
        ThrowError(CODBCERR::eExecDirect);



                                // configure block cursor
                                if
( SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_ARRAY_SIZE,
(SQLPOINTER)MAX_OL_ORDER_STATUS_ITEMS,
0) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);


                                rc =
SQLFetchScroll( m_hstmt, SQL_FETCH_NEXT, 0 );
//                              if ( !((rc ==
SQL_SUCCESS) || ((rc == SQL_SUCCESS_WITH_INFO)
&& (m_RowsFetched != 0))) )
                                if ( (rc !=
SQL_SUCCESS) )

        ThrowError(CODBCERR::eFetchScroll);



        m_txn.OrderStatus.o_ol_cnt =
(short)m_RowsFetched;


                                if
(m_txn.OrderStatus.o_ol_cnt != 0)
                                {
                                        if
( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )

        ThrowError(CODBCERR::eSetStmtAttr);


//                                      if
( SQLMoreResults(m_hstmt) == SQL_ERROR )
                                        if ( (rc =
SQLMoreResults(m_hstmt)) != SQL_SUCCESS )
                                        {

        ThrowError(CODBCERR::eMoreResults);
                                        }


//                                      if ( (rc =
SQLFetch(m_hstmt)) == SQL_ERROR)

                                        if ( (rc =
SQLFetch(m_hstmt)) != SQL_SUCCESS)

        ThrowError(CODBCERR::eFetch);
                                }


                                SQLFreeStmt(m_hstmt,
SQL_CLOSE);
                                        if
(m_txn.OrderStatus.o_ol_cnt == 0)

                                                throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_NO_SU
CH_ORDER );
                                        else if
(m_txn.OrderStatus.c_id == 0 &&
m_txn.OrderStatus.c_last[0] == 0)

                                                throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_INVAL
ID_CUST );
                                        else

        m_txn.OrderStatus.exec_status_code = eOK;


                                        break;
                        }
                        catch (CODBCERR *e)
                        {
                                if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                                        throw;


                                // hit deadlock; backoff for
increasingly longer period
                                delete e;
                                Sleep(10 * iTryCount);
                        }
        }


//      if (iTryCount)
//              throw new
CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIE
D_TRANS, iTryCount);
}


void CTPCC_ODBC::InitDeliveryParams()
{
        if (   SQLAllocHandle(SQL_HANDLE_STMT,
m_hdbc, &m_hstmtDelivery) != SQL_SUCCESS )

        ThrowError(CODBCERR::eAllocHandle);


        m_hstmt = m_hstmtDelivery;


        int i = 0;
        if (   SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER,
0, 0, &m_txn.Delivery.w_id, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SSHORT,
SQL_SMALLINT, 0, 0, &m_txn.Delivery.o_carrier_id, 0,
NULL) != SQL_SUCCESS
                )

        ThrowError(CODBCERR::eBindParam);
```

```
	for (i=0;i<10;i++)
	{
		if ( SQLBindCol(m_hstmt, (UWORD)(i+1), SQL_C_SLONG, &m_txn.Delivery.o_id[i], 0, NULL) != SQL_SUCCESS )

	ThrowError(CODBCERR::eBindCol);
	}

	//Compose Delivery statement
	_snwprintf(m_szDeliveryCommand, sizeof(m_szDeliveryCommand)/sizeof(m_szDeliveryCommand[0]),
		L"{call %stpcc_delivery (?,?)}", m_szSPPrefix);
}

void CTPCC_ODBC::Delivery()
{
	RETCODE			rc;
	int			iTryCount = 0;

	m_hstmt = m_hstmtDelivery;

	while (TRUE)
	{
		try
		{
			rc = SQLExecDirectW(m_hstmt, m_szDeliveryCommand, SQL_NTS);
			if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)

	ThrowError(CODBCERR::eExecDirect);

			if ( SQLFetch(m_hstmt) == SQL_ERROR )

	ThrowError(CODBCERR::eFetch);

			SQLFreeStmt(m_hstmt, SQL_CLOSE);

	m_txn.Delivery.exec_status_code = eOK;
			break;
		}
		catch (CODBCERR *e)
		{
			if ((!e->m_bDeadLock) || (++iTryCount > iMaxRetries))
				throw;
			// hit deadlock; backoff for increasingly longer period
			delete e;
			Sleep(10 * iTryCount);
		}
	}

//	if (iTryCount)
//		throw new CTPCC_ODBC_ERR(CTPCC_ODBC_ERR::ERR_RETRIED_TRANS, iTryCount);
}
```

## tpcc_odbc.h

```
/*	FILE:		TPCC_ODBC.H
 *				Microsoft TPC-C Kit Ver. 4.20.000
 *				Copyright Microsoft, 1999
 *		All Rights Reserved
 *
 *				Version 4.10.000 audited by Richard Gimarc, Performance Metrics, 3/17/99
 *
 *	PURPOSE:	Header file for TPC-C txn class implementation.
 *
 *  Change history:
 *			4.20.000 - updated rev number to match kit
 */
#pragma once

// need to declare functions for import, unless define has already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl  __declspec( dllimport )
#endif

#define iMAX_SP_NAME_LEN 256	//maximum length of a stored procedure name with parameters

class CODBCERR : public CBaseErr
{
	public:
		enum ACTION
		{
			eNone,
			eUnknown,
			eAllocConn,
		// error from SQLAllocConnect
```

```
                eAllocHandle,
        // error from SQLAllocHandle
                eConnOption,
        // error from SQLSetConnectOption
                eConnect,
        // error from SQLConnect
                eAllocStmt,
            // error from SQLAllocStmt
                eExecDirect,
        // error from SQLExecDirect
                eBindParam,
            // error from SQLBindParameter
                eBindCol,
        // error from SQLBindCol
                eFetch,
            // error from SQLFetch
                eFetchScroll,
        // error from SQLFetchScroll
                eMoreResults,
        // error from SQLMoreResults
                ePrepare,
        // error from SQLPrepare
                eExecute,
        // error from SQLExecute
                eSetEnvAttr,
        // error from SQLSetEnvAttr
                eSetStmtAttr
        // error from SQLSetStmtAttr
            };

            CODBCERR(void)
            {
                m_eAction = eNone;
                m_NativeError = 0;
                m_bDeadLock = FALSE;
                m_odbcerrstr = NULL;
            };

            ~CODBCERR()
            {
                if (m_odbcerrstr != NULL)
                    delete []
m_odbcerrstr;
            };

            ACTION  m_eAction;
            int         m_NativeError;
            BOOL    m_bDeadLock;
            char   *m_odbcerrstr;

            int         ErrorType()
{return ERR_TYPE_ODBC;};
            char*   ErrorTypeStr() { return
"ODBC"; }
            int         ErrorNum()
{return m_NativeError;};
            char*   ErrorText() {return
m_odbcerrstr;};
            int         ErrorAction()
{ return (int)m_eAction; }
};

class CTPCC_ODBC_ERR : public CBaseErr
{
    public:
        enum TPCC_ODBC_ERRS
        {

    ERR_WRONG_SP_VERSION = 1,       //
"Wrong version of stored procs on database server"
                ERR_INVALID_CUST,
                // "Invalid Customer
id,name."
                ERR_NO_SUCH_ORDER,
                // "No orders found for
customer."
                ERR_RETRIED_TRANS,
                // "Retries before
transaction succeeded."

    ERR_INVALID_NEW_ORDER_PARAM  //
"New Order parameter invalid."
        };

        CTPCC_ODBC_ERR( int iErr )
{ m_errno = iErr; m_iTryCount = 0; };

        CTPCC_ODBC_ERR( int iErr, int
iTryCount ) { m_errno = iErr; m_iTryCount = iTryCount; };

        int         m_errno;
        int         m_iTryCount;

        int         ErrorType()
{return ERR_TYPE_TPCC_ODBC;};
        char*   ErrorTypeStr() { return
"TPCC ODBC"; }
        int         ErrorNum()
{return m_errno;};

        char*   ErrorText();
};

class DllDecl CTPCC_ODBC : public CTPCC_BASE
{
    private:
        // declare variables and private
functions here...
```

```
                BOOL            m_bDeadlock;
                // transaction was selected as deadlock
victim
                int
        m_MaxRetries;           // retry count on
deadlock


                SQLHENV
        m_henv;                         //
ODBC environment handle
                SQLHDBC
        m_hdbc;
                SQLHSTMT        m_hstmt;
                // the current hstmt


                SQLHSTMT
        m_hstmtNewOrder;
                SQLHSTMT
        m_hstmtNewOrderNoDuplicates;// NewOrder
with one result set for lineitem details
                SQLHSTMT
        m_hstmtPayment;
                SQLHSTMT
        m_hstmtDelivery;
                SQLHSTMT
        m_hstmtOrderStatus;
                SQLHSTMT
        m_hstmtStockLevel;


                SQLHDESC
        m_descNewOrderCols1;
                SQLHDESC
        m_descNewOrderCols2;
                SQLHDESC
        m_descNewOrderNoDuplicatesCols1;        //
NewOrder with one result set for lineitem details
                SQLHDESC
        m_descNewOrderNoDuplicatesCols2;        //
NewOrder with one result set for lineitem details
                SQLHDESC
        m_descOrderStatusCols1;
                SQLHDESC
        m_descOrderStatusCols2;


                wchar_t
        m_szSPPrefix[32];    // stored procedures prefix


                wchar_t
        m_szNewOrderCommand[iMAX_SP_NAME_LE
N];
                wchar_t
        m_szNewOrderNoDuplicatesCommand[iMAX_S
P_NAME_LEN];
                int
        m_iBeginNewOrderVariablePart;// begining of
the variable part in NewOrder statement
                int
        m_iBeginNewOrderNoDuplicatesVariablePart;
        // begining of the variable part in NewOrder
statement
                wchar_t
        m_szPaymentCommand[iMAX_SP_NAME_LEN
];
                wchar_t
        m_szDeliveryCommand[iMAX_SP_NAME_LEN
];
                wchar_t
        m_szOrderStatusCommand[iMAX_SP_NAME_L
EN];
                wchar_t
        m_szStockLevelCommand[iMAX_SP_NAME_L
EN];


                // new-order specific fields
                SQLUINTEGER     m_BindOffset;
                SQLUINTEGER     m_RowsFetched;
                int
        m_no_commit_flag;


                // tpcc_neworder_new flag
                BOOL
        m_bCallNoDuplicatesNewOrder;


                //void
ThrowError( CODBCERR::ACTION eAction );
                void ThrowError( RETCODE
eAction );


                void InitNewOrderParams();
                void InitPaymentParams();
                void InitDeliveryParams();
                void InitStockLevelParams();
                void InitOrderStatusParams();


                union
                {
                        NEW_ORDER_DATA
                NewOrder;
                        PAYMENT_DATA
        Payment;
                        DELIVERY_DATA
        Delivery;
                        STOCK_LEVEL_DATA
        StockLevel;
                        ORDER_STATUS_DATA
        OrderStatus;
                }
        m_txn;


                bool DuplicatesInNewOrder();
                void NewOrderDuplicates();
                void NewOrderNoDuplicates();


        public:
                CTPCC_ODBC(     LPCSTR
szServer, LPCSTR szUser, LPCSTR szPassword,
```

```
        LPCSTR szHost, LPCSTR szDatabase,

        LPCWSTR szSPPrefix, BOOL
bCallNoDuplicatesNewOrder);
                ~CTPCC_ODBC(void);

                inline PNEW_ORDER_DATA
        BuffAddr_NewOrder()
        { return &m_txn.NewOrder;   };
                inline PPAYMENT_DATA
        BuffAddr_Payment()          { return
&m_txn.Payment;    };
                inline PDELIVERY_DATA
        BuffAddr_Delivery()         { return
&m_txn.Delivery;   };
                inline PSTOCK_LEVEL_DATA
        BuffAddr_StockLevel()       { return
&m_txn.StockLevel; };
                inline PORDER_STATUS_DATA
        BuffAddr_OrderStatus()      { return
&m_txn.OrderStatus; };

                void NewOrder               ();
                void Payment                ();
                void Delivery               ();
                void StockLevel             ();
                void OrderStatus    ();

};

// wrapper routine for class constructor
extern "C" DllDecl CTPCC_ODBC* CTPCC_ODBC_new
        (       LPCSTR szServer, LPCSTR szUser,
LPCSTR szPassword,
                LPCSTR szHost, LPCSTR szDatabase,
                LPCWSTR szSPPrefix, BOOL
bCallNoDuplicatesNewOrder );

typedef CTPCC_ODBC* (TYPE_CTPCC_ODBC)(LPCSTR,
LPCSTR, LPCSTR, LPCSTR, LPCSTR, LPCWSTR,
BOOL);
```

## trans.h

```
/*      FILE:           TRANS.H
 *                      Microsoft TPC-
C Kit Ver. 4.42.000
 *                      Copyright
Microsoft, 2002
 *      All Rights Reserved
 *
 *                      Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *      PURPOSE:        Header file for TPC-C
structure templates.
 *
 *  Change history:
 *              4.42.000 - changed w_id fields from
short to long to support >32K warehouses
 *              4.20.000 - updated rev number to
match kit
 */
#pragma once

// String length constants
#define SERVER_NAME_LEN         20
#define DATABASE_NAME_LEN       20
#define USER_NAME_LEN           20
#define PASSWORD_LEN            20
#define TABLE_NAME_LEN          20
#define I_DATA_LEN              50
#define I_NAME_LEN              24
#define BRAND_LEN               1
#define LAST_NAME_LEN           16
#define W_NAME_LEN              10
#define ADDRESS_LEN             20
#define STATE_LEN               2
#define ZIP_LEN                 9
#define S_DIST_LEN              24
#define S_DATA_LEN              50
#define D_NAME_LEN              10
#define FIRST_NAME_LEN          16
#define MIDDLE_NAME_LEN         2
#define PHONE_LEN               16
#define DATETIME_LEN            30
#define CREDIT_LEN              2
#define C_DATA_LEN              250
#define H_DATA_LEN              24
#define DIST_INFO_LEN           24
#define MAX_OL_NEW_ORDER_ITEMS  15
#define MAX_OL_ORDER_STATUS_ITEMS 15
#define STATUS_LEN              25
#define OL_DIST_INFO_LEN                24

// TIMESTAMP_STRUCT is provided by the ODBC header
file sqltypes.h, but is not available
// when compiling with dblib, so redefined here.  Note: we
are using the symbol "__SQLTYPES"
// (declared in sqltypes.h) as a way to determine if
TIMESTAMP_STRUCT has been declared.
#ifndef __SQLTYPES
        typedef struct
        {
                        short
        /* SQLSMALLINT */       year;
                        unsigned short      /*
SQLUSMALLINT */ month;
                        unsigned short      /*
SQLUSMALLINT */ day;
                        unsigned short      /*
SQLUSMALLINT */ hour;
                        unsigned short      /*
SQLUSMALLINT */ minute;
                        unsigned short      /*
SQLUSMALLINT */ second;
                        unsigned long       /*
SQLUINTEGER */  fraction;
        } TIMESTAMP_STRUCT;
#endif

// possible values for exec_status_code after transaction
completes
enum EXEC_STATUS
```

```
{
        eOK,                    // 0
        "Transaction commited."
        eInvalidItem,   // 1    "Item number is
not valid."
        eDeliveryFailed // 2    "Delivery Post
Failed."
};

// transaction structures
typedef struct
{
        // input params
        long
        ol_supply_w_id;
        long
        ol_i_id;
        short
        ol_quantity;

        // output params
        char
        ol_i_name[I_NAME_LEN+1];
        char
        ol_brand_generic[BRAND_LEN+1];
        double
        ol_i_price;
        double
        ol_amount;
        short
        ol_stock;
} OL_NEW_ORDER_DATA;

typedef struct
{
        // input params
        long            w_id;
        short           d_id;
        long            c_id;
        short           o_ol_cnt;

        // output params
        EXEC_STATUS
        exec_status_code;
        char
        c_last[LAST_NAME_LEN+1];
        char            c_credit[CREDIT_LEN+1];
        double          c_discount;
        double          w_tax;
        double          d_tax;
        long                    o_id;
        short
        o_commit_flag;
        TIMESTAMP_STRUCT        o_entry_d;
        short           o_all_local;
        double          total_amount;
        OL_NEW_ORDER_DATA
        OL[MAX_OL_NEW_ORDER_ITEMS];
} NEW_ORDER_DATA, *PNEW_ORDER_DATA;

typedef struct
{       // input params
        long                    w_id;
        short                   d_id;
        long                    c_id;
        short                   c_d_id;
        long                    c_w_id;
        double                  h_amount;
        char
c_last[LAST_NAME_LEN+1];
        // output params
        EXEC_STATUS
exec_status_code;
        TIMESTAMP_STRUCT        h_date;
        char
w_street_1[ADDRESS_LEN+1];
        char
w_street_2[ADDRESS_LEN+1];
        char
w_city[ADDRESS_LEN+1];
        char
w_state[STATE_LEN+1];
        char
w_zip[ZIP_LEN+1];
        char
d_street_1[ADDRESS_LEN+1];
        char
d_street_2[ADDRESS_LEN+1];
        char
d_city[ADDRESS_LEN+1];
        char
d_state[STATE_LEN+1];
        char                    d_zip[ZIP_LEN+1];
        char
c_first[FIRST_NAME_LEN+1];
        char
c_middle[MIDDLE_NAME_LEN + 1];
        char
c_street_1[ADDRESS_LEN+1];
        char
c_street_2[ADDRESS_LEN+1];
        char
c_city[ADDRESS_LEN+1];
        char
c_state[STATE_LEN+1];
        char
c_zip[ZIP_LEN+1];
        char
c_phone[PHONE_LEN+1];
        TIMESTAMP_STRUCT        c_since;
        char
c_credit[CREDIT_LEN+1];
        double                  c_credit_lim;
        double                  c_discount;
        double                  c_balance;
        char                    c_data[200+1];

} PAYMENT_DATA, *PPAYMENT_DATA;

typedef struct
{
        long                    ol_i_id;
        long                    ol_supply_w_id;
        short                   ol_quantity;
        double                  ol_amount;
        TIMESTAMP_STRUCT        ol_delivery_d;
} OL_ORDER_STATUS_DATA;

typedef struct
{       // input params
        long            w_id;
        short           d_id;
        long            c_id;
        char            c_last[LAST_NAME_LEN+1];

        // output params
        EXEC_STATUS
exec_status_code;
        char            c_first[FIRST_NAME_LEN+1];
```

```
        char
c_middle[MIDDLE_NAME_LEN+1];
        double          c_balance;
        long            o_id;
        TIMESTAMP_STRUCT        o_entry_d;
        short           o_carrier_id;
        OL_ORDER_STATUS_DATA
OL[MAX_OL_ORDER_STATUS_ITEMS];
        short           o_ol_cnt;
} ORDER_STATUS_DATA, *PORDER_STATUS_DATA;


typedef struct
{       // input params
        long                            w_id;
        short                   o_carrier_id;

        // output params
        EXEC_STATUS
        exec_status_code;
        SYSTEMTIME                      queue_time;
        long
        o_id[10];               // id's of delivered orders
for districts 1 to 10
} DELIVERY_DATA, *PDELIVERY_DATA;

//This structure is used for posting delivery transactions and
for writing them to the delivery server.
typedef struct _DELIVERY_TRANSACTION
{
        SYSTEMTIME      queue;
        //time delivery transaction queued
        long                    w_id;
        //delivery warehouse
        short                   o_carrier_id;
        //carrier id
} DELIVERY_TRANSACTION;

typedef struct
{       // input params
        long                                            w_id;
        short                                           d_id;
        short
        threshold;

        // output params
        EXEC_STATUS
        exec_status_code;
        long
        low_stock;
} STOCK_LEVEL_DATA, *PSTOCK_LEVEL_DATA;
```

## txn_base.h

```
/*      FILE:                   TXN_BASE.H
 *                                      Microsoft TPC-
C Kit Ver. 4.20.000
 *                                      Copyright
Microsoft, 1999
 *          All Rights Reserved
 *
 *                                      Version
4.10.000 audited by Richard Gimarc, Performance Metrics,
3/17/99
 *
 *      PURPOSE:                Header file for TPC-C txn
class implementation.
 *
 *  Change history:
 *                      4.20.000 - updated rev number to
match kit
 */

#pragma once

// need to declare functions for import, unless define has
already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl  __declspec( dllimport )
#endif

class DllDecl CTPCC_BASE
{
        public:
                CTPCC_BASE(void) {};
                virtual ~CTPCC_BASE(void) {};

                virtual PNEW_ORDER_DATA
        BuffAddr_NewOrder()                     = 0;
                virtual PPAYMENT_DATA
        BuffAddr_Payment()              = 0;
                virtual PDELIVERY_DATA
        BuffAddr_Delivery()             = 0;
                virtual PSTOCK_LEVEL_DATA
        BuffAddr_StockLevel()           = 0;
                virtual PORDER_STATUS_DATA
        BuffAddr_OrderStatus()          = 0;

                virtual void NewOrder
        () = 0;
                virtual void Payment            () = 0;
                virtual void Delivery           () = 0;
                virtual void StockLevel
        () = 0;
                virtual void OrderStatus        () = 0;
};
```

# Stored Procedures

## delivery.sql

```
------------------------------------------------------------------
--                                                              --
--  File:   DELIVERY.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--          Copyright Microsoft, 2006                           --
--                                                              --
--          Creates delivery stored procedure                   --
--                                                              --
--          Interface Level:    4.20.000                        --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_delivery' )
```

```
   DROP PROCEDURE tpcc_delivery
GO

CREATE PROC tpcc_delivery
            @w_id           int,

            @o_carrier_id   smallint

AS

DECLARE @d_id       tinyint,
      @o_id       int,
      @c_id       int,
      @total      money,
      @oid1       int,
      @oid2       int,
      @oid3       int,
      @oid4       int,
      @oid5       int,
      @oid6       int,
      @oid7       int,
      @oid8       int,
      @oid9       int,
      @oid10      int

SELECT  @d_id   = 0

BEGIN TRANSACTION d
   WHILE (@d_id < 10)
   BEGIN
      SELECT  @d_id   = @d_id + 1,
            @total  = 0,
            @o_id   = 0

      SELECT  TOP 1
            @o_id   = no_o_id
      FROM    new_order WITH  (serializable updlock)
      WHERE   no_w_id = @w_id AND
            no_d_id = @d_id
      ORDER   BY no_o_id ASC

      IF (@@rowcount <> 0)
      BEGIN
         -- claim the order for this district
         DELETE  new_order
         WHERE   no_w_id = @w_id AND
               no_d_id = @d_id AND
               no_o_id = @o_id

         -- set carrier_id on this order (and get customer id)
         UPDATE  orders
         SET     o_carrier_id    = @o_carrier_id,
               @c_id           = o_c_id
         WHERE   o_w_id          = @w_id AND
               o_d_id          = @d_id AND
               o_id            = @o_id

         -- set date in all lineitems for this order (and sum
amounts)
         UPDATE  order_line
         SET     ol_delivery_d   = GETDATE(),
               @total          = @total + ol_amount
         WHERE   ol_w_id         = @w_id AND
               ol_d_id         = @d_id AND
               ol_o_id         = @o_id

         -- accummulate lineitem amounts for this order into
customer
         UPDATE  customer
         SET     c_balance       = c_balance + @total,
               c_delivery_cnt  = c_delivery_cnt + 1

         WHERE   c_w_id          = @w_id AND
               c_d_id          = @d_id AND
               c_id            = @c_id
      END

   SELECT  @oid1   = CASE @d_id WHEN   1   THEN
@o_id ELSE @oid1   END,
         @oid2   = CASE @d_id WHEN   2   THEN @o_id
ELSE @oid2   END,
         @oid3   = CASE @d_id WHEN   3   THEN @o_id
ELSE @oid3   END,
         @oid4   = CASE @d_id WHEN   4   THEN @o_id
ELSE @oid4   END,
         @oid5   = CASE @d_id WHEN   5   THEN @o_id
ELSE @oid5   END,
         @oid6   = CASE @d_id WHEN   6   THEN @o_id
ELSE @oid6   END,
         @oid7   = CASE @d_id WHEN   7   THEN @o_id
ELSE @oid7   END,
         @oid8   = CASE @d_id WHEN   8   THEN @o_id
ELSE @oid8   END,
         @oid9   = CASE @d_id WHEN   9   THEN @o_id
ELSE @oid9   END,
         @oid10  = CASE @d_id WHEN  10   THEN @o_id
ELSE @oid10  END
   END

COMMIT TRANSACTION d

-- return delivery data to client

SELECT  @oid1,
      @oid2,
      @oid3,
      @oid4,
      @oid5,
      @oid6,
      @oid7,
      @oid8,
      @oid9,
      @oid10
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

## neword.sql

```
 ---------------------------------------------------------------------
--                                                                   --
--  File:   NEWORD.SQL                                               --
--          Microsoft TPC-C Benchmark Kit Ver. 4.68                  --
--          Copyright Microsoft, 2006                                --
--                                                                   --
--          Creates neworder stored procedure                        --
--                                                                   --
--          Interface Level:    4.20.000                             --
--                                                                   --
---------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

```
USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_neworder' )
   DROP PROCEDURE tpcc_neworder
GO

CREATE PROCEDURE    tpcc_neworder
                    @w_id          int,
                    @d_id          tinyint,
                    @c_id          int,
                    @o_ol_cnt      tinyint,
                    @o_all_local   tinyint,
                    @i_id1  int = 0, @s_w_id1  int = 0, @ol_qty1
smallint = 0,
                    @i_id2  int = 0, @s_w_id2  int = 0, @ol_qty2
smallint = 0,
                    @i_id3  int = 0, @s_w_id3  int = 0, @ol_qty3
smallint = 0,
                    @i_id4  int = 0, @s_w_id4  int = 0, @ol_qty4
smallint = 0,
                    @i_id5  int = 0, @s_w_id5  int = 0, @ol_qty5
smallint = 0,
                    @i_id6  int = 0, @s_w_id6  int = 0, @ol_qty6
smallint = 0,
                    @i_id7  int = 0, @s_w_id7  int = 0, @ol_qty7
smallint = 0,
                    @i_id8  int = 0, @s_w_id8  int = 0, @ol_qty8
smallint = 0,
                    @i_id9  int = 0, @s_w_id9  int = 0, @ol_qty9
smallint = 0,
                    @i_id10 int = 0, @s_w_id10 int = 0,
@ol_qty10 smallint = 0,
                    @i_id11 int = 0, @s_w_id11 int = 0,
@ol_qty11 smallint = 0,
                    @i_id12 int = 0, @s_w_id12 int = 0,
@ol_qty12 smallint = 0,
                    @i_id13 int = 0, @s_w_id13 int = 0,
@ol_qty13 smallint = 0,
                    @i_id14 int = 0, @s_w_id14 int = 0,
@ol_qty14 smallint = 0,
                    @i_id15 int = 0, @s_w_id15 int = 0,
@ol_qty15 smallint = 0



AS
DECLARE @w_tax         smallmoney,
        @d_tax         smallmoney,
        @c_last        char(16),
        @c_credit      char(2),
        @c_discount    smallmoney,
        @i_price       smallmoney,
        @i_name        char(24),
        @i_data        char(50),
        @o_entry_d     datetime,
        @remote_flag   int,
        @s_quantity    smallint,
        @s_data        char(50),
        @s_dist        char(24),
        @li_no         int,
        @o_id          int,
        @commit_flag   tinyint,
        @li_id         int,
        @li_s_w_id     int,
        @li_qty        smallint,
        @ol_number     int,
        @c_id_local    int

BEGIN

BEGIN TRANSACTION n

------------------------------------------------------------
--  get district tax and next availible order id and update
--  plus initialize local variables
------------------------------------------------------------
   UPDATE  district
   SET     @d_tax         = d_tax,
           @o_id          = d_next_o_id,
           d_next_o_id    = d_next_o_id + 1,
           @o_entry_d     = GETDATE(),
           @li_no         = 0,
           @commit_flag   = 1
   WHERE   d_w_id         = @w_id AND
           d_id           = @d_id

----------------------
--  process orderlines
----------------------
   WHILE (@li_no < @o_ol_cnt)
   BEGIN
      SELECT  @li_no  = @li_no + 1

-------------------------------------------------
--  set i_id, s_w_id, and qty for this lineitem
-------------------------------------------------
       SELECT  @li_id = CASE @li_no
                        WHEN 1 THEN @i_id1
                        WHEN 2 THEN @i_id2
                        WHEN 3 THEN @i_id3
                        WHEN 4 THEN @i_id4
                        WHEN 5 THEN @i_id5
                        WHEN 6 THEN @i_id6
                        WHEN 7 THEN @i_id7
                        WHEN 8 THEN @i_id8
                        WHEN 9 THEN @i_id9
                        WHEN 10 THEN @i_id10
                        WHEN 11 THEN @i_id11
                        WHEN 12 THEN @i_id12
                        WHEN 13 THEN @i_id13
                        WHEN 14 THEN @i_id14
                        WHEN 15 THEN @i_id15
                    END,

              @li_s_w_id = CASE @li_no
                        WHEN 1 THEN @s_w_id1
                        WHEN 2 THEN @s_w_id2
                        WHEN 3 THEN @s_w_id3
                        WHEN 4 THEN @s_w_id4
                        WHEN 5 THEN @s_w_id5
                        WHEN 6 THEN @s_w_id6
                        WHEN 7 THEN @s_w_id7
                        WHEN 8 THEN @s_w_id8
                        WHEN 9 THEN @s_w_id9
                        WHEN 10 THEN @s_w_id10
                        WHEN 11 THEN @s_w_id11
                        WHEN 12 THEN @s_w_id12
                        WHEN 13 THEN @s_w_id13
                        WHEN 14 THEN @s_w_id14
                        WHEN 15 THEN @s_w_id15
                    END,

              @li_qty = CASE  @li_no
                        WHEN 1 THEN @ol_qty1
                        WHEN 2 THEN @ol_qty2
                        WHEN 3 THEN @ol_qty3
                        WHEN 4 THEN @ol_qty4
```

```
                    WHEN 5 THEN @ol_qty5
                    WHEN 6 THEN @ol_qty6
                    WHEN 7 THEN @ol_qty7
                    WHEN 8 THEN @ol_qty8
                    WHEN 9 THEN @ol_qty9
                    WHEN 10 THEN @ol_qty10
                    WHEN 11 THEN @ol_qty11
                    WHEN 12 THEN @ol_qty12
                    WHEN 13 THEN @ol_qty13
                    WHEN 14 THEN @ol_qty14
                    WHEN 15 THEN @ol_qty15
                END

----------------------------------------
--  get item data (no one updates item)
----------------------------------------
      SELECT  @i_price    = i_price,
            @i_name     = i_name,
            @i_data     = i_data
      FROM    item WITH (repeatableread)
      WHERE   i_id        = @li_id

-----------------------
--  update stock values
-----------------------
      UPDATE  stock
      SET     s_ytd          = s_ytd + @li_qty,
            @s_quantity     = s_quantity   = s_quantity -
@li_qty +
                        CASE WHEN (s_quantity - @li_qty <
10) THEN 91 ELSE 0 END,
            s_order_cnt     = s_order_cnt + 1,
            s_remote_cnt    = s_remote_cnt +
                        CASE WHEN (@li_s_w_id = @w_id)
THEN 0 ELSE 1 END,
            @s_data         = s_data,
            @s_dist         = CASE @d_id
                        WHEN 1  THEN s_dist_01
                        WHEN 2  THEN s_dist_02
                        WHEN 3  THEN s_dist_03
                        WHEN 4  THEN s_dist_04
                        WHEN 5  THEN s_dist_05
                        WHEN 6  THEN s_dist_06
                        WHEN 7  THEN s_dist_07
                        WHEN 8  THEN s_dist_08
                        WHEN 9  THEN s_dist_09
                        WHEN 10 THEN s_dist_10
                      END
      WHERE   s_i_id          = @li_id AND
            s_w_id          = @li_s_w_id

-------------------------------------------------------------------
--  if there actually is a stock (and item) with these ids, go to
work
-------------------------------------------------------------------
      IF (@@rowcount > 0)
      BEGIN
------------------------------------------------------------
--  insert order_line data (using data from item and stock)
------------------------------------------------------------
         INSERT INTO order_line VALUES(  @o_id,
                              @d_id,
                              @w_id,
                              @li_no,
                              @li_id,
                              'dec 31, 1899',
                              @i_price * @li_qty,
                              @li_s_w_id,
                              @li_qty,
                              @s_dist)

---------------------------------
--  send line-item data to client
---------------------------------
         SELECT  @i_name,
               @s_quantity,
               b_g = CASE  WHEN
(   (patindex('%ORIGINAL%',@i_data) > 0) AND

                        (patindex('%ORIGINAL%',@s_data) >
0) )

THEN 'B' ELSE 'G' END,
               @i_price,
               @i_price * @li_qty
                        END
                        ELSE
                        BEGIN
-------------------------------------------------------------

--  no item (or stock) found - triggers rollback condition

-------------------------------------------------------------
         SELECT  ",0,",0,0
         SELECT  @commit_flag    = 0
                        END
               END
-------------------------------------------------------
--  get customer last name, discount, and credit rating
-------------------------------------------------------
   SELECT  @c_last     = c_last,
         @c_discount = c_discount,
         @c_credit   = c_credit,
         @c_id_local = c_id
   FROM    customer WITH (repeatableread)
   WHERE   c_id        = @c_id AND
         c_w_id      = @w_id AND
         c_d_id      = @d_id

----------------------------------------
--  insert fresh row into orders table
----------------------------------------
   INSERT INTO orders VALUES ( @o_id,
                        @d_id,
                        @w_id,
                        @c_id_local,
                        0,
                        @o_ol_cnt,
                        @o_all_local,
                        @o_entry_d)

-------------------------------------------------
--  insert corresponding row into new-order table
-------------------------------------------------
   INSERT INTO new_order VALUES (  @o_id,
                        @d_id,
                        @w_id)

------------------------
--  select warehouse tax
------------------------
   SELECT  @w_tax  = w_tax
   FROM    warehouse WITH (repeatableread)
   WHERE   w_id    = @w_id

   IF (@commit_flag = 1)

                        COMMIT TRANSACTION n
   ELSE
---------------------------------
```

```
-- all that work for nuthin!!!
--------------------------------
      ROLLBACK TRANSACTION n

--------------------------------
-- return order data to client
--------------------------------
   SELECT  @w_tax,
         @d_tax,
         @o_id,
         @c_last,
         @c_discount,
         @c_credit,
         @o_entry_d,
         @commit_flag
END
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

## null-txns.sql

```
 ---------------------------------------------------------------------
--                                                                   --
-- File:   NULL-TXNS.SQL                                             --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68                   --
--         Copyright Microsoft, 2006                                 --
--                                                                   --
--         This script will create stored procs which                --
--         accept the same parameters and return correctly           --
--         formed results sets to match the standard TPC-C           --
--         stored procs.  Of course, the advantage is that           --
--         these stored procs place almost no load on                --
--         SQL Server and do not require a database.                 --
--                                                                   --
--         Interface Level:    4.10.000                              --
--                                                                   --
---------------------------------------------------------------------
USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_delivery' )
   DROP PROCEDURE tpcc_delivery
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_neworder' )
   DROP PROCEDURE tpcc_neworder
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_orderstatus' )
   DROP PROCEDURE tpcc_orderstatus
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_payment' )
   DROP PROCEDURE tpcc_payment
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_stocklevel' )
   DROP PROCEDURE tpcc_stocklevel
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_version' )
   DROP PROCEDURE tpcc_version
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'order_line_null' )
   DROP PROCEDURE order_line_null
GO

CREATE PROCEDURE    tpcc_delivery
                @w_id          int,

                @o_carrier_id   smallint

AS

DECLARE @d_id       tinyint,
      @o_id       int,
      @c_id       int,
      @total      numeric(12,2),
      @oid1       int,
      @oid2       int,
      @oid3       int,
      @oid4       int,
      @oid5       int,
      @oid6       int,
      @oid7       int,
      @oid8       int,
      @oid9       int,
      @oid10      int,
      @delaytime  varchar(30)

-----------------------------------------------------
-- uniform random delay of 0 - 1 second; avg = 0.50
-----------------------------------------------------
SELECT  @delaytime = '00:00:0' +
CAST(CAST((RAND()*1.00) AS decimal(4,3)) AS char(5))

WAITFOR delay @delaytime

SELECT  3001, 3001, 3001, 3001, 3001, 3001, 3001, 3001,
3001, 3001
GO

CREATE PROCEDURE    tpcc_neworder
                @w_id          int,
                @d_id          tinyint,
                @c_id          int,
                @o_ol_cnt      tinyint,
                @o_all_local    tinyint,
                @i_id1  int = 0, @s_w_id1 int = 0, @ol_qty1
smallint = 0,
                @i_id2  int = 0, @s_w_id2 int = 0, @ol_qty2
smallint = 0,
                @i_id3  int = 0, @s_w_id3 int = 0, @ol_qty3
smallint = 0,
                @i_id4  int = 0, @s_w_id4 int = 0, @ol_qty4
smallint = 0,
                @i_id5  int = 0, @s_w_id5 int = 0, @ol_qty5
smallint = 0,
                @i_id6  int = 0, @s_w_id6 int = 0, @ol_qty6
smallint = 0,
                @i_id7  int = 0, @s_w_id7 int = 0, @ol_qty7
smallint = 0,
                @i_id8  int = 0, @s_w_id8 int = 0, @ol_qty8
smallint = 0,
                @i_id9  int = 0, @s_w_id9 int = 0, @ol_qty9
smallint = 0,
                @i_id10 int = 0, @s_w_id10 int = 0,
@ol_qty10 smallint = 0,
                @i_id11 int = 0, @s_w_id11 int = 0,
@ol_qty11 smallint = 0,
```

```
                @i_id12 int = 0, @s_w_id12 int = 0,
@ol_qty12 smallint = 0,
                @i_id13 int = 0, @s_w_id13 int = 0,
@ol_qty13 smallint = 0,
                @i_id14 int = 0, @s_w_id14 int = 0,
@ol_qty14 smallint = 0,
                @i_id15 int = 0, @s_w_id15 int = 0,
@ol_qty15 smallint = 0



AS
DECLARE @w_tax          numeric(4,4),
        @d_tax          numeric(4,4),
        @c_last         char(16),
        @c_credit       char(2),
        @c_discount     numeric(4,4),
        @i_price        numeric(5,2),
        @i_name         char(24),
        @o_entry_d      datetime,
        @li_no          int,
        @o_id           int,
        @commit_flag    tinyint,
        @li_id          int,
        @li_qty         smallint,
        @delaytime      varchar(30)

BEGIN
   ------------------------------------------------------
   -- uniform random delay of 0 - 0.6 second; avg = 0.3
   ------------------------------------------------------
   SELECT  @delaytime  = '00:00:0' +
CAST(CAST((RAND()*0.60) AS decimal(4,3)) AS char(5))

   WAITFOR delay @delaytime

   ----------------------
   --  process orderlines
   ----------------------
   SELECT  @commit_flag    = 1,
         @li_no          = 0

   WHILE (@li_no < @o_ol_cnt)
   BEGIN
      SELECT  @li_id  = CASE @li_no
                        WHEN  1 THEN @i_id1
                        WHEN  2 THEN @i_id2
                        WHEN  3 THEN @i_id3
                        WHEN  4 THEN @i_id4
                        WHEN  5 THEN @i_id5
                        WHEN  6 THEN @i_id6
                        WHEN  7 THEN @i_id7
                        WHEN  8 THEN @i_id8
                        WHEN  9 THEN @i_id9
                        WHEN 10 THEN @i_id10
                        WHEN 11 THEN @i_id11
                        WHEN 12 THEN @i_id12
                        WHEN 13 THEN @i_id13
                        WHEN 14 THEN @i_id14
                        WHEN 15 THEN @i_id15
                    END

      SELECT  @li_no      = @li_no + 1

      SELECT  @i_price    = 23.45, @li_qty = @li_no

      IF (@li_id = 999999)
      BEGIN
         SELECT  ",0,",0,0
         SELECT  @commit_flag = 0
      END
      ELSE
      BEGIN
         SELECT  'Item Name blah',
               17,
               'G',
               @i_price,
               @i_price * @li_qty
      END
   END

   --------------------------------
   --  return order data to client
   --------------------------------
   SELECT  @w_tax      = 0.1234,
         @d_tax      = 0.0987,
         @o_id       = 3001,
         @c_last     = 'BAROUGHTABLE',
         @c_discount = 0.2198,
         @c_credit   = 'GC',
         @o_entry_d  = GETDATE()

   SELECT  @w_tax,
         @d_tax,
         @o_id,
         @c_last,
         @c_discount,
         @c_credit,
         @o_entry_d,
         @commit_flag

END
GO

CREATE PROCEDURE    tpcc_orderstatus
                @w_id       int,
                @d_id       tinyint,

                @c_id       int,
                @c_last     char(16) = ''


AS
DECLARE @c_balance      numeric(12,2),
        @c_first        char(16),
        @c_middle       char(2),
        @o_id           int,
        @o_entry_d      datetime,
        @o_carrier_id   smallint,
        @ol_cnt         smallint,
        @delaytime      varchar(30)

------------------------------------------------------
-- uniform random delay of 0 - 0.2 second; avg = 0.1
------------------------------------------------------
SELECT  @delaytime  = '00:00:0' +
CAST(CAST((RAND()*0.20) AS decimal(4,3)) AS char(5))

WAITFOR delay @delaytime

SELECT  @c_id       = 113,
        @c_balance  = -10.00,
        @c_first    = '8YCodgytqCj8',
        @c_middle   = 'OE',
        @c_last     = 'OUGHTOUGHTABLE',
        @o_id       = 3456,
        @o_entry_d  = GETDATE(),
        @o_carrier_id   = 1
```

```
SELECT  @ol_cnt = (RAND() * 11) + 5

SET     ROWCOUNT @ol_cnt

SELECT  ol_supply_w_id,
        ol_i_id,
        ol_quantity,
        ol_amount,
        ol_delivery_d
FROM    order_line_null

SELECT  @c_id,
        @c_last,
        @c_first,
        @c_middle,
        @o_entry_d,
        @o_carrier_id,
        @c_balance,
        @o_id
GO

CREATE PROCEDURE    tpcc_payment
                    @w_id       int,
                    @c_w_id     int,
                    @h_amount   numeric(6,2),
                    @d_id       tinyint,
                    @c_d_id     tinyint,
                    @c_id       int,
                    @c_last     char(16) = ''


AS
DECLARE @w_street_1     char(20),
        @w_street_2     char(20),
        @w_city         char(20),
        @w_state        char(2),
        @w_zip          char(9),
        @w_name         char(10),
        @d_street_1     char(20),
        @d_street_2     char(20),
        @d_city         char(20),
        @d_state        char(2),
        @d_zip          char(9),
        @d_name         char(10),
        @c_first        char(16),
        @c_middle       char(2),
        @c_street_1     char(20),
        @c_street_2     char(20),
        @c_city         char(20),
        @c_state        char(2),
        @c_zip          char(9),
        @c_phone        char(16),
        @c_since        datetime,
        @c_credit       char(2),
        @c_credit_lim   numeric(12,2),
        @c_balance      numeric(12,2),
        @c_discount     numeric(4,4),
        @data           char(500),
        @c_data         char(500),
        @datetime       datetime,
        @w_ytd          numeric(12,2),
        @d_ytd          numeric(12,2),
        @cnt            smallint,
        @val            smallint,
        @screen_data    char(200),
        @d_id_local     tinyint,
        @w_id_local     int,
        @c_id_local     int,
        @delaytime      varchar(30)

-------------------------------------------------------
-- uniform random delay of 0 - 0.3 second; avg = 0.15
-------------------------------------------------------
SELECT  @delaytime  = '00:00:0' +
CAST(CAST((RAND()*0.20) AS decimal(4,3)) AS char(5))

WAITFOR delay @delaytime

SELECT  @screen_data    = ''

-----------------------------------------
--  get customer info and update balances
-----------------------------------------
SELECT  @d_street_1 = 'rqSHHakqyV',
        @d_street_2 = 'zZ98nW3BR2s',
        @d_city     = 'ArNr4GNFV9',
        @d_state    = 'aV',
        @d_zip      = '453511111'

-----------------------------------------------
--  get warehouse data and update year-to-date
-----------------------------------------------
SELECT  @w_street_1 = 'rqSHHakqyV',
        @w_street_2 = 'zZ98nW3BR2s',
        @w_city     = 'ArNr4GNFV9',
        @w_state    = 'aV',
        @w_zip      = '453511111'

SELECT  @c_id               = 123,
        @c_balance      = -10000.00,
        @c_first        = 'KmR03Xureb',
        @c_middle       = 'OE',
        @c_last         = 'BAROUGHTBAR',
        @c_street_1     = 'QpGdOHjv8mR9vNI8V',
        @c_street_2     = 'dzKoCObBqbC3yu',
        @c_city         = 'zAKZXdC037FQxq',
        @c_state        = 'QA',
        @c_zip          = '700311111',
        @c_phone        = '2967264064528555',
        @c_credit       = 'GC',
        @c_credit_lim   = 50000.00,
        @c_discount     = 0.3069,
        @c_since        = GETDATE(),
        @datetime       = GETDATE()

--------------------------
--  return data to client
--------------------------
SELECT  @c_id,
        @c_last,
        @datetime,
        @w_street_1,
        @w_street_2,
        @w_city,
        @w_state,
        @w_zip,
        @d_street_1,
        @d_street_2,
        @d_city,
        @d_state,
        @d_zip,
        @c_first,
        @c_middle,
        @c_street_1,
        @c_street_2,
        @c_city,
        @c_state,
        @c_zip,
        @c_phone,
        @c_since,
```

```
      @c_credit,
      @c_credit_lim,
      @c_discount,
      @c_balance,
      @screen_data
GO

CREATE PROCEDURE    tpcc_stocklevel
                    @w_id          int,
                    @d_id          tinyint,
                    @threshhold    smallint
AS
DECLARE @delaytime  varchar(30)

-------------------------------------------------------
-- uniform random delay of 0 - 3.6 second; avg = 1.8
-------------------------------------------------------
SELECT  @delaytime  = '00:00:0' +
CAST(CAST((RAND()*0.20) AS decimal(4,3)) AS char(5))

WAITFOR delay @delaytime

SELECT  49
GO

CREATE PROCEDURE tpcc_version

AS
DECLARE @version char(8)

BEGIN
   SELECT  @version = '4.10.000'

   SELECT  @version AS 'Version'
END
GO

CREATE TABLE    order_line_null (
                        [ol_i_id] [int] NOT NULL ,
                        [ol_supply_w_id] [int] NOT NULL ,
                        [ol_delivery_d] [datetime] NOT
NULL ,
                        [ol_quantity] [smallint] NOT NULL ,
                        [ol_amount] [numeric](6, 2) NOT
NULL
) ON [PRIMARY]
GO

INSERT INTO order_line_null VALUES ( 101, 1,
GETDATE(), 1, 123.45 )
INSERT INTO order_line_null VALUES ( 102, 1,
GETDATE(), 2, 123.45 )
INSERT INTO order_line_null VALUES ( 103, 1,
GETDATE(), 3, 123.45 )
INSERT INTO order_line_null VALUES ( 104, 1,
GETDATE(), 4, 123.45 )
INSERT INTO order_line_null VALUES ( 105, 1,
GETDATE(), 5, 123.45 )
INSERT INTO order_line_null VALUES ( 106, 1,
GETDATE(), 1, 123.45 )
INSERT INTO order_line_null VALUES ( 107, 1,
GETDATE(), 2, 123.45 )
INSERT INTO order_line_null VALUES ( 108, 1,
GETDATE(), 3, 123.45 )
INSERT INTO order_line_null VALUES ( 109, 1,
GETDATE(), 4, 123.45 )
INSERT INTO order_line_null VALUES ( 110, 1,
GETDATE(), 5, 123.45 )
INSERT INTO order_line_null VALUES ( 111, 1,
GETDATE(), 1, 123.45 )
INSERT INTO order_line_null VALUES ( 112, 1,
GETDATE(), 2, 123.45 )
INSERT INTO order_line_null VALUES ( 113, 1,
GETDATE(), 3, 123.45 )
INSERT INTO order_line_null VALUES ( 114, 1,
GETDATE(), 4, 123.45 )
INSERT INTO order_line_null VALUES ( 115, 1,
GETDATE(), 5, 123.45 )
GO
```

## ordstat.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   ORDSTAT.SQL                                          --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68              --
--         Copyright Microsoft, 2006                            --
--                                                              --
--         Creates order status stored procedure                --
--                                                              --
--         Interface Level:    4.20.000                         --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_orderstatus' )
   DROP PROCEDURE tpcc_orderstatus
GO

CREATE PROCEDURE    tpcc_orderstatus
                    @w_id       int,
                    @d_id       tinyint,

                    @c_id       int,
                    @c_last     char(16) = ''

AS
DECLARE @c_balance      money,
        @c_first        char(16),
        @c_middle       char(2),
        @o_id           int,
        @o_entry_d      datetime,
        @o_carrier_id   smallint,
        @cnt            smallint
```

```
BEGIN TRANSACTION o
  IF (@c_id = 0)
  BEGIN
    ------------------------------------------
    -- get customer id and info using last name
    ------------------------------------------
    SELECT @cnt   = (count(*)+1)/2
    FROM   customer WITH (repeatableread)
    WHERE  c_last = @c_last AND
           c_w_id = @w_id AND
           c_d_id = @d_id

    SET    rowcount @cnt

    SELECT @c_id      = c_id,
           @c_balance = c_balance,
           @c_first   = c_first,
           @c_last    = c_last,
           @c_middle  = c_middle
    FROM   customer WITH (repeatableread)
    WHERE  c_last     = @c_last AND
           c_w_id     = @w_id AND
           c_d_id     = @d_id
    ORDER  BY c_w_id, c_d_id, c_last, c_first

    SET rowcount 0
  END
  ELSE
  BEGIN
    ------------------------------
    -- get customer info if by id
    ------------------------------
    SELECT @c_balance = c_balance,
           @c_first   = c_first,
           @c_middle  = c_middle,
           @c_last    = c_last
    FROM   customer WITH (repeatableread)
    WHERE  c_id       = @c_id AND
           c_d_id     = @d_id AND
           c_w_id     = @w_id

    SELECT @cnt  = @@rowcount
  END

  ------------------------
  -- if no such customer
  ------------------------
  IF (@cnt = 0)
  BEGIN
    RAISERROR('Customer not found',18,1)
    GOTO custnotfound
  END

  ------------------
  -- get order info
  ------------------
  SELECT @o_id         = o_id,
         @o_entry_d    = o_entry_d,
         @o_carrier_id = o_carrier_id
  FROM   orders WITH (serializable)
  WHERE  o_c_id        = @c_id AND
         o_d_id        = @d_id AND
         o_w_id        = @w_id
  ORDER  BY o_id ASC

  ------------------------------------------
  -- select order lines for the current order
  ------------------------------------------
  SELECT ol_supply_w_id,
         ol_i_id,
         ol_quantity,
         ol_amount,
         ol_delivery_d
  FROM   order_line WITH (repeatableread)
  WHERE  ol_o_id = @o_id AND
         ol_d_id = @d_id AND
         ol_w_id = @w_id

  custnotfound:

  COMMIT TRANSACTION o

  --------------------------
  -- return data to client
  --------------------------
  SELECT @c_id,
         @c_last,
         @c_first,
         @c_middle,
         @o_entry_d,
         @o_carrier_id,
         @c_balance,
         @o_id
GO
```

## payment.sql

```
----------------------------------------------------------------------
--                                                                  --
```

```
-- File:   PAYMENT.SQL                                  --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68      --
--         Copyright Microsoft, 2006                    --
--                                                      --
--         Creates payment stored procedure             --
--                                                      --
--         Interface Level:    4.20.000                 --
--                                                      --
----------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_payment' )
   DROP PROCEDURE tpcc_payment
GO

CREATE PROCEDURE    tpcc_payment
                @w_id       int,
                @c_w_id     int,
                @h_amount   smallmoney,
                @d_id       tinyint,
                @c_d_id     tinyint,
                @c_id       int,
                @c_last     char(16) = ""


AS
DECLARE @w_street_1     char(20),
        @w_street_2     char(20),
        @w_city         char(20),
        @w_state        char(2),
        @w_zip          char(9),
        @w_name         char(10),
        @d_street_1     char(20),
        @d_street_2     char(20),
        @d_city         char(20),
        @d_state        char(2),
        @d_zip          char(9),
        @d_name         char(10),
        @c_first        char(16),
        @c_middle       char(2),
        @c_street_1     char(20),
        @c_street_2     char(20),
        @c_city         char(20),
        @c_state        char(2),
        @c_zip          char(9),
        @c_phone        char(16),
        @c_since        datetime,
        @c_credit       char(2),
        @c_credit_lim   money,
        @c_balance      money,
        @c_discount     smallmoney,
        @c_data         char(42),
        @datetime       datetime,
        @w_ytd          money,
        @d_ytd          money,
        @cnt            smallint,
        @val            smallint,
        @screen_data    char(200),
        @d_id_local     tinyint,
        @w_id_local     int,
        @c_id_local     int

SELECT  @screen_data    = ""

BEGIN TRANSACTION p
   -- get payment date
   SELECT  @datetime = GETDATE()

   IF (@c_id = 0)
   BEGIN
      -- get customer id and info using last name
      SELECT  @cnt    = COUNT(*)
      FROM    customer WITH (repeatableread)
      WHERE   c_last  = @c_last AND
                                    c_w_id  = @c_w_id AND
                                    c_d_id  = @c_d_id


      SELECT  @val    = (@cnt + 1) / 2

      SET     rowcount @val

      SELECT  @c_id   = c_id
      FROM    customer WITH (repeatableread)
      WHERE   c_last  = @c_last AND
                                    c_w_id  = @c_w_id AND
                                    c_d_id  = @c_d_id
      ORDER   BY c_last, c_first

      SET     rowcount 0
   END

   -- get customer info and update balances
   UPDATE  customer
   SET     @c_balance      = c_balance          = c_balance -
@h_amount,
           c_payment_cnt   = c_payment_cnt + 1,
           c_ytd_payment   = c_ytd_payment + @h_amount,
           @c_first        = c_first,
           @c_middle       = c_middle,
           @c_last         = c_last,
           @c_street_1     = c_street_1,
           @c_street_2     = c_street_2,
           @c_city         = c_city,
           @c_state        = c_state,
           @c_zip          = c_zip,
           @c_phone        = c_phone,
           @c_credit       = c_credit,
           @c_credit_lim   = c_credit_lim,
           @c_discount     = c_discount,
           @c_since        = c_since,
           @c_id_local     = c_id
   WHERE   c_id            = @c_id AND
           c_w_id          = @c_w_id AND
           c_d_id          = @c_d_id

   -- if customer has bad credit get some more info
   IF (@c_credit = "BC")
   BEGIN
      --       compute new info
      SELECT  @c_data =   convert(char(5),@c_id) +
                          convert(char(4),@c_d_id) +
                          convert(char(5),@c_w_id) +
                          convert(char(4),@d_id) +
                          convert(char(5),@w_id) +
                          convert(char(19),@h_amount)

      -- update customer info
      UPDATE  customer
      SET     c_data          = @c_data + substring(c_data, 1,
458),
```

```
        @screen_data    = @c_data + substring(c_data, 1,
158)
      WHERE   c_id          = @c_id AND
            c_w_id        = @c_w_id AND
            c_d_id        = @c_d_id
  END

  -- get district data and update year-to-date
  UPDATE  district
  SET     d_ytd       = d_ytd + @h_amount,
          @d_street_1 = d_street_1,
          @d_street_2 = d_street_2,
          @d_city     = d_city,
          @d_state    = d_state,
          @d_zip      = d_zip,
          @d_name     = d_name,
          @d_id_local = d_id
  WHERE   d_w_id      = @w_id AND
          d_id        = @d_id

  -- get warehouse data and update year-to-date
  UPDATE  warehouse
  SET     w_ytd       = w_ytd + @h_amount,
          @w_street_1 = w_street_1,
          @w_street_2 = w_street_2,
          @w_city     = w_city,
          @w_state    = w_state,
          @w_zip      = w_zip,
          @w_name     = w_name,
          @w_id_local = w_id
  WHERE   w_id        = @w_id

  -- create history record
            INSERT INTO           history VALUES
(@c_id_local,
                        @c_d_id,
                        @c_w_id,
                        @d_id_local,
                        @w_id_local,
                        @datetime,
                        @h_amount,
                        @w_name + '    ' + @d_name)

  COMMIT TRANSACTION p

  -- return data to client
  SELECT  @c_id,
          @c_last,
          @datetime,
          @w_street_1,
          @w_street_2,
          @w_city,
          @w_state,
          @w_zip,
          @d_street_1,
          @d_street_2,
          @d_city,
          @d_state,
          @d_zip,
          @c_first,
          @c_middle,
          @c_street_1,
          @c_street_2,
          @c_city,
          @c_state,
          @c_zip,
          @c_phone,
          @c_since,
          @c_credit,
          @c_credit_lim,
          @c_discount,
          @c_balance,
          @screen_data
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

## stocklev.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   STOCKLEV.SQL                                         --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68              --
--         Copyright Microsoft, 2006                            --
--                                                              --
--         Creates stock level stored procedure                 --
--                                                              --
--         Interface Level:    4.20.000                         --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_stocklevel' )
   DROP PROCEDURE tpcc_stocklevel
GO

CREATE PROCEDURE    tpcc_stocklevel
                    @w_id           int,
                    @d_id           tinyint,
                    @threshhold     smallint

AS
DECLARE @o_id_low   int,
        @o_id_high  int

SELECT  @o_id_low   = (d_next_o_id - 20),
        @o_id_high  = (d_next_o_id - 1)
FROM    district
WHERE   d_w_id      = @w_id AND
        d_id        = @d_id

SELECT  COUNT(DISTINCT(s_i_id))
FROM    stock,
        order_line
WHERE   ol_w_id     = @w_id AND
        ol_d_id     = @d_id and
        ol_o_id     BETWEEN @o_id_low AND
                      @o_id_high AND
        s_w_id      = ol_w_id AND
        s_i_id      = ol_i_id AND
        s_quantity  < @threshhold
OPTION(ORDER GROUP)
GO

SET QUOTED_IDENTIFIER OFF
```

```
GO

SET ANSI_NULLS ON
GO
```

## tpcc_neworder_new.sql

```
 ------------------------------------------------------------------
--                                                              --
-- File:   TPCC_NEWORDER_NEW.SQL
--
--         Microsoft TPC-C Benchmark Kit Ver. 4.68          --
--         Copyright Microsoft, 2006                        --
--                                                          --
--         This acid stored procedure implements the neworder
--
--         transaction.  It outputs timestamps at the       --
--         beginning of the transaction, before the commit  --
--         delay, and after the commit.                     --
--                                                          --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_neworder_new' )
   DROP PROCEDURE tpcc_neworder_new
GO

-- neworder_new v2.5 6/23/05 PeterCa
-- 1q stock/order_line/client.  upd district & ins neworder.
--  cust/warehouse select together, ins order separate
--  uses rownumber to distinct w any transform
--  uses in-memory sort for distinct on iid,wid
--  uses charindex
-- will rollback if (@i_idX,@s_w_idX pairs not unique) OR
(@i_idX not unique).

CREATE PROCEDURE    tpcc_neworder_new
                    @w_id          int,
                    @d_id          tinyint,
                    @c_id          int,
                    @o_ol_cnt      tinyint,
                    @o_all_local   tinyint,
                    @i_id1  int = 0, @s_w_id1  int = 0, @ol_qty1
smallint = 0,
                    @i_id2  int = 0, @s_w_id2  int = 0, @ol_qty2
smallint = 0,
                    @i_id3  int = 0, @s_w_id3  int = 0, @ol_qty3
smallint = 0,
                    @i_id4  int = 0, @s_w_id4  int = 0, @ol_qty4
smallint = 0,
                    @i_id5  int = 0, @s_w_id5  int = 0, @ol_qty5
smallint = 0,
                    @i_id6  int = 0, @s_w_id6  int = 0, @ol_qty6
smallint = 0,
                    @i_id7  int = 0, @s_w_id7  int = 0, @ol_qty7
smallint = 0,
                    @i_id8  int = 0, @s_w_id8  int = 0, @ol_qty8
smallint = 0,
                    @i_id9  int = 0, @s_w_id9  int = 0, @ol_qty9
smallint = 0,
                    @i_id10 int = 0, @s_w_id10 int = 0,
@ol_qty10 smallint = 0,
                    @i_id11 int = 0, @s_w_id11 int = 0,
@ol_qty11 smallint = 0,
                    @i_id12 int = 0, @s_w_id12 int = 0,
@ol_qty12 smallint = 0,
                    @i_id13 int = 0, @s_w_id13 int = 0,
@ol_qty13 smallint = 0,
                    @i_id14 int = 0, @s_w_id14 int = 0,
@ol_qty14 smallint = 0,
                    @i_id15 int = 0, @s_w_id15 int = 0,
@ol_qty15 smallint = 0



AS
BEGIN
DECLARE @o_id          int,
      @d_tax         smallmoney,
      @o_entry_d     datetime,
      @commit_flag   tinyint

BEGIN TRANSACTION n
   --  get district tax and next availible order id and update
   --  insert corresponding row into new-order table
   --  plus initialize local variables

   UPDATE  district
   SET     @d_tax         = d_tax,
         @o_id          = d_next_o_id,
         d_next_o_id    = d_next_o_id + 1,
         @o_entry_d     = GETDATE(),
         @commit_flag   = 1
   OUTPUT  deleted.d_next_o_id,
         @d_id,
         @w_id
   INTO    new_order
   WHERE   d_w_id         = @w_id AND
         d_id           = @d_id

   -- update stock from stock join (item join (params))
   -- output to orderline, output to client
   -- NOTE: @@rowcount != @ol_o_cnt
   --          if (@i_idX,@s_w_idX pairs not unique) OR
(@i_idX not unique).

   UPDATE  stock
   SET     s_ytd          = s_ytd + info.ol_qty,
         s_quantity     = s_quantity - info.ol_qty +
                     CASE WHEN (s_quantity - info.ol_qty <
10) THEN 91 ELSE 0 END,
         s_order_cnt    = s_order_cnt + 1,
         s_remote_cnt   = s_remote_cnt +
                                                CASE WHEN
(info.w_id = @w_id) THEN 0 ELSE 1 END

   OUTPUT  @o_id,
         @d_id,
         @w_id,
         info.lino,
         info.i_id,
         "dec 31, 1899",
                  info.i_price * info.ol_qty,
                  info.w_id,
         info.ol_qty,
         CASE    @d_id   WHEN 1  THEN inserted.s_dist_01
                     WHEN 2  THEN inserted.s_dist_02
                     WHEN 3  THEN inserted.s_dist_03
                     WHEN 4  THEN inserted.s_dist_04
                     WHEN 5  THEN inserted.s_dist_05
```

```
                WHEN 6  THEN inserted.s_dist_06
                WHEN 7  THEN inserted.s_dist_07
                WHEN 8  THEN inserted.s_dist_08
                WHEN 9  THEN inserted.s_dist_09
                WHEN 10 THEN inserted.s_dist_10
        END
   INTO    order_line

   OUTPUT  info.i_name,inserted.s_quantity,
        CASE WHEN ((charindex("ORIGINAL",info.i_data)
> 0) AND
                (charindex("ORIGINAL",inserted.s_data) > 0) )
            THEN "B" ELSE "G" END,
        info.i_price,
        info.i_price*info.ol_qty
   FROM    stock INNER JOIN
        (SELECT iid,
             wid,
                    lino,
             ol_qty,
             i_price,
             i_name,
             i_data
          FROM   (SELECT iid,
                    wid,
                    lino,
                    qty,
                                        row_number() OVER
(PARTITION BY iid,wid ORDER BY iid,wid)
                FROM   (SELECT
@i_id1,@s_w_id1,1,@ol_qty1      UNION ALL
                    SELECT @i_id2,@s_w_id2,2,@ol_qty2
UNION ALL
                    SELECT @i_id3,@s_w_id3,3,@ol_qty3
UNION ALL
                    SELECT @i_id4,@s_w_id4,4,@ol_qty4
UNION ALL
                    SELECT @i_id5,@s_w_id5,5,@ol_qty5
UNION ALL
                    SELECT @i_id6,@s_w_id6,6,@ol_qty6
UNION ALL
                    SELECT @i_id7,@s_w_id7,7,@ol_qty7
UNION ALL
                    SELECT @i_id8,@s_w_id8,8,@ol_qty8
UNION ALL
                    SELECT @i_id9,@s_w_id9,9,@ol_qty9
UNION ALL
                    SELECT
@i_id10,@s_w_id10,10,@ol_qty10  UNION ALL
                    SELECT
@i_id11,@s_w_id11,11,@ol_qty11  UNION ALL
                    SELECT
@i_id12,@s_w_id12,12,@ol_qty12  UNION ALL
                    SELECT
@i_id13,@s_w_id13,13,@ol_qty13  UNION ALL
                    SELECT
@i_id14,@s_w_id14,14,@ol_qty14  UNION ALL
                    SELECT
@i_id15,@s_w_id15,15,@ol_qty15) AS uo1(iid,wid,lino,qty)
                        ) AS
o1(iid,wid,lino,ol_qty,rownum)
                    INNER JOIN
                    item (repeatableread) ON i_id   = iid  AND
-- filters out invalid items
                                    rownum = 1
             ) AS
info(i_id,w_id,lino,ol_qty,i_price,i_name,i_data)
          ON  s_i_id  = info.i_id AND
              s_w_id  = info.w_id

   IF (@@rowcount <> @o_ol_cnt)  -- must have an invalid
item
      SELECT  @commit_flag = 0  -- 2.4.2.3 requires rest to
proceed

   --  insert fresh row into orders table
   INSERT INTO orders VALUES   (   @o_id,
                        @d_id,
                        @w_id,
                        @c_id,
                        0,
                        @o_ol_cnt,
                        @o_all_local,
                        @o_entry_d)

   --  get customer last name, discount, and credit rating
   --  get warehouse tax
   --  return order_data to client
   SELECT  w_tax,
          @d_tax,
          @o_id,
          c_last,
          c_discount,
          c_credit,
          @o_entry_d,
          @commit_flag
   FROM    warehouse(repeatableread),
          customer(repeatableread)
   WHERE   w_id    = @w_id AND
          c_id    = @c_id AND
          c_w_id  = @w_id AND
          c_d_id  = @d_id

              -- @@rowcount checks that previous select found
a valid customer
   IF (@@rowcount = 0)
   BEGIN
                        RAISERROR( 'Invalid Customer ID',
11, 1 )
      ROLLBACK TRANSACTION n
   END
              ELSE IF (@commit_flag = 1)
      COMMIT TRANSACTION n
   ELSE    -- all that work for nothing.
      ROLLBACK TRANSACTION  n

END
GO
```

## version.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   VERSION.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.68            --
--          Copyright Microsoft, 2006                          --
--                                                             --
--          Returns version level of TPC-C stored procs        --
--                                                             --
--          Always update the return value of this proc for    --
--          any interface changes or 'must have' bug fixes.    --
--                                                             --
--          The value returned by this SP defines the          --
--          'interface level', which must match between the    --
--          stored procs and the client code.  The             --
--          interface level may be down rev from the           --
--          current kit.  This indicates that the interface    --
```

```
--        hasn't changed since that version.                --
--                                                          --
--        Interface Level:    4.20.000                      --
--                                                          --
------------------------------------------------------------------------
USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_version' )
                DROP PROCEDURE tpcc_version
GO

CREATE PROCEDURE    tpcc_version
AS
DECLARE @version    char(8)

BEGIN
   SELECT  @version    = '4.20.000'

   SELECT  @version    AS 'Version'
END
GO
```

# Appendix B: Database Design Scripts

## Database Build

### backup.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   BACKUP.SQL                                           --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--       Copyright Microsoft, 2006                              --
--                                                              --
------------------------------------------------------------------

DECLARE @startdate              DATETIME,
                @enddate        DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',

            CONVERT(VARCHAR(30),@startdate, 21)

DUMP DATABASE tpcc TO tpcc1, tpcc2, tpcc3, tpcc4,
tpcc5, tpcc6, tpcc7, tpcc8, tpcc9, tpcc10, tpcc11, tpcc12,
tpcc13, tpcc14, tpcc15, tpcc16, tpcc17, tpcc18, tpcc19,
tpcc20 WITH init, stats = 1

SELECT  @enddate = GETDATE()
SELECT  'End date: ',

            CONVERT(VARCHAR(30),@enddate, 21)
SELECT  'Elapsed time (in seconds): ',
                    DATEDIFF(second, @startdate,
@enddate)
GO
```

### createdb.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   CREATEDB.SQL                                         --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--       Copyright Microsoft, 2006                              --
--                                                              --
------------------------------------------------------------------

SET ANSI_NULL_DFLT_OFF ON
GO

USE master
GO


-------------------------------------
-- Create temporary table for timing
-------------------------------------
IF EXISTS( SELECT name FROM sysobjects WHERE
name = 'tpcc_timer' )
   DROP TABLE tpcc_timer
GO

CREATE TABLE tpcc_timer
            (start_date   CHAR(30),
             end_date     CHAR(30))
GO

INSERT INTO tpcc_timer VALUES(0,0)
GO


----------------------
-- Store starting time
----------------------
UPDATE  tpcc_timer
SET     start_date      = (SELECT   CONVERT(CHAR(30),
GETDATE(), 21))
GO


------------------------------
-- create main database files
------------------------------
CREATE DATABASE tpcc
ON PRIMARY
(           NAME                = MSSQL_tpcc_root,
            FILENAME            =
'F:\MSSQL_tpcc_root.mdf',
            SIZE                = 8MB,
            FILEGROWTH          = 0),
FILEGROUP           MSSQL_misc_fg
(           NAME                = MSSQL_misc1,
            FILENAME            = 'C:\mp\m1\',
            SIZE                = 20000MB,
            FILEGROWTH          = 0),
(           NAME                = MSSQL_misc2,
            FILENAME            = 'C:\mp\m2\',
            SIZE                = 20000MB,
            FILEGROWTH          = 0),
(           NAME                = MSSQL_misc3,
            FILENAME            = 'C:\mp\m3\',
            SIZE                = 20000MB,
            FILEGROWTH          = 0),
(           NAME                = MSSQL_misc4,
```

```
        FILENAME        = 'C:\mp\m4\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc5,
        FILENAME        = 'C:\mp\m5\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc6,
        FILENAME        = 'C:\mp\m6\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc7,
        FILENAME        = 'C:\mp\m7\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc8,
        FILENAME        = 'C:\mp\m8\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc9,
        FILENAME        = 'C:\mp\m9\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc10,
        FILENAME        = 'C:\mp\m10\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc11,
        FILENAME        = 'C:\mp\m11\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc12,
        FILENAME        = 'C:\mp\m12\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc13,
        FILENAME        = 'C:\mp\m13\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc14,
        FILENAME        = 'C:\mp\m14\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc15,
        FILENAME        = 'C:\mp\m15\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc16,
        FILENAME        = 'C:\mp\m16\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc17,
        FILENAME        = 'C:\mp\m17\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc18,
        FILENAME        = 'C:\mp\m18\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc19,
        FILENAME        = 'C:\mp\m19\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc20,
        FILENAME        = 'C:\mp\m20\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc21,
        FILENAME        = 'C:\mp\m21\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc22,
        FILENAME        = 'C:\mp\m22\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc23,
        FILENAME        = 'C:\mp\m23\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc24,
        FILENAME        = 'C:\mp\m24\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc25,
        FILENAME        = 'C:\mp\m25\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc26,
        FILENAME        = 'C:\mp\m26\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc27,
        FILENAME        = 'C:\mp\m27\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc28,
        FILENAME        = 'C:\mp\m28\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc29,
```

```
        FILENAME    = 'C:\mp\m29\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc30,
        FILENAME    = 'C:\mp\m30\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc31,
        FILENAME    = 'C:\mp\m31\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc32,
        FILENAME    = 'C:\mp\m32\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc33,
        FILENAME    = 'C:\mp\m33\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc34,
        FILENAME    = 'C:\mp\m34\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc35,
        FILENAME    = 'C:\mp\m35\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc36,
        FILENAME    = 'C:\mp\m36\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc37,
        FILENAME    = 'C:\mp\m37\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc38,
        FILENAME    = 'C:\mp\m38\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc39,
        FILENAME    = 'C:\mp\m39\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc40,
        FILENAME    = 'C:\mp\m40\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc41,
        FILENAME    = 'C:\mp\m41\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc42,
        FILENAME    = 'C:\mp\m42\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc43,
        FILENAME    = 'C:\mp\m43\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc44,
        FILENAME    = 'C:\mp\m44\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc45,
        FILENAME    = 'C:\mp\m45\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc46,
        FILENAME    = 'C:\mp\m46\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc47,
        FILENAME    = 'C:\mp\m47\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc48,
        FILENAME    = 'C:\mp\m48\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc49,
        FILENAME    = 'C:\mp\m49\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc50,
        FILENAME    = 'C:\mp\m50\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc51,
        FILENAME    = 'C:\mp\m51\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc52,
        FILENAME    = 'C:\mp\m52\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc53,
        FILENAME    = 'C:\mp\m53\',
        SIZE        = 20000MB,
        FILEGROWTH  = 0),
(       NAME        = MSSQL_misc54,
```

```
        FILENAME        = 'C:\mp\m54\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc55,
        FILENAME        = 'C:\mp\m55\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc56,
        FILENAME        = 'C:\mp\m56\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc57,
        FILENAME        = 'C:\mp\m57\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc58,
        FILENAME        = 'C:\mp\m58\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc59,
        FILENAME        = 'C:\mp\m59\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc60,
        FILENAME        = 'C:\mp\m60\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc61,
        FILENAME        = 'C:\mp\m61\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc62,
        FILENAME        = 'C:\mp\m62\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc63,
        FILENAME        = 'C:\mp\m63\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc64,
        FILENAME        = 'C:\mp\m64\',
        SIZE            = 20000MB,
        FILEGROWTH      = 0),
FILEGROUP       MSSQL_cs_fg
(       NAME            = MSSQL_cs1,
        FILENAME        = 'C:\mp\c1\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs2,
        FILENAME        = 'C:\mp\c2\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs3,
        FILENAME        = 'C:\mp\c3\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs4,
        FILENAME        = 'C:\mp\c4\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs5,
        FILENAME        = 'C:\mp\c5\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs6,
        FILENAME        = 'C:\mp\c6\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs7,
        FILENAME        = 'C:\mp\c7\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs8,
        FILENAME        = 'C:\mp\c8\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs9,
        FILENAME        = 'C:\mp\c9\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs10,
        FILENAME        = 'C:\mp\c10\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs11,
        FILENAME        = 'C:\mp\c11\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs12,
        FILENAME        = 'C:\mp\c12\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs13,
        FILENAME        = 'C:\mp\c13\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs14,
        FILENAME        = 'C:\mp\c14\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
```

```
(       NAME            = MSSQL_cs15,
        FILENAME        = 'C:\mp\c15\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs16,
        FILENAME        = 'C:\mp\c16\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs17,
        FILENAME        = 'C:\mp\c17\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs18,
        FILENAME        = 'C:\mp\c18\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs19,
        FILENAME        = 'C:\mp\c19\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs20,
        FILENAME        = 'C:\mp\c20\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs21,
        FILENAME        = 'C:\mp\c21\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs22,
        FILENAME        = 'C:\mp\c22\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs23,
        FILENAME        = 'C:\mp\c23\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs24,
        FILENAME        = 'C:\mp\c24\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs25,
        FILENAME        = 'C:\mp\c25\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs26,
        FILENAME        = 'C:\mp\c26\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs27,
        FILENAME        = 'C:\mp\c27\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs28,
        FILENAME        = 'C:\mp\c28\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs29,
        FILENAME        = 'C:\mp\c29\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs30,
        FILENAME        = 'C:\mp\c30\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs31,
        FILENAME        = 'C:\mp\c31\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs32,
        FILENAME        = 'C:\mp\c32\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs33,
        FILENAME        = 'C:\mp\c33\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs34,
        FILENAME        = 'C:\mp\c34\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs35,
        FILENAME        = 'C:\mp\c35\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs36,
        FILENAME        = 'C:\mp\c36\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs37,
        FILENAME        = 'C:\mp\c37\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs38,
        FILENAME        = 'C:\mp\c38\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs39,
        FILENAME        = 'C:\mp\c39\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
```

```
(       NAME            = MSSQL_cs40,
        FILENAME        = 'C:\mp\c40\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs41,
        FILENAME        = 'C:\mp\c41\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs42,
        FILENAME        = 'C:\mp\c42\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs43,
        FILENAME        = 'C:\mp\c43\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs44,
        FILENAME        = 'C:\mp\c44\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs45,
        FILENAME        = 'C:\mp\c45\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs46,
        FILENAME        = 'C:\mp\c46\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs47,
        FILENAME        = 'C:\mp\c47\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs48,
        FILENAME        = 'C:\mp\c48\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs49,
        FILENAME        = 'C:\mp\c49\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs50,
        FILENAME        = 'C:\mp\c50\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs51,
        FILENAME        = 'C:\mp\c51\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs52,
        FILENAME        = 'C:\mp\c52\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs53,
        FILENAME        = 'C:\mp\c53\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs54,
        FILENAME        = 'C:\mp\c54\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs55,
        FILENAME        = 'C:\mp\c55\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs56,
        FILENAME        = 'C:\mp\c56\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs57,
        FILENAME        = 'C:\mp\c57\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs58,
        FILENAME        = 'C:\mp\c58\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs59,
        FILENAME        = 'C:\mp\c59\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs60,
        FILENAME        = 'C:\mp\c60\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs61,
        FILENAME        = 'C:\mp\c61\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs62,
        FILENAME        = 'C:\mp\c62\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs63,
        FILENAME        = 'C:\mp\c63\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs64,
        FILENAME        = 'C:\mp\c64\',
        SIZE            = 37000MB,
        FILEGROWTH      = 0)
```

```
LOG ON
(       NAME            = MSSQL_tpcc_log,
        FILENAME        = 'E:',
        SIZE            = 1585000MB,
        FILEGROWTH      = 0)
COLLATE Latin1_General_BIN
GO


--------------------
-- Store ending time
--------------------
UPDATE  tpcc_timer
SET     end_date        = (SELECT   CONVERT(CHAR(30),
GETDATE(), 21))
GO


SELECT  DATEDIFF(second,(SELECT start_date FROM
tpcc_timer),(SELECT end_date FROM tpcc_timer))
GO


-------------------------
-- remove temporary table
-------------------------
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_timer' )
   DROP TABLE tpcc_timer
GO
```

## dbopt1.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   DBOPT1.SQL                                         --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68               --
--       Copyright Microsoft, 2006                             --
--                                                             --
--       Sets database options for load                        --
--                                                             --
-----------------------------------------------------------------
USE master
GO

ALTER DATABASE tpcc SET RECOVERY
BULK_LOGGED
GO

EXEC sp_dboption tpcc,'trunc. log on chkpt.',TRUE
GO

ALTER DATABASE tpcc SET
TORN_PAGE_DETECTION OFF
GO

ALTER DATABASE tpcc SET PAGE_VERIFY NONE
GO

USE tpcc
GO

CHECKPOINT
GO
```

## dbopt2.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   DBOPT2.SQL                                         --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68               --
--       Copyright Microsoft, 2006                             --
--                                                             --
--       Sets database options after load                      --
--                                                             --
-----------------------------------------------------------------
ALTER DATABASE tpcc SET RECOVERY FULL
GO

USE tpcc
GO

CHECKPOINT
GO

sp_configure 'allow updates',1
GO

RECONFIGURE WITH OVERRIDE
GO

DECLARE         @msg            varchar(50)

------------------------------------------------
--      OPTIONS FOR SQL SERVER 2000           --
-- Set option values for user-defined indexes --
------------------------------------------------

SET     @msg    = ' '
PRINT   @msg
SET     @msg    = 'Setting SQL Server indexoptions'
PRINT   @msg
SET     @msg    = ' '
PRINT   @msg


EXEC sp_indexoption             'customer',
'DisAllowPageLocks',TRUE
EXEC sp_indexoption             'district',
'DisAllowPageLocks',TRUE
EXEC sp_indexoption             'warehouse',
'DisAllowPageLocks',TRUE
EXEC sp_indexoption             'stock',
'DisAllowPageLocks',TRUE
```

```
EXEC sp_indexoption 'order_line',
'DisAllowRowLocks', TRUE
EXEC sp_indexoption 'orders',
'DisAllowRowLocks', TRUE
EXEC sp_indexoption 'new_order',
'DisAllowRowLocks', TRUE
EXEC sp_indexoption 'item',
'DisAllowRowLocks', TRUE
EXEC sp_indexoption 'item',
'DisAllowPageLocks', FALSE
GO

Print ' '
Print '******************'
Print 'Pre-specified Locking Hierarchy:'
Print '        Lockflag = 0 ==> No pre-specified hierarchy'
Print '   Lockflag = 1 ==> Lock at Page-level then Table-
level'
Print '   Lockflag = 2 ==> Lock at Row-level then Table-
level'
Print '   Lockflag = 3 ==> Lock at Table-level'
Print ' '

SELECT  name,
      lockflags
FROM    sysindexes
WHERE   object_id('warehouse')  = id OR
      object_id('district')   = id OR
      object_id('customer')   = id OR
      object_id('stock')      = id OR
      object_id('orders')     = id OR
      object_id('order_line') = id OR
      object_id('history')    = id OR
      object_id('new_order')  = id OR
      object_id('item')       = id
ORDER   BY lockflags asc
GO

sp_configure 'allow updates',0
GO

RECONFIGURE WITH OVERRIDE
GO

EXEC sp_dboption tpcc,          'auto update statistics',
            FALSE
EXEC sp_dboption tpcc,          'auto create statistics',
            FALSE
GO

DECLARE @db_id  int,
      @tbl_id int

SET     @db_id  = DB_ID('tpcc')
SET     @tbl_id = OBJECT_ID('tpcc..warehouse')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..district')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..new_order')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..item')
DBCC PINTABLE (@db_id, @tbl_id)
GO
```

## idxcuscl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXCUSCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68              --
--        Copyright Microsoft, 2006                            --
--                                                             --
--        Creates clustered index on customer table            --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
      @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
      CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'customer_c1' )
   DROP INDEX customer.customer_c1

CREATE UNIQUE CLUSTERED INDEX customer_c1 ON
customer(c_w_id, c_d_id, c_id)
   ON MSSQL_cs_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxdiscl.sql

```
-------------------------------------------------------------
--                                                         --
-- File:   IDXDISCL.SQL                                    --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68         --
--         Copyright Microsoft, 2006                       --
--                                                         --
--         Creates clustered index on district table       --
-------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'district_c1' )
   DROP INDEX district.district_c1

CREATE UNIQUE CLUSTERED INDEX district_c1 ON
district(d_w_id, d_id)
   WITH FILLFACTOR=100 ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
        CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

## idxitmcl.sql

```
-------------------------------------------------------------
--                                                         --
-- File:   IDXITMCL.SQL                                    --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68         --
--         Copyright Microsoft, 2006                       --
--                                                         --
--         Creates clustered index on item table           --
--                                                         --
-------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'item_c1' )
   DROP INDEX item.item_c1

CREATE UNIQUE CLUSTERED INDEX item_c1 ON
item(i_id)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
        CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

## idxodlcl.sql

```
-------------------------------------------------------------
--                                                         --
-- File:   IDXODLCL.SQL                                    --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68         --
--         Copyright Microsoft, 2006                       --
--                                                         --
--         Creates clustered index on order-line table     --
--                                                         --
-------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'order_line_c1' )
   DROP INDEX order_line.order_line_c1

CREATE UNIQUE CLUSTERED INDEX order_line_c1
ON order_line(ol_w_id, ol_d_id, ol_o_id, ol_number)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
        CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
```

```
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxordnc.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   IDXORDNC.SQL                                        --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
--                                                             --
--         Creates non-clustered index on orders table         --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
      @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
      CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'orders_nc1' )
   DROP INDEX orders.orders_nc1

CREATE INDEX orders_nc1 ON orders(o_w_id, o_d_id,
o_c_id, o_id)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxwarcl.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   IDXWARCL.SQL                                        --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
--                                                             --
--         Creates clustered index on warehouse table          --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
      @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
      CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'warehouse_c1' )
   DROP INDEX warehouse.warehouse_c1

CREATE UNIQUE CLUSTERED INDEX warehouse_c1
ON warehouse(w_id)
   WITH FILLFACTOR=100 ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## removedb.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   REMOVEDB.SQL                                        --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
--                                                             --
-----------------------------------------------------------------
USE master
GO

-----------------------------------------------------------------
-- remove any existing database and backup files
-----------------------------------------------------------------
EXEC sp_dbremove tpcc, dropdev
GO

EXEC sp_dropdevice 'tpcc1'
EXEC sp_dropdevice 'tpcc2'
EXEC sp_dropdevice 'tpcc3'
EXEC sp_dropdevice 'tpcc4'
EXEC sp_dropdevice 'tpcc5'
EXEC sp_dropdevice 'tpcc6'
EXEC sp_dropdevice 'tpcc7'
EXEC sp_dropdevice 'tpcc8'
EXEC sp_dropdevice 'tpcc9'
EXEC sp_dropdevice 'tpcc10'
EXEC sp_dropdevice 'tpcc11'
EXEC sp_dropdevice 'tpcc12'
EXEC sp_dropdevice 'tpcc13'
EXEC sp_dropdevice 'tpcc14'
EXEC sp_dropdevice 'tpcc15'
EXEC sp_dropdevice 'tpcc16'
EXEC sp_dropdevice 'tpcc17'
EXEC sp_dropdevice 'tpcc18'
EXEC sp_dropdevice 'tpcc19'
EXEC sp_dropdevice 'tpcc20'
GO
```

## RunSQLcfg.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   RUNSQLCFG.SQL                                        --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--       Copyright Microsoft, 2006                              --
--                                                              --
--       Sets suggested runtime server configuration            --
--       parameters                                             --
--                                                              --
------------------------------------------------------------------
EXEC sp_configure 'show advanced option', 1
GO

RECONFIGURE WITH OVERRIDE
GO


------------------------------------------------------------------------
-- change this value to approximately the number of
connected users
------------------------------------------------------------------------
EXEC sp_configure 'max worker threads',255


------------------------------------------------------------------------
-- increase priority of user threads
------------------------------------------------------------------------
EXEC sp_configure 'priority boost',1


------------------------------------------------------------------------
-- disable automatic checkpointing
------------------------------------------------------------------------
EXEC sp_configure 'recovery interval',32767


------------------------------------------------------------------------
-- change to a mask appropriate for the number of processors
on the server
------------------------------------------------------------------------
EXEC sp_configure 'affinity mask',0xf


------------------------------------------------------------------------
-- enable fibers
------------------------------------------------------------------------
EXEC sp_configure 'lightweight pooling',1
GO

RECONFIGURE WITH OVERRIDE
GO
```

## tables.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   TABLES.SQL                                           --
--       Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--       Copyright Microsoft, 2006                              --
--                                                              --
--       Creates TPC-C tables                                   --
------------------------------------------------------------------


SET ANSI_NULL_DFLT_OFF ON
GO

USE tpcc
GO


-------------------------------------
-- Remove all existing TPC-C tables
-------------------------------------
if exists ( select name from sysobjects where name =
'warehouse' )
        drop table warehouse
go
if exists ( select name from sysobjects where name =
'district' )
        drop table district
go
if exists ( select name from sysobjects where name =
'customer' )
        drop table customer
go
if exists ( select name from sysobjects where name =
'history' )
        drop table history
go
if exists ( select name from sysobjects where name =
'new_order' )
        drop table new_order
go
if exists ( select name from sysobjects where name = 'orders' )
        drop table orders
go
if exists ( select name from sysobjects where name =
'order_line' )
        drop table order_line
go
if exists ( select name from sysobjects where name = 'item' )
        drop table item
go
if exists ( select name from sysobjects where name = 'stock' )
        drop table stock
go
```

```
--------------------
-- Create new tables
--------------------
create table warehouse
(
        w_id            int,
        w_ytd           money,
        w_tax           smallmoney,
        w_name          char(10),
        w_street_1      char(20),
        w_street_2      char(20),
        w_city          char(20),
        w_state         char(2),
        w_zip           char(9)
) on MSSQL_misc_fg
go

create table district
(
        d_id            tinyint,
        d_w_id          int,
        d_ytd           money,
        d_next_o_id             int,
        d_tax           smallmoney,
        d_name          char(10),
        d_street_1      char(20),
        d_street_2      char(20),
        d_city          char(20),
        d_state         char(2),
        d_zip           char(9)
) on MSSQL_misc_fg
go

create table customer
(
        c_id            int,
        c_d_id          tinyint,
        c_w_id          int,
        c_discount      smallmoney,
        c_credit_lim    money,
        c_last          char(16),
        c_first         char(16),
        c_credit        char(2),
        c_balance       money,
        c_ytd_payment   money,
        c_payment_cnt   smallint,
        c_delivery_cnt  smallint,
        c_street_1      char(20),
        c_street_2      char(20),
        c_city          char(20),
        c_state         char(2),
        c_zip           char(9),
        c_phone         char(16),
        c_since         datetime,
        c_middle        char(2),
        c_data          char(500)
) on MSSQL_cs_fg
go

-- Use the following table option if using c_data varchar(max)
-- sp_tableoption 'customer','large value types out of row','1'
-- go

create table history
(
        h_c_id          int,
        h_c_d_id        tinyint,
        h_c_w_id        int,
        h_d_id          tinyint,
        h_w_id          int,
        h_date          datetime,
        h_amount        smallmoney,
        h_data          char(24)
) on MSSQL_misc_fg
go

create table new_order
(
        no_o_id         int,
        no_d_id         tinyint,
        no_w_id         int
) on MSSQL_misc_fg
go

create table orders
(
        o_id            int,
        o_d_id          tinyint,
        o_w_id          int,
        o_c_id          int,
        o_carrier_id    tinyint,
        o_ol_cnt        tinyint,
        o_all_local     tinyint,
        o_entry_d       datetime
) on MSSQL_misc_fg
go

create table order_line
(
        ol_o_id         int,
```

```
        ol_d_id         tinyint,
        ol_w_id         int,
        ol_number       tinyint,
        ol_i_id         int,
        ol_delivery_d   datetime,
        ol_amount       smallmoney,
        ol_supply_w_id  int,
        ol_quantity     smallint,
        ol_dist_info    char(24)
) on MSSQL_misc_fg
go

create table item
(
        i_id            int,
        i_name          char(24),
        i_price         smallmoney,
        i_data          char(50),
        i_im_id         int
) on MSSQL_misc_fg
go

create table stock
(
        s_i_id          int,
        s_w_id          int,
        s_quantity      smallint,
        s_ytd           int,
        s_order_cnt     smallint,
        s_remote_cnt    smallint,
        s_data          char(50),
        s_dist_01       char(24),
        s_dist_02       char(24),
        s_dist_03       char(24),
        s_dist_04       char(24),
        s_dist_05       char(24),
        s_dist_06       char(24),
        s_dist_07       char(24),
        s_dist_08       char(24),
        s_dist_09       char(24),
        s_dist_10       char(24)
) on MSSQL_cs_fg
go
```

## VerifyTpccLoad_2.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   VerifyTPCCLoad.SQL                                   --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68              --
--         Copyright Microsoft, 2006                            --
--                                                              --
------------------------------------------------------------------
SET NOCOUNT ON
PRINT  ' '
SELECT  CONVERT(CHAR(30), GETDATE(), 21)
PRINT  ' '
GO

USE         tpcc
GO

IF  EXISTS  (SELECT name
          FROM   sysobjects
          WHERE  name    = 'TPCC_INFO' AND
               type    = 'U')
   DROP TABLE TPCC_INFO
GO

CREATE TABLE TPCC_INFO
   (  INFO_DATE                datetime,
      NUM_WAREHOUSE            bigint,
      WAREHOUSE_TARGET         bigint,
      NUM_DISTRICT             bigint,
      DISTRICT_TARGET          bigint,
      NUM_ITEM                 bigint,
      ITEM_TARGET              bigint,
      NUM_CUSTOMER             bigint,
      CUSTOMER_TARGET          bigint,
      NUM_ORDERS               bigint,
      ORDERS_TARGET            bigint,
      ORDERS_TARGET_LOW        bigint,
      ORDERS_TARGET_HIGH       bigint,
      NUM_ORDER_LINE           bigint,
      ORDER_LINE_TARGET        bigint,
      ORDER_LINE_TARGET_LOW    bigint,
      ORDER_LINE_TARGET_HIGH   bigint,
      NUM_NEW_ORDER            bigint,
      NEW_ORDER_TARGET         bigint,
      NEW_ORDER_TARGET_LOW     bigint,
      NEW_ORDER_TARGET_HIGH    bigint,
      NUM_HISTORY              bigint,
      HISTORY_TARGET           bigint,
      NUM_STOCK                bigint,
      STOCK_TARGET             bigint)
GO

DECLARE @NUM_WAREHOUSE          bigint,
      @WAREHOUSE_TARGET       bigint,
```

```
        @NUM_DISTRICT           bigint,
        @DISTRICT_TARGET        bigint,
        @NUM_ITEM               bigint,
        @ITEM_TARGET            bigint,
        @NUM_CUSTOMER           bigint,
        @CUSTOMER_TARGET        bigint,
        @NUM_ORDERS             bigint,
        @ORDERS_TARGET          bigint,
        @ORDERS_TARGET_LOW      bigint,
        @ORDERS_TARGET_HIGH     bigint,
        @NUM_ORDER_LINE         bigint,
        @ORDER_LINE_TARGET      bigint,
        @ORDER_LINE_TARGET_LOW  bigint,
        @ORDER_LINE_TARGET_HIGH bigint,
        @NUM_NEW_ORDER          bigint,
        @NEW_ORDER_TARGET       bigint,
        @NEW_ORDER_TARGET_LOW   bigint,
        @NEW_ORDER_TARGET_HIGH  bigint,
        @NUM_HISTORY            bigint,
        @HISTORY_TARGET         bigint,
        @NUM_STOCK              bigint,
        @STOCK_TARGET           bigint

SELECT  @NUM_WAREHOUSE  = COUNT_BIG(*)
FROM    warehouse

SELECT  @NUM_DISTRICT   = COUNT_BIG(*)
FROM    district

SELECT  @NUM_ITEM       = COUNT_BIG(*)
FROM    item

SELECT  @NUM_CUSTOMER   = COUNT_BIG(*)
FROM    customer

SELECT  @NUM_ORDERS     = COUNT_BIG(*)
FROM    orders

SELECT  @NUM_HISTORY    = COUNT_BIG(*)
FROM    history

SELECT  @NUM_STOCK      = COUNT_BIG(*)
FROM    stock

SELECT  @NUM_ORDER_LINE = COUNT_BIG(*)
FROM    order_line

SELECT  @NUM_NEW_ORDER  = COUNT_BIG(*)
FROM    new_order

--- now calculate and set the target values
SELECT  @WAREHOUSE_TARGET       =
@NUM_WAREHOUSE,
        @DISTRICT_TARGET        = @NUM_WAREHOUSE
* 10,
        @ITEM_TARGET            = 100000,
        @CUSTOMER_TARGET        =
@NUM_WAREHOUSE * 30000,
        @ORDERS_TARGET          = @NUM_WAREHOUSE
* 30000,
        @ORDERS_TARGET_LOW      =
@ORDERS_TARGET - FLOOR(@ORDERS_TARGET
* .01),
        @ORDERS_TARGET_HIGH     =
@ORDERS_TARGET + FLOOR(@ORDERS_TARGET
* .01),
        @ORDER_LINE_TARGET      =
@NUM_WAREHOUSE * 300000,
        @ORDER_LINE_TARGET_LOW  =
@ORDER_LINE_TARGET -
FLOOR(@ORDER_LINE_TARGET * .01),
        @ORDER_LINE_TARGET_HIGH =
@ORDER_LINE_TARGET +
FLOOR(@ORDER_LINE_TARGET * .01),
        @NEW_ORDER_TARGET       =
@NUM_WAREHOUSE * 9000,
        @NEW_ORDER_TARGET_LOW   =
@NEW_ORDER_TARGET -
FLOOR(@NEW_ORDER_TARGET * .01),
        @NEW_ORDER_TARGET_HIGH  =
@NEW_ORDER_TARGET +
FLOOR(@NEW_ORDER_TARGET * .01),
        @HISTORY_TARGET         =
@NUM_WAREHOUSE * 30000,
        @STOCK_TARGET           = @NUM_WAREHOUSE
* 100000

--- insert the values into TPCC_INFO
INSERT INTO TPCC_INFO VALUES    (GETDATE(),
                        @NUM_WAREHOUSE,
                        @WAREHOUSE_TARGET,
                        @NUM_DISTRICT,
                        @DISTRICT_TARGET,
                        @NUM_ITEM,
                        @ITEM_TARGET,
                        @NUM_CUSTOMER,
                        @CUSTOMER_TARGET,
                        @NUM_ORDERS,
                        @ORDERS_TARGET,
                        @ORDERS_TARGET_LOW,
                        @ORDERS_TARGET_HIGH,
                        @NUM_ORDER_LINE,
                        @ORDER_LINE_TARGET,
                        @ORDER_LINE_TARGET_LOW,
                        @ORDER_LINE_TARGET_HIGH,
                        @NUM_NEW_ORDER,
```

```
                    @NEW_ORDER_TARGET,
                    @NEW_ORDER_TARGET_LOW,
                    @NEW_ORDER_TARGET_HIGH,
                    @NUM_HISTORY,
                    @HISTORY_TARGET,
                    @NUM_STOCK,
                    @STOCK_TARGET)
GO

--- output the row counts from the build
PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|   WAREHOUSE TABLE     |'
PRINT   '--------------------------'
SELECT  TOP 1
     CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
     NUM_WAREHOUSE                AS  'Warehouse
Rows',
     WAREHOUSE_TARGET             AS'Warehouse
Target',
     CASE WHEN (NUM_WAREHOUSE =
WAREHOUSE_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
     END                          AS  'Warehouse Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|   DISTRICT TABLE      |'
PRINT   '--------------------------'
SELECT  TOP 1
     CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
     NUM_DISTRICT                 AS  'District Rows',
     DISTRICT_TARGET              AS      'District Target',
     CASE WHEN (NUM_DISTRICT =
DISTRICT_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
     END                          AS  'District Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|     ITEM TABLE        |'
PRINT   '--------------------------'
SELECT  TOP 1
     CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
     NUM_ITEM                     AS  'Item Rows',
     ITEM_TARGET                  AS         'Item Target',
     CASE WHEN (NUM_ITEM = ITEM_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
     END                          AS  'Item Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|   CUSTOMER TABLE      |'
PRINT   '--------------------------'
SELECT  TOP 1
     CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
     NUM_CUSTOMER                 AS  'Customer Rows',
     CUSTOMER_TARGET              AS  'Customer
Target',
     CASE WHEN (NUM_CUSTOMER =
CUSTOMER_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
     END                          AS  'Customer Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|    ORDERS TABLE       |'
PRINT   '--------------------------'
SELECT  TOP 1
     CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
     NUM_ORDERS                   AS  'Orders Rows',
     ORDERS_TARGET                AS      'Orders Target',
     CASE WHEN (NUM_ORDERS = ORDERS_TARGET)
          THEN 'OK!'
          WHEN (NUM_ORDERS BETWEEN
ORDERS_TARGET_LOW AND
ORDERS_TARGET_HIGH)
          THEN 'OK! (within 1%)'
          ELSE 'ERROR!!!'
     END                          AS  'Orders Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '--------------------------'
PRINT   '|  ORDER LINE TABLE     |'
```

```
PRINT   '---------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_ORDER_LINE                  AS  'Order Line Rows',
      ORDER_LINE_TARGET               AS  'Order Line
Target',
      CASE WHEN (NUM_ORDER_LINE =
ORDER_LINE_TARGET)
          THEN 'OK!'
          WHEN (NUM_ORDER_LINE BETWEEN
ORDER_LINE_TARGET_LOW AND
ORDER_LINE_TARGET_HIGH)
          THEN 'OK! (within 1%)'
          ELSE 'ERROR!!!'
      END                         AS  'Order Line Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|    NEW ORDER TABLE     |'
PRINT   '---------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_NEW_ORDER                   AS  'New Order
Rows',
      NEW_ORDER_TARGET                AS 'New Order
Target',
      CASE WHEN (NUM_NEW_ORDER =
NEW_ORDER_TARGET)
          THEN 'OK!'
          WHEN (NUM_NEW_ORDER BETWEEN
NEW_ORDER_TARGET_LOW AND
NEW_ORDER_TARGET_HIGH)
          THEN 'OK! (within 1%)'
          ELSE 'ERROR!!!'
      END                         AS  'New Order Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|    HISTORY TABLE      |'
PRINT   '---------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_HISTORY                   AS  'History Rows',
      HISTORY_TARGET                AS     'History Target',
      CASE WHEN (NUM_HISTORY =
HISTORY_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                         AS  'History Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|     STOCK TABLE       |'
PRINT   '---------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_STOCK                   AS  'Stock Rows',
      STOCK_TARGET                AS       'Stock Target',
      CASE WHEN (NUM_STOCK = STOCK_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                         AS  'Stock Message'
FROM    TPCC_INFO
GO

------------------
-- Check Indexes
------------------
USE tpcc
GO

PRINT   ''
PRINT   ''
PRINT   '----------------------------'
PRINT   '|     TPC-C INDEXES      |'
PRINT   '----------------------------'
EXEC    sp_helpindex    warehouse
EXEC    sp_helpindex    district
EXEC    sp_helpindex    item
EXEC    sp_helpindex    customer
EXEC    sp_helpindex    orders
EXEC    sp_helpindex    order_line
EXEC    sp_helpindex    new_order
EXEC    sp_helpindex    history
EXEC    sp_helpindex    stock
GO
```

## backupdev.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   BACKUPDEV.SQL                                       --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
```

```
--                                                              --
------------------------------------------------------------------


USE master
GO


------------------------
-- create backup devices
------------------------
EXEC sp_addumpdevice 'disk','tpcc1','c:\mp\b1\tpcc1.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc2','c:\mp\b2\tpcc2.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc3','c:\mp\b3\tpcc3.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc4','c:\mp\b4\tpcc4.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc5','c:\mp\b5\tpcc5.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc6','c:\mp\b6\tpcc6.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc7','c:\mp\b7\tpcc7.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc8','c:\mp\b8\tpcc8.dmp'
GO
EXEC sp_addumpdevice 'disk','tpcc9','c:\mp\b9\tpcc9.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc10','c:\mp\b10\tpcc10.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc11','c:\mp\b11\tpcc11.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc12','c:\mp\b12\tpcc12.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc13','c:\mp\b13\tpcc13.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc14','c:\mp\b14\tpcc14.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc15','c:\mp\b15\tpcc15.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc16','c:\mp\b16\tpcc16.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc17','c:\mp\b17\tpcc17.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc18','c:\mp\b18\tpcc18.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc19','c:\mp\b19\tpcc19.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc20','c:\mp\b20\tpcc20.dmp'
GO
```

## delwh.sql

```
use tpcc
go
delete from warehouse where w_id > 40560
go
select count(*) from warehouse
go
select * from warehouse where w_id > 40560
go
print ' '
select convert(char(30), getdate(),9)
print ' '
go
```

## idxcusnc.sql

```
------------------------------------------------------------------
--                                                              --
--  File:   IDXCUSNC.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--          Copyright Microsoft, 2006                           --
--                                                              --
--          Creates non-clustered index on customer table       --
------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'customer_nc1' )
   DROP INDEX customer.customer_nc1

CREATE UNIQUE NONCLUSTERED INDEX
customer_nc1 ON customer(c_w_id, c_d_id, c_last, c_first,
c_id)
   ON MSSQL_cs_fg
```

```
SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxhiscl.sql

```
-------------------------------------------------------------------
--                                                               --
--  File:   IDXHISCL.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--        Copyright Microsoft, 2006                              --
--                                                               --
--        Creates clustered index on history table               --
--                                                               --
--        CAUTION: This index is only beneficial for systems
--
--        CAUTION: with 8 or more processors.                    --
--        CAUTION: It may negatively impact performance on
--
--        CAUTION: systems with less than 8 processors.          -
-
--                                                               --
-------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
      @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
      CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'history_c1' )
   DROP INDEX history.history_c1

CREATE UNIQUE CLUSTERED INDEX history_c1 ON
history(h_c_w_id, h_date, h_c_d_id, h_c_id, h_amount)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxnodcl.sql

```
-------------------------------------------------------------------
--                                                               --
--  File:   IDXNODCL.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--        Copyright Microsoft, 2006                              --
--                                                               --
--        Creates clustered index on new-order table             --
--                                                               --
-------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
      @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
      CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'new_order_c1' )
   DROP INDEX new_order.new_order_c1

CREATE UNIQUE CLUSTERED INDEX new_order_c1
ON new_order(no_w_id, no_d_id, no_o_id)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
      CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
      DATEDIFF(second, @startdate, @enddate)
GO
```

## idxordcl.sql

```
-------------------------------------------------------------------
--                                                               --
--  File:   IDXORDCL.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68                --
--        Copyright Microsoft, 2006                              --
--                                                               --
--        Creates clustered index on orders table                --
--                                                               --
-------------------------------------------------------------------
USE tpcc
GO
```

```
DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'orders_c1' )
   DROP INDEX orders.orders_c1

CREATE UNIQUE CLUSTERED INDEX orders_c1 ON
orders(o_w_id, o_d_id, o_id)
   ON MSSQL_misc_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
        CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

## idxstkcl.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   IDXSTKCL.SQL                                        --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
--                                                             --
--         Creates clustered index on stock table              --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE
name = 'stock_c1' )
   DROP INDEX stock.stock_c1

CREATE UNIQUE CLUSTERED INDEX stock_c1 ON
stock(s_i_id, s_w_id)
   ON MSSQL_cs_fg

SELECT  @enddate = GETDATE()
SELECT  'End date:',
        CONVERT(VARCHAR(30),@enddate,21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

## newDB.sql

```
use master
go
alter database tpcc set page_verify none
go
use tpcc
go
drop index orders.orders_nc1
go
sp_dboption tpcc,'torn page detection', false
go
```

## restore.sql

```
-----------------------------------------------------------------
--                                                             --
-- File:   RESTORE.SQL                                         --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68             --
--         Copyright Microsoft, 2006                           --
--                                                             --
-----------------------------------------------------------------

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',

                CONVERT(VARCHAR(30),@startdate, 21)

LOAD DATABASE tpcc FROM tpcc1, tpcc2, tpcc3, tpcc4,
tpcc5, tpcc6, tpcc7, tpcc8, tpcc9, tpcc10, tpcc11, tpcc12,
tpcc13, tpcc14, tpcc15, tpcc16, tpcc17, tpcc18, tpcc19,
tpcc20 WITH stats = 1

SELECT  @enddate = GETDATE()
SELECT  'End date: ',
        CONVERT(VARCHAR(30),@enddate, 21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

## sqlshutdown.sql

```
-------------------------------------------------------------
--                                                         --
-- File:   SQLSHUTDOWN.SQL                                 --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68         --
--         Copyright Microsoft, 2006                       --
--                                                         --
--         Checkpoints tpcc database and issues a shutdown --
--                                                         --
-------------------------------------------------------------
USE tpcc
GO

CHECKPOINT
GO

SHUTDOWN
GO
```

## VerifyTpccLoad.sql

```
-------------------------------------------------------------
--                                                         --
-- File:   VerifyTPCCLoad.SQL                              --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68         --
--         Copyright Microsoft, 2006                       --
--                                                         --
-------------------------------------------------------------
SET NOCOUNT ON
PRINT  ' '
SELECT  CONVERT(CHAR(30), GETDATE(), 21)
PRINT  ' '

USE        tpcc
GO

IF  EXISTS  (SELECT name
          FROM   sysobjects
          WHERE  name    = 'TPCC_INFO' AND
               type    = 'U')
   DROP TABLE TPCC_INFO
GO
PRINT   'WAREHOUSE TABLE'
SELECT  count_big(*)
FROM    warehouse
GO

PRINT   'DISTRICT TABLE = (10 * No of warehouses)'
SELECT  count_big(*)
FROM    district
GO

PRINT   'ITEM TABLE = 100,000'
SELECT  count_big(*)
FROM    item
GO

PRINT   'CUSTOMER TABLE = (30,000 * No of
warehouses)'
SELECT  count_big(*)
FROM    customer
GO

PRINT   'ORDERS TABLE = (30,000 * No of warehouses)'
SELECT  count_big(*)
FROM    orders
GO

PRINT   'HISTORY TABLE = (30,000 * No of warehouses)'
SELECT  count_big(*)
FROM    history
GO

PRINT   'STOCK TABLE = (100,000 * No of warehouses)'
SELECT  count_big(*)
FROM    stock
GO

PRINT   'ORDER_LINE TABLE = (300,000 * No of
warehouses + some change)'
SELECT  count_big(*)
FROM    order_line
GO

PRINT   'NEW_ORDER TABLE = (9000 * No of
warehouses)'
SELECT  count_big(*)
FROM    new_order
GO

CREATE TABLE TPCC_INFO
  (  INFO_DATE              datetime,
     NUM_WAREHOUSE          bigint,
     WAREHOUSE_TARGET       bigint,
     NUM_DISTRICT           bigint,
     DISTRICT_TARGET        bigint,
     NUM_ITEM               bigint,
     ITEM_TARGET            bigint,
     NUM_CUSTOMER           bigint,
```

```
    CUSTOMER_TARGET          bigint,
    NUM_ORDERS               bigint,
    ORDERS_TARGET            bigint,
    ORDERS_TARGET_LOW        bigint,
    ORDERS_TARGET_HIGH       bigint,
    NUM_ORDER_LINE           bigint,
    ORDER_LINE_TARGET        bigint,
    ORDER_LINE_TARGET_LOW    bigint,
    ORDER_LINE_TARGET_HIGH   bigint,
    NUM_NEW_ORDER            bigint,
    NEW_ORDER_TARGET         bigint,
    NEW_ORDER_TARGET_LOW     bigint,
    NEW_ORDER_TARGET_HIGH    bigint,
    NUM_HISTORY              bigint,
    HISTORY_TARGET           bigint,
    NUM_STOCK                bigint,
    STOCK_TARGET             bigint)
GO

DECLARE @NUM_WAREHOUSE           bigint,
    @WAREHOUSE_TARGET        bigint,
    @NUM_DISTRICT            bigint,
    @DISTRICT_TARGET         bigint,
    @NUM_ITEM                bigint,
    @ITEM_TARGET             bigint,
    @NUM_CUSTOMER            bigint,
    @CUSTOMER_TARGET         bigint,
    @NUM_ORDERS              bigint,
    @ORDERS_TARGET           bigint,
    @ORDERS_TARGET_LOW       bigint,
    @ORDERS_TARGET_HIGH      bigint,
    @NUM_ORDER_LINE          bigint,
    @ORDER_LINE_TARGET       bigint,
    @ORDER_LINE_TARGET_LOW   bigint,
    @ORDER_LINE_TARGET_HIGH  bigint,
    @NUM_NEW_ORDER           bigint,
    @NEW_ORDER_TARGET        bigint,
    @NEW_ORDER_TARGET_LOW    bigint,
    @NEW_ORDER_TARGET_HIGH   bigint,
    @NUM_HISTORY             bigint,
    @HISTORY_TARGET          bigint,
    @NUM_STOCK               bigint,
    @STOCK_TARGET            bigint

-- set the local variables prior to inserting them into the
TPCC_INFO table
SELECT  @NUM_WAREHOUSE     = COUNT_BIG(*)
FROM    warehouse

SELECT  @NUM_DISTRICT      = COUNT_BIG(*)
FROM    district

SELECT  @NUM_ITEM          = COUNT_BIG(*)
FROM    item

SELECT  @NUM_CUSTOMER      = COUNT_BIG(*)
FROM    customer

SELECT  @NUM_ORDERS        = COUNT_BIG(*)
FROM    orders

SELECT  @NUM_ORDER_LINE    = COUNT_BIG(*)
FROM    order_line

SELECT  @NUM_NEW_ORDER     = COUNT_BIG(*)
FROM    new_order

SELECT  @NUM_HISTORY       = COUNT_BIG(*)
FROM    history

SELECT  @NUM_STOCK         = COUNT_BIG(*)
FROM    stock

--- now calculate and set the target values
SELECT  @WAREHOUSE_TARGET      =
@NUM_WAREHOUSE,
    @DISTRICT_TARGET       = @NUM_WAREHOUSE
* 10,
    @ITEM_TARGET           = 100000,
    @CUSTOMER_TARGET       =
@NUM_WAREHOUSE * 30000,
    @ORDERS_TARGET         = @NUM_WAREHOUSE
* 30000,
    @ORDERS_TARGET_LOW     =
@ORDERS_TARGET - FLOOR(@ORDERS_TARGET
* .01),
    @ORDERS_TARGET_HIGH    =
@ORDERS_TARGET + FLOOR(@ORDERS_TARGET
* .01),
    @ORDER_LINE_TARGET     =
@NUM_WAREHOUSE * 300000,
    @ORDER_LINE_TARGET_LOW =
@ORDER_LINE_TARGET -
FLOOR(@ORDER_LINE_TARGET * .01),
    @ORDER_LINE_TARGET_HIGH =
@ORDER_LINE_TARGET +
FLOOR(@ORDER_LINE_TARGET * .01),
    @NEW_ORDER_TARGET      =
@NUM_WAREHOUSE * 9000,
    @NEW_ORDER_TARGET_LOW  =
@NEW_ORDER_TARGET -
FLOOR(@NEW_ORDER_TARGET * .01),
    @NEW_ORDER_TARGET_HIGH =
@NEW_ORDER_TARGET +
FLOOR(@NEW_ORDER_TARGET * .01),
    @HISTORY_TARGET        =
@NUM_WAREHOUSE * 30000,
```

```
    @STOCK_TARGET          = @NUM_WAREHOUSE
* 100000

--- insert the values into TPCC_INFO
INSERT INTO TPCC_INFO VALUES    (GETDATE(),
                    @NUM_WAREHOUSE,
                    @WAREHOUSE_TARGET,
                    @NUM_DISTRICT,
                    @DISTRICT_TARGET,
                    @NUM_ITEM,
                    @ITEM_TARGET,
                    @NUM_CUSTOMER,
                    @CUSTOMER_TARGET,
                    @NUM_ORDERS,
                    @ORDERS_TARGET,
                    @ORDERS_TARGET_LOW,
                    @ORDERS_TARGET_HIGH,
                    @NUM_ORDER_LINE,
                    @ORDER_LINE_TARGET,
                    @ORDER_LINE_TARGET_LOW,
                    @ORDER_LINE_TARGET_HIGH,
                    @NUM_NEW_ORDER,
                    @NEW_ORDER_TARGET,
                    @NEW_ORDER_TARGET_LOW,
                    @NEW_ORDER_TARGET_HIGH,
                    @NUM_HISTORY,
                    @HISTORY_TARGET,
                    @NUM_STOCK,
                    @STOCK_TARGET)
GO

--- output the row counts from the build
PRINT   "
PRINT   "
PRINT   '--------------------------'
PRINT   '|   WAREHOUSE TABLE     |'
PRINT   '--------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_WAREHOUSE                 AS  'Warehouse
Rows',
      WAREHOUSE_TARGET              AS'Warehouse
Target',
      CASE WHEN (NUM_WAREHOUSE =
WAREHOUSE_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                           AS  'Warehouse Message'
FROM    TPCC_INFO
GO

PRINT   "
PRINT   '--------------------------'
PRINT   '|   DISTRICT TABLE      |'
PRINT   '--------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_DISTRICT                  AS  'District Rows',
      DISTRICT_TARGET               AS      'District Target',
      CASE WHEN (NUM_DISTRICT =
DISTRICT_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                           AS  'District Message'
FROM    TPCC_INFO
GO

PRINT   "
PRINT   "
PRINT   '--------------------------'
PRINT   '|     ITEM TABLE        |'
PRINT   '--------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_ITEM                      AS  'Item Rows',
      ITEM_TARGET                   AS          'Item Target',
      CASE WHEN (NUM_ITEM = ITEM_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                           AS  'Item Message'
FROM    TPCC_INFO
GO

PRINT   "
PRINT   "
PRINT   '--------------------------'
PRINT   '|   CUSTOMER TABLE      |'
PRINT   '--------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_CUSTOMER                  AS  'Customer Rows',
      CUSTOMER_TARGET               AS  'Customer
Target',
      CASE WHEN (NUM_CUSTOMER =
CUSTOMER_TARGET)
          THEN 'OK!'
          ELSE 'ERROR!!!'
      END                           AS  'Customer Message'
FROM    TPCC_INFO
GO

PRINT   "
```

```
PRINT   ''
PRINT   '----------------------------'
PRINT   '|    ORDERS TABLE       |'
PRINT   '----------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_ORDERS                  AS  'Orders Rows',
      ORDERS_TARGET               AS      'Orders Target',
      CASE WHEN (NUM_ORDERS = ORDERS_TARGET)
         THEN 'OK!'
         WHEN (NUM_ORDERS BETWEEN
ORDERS_TARGET_LOW AND
ORDERS_TARGET_HIGH)
         THEN 'OK! (within 1%)'
         ELSE 'ERROR!!!'
      END                         AS  'Orders Message'
FROM    TPCC_INFO
GO


PRINT   ''
PRINT   ''
PRINT   '----------------------------'
PRINT   '|   ORDER LINE TABLE     |'
PRINT   '----------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_ORDER_LINE              AS  'Order Line Rows',
      ORDER_LINE_TARGET           AS  'Order Line
Target',
      CASE WHEN (NUM_ORDER_LINE =
ORDER_LINE_TARGET)
         THEN 'OK!'
         WHEN (NUM_ORDER_LINE BETWEEN
ORDER_LINE_TARGET_LOW AND
ORDER_LINE_TARGET_HIGH)
         THEN 'OK! (within 1%)'
         ELSE 'ERROR!!!'
      END                         AS  'Order Line Message'
FROM    TPCC_INFO
GO


PRINT   ''
PRINT   ''
PRINT   '----------------------------'
PRINT   '|    NEW ORDER TABLE     |'
PRINT   '----------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_NEW_ORDER               AS  'New Order
Rows',
      NEW_ORDER_TARGET            AS 'New Order
Target',
      CASE WHEN (NUM_NEW_ORDER =
NEW_ORDER_TARGET)
         THEN 'OK!'
         WHEN (NUM_NEW_ORDER BETWEEN
NEW_ORDER_TARGET_LOW AND
NEW_ORDER_TARGET_HIGH)
         THEN 'OK! (within 1%)'
         ELSE 'ERROR!!!'
      END                         AS  'New Order Message'
FROM    TPCC_INFO
GO


PRINT   ''
PRINT   ''
PRINT   '----------------------------'
PRINT   '|    HISTORY TABLE      |'
PRINT   '----------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_HISTORY                 AS  'History Rows',
      HISTORY_TARGET              AS      'History Target',
      CASE WHEN (NUM_HISTORY =
HISTORY_TARGET)
         THEN 'OK!'
         ELSE 'ERROR!!!'
      END                         AS  'History Message'
FROM    TPCC_INFO
GO


PRINT   ''
PRINT   ''
PRINT   '----------------------------'
PRINT   '|     STOCK TABLE       |'
PRINT   '----------------------------'
SELECT  TOP 1
      CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
      NUM_STOCK                   AS  'Stock Rows',
      STOCK_TARGET                AS       'Stock Target',
      CASE WHEN (NUM_STOCK = STOCK_TARGET)
         THEN 'OK!'
         ELSE 'ERROR!!!'
      END                         AS  'Stock Message'
FROM    TPCC_INFO
GO


------------------
-- Check Indexes
------------------
USE tpcc
GO

PRINT   ''
```

```
PRINT   ''
PRINT   '-----------------------------'
PRINT   '|     TPC-C INDEXES       |'
PRINT   '-----------------------------'
EXEC    sp_helpindex    warehouse
EXEC    sp_helpindex    district
EXEC    sp_helpindex    item
EXEC    sp_helpindex    customer
EXEC    sp_helpindex    orders
EXEC    sp_helpindex    order_line
EXEC    sp_helpindex    new_order
EXEC    sp_helpindex    history
EXEC    sp_helpindex    stock
GO
```

### version.sql

```
------------------------------------------------------------------
--                                                              --
-- File:   VERSION.SQL                                          --
--         Microsoft TPC-C Benchmark Kit Ver. 4.68              --
--         Copyright Microsoft, 2006                            --
--                                                              --
--         Extracts current version of SQL Server               --
--                                                              --
------------------------------------------------------------------
USE master
GO

SELECT  CONVERT(char(20),
SERVERPROPERTY('ProductVersion')),
       CONVERT(char(20),
SERVERPROPERTY('ProductLevel')),
       CONVERT(char(29), SERVERPROPERTY('Edition'))
GO

SELECT  CONVERT(char(30), GETDATE(), 21)
GO
```

## Load Source Code

### getargs.c

```
//              File:                   GETARGS.C
//                                              Microsoft TPC-
C Kit Ver. 4.51
//                                              Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
//              Purpose:    Source file for command line
processing

// Includes
#include "tpcc.h"

//=========================================
============================
//
// Function name: GetArgsLoader
//
//=========================================
============================

void GetArgsLoader(int argc, char **argv,
TPCCLDR_ARGS *pargs)
{
   int                  i;
   char     *ptr;

#ifdef DEBUG
   printf("[%ld]DBG: Entering GetArgsLoader()\n", (int)
GetCurrentThreadId());
#endif

   /* init args struct with some useful values */
   pargs->server                        = SERVER;
   pargs->user                  = USER;
   pargs->password                      = PASSWORD;
   pargs->database                      = DATABASE;
   pargs->batch                 = BATCH;
   pargs->num_warehouses                = UNDEF;
           pargs->tables_all                    =
TRUE;
           pargs->table_item                    =
FALSE;
           pargs->table_warehouse               =
FALSE;
           pargs->table_customer                =
FALSE;
           pargs->table_orders                  =
FALSE;
           pargs->loader_res_file               =
LOADER_RES_FILE;
           pargs->log_path
           = LOADER_LOG_PATH;
           pargs->pack_size             =
DEFLDPACKSIZE;
           pargs->starting_warehouse    =
DEF_STARTING_WAREHOUSE;
           pargs->build_index                   =
BUILD_INDEX;
           pargs->index_order                   =
INDEX_ORDER;
           pargs->index_script_path     =
INDEX_SCRIPT_PATH;
```

```
        pargs->scale_down                       =
SCALE_DOWN;

  /* check for zero command line args */
  if ( argc == 1 )
                GetArgsLoaderUsage();

  for (i = 1; i < argc; ++i)
  {
                if (argv[i][0] != '-' && argv[i][0] != '/')
                {
                printf("\nUnrecognized command");
                GetArgsLoaderUsage();
                exit(1);
                }

                ptr = argv[i];

                switch (ptr[1])
                {
                case '?':    /* Fall throught */

        GetArgsLoaderUsage();
                                        break;

                case 'D':
                                        pargs->database
= ptr+2;
                                        break;

                case 'P':
                                        pargs-
>password = ptr+2;
                                        break;

                case 'S':
                                        pargs->server =
ptr+2;
                                        break;

                case 'U':
                                        pargs->user =
ptr+2;
                                        break;

                case 'b':
                                        pargs->batch =
atol(ptr+2);
                                        break;

                case 'W':
                                        pargs-
>num_warehouses = atol(ptr+2);
                                        break;

                        case 's':
                                        pargs-
>starting_warehouse = atol(ptr+2);
                                        break;

                        case 't':
                                        {

        pargs->tables_all = FALSE;
                                        if
(strcmp(ptr+2,"item") == 0)

        pargs->table_item = TRUE;
                                        else
if (strcmp(ptr+2,"warehouse") == 0)

        pargs->table_warehouse = TRUE;
                                        else
if (strcmp(ptr+2,"customer") == 0)

        pargs->table_customer = TRUE;
                                        else
if (strcmp(ptr+2,"orders") == 0)

        pargs->table_orders = TRUE;
                                        else
                                        {

        printf("\nUnrecognized command");

        GetArgsLoaderUsage();

        exit(1);
                                        }

                                        break;
                                        }
                        case 'f':
                                        pargs-
>loader_res_file = ptr+2;
                                        break;

                        case 'L':
                                        pargs->log_path
= ptr+2;
                                        break;

                        case 'p':
                                        pargs-
>pack_size = atol(ptr+2);
                                        break;
```

```
                                case 'i':
                                        pargs->build_index = atol(ptr+2);
                                        break;

                                case 'o':
                                        pargs->index_order = atol(ptr+2);
                                        break;

                                case 'c':
                                        pargs->scale_down = atol(ptr+2);
                                        break;

                        case 'd':
                                        pargs->index_script_path = ptr+2;
                                        break;

                                default:
                                GetArgsLoaderUsage();
                                exit(-1);
                                break;
                        }
   }

   /* check for required args */
   if (pargs->num_warehouses == UNDEF )
   {
                        printf("Number of Warehouses is required\n");
                        exit(-2);
   }

   return;
}



//=============================================================================
//
// Function name: GetArgsLoaderUsage
//
//=============================================================================

void GetArgsLoaderUsage()
{

#ifdef DEBUG
   printf("[%ld]DBG: Entering GetArgsLoaderUsage()\n", (int) GetCurrentThreadId());
#endif



   printf("TPCCLDR:\n\n");
                printf("Parameter                                               Default\n");
                printf("-------------------------------------------------------------\n");
   printf("-W Number of Warehouses to Load                         Required \n");
   printf("-S Server                                               %s\n", SERVER);
   printf("-U Username                                             %s\n", USER);
   printf("-P Password                                             %s\n", PASSWORD);
   printf("-D Database                                             %s\n", DATABASE);
                printf("-b Batch Size                                           %ld\n", (long) BATCH);
                printf("-p TDS packet size                                      %ld\n", (long) DEFLDPACKSIZE);
                printf("-L Loader BCP Log Path                                  %s\n", LOADER_LOG_PATH);
                printf("-f Loader Results Output Filename                       %s\n", LOADER_RES_FILE);
                printf("-s Starting Warehouse                                   %ld\n", (long) DEF_STARTING_WAREHOUSE);
                printf("-i Build Option (data = 0, data and index = 1)      %ld\n", (long) BUILD_INDEX);
                printf("-o Cluster Index Build Order (before = 1, after = 0)  %ld\n", (long) INDEX_ORDER);
                printf("-c Build Scaled Database (normal = 0, tiny = 1)     %ld\n", (long) SCALE_DOWN);
                printf("-d Index Script Path                                    %s\n", INDEX_SCRIPT_PATH);
                printf("-t Table to Load                                        all tables \n");
   printf("   [item|warehouse|customer|orders]\n");
   printf("   Notes: \n");
   printf("     - the '-t' parameter may be included multiple times to \n");
   printf("       specify multiple tables to be loaded \n");
   printf("     - 'item' loads ITEM table \n");
   printf("     - 'warehouse' loads WAREHOUSE, DISTRICT, and STOCK tables \n");
   printf("     - 'customer' loads CUSTOMER and HISTORY tables \n");
   printf("     - 'orders' load NEW-ORDER, ORDERS, ORDER-LINE tables \n");


                printf("\nNote:  Command line switches are case sensitive.\n");


   exit(0);
}
```

## restore.vbs

```
'--------------------------------------------------------------------------
---------------
'---  FILE:      RESTORE.VBS
'---             Microsoft TPC-C Kit Ver. 4.68
'---             Copyright Microsoft, 2001, 2002, 2006
'---             All Rights Reserved
'---
'---  PURPOSE:    This module executes a database restore
'---
'--------------------------------------------------------------------------
---------------
'-------------------------------------------------------
'--- set the kit verison variable for later display
'-------------------------------------------------------
Kit_Version = "  4.68"
'---------------------------------------
'--- open an windows scripting object
'---------------------------------------
set WshShell = CreateObject("WScript.Shell")
'-------------------------------------------------------
'--- set up windows scripting argument collection
'-------------------------------------------------------
Set objArgs = wScript.Arguments
'---------------------------------------
'--- display a banner message
'---------------------------------------
wScript.Echo
"**************************************************
******************************"
wScript.Echo "*
*"
wScript.Echo "*  Microsoft TPC-C Benchmark Kit Ver." &
Kit_Version & "                          *"
wScript.Echo "*
*"
wScript.Echo "*  Restore tpcc database
*"
wScript.Echo "*
*"
wScript.Echo
"**************************************************
******************************"
'-------------------------------------------------------
'--- define function to check for any error messages
'-------------------------------------------------------
Function CheckSQLOutput(SQL_Out)
        ErrorFlag = 0
        Set SQL_fso =
CreateObject("Scripting.FileSystemObject")
        Set SQL_Out_File =
SQL_fso.OpenTextFile(SQL_Out,1)
        Do While SQL_Out_File.AtEndOfStream <>
True
                SQL_Line = SQL_Out_File.ReadLine
                'first check to see if the output contains
a message about the login password
                If InStr(SQL_Line, "Login failed")
Then
                        'display the messages and
get out of here
                        ErrorFlag = 1
                        wScript.Echo "The login
for userid 'sa' failed."
                        wScript.Echo "Please
restart SETUP with the correct password."
                Else
                        If InStr(SQL_Line, "Msg")
Then
                'find out where the "Msg" indicator is in
the line
                LocMsg = InStr(SQL_Line, "Msg")
                'find out where the comma is after the
error code
                LocComma = InStr(SQL_Line, ",")
                'now isolate the error code
                ErrorCode = Mid(SQL_Line, (LocMsg +
4), (LocComma - (LocMsg + 4)))
                Select Case ErrorCode
                  Case "15069"
                    ErrorFlag = 1
                    wScript.Echo "One or more users are
using the database."
                    wScript.Echo "The requested
operation cannot be completed."
                  Case "3201"
                    ErrorFlag = 1
                    wScript.Echo "Cannot open backup
device."
                    wScript.Echo "Device error or device
off-line."
                    wScript.Echo "SQL Server Error
3201."
                    wScript.Echo "See the SQL Server
error log for more details."
                End Select
              End If
            End If
  Loop
        SQL_Out_File.Close
        CheckSQLOutput = ErrorFlag
End Function
'-------------------------------------------------------
'--- end function
'-------------------------------------------------------
'-------------------------------------------------------
'--- open a file system object
'-------------------------------------------------------
Set fs = CreateObject("Scripting.FileSystemObject")
```

```
'---------------------------------------------------
'--- grab the current directory value
'---------------------------------------------------
SetupDirectory = WshShell.CurrentDirectory & "\"
'---------------------------------------------------
'--- now calculate the other directories
'---------------------------------------------------
ScriptDirectory = SetupDirectory & "SCRIPTS\"
LogDirectory = SetupDirectory & "LOGS\"
'---------------------------------------------------------------------
'--- check to see if the user passed in the server name and sa password
'---------------------------------------------------------------------
Select Case objArgs.Length
        Case 0
                '---------------------------------------
                '--- the user did not pass us anything
                '--- grab the Computer Name from Windows
                '---------------------------------------
                ServerName = WshShell.ExpandEnvironmentStrings("%COMPUTERNAME%")
                '---------------------------------------------
                '--- prompt the user to confirm the server name
                '---------------------------------------------
                ServerName = InputBox("Enter your server name",Test_Name,ServerName)
                Do While ServerName = ""
                        rc = MsgBox ("You must enter a valid server name.",21)
                        If rc = 2 Then
                                wScript.Echo ""
                                wScript.Echo "TPC-C Setup cancelled by user."
                                wScript.Quit
                        End If
                        ServerName = WshShell.ExpandEnvironmentStrings("%COMPUTERNAME%")
                        ServerName = InputBox("Enter your server name","Database Server Name",ServerName)
                Loop
                '---------------------------------------
                '--- prompt the user for the sa password
                '---------------------------------------
                saPassword = InputBox("Enter the 'sa' password",Test_Name)
        Case 1
                '---------------------------------------------------------------
                '--- the user passed 1 argument, so assume it is the server name
                '---------------------------------------------------------------
                ServerName = objArgs(0)
                '---------------------------------------
                '--- prompt the user for the sa password
                '---------------------------------------
                saPassword = InputBox("Enter the 'sa' password",Test_Name)
        Case 2
                '---------------------------------------------------------------
                '--- the user passed 2 arguments, so try to use them
                '---------------------------------------------------------------
                ServerName = objArgs(0)
                saPassword = objArgs(1)
End Select
'---------------------------------------------------------------------
'--- now that we have all the variables filled in, let's get to work
'---------------------------------------------------------------------
If fs.FileExists(LogDirectory & "restore.log") Then
        fs.DeleteFile LogDirectory & "restore.log"
End If
Wscript.Echo "Restoring database from backup..."
Set oExec = WshShell.Exec("osql -Usa -P" & saPassword & " -S" & ServerName & " -e -i" & ScriptDirectory & NumberWarehouses & ".war\database\restore.sql -o" & LogDirectory & "restore.log")
Do While oExec.Status = 0
    wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "restore.log")
If rc <> 0 Then
        wScript.Quit
End If
wScript.Echo ""
wScript.Echo "**********************************************************************"
wScript.Echo "*                                                                    *"
wScript.Echo "*  Microsoft TPC-C Benchmark Kit Ver." & Kit_Version & "                          *"
wScript.Echo "*                                                                    *"
wScript.Echo "*  Database restore complete.                                        *"
wScript.Echo "*                                                                    *"
wScript.Echo "**********************************************************************"
```

## setup.vbs

```
'-------------------------------------------------------------------------------
'---  FILE:      SETUP.VBS
'---             Microsoft TPC-C Kit Ver. 4.68
'---             Copyright Microsoft, 2001, 2002, 2006, 2004, 2006
'---             All Rights Reserved
'---
'---  PURPOSE:    This module performs the tasks to create and populate a TPC-C database
'---
'-------------------------------------------------------------------------------
'-----------------------------------------------------
'--- set the kit verison variable for later display
'-----------------------------------------------------
Kit_Version = "  4.68"
SQL2K_Kit_Version = "  4.55"
'---------------------------------------------
'--- open an windows scripting object
'---------------------------------------------
Set WshShell = CreateObject("WScript.Shell")
'-----------------------------------------------------
'--- set up windows scripting argument collection
'-----------------------------------------------------
Set ObjArgs = wScript.ARGUMENTS
'-------------------------------------------------------------------------------
'--- grab the plaftorm, ia64, x86, from the environment variables
'-------------------------------------------------------------------------------
Platform = LCase(Left(WshShell.ExpandEnvironmentStrings("%PROCESSOR_IDENTIFIER%"), 4))
Select Case Platform
        Case "ia64"
                Platform = "IA64"
        Case Else
                Platform = "X86"
End Select
'-------------------------------------------------------------------------------
'--- grab the processor architecture.  This is to determine if the
'--- user is trying to run in 32-bit emulation on a 64-bit machine.
'--- if that is the case, then display a message and exit.
'-------------------------------------------------------------------------------
Proc_Architecture = WshShell.ExpandEnvironmentStrings("%PROCESSOR_ARCHITECTURE%")
If Platform = "IA64" And Proc_Architecture = "x86" Then
        wScript.Echo "!!!
```

```
wScript.Echo "*
*"
wScript.Echo "*  Database Setup
*"
wScript.Echo "*
*"
wScript.Echo
"**************************************************
****************************"
'-------------------------------------------------
'--- Initialize an array of the TPC-C table names
'-------------------------------------------------
Dim TableArray(9)
TableArray(0) = "warehouse"
TableArray(1) = "district"
TableArray(2) = "customer"
TableArray(3) = "history"
TableArray(4) = "new_order"
TableArray(5) = "orders"
TableArray(6) = "order_line"
TableArray(7) = "item"
TableArray(8) = "stock"
TableArray(9) = "tpccldr"
'-----------------------------------------------------------
'--- Initialize an array of the TPC-C build log file names
'-----------------------------------------------------------
Dim LogFileArray(21)
LogFileArray(0) = "version.log"
LogFileArray(1) = "removedb.log"
LogFileArray(2) = "createdb.log"
LogFileArray(3) = "tables.log"
LogFileArray(4) = "dbopt1.log"
LogFileArray(5) = "idxordcl.log"
LogFileArray(6) = "idxitmcl.log"
LogFileArray(7) = "idxwarcl.log"
LogFileArray(8) = "idxcuscl.log"
LogFileArray(9) = "idxnodcl.log"
LogFileArray(10) = "idxdiscl.log"
LogFileArray(11) = "idxstkcl.log"
LogFileArray(12) = "idxodlcl.log"
LogFileArray(13) = "idxcusnc.log"
LogFileArray(14) = "idxhiscl.log"
LogFileArray(15) = "idxordnc.log"
LogFileArray(16) = "bulkload.log"
LogFileArray(17) = "dbopt2.log"
LogFileArray(18) = "nurand_load.log"
LogFileArray(19) = "backupdev.log"
LogFileArray(20) = "backupdev.log"
LogFileArray(21) = "verifyload.log"
'-----------------------------------------
'--- open a file system object
'-----------------------------------------
Set fs = CreateObject("Scripting.FileSystemObject")
'-----------------------------------------------------------------------
'--- first see if the user passed a "?" as the first parameter
'--- if they did, then show the usage data
'-----------------------------------------------------------------------
If ObjArgs.Length > 0 Then
        If ObjArgs(0) = "?"  or ObjArgs(0) = "/?" Then
           Call ShowUsage
        End If
End If
'--- get the user passed in parameters
If WScript.Arguments.Named.Exists("S") Then
   ServerName = wScript.Arguments.Named.Item("S")
   If ServerName = "" Then
      ServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
   End If
   flgServerName = 1
Else
   ServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
   flgServerName = 0
End If
SQLUserID = wScript.Arguments.Named.Item("U")
If SQLUserID <> "" Then
   flgSQLUserID = 1
Else
   flgSQLUserID = 0
End If
SQLPassword = wScript.Arguments.Named.Item("P")
If SQLPassword <> "" Then
   flgSQLPassword = 1
Else
   flgSQLPassword = 0
End If
If SQLPassword = "BLANK" Then
        flgSQLPassword = 1
   SQLPassword = ""
End If
NumberWarehouses = wScript.Arguments.Named.Item("W")
If NumberWarehouses <> "" Then
   flgNumberWarehouses = 1
Else
   flgNumberWarehouses = 0
End If
BuildOption = wScript.Arguments.Named.Item("B")
If BuildOption <> "" Then
   'validate the build option the user passed in
   BuildOption = LCase(BuildOption)
   Select Case BuildOption
```

```
      Case
"full","builddb","objects","objectsfull","bulkload","bulkloadf
ull","backup"
         flgBuildOption = 1
      Case Else
         flgBuildOption = 0
   End Select
Else
   flgBuildOption = 0
End If
DatabaseType = wScript.Arguments.Named.Item("D")
If DatabaseType <> "" Then
   DatabaseType = LCase(DatabaseType)
   Select Case DatabaseType
      Case "normal","scale_down"
         If DatabaseType = "normal" Then
            DatabaseType = 0
         Else
            DatabaseType = 1
         End If
         flgDatabaseType = 1
      Case Else
         flgDatabaseType = 0
   End Select
Else
   flgDatabaseType = 0
End If
UnattendedBuild = wScript.Arguments.Named.Item("V")
If UnattendedBuild <> "" Then
   UnattendedBuild = LCase(UnattendedBuild)
   Select Case UnattendedBuild
      Case "true","false"
         flgUnattendedBuild = 1
      Case Else
         flgUnattendedBuild = 0
   End Select
Else
   flgUnattendedBuild = 0
End If
'--- if something is missing, prompt the user for it
If flgServerName = 0 Then
   ServerName = GetUserInput("ServerName")
   If ServerName = "" Then
      ServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
   End If
End If
If flgSQLUserID = 0 Then
   SQLUserID = GetUserInput("SQLUserID")
End If
If flgSQLPassword = 0 Then
   SQLPassword = GetUserInput("SQLPassword")
End If
If flgNumberWarehouses = 0 Then
   NumberWarehouses =
GetUserInput("NumberWarehouses")
End If
If flgBuildOption = 0 Then
   BuildOption = GetUserInput("BuildOption")
End If
If flgDatabaseType = 0 Then
   DatabaseType = (GetUserInput("DatabaseType"))
End If
If flgUnattendedBuild = 0 Then
   UnattendedBuild = GetUserInput("UnattendedBuild")
End If
If SQLPassword = "BLANK" Then
   SQLPassword = ""
End If
'------------------------------------------------------------
'--- if the user specified a scale down database, then show
'--- them the warning message
'------------------------------------------------------------
If DatabaseType = 1 Then
      MsgBox "WARNING!" & Chr(13) & "The Scale_Down
option is to be used for functional testing only." _
            & Chr(13) & "The use of this option will not
produce a valid TPC-C result.", _
            vbExclamation, "Scale-Down Warning"
End If
'------------------------------------------------------------
'--- before we start to do anything, verify the input
'------------------------------------------------------------
Select Case BuildOption
      Case "full"
         strBuildOpt = "Full build"
      Case "builddb"
         strBuildOpt = "Build database only"
      Case "objects"
         strBuildOpt = "Install stored procedures only"
      Case "objectsfull"
         strBuildOpt = "Install stored procedures and
complete build process"
      Case "bulkload"
         strBuildOpt = "Load data only"
      Case "bulkloadfull"
         strBuildOpt = "Load data and complete build
process"
      Case "backup"
         strBuildOpt = "Backup database"
End Select
If DatabaseType = 1 Then
      strDBType = "Scale Down"
```

```
Else
      strDBType = "Normal"
End If
If UnattendedBuild = "false" Then
      rc = MsgBox("The following options will be used:" &
Chr(13) & Chr(10) & Chr(13) & Chr(10) _
                              & "Database Server Name:
" & ServerName & Chr(13) & Chr(10) _
                              & Chr(13) & Chr(10) _
                              & "SQL Server User ID:
" & SQLUserID & Chr(13) & Chr(10) _
                              & Chr(13) & Chr(10) _
                              & "SQL Server Password:
" & SQLPassword & Chr(13) & Chr(10) _
                              & Chr(13) & Chr(10) _
                              & "Number of
Warehouses:    " & NumberWarehouses & Chr(13) & Chr(10)
_
                              & Chr(13) & Chr(10) _
                              & "Build Option:
" & strBuildOpt & Chr(13) & Chr(10) _
                              & Chr(13) & Chr(10) _
                              & "Build Type:
" & strDBType & Chr(13) & Chr(10) _
                              & "
", 65, "TPC-C Setup Option Verification")
      If rc = 2 Then
            wScript.Echo ""
            wScript.Echo "TPC-C Setup cancelled by user."
            wScript.Quit
      End If
End If
'-------------------------------------------------------------------------
-----
'--- parse the ServerName to determine if this is a named
instance
'-------------------------------------------------------------------------
-----
Slash_Loc = InStr(1,ServerName,"\")
If Slash_Loc <> 0 Then
   SQLInstanceName =
Right(ServerName,(LEN(ServerName) - Slash_Loc))
Else
   SQLInstanceName = ""
End If
'-------------------------------------------------------------------------
-----
'--- now we need to figure out if this is SQL Server 2000 or
SQL Server 2005
'--- if this is being installed on SQL Server 2000, then abort
the load and
'--- direct the user to use the 4.55 kit which is SQL Server
2000 compliant
'-------------------------------------------------------------------------
-----
'If SQLInstanceName = "" Then
   '--- check for default installations
   '--- SQL Server 2000 Default Instance
'    strRegKey =
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSS
QLServer\CurrentVersion\CurrentVersion"
'    If CheckRegKey(strRegKey) = True Then
'       SQLServerVersionRegKey =
WshShell.RegRead(strRegKey)
'    End If
   '--- SQL Server 2005 Default Instance
'    strRegKey =
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSS
QLServer\MSSQLServer\CurrentVersion\CurrentVersion"
'    If CheckRegKey(strRegKey) = True Then
'       SQLServerVersionRegKey =
WshShell.RegRead(strRegKey)
'    End If
'Else
   '--- SQL Server 2000 Named Instance
   'If
CheckRegKey("HKEY_LOCAL_MACHINE\SOFTWARE\
Microsoft\MSSQLServer\CurrentVersion\CurrentVersion") =
True Then
   '    SQLServerVersionRegKey =
WshShell.RegRead("HKEY_LOCAL_MACHINE\SOFTWA
RE\Microsoft\MSSQLServer\CurrentVersion\CurrentVersion
")
   'End If
   '--- SQL Server 2005 Named Instance
'    strRegKey =
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Micr
osoft SQL Server\" & SQLInstanceName &
"\MSSQLServer\CurrentVersion\CurrentVersion"
'    If CheckRegKey(strRegKey) = True Then
'       SQLServerVersionRegKey =
WshShell.RegRead(strRegKey)
'    End If
'End If
'If Left(SQLServerVersionRegKey,1) = "8" Then
'    SQLServerVersion = "2000"
'    wScript.Echo
"!!!
```

```
'    wScript.Quit
'Else
   SQLServerVersion = "2005"
'End If
'-------------------------------------------
'--- set the directory path names
'-------------------------------------------
SetupDirectory = WshShell.CurrentDirectory & "\"
ACIDDirectory = Left(SetupDirectory, (Len(SetupDirectory) - 6))
ScriptDirectory = SetupDirectory & "Scripts\"
UtilityDirectory = ScriptDirectory & "Utility\"
DDLDirectory = ScriptDirectory & NumberWarehouses & ".war\DDL\"
DMLDirectory = ScriptDirectory & "DML\"
DBDirectory = ScriptDirectory & NumberWarehouses & ".war\Database\"
'-------------------------------------------------
'--- the log directory will be a concatenation
'--- of the number of customers and the date
'-------------------------------------------------
LogDirectory = SetupDirectory & "Logs\" & NumberWarehouses & "_Warehouses_" & Month(Now) & "-" & Day(Now) & "-" & Year(Now) & "_"
'-------------------------------------------------------------
'--- now figure out if a previous directory exists with this
'--- customer and data combination.  If not, the append a
'--- 1 to the directory name, else append with the next
'--- number in sequence.
'-------------------------------------------------------------
Dir_Flag = 0
Directory_Index = 1
Do While Dir_Flag = 0
        if (fs.FolderExists(LogDirectory & Directory_Index)) Then
                Directory_Index = Directory_Index + 1
        Else
                LogDirectory = LogDirectory & Directory_Index
                Dir_Flag = 1
        End If
Loop
fs.CreateFolder(LogDirectory)
LogDirectory = LogDirectory & "\"
'-----------------------------------------------------------------
'--- initialize the BuildSteps.log file and output all of the
'--- particulars
'-----------------------------------------------------------------
BuildStepLogFile = LogDirectory & "BuildSteps.log"
Call WriteBuildLog("Begin TPC-C Setup Process","")
Call WriteBuildLog("================================================================================","")
Call WriteBuildLog("SQL Server Name = " & ServerName,"")
Call WriteBuildLog("System Platform = " & Platform,"")
Call WriteBuildLog("System Architecture = " & Proc_Architecture,"")
Call WriteBuildLog("Number of Processors = " & NumberofProcessors,"")
Call WriteBuildLog("SQL Server Version = " & SQLServerVersionRegKey,"")
Call WriteBuildLog("SQL Server User ID = " & SQLUserID,"")
If SQLPassword = "" Then
        Call WriteBuildLog("SQL Server Password = <Blank>","")
Else
        Call WriteBuildLog("SQL Server Password = ********","")
End If
Call WriteBuildLog("Number of Warehouses = " & NumberWarehouses,"")
Call WriteBuildLog("Build Option = " & BuildOption,"")
Call WriteBuildLog("Database Type = " & DatabaseType,"")
Call WriteBuildLog("Unattended Build = " & UnattendBuild,"")
Call WriteBuildLog("Setup Directory = " & SetupDirectory,"")
Call WriteBuildLog("ACID Directory = " & ACIDDirectory,"")
Call WriteBuildLog("Script Directory = " & ScriptDirectory,"")
Call WriteBuildLog("Utility Directory = " & UtilityDirectory,"")
Call WriteBuildLog("DDL Directory = " & DDLDirectory,"")
Call WriteBuildLog("DML Directory = " & DMLDirectory,"")
Call WriteBuildLog("Database Directory = " & DBDirectory,"")
Call WriteBuildLog("Log Directory = " & LogDirectory,"")
Call WriteBuildLog("================================================================================","")
'-----------------------------------------------------------------
'--- now that we have all the variables filled in, let's get to work
'--- cleanup any old .err files
'-----------------------------------------------------------------
For i = 0 To 9
    If fs.FileExists(LogPath & TableArray(i) & ".err") Then
        fs.DeleteFile LogPath & TableArray(i) & ".err"
    End If
Next
For i = 0 To 21
    If fs.FileExists(LogPath & LogFileArray(i)) Then
```

```
            fs.DeleteFile LogPath & LogFileArray(i)
        End If
Next
wScript.Echo FormatDateTime(Now,0) & " ==> Checking connectivity to SQL Server..."
Call WriteBuildLog("Verifying SQL Server connectivity","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & UtilityDirectory & "version.sql -o" & LogDirectory & "version.log")
Do While oExec.Status = 0
    wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "version.log")
If rc <> 0 Then
   Call WriteBuildLog("Verifying SQL Server connectivity","Step failed! - Check version.log")
   wScript.Echo FormatDateTime(Now,0) & " ==> Could not connect to SQL Server! Check version.log."
   wScript.Quit
End If
Call WriteBuildLog("SQL Server connectivity verified","")
wScript.Echo ""
'----------------------------------------
'--- okay, let's do it
'----------------------------------------
If (BuildOption = "full" Or BuildOption = "builddb") Then
   wScript.Echo FormatDateTime(Now,0) & " ==> Removing any existing TPC-C database and backup devices..."
            Call WriteBuildLog("Removing any existing TPC-C database and backup devices","")
            wScript.Echo ""
            Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DBDirectory & "RemoveDB.sql -o" & LogDirectory & "RemoveDB.log")
            Do While oExec.Status = 0
                        wScript.Sleep 100
            Loop
            rc = CheckSQLOutput(LogDirectory & "RemoveDB.log")
            If rc <> 0 Then
                        Call WriteBuildLog("Removing any existing TPC-C database and backup devices","Step failed! - Check RemoveDB.log")
                        wScript.Echo  FormatDateTime(Now,0) & " ==> Removing existing TPC-C database failed! Check RemoveDB.log."
                        wScript.Quit
            End If
            Call WriteBuildLog("Any existing TPC-C database and backup devices removed","")
            wScript.Echo FormatDateTime(Now,0) & " ==> Building database files and database..."
            Call WriteBuildLog("Create TPC-C database","")
            Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DBDirectory & "CreateDB.sql -o" & LogDirectory & "CreateDB.log")
            Do While oExec.Status = 0
                        wScript.Sleep 100
            Loop
            rc = CheckSQLOutput(LogDirectory & "CreateDB.log")
            If rc <> 0 Then
                        Call WriteBuildLog("Create TPC-C database","Step failed! - Check CreateDB.log")
                        wScript.Echo  FormatDateTime(Now,0) & " ==> Creation of TPC-C database failed!! Check CreateDB.log."
                        wScript.Quit
            End If
            wScript.Echo FormatDateTime(Now,0) & " ==> TPC-C Database creation complete."
            Call WriteBuildLog("TPC-C database created","")
End If
'----------------------------------------
'--- build tables and stored procedures
'----------------------------------------
If (BuildOption = "full" Or BuildOption = "objects" Or BuildOption = "objectsfull") Then
            wScript.Echo ""
   wScript.Echo FormatDateTime(Now,0) & " ==> Creating TPC-C database tables..."
            Call WriteBuildLog("Create dynamic TPC-C database tables","")
            Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DDLDirectory & "Tables.sql -o" & LogDirectory & "Tables.log")
            Do While oExec.Status = 0
                        wScript.Sleep 100
            Loop
            rc = CheckSQLOutput(LogDirectory & "Tables.log")
            If rc <> 0 Then
                        Call WriteBuildLog("Create TPC-C database tables","Step failed! - Check Tables.log")
                        wScript.Echo  FormatDateTime(Now,0) & " ==> Creation of TPC-C database tables failed!! Check Tables.log."
                        wScript.Quit
            End If
            wScript.Echo FormatDateTime(Now,0) & " ==> TPC-C database tables created."
            Call WriteBuildLog("TPC-C database tables created","")
            wScript.Echo ""
   wScript.Echo FormatDateTime(Now,0) & " ==> Installing TPC-C stored procedures..."
            Call WriteBuildLog("Install TPC-C stored procedures","")
```

```
wScript.Echo "                New Order..."
Call WriteBuildLog("    Install TPC-C stored procedures (New Order)","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "neword.sql -o" & LogDirectory & "SP_NewOrd.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_NewOrd.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (New Order)","Step failed! - Check SP_NewOrd.log")
  wScript.Quit
End If
wScript.Echo "                New Order (New)..."
Call WriteBuildLog("    Install TPC-C stored procedures (New Order (New))","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "TPCC_NEWORDER_NEW.SQL -o" & LogDirectory & "SP_NewOrd_New.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_NewOrd_New.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (New Order (New))","Step failed! - Check SP_NewOrd_New.log")
  wScript.Quit
End If
wScript.Echo "                Payment..."
Call WriteBuildLog("    Install TPC-C stored procedures (Payment)","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "payment.sql -o" & LogDirectory & "SP_Payment.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_Payment.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (Payment)","Step failed! - Check SP_Payment.log")
  wScript.Quit
End If
wScript.Echo "                Order Status..."
Call WriteBuildLog("    Install TPC-C stored procedures (Order Status)","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "ordstat.sql -o" & LogDirectory & "SP_OrdStat.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_OrdStat.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (Order Status)","Step failed! - Check SP_OrdStat.log")
  wScript.Quit
End If
wScript.Echo "                Delivery..."
Call WriteBuildLog("    Install TPC-C stored procedures (Delivery)","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "delivery.sql -o" & LogDirectory & "SP_Delivery.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_Delivery.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (Delivery)","Step failed! - Check SP_Delivery.log")
  wScript.Quit
End If
wScript.Echo "                Stock Level..."
Call WriteBuildLog("    Install TPC-C stored procedures (Stock Level)","")
Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "stocklev.sql -o" & LogDirectory & "SP_StockLev.log")
Do While oExec.Status = 0
  wScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "SP_StockLev.log")
If rc <> 0 Then
        Call WriteBuildLog("Install TPC-C stored procedures (Stock Level)","Step failed! - Check SP_StockLev.log")
  wScript.Quit
End If
wScript.Echo "                Version (Internal)..."
Call WriteBuildLog("    Install TPC-C stored procedures (Version)","")
```

```
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & DMLDirectory & "version.sql -o" & LogDirectory & "SP_Version.log")
        Do While oExec.Status = 0
          wScript.Sleep 100
        Loop
        rc = CheckSQLOutput(LogDirectory & "SP_Version.log")
        If rc <> 0 Then
                Call WriteBuildLog("Install TPC-C stored procedures (Version)","Step failed! - Check SP_Version.log")
          wScript.Quit
        End If
        wScript.Echo FormatDateTime(Now,0) & " ==> TPC-C stored procedures installed."
        Call WriteBuildLog("TPC-C stored procedures installed","")
        wScript.Echo ""
End If
If (BuildOption = "full" Or BuildOption = "objectsfull" Or BuildOption = "bulkload" Or BuildOption = "bulkloadfull") Then
  wScript.Echo FormatDateTime(Now,0) & " ==> Setting database options before load..."
        Call WriteBuildLog("Set pre-load database options (DBOPT1)","")
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & UtilityDirectory & "dbopt1.sql -o" & LogDirectory & "Database_Options_1.log")
        Do While oExec.Status = 0
                wScript.Sleep 100
        Loop
'       rc = CheckSQLOutput(LogDirectory & "Database_Options_1.log")
'       If rc <> 0 Then
'               Call WriteBuildLog("Set pre-load database options (DBOPT1)","Step failed! - Check Database_Options_1.log")
'               wScript.Quit
'       End If
        wScript.Echo FormatDateTime(Now,0) & " ==> Pre-load database options set."
        Call WriteBuildLog("Pre-load database options set","")
        wScript.Echo ""
  '-------------------------------------------------------------
  '--- before we start tpccldr.exe, check the registry
  '--- to ensure that the Shared Memory Protocol is off.
  '--- if it is on, store the setting so we can return
  '--- the system to the pre-tpccldr state.
  '-------------------------------------------------------------
  If CheckRegKey("HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SharedMemoryOn") = True Then
    SharedMemoryRegKey = WshShell.RegRead("HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SharedMemoryOn")
        If SharedMemoryRegKey = 1 Then
                WshShell.RegWrite "HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SharedMemoryOn", 0, "REG_DWORD"
        End If
    Else
        SharedMemoryRegKey = 0
    End If
    Call WriteBuildLog("Loading database and creating indexes","")
    wScript.Echo FormatDateTime(Now,0) & " ==> Loading database and creating indexes..."
    wScript.Echo FormatDateTime(Now,0) & " ==> (This runs in a separate, minimized window.)"
    wScript.Echo ""
    CMD_String = ""
    wScript.Echo Platform
    Select Case Platform
        Case "IA64"
          CMD_String = SetupDirectory & "loader\bin\ia64\tpccldr.exe"
        Case Else
          CMD_String = SetupDirectory & "loader\bin\x86\tpccldr.exe"
    End Select
    CMD_String = CMD_String & " -S" & ServerName
    CMD_String = CMD_String & " -U" & SQLUserID
    CMD_String = CMD_String & " -P" & SQLPassword
    CMD_String = CMD_String & " -W" & NumberWarehouses
    CMD_String = CMD_String & " -f" & LogDirectory & "bulkload.log"
    CMD_String = CMD_String & " -L" & LogDirectory
    CMD_String = CMD_String & " -d" & DDLDirectory
    CMD_String = CMD_String & " -c" & DatabaseType
    wScript.Echo CMD_String
  oExec = WshShell.Run(CMD_String, 2, True)
  If oExec <> 0 Then
    wScript.Echo FormatDateTime(Now,0) & " ==> The TPCCLDR.EXE encountered an error."
    wScript.Echo FormatDateTime(Now,0) & " ==> Check the TPCCLDR.ERR log file for details."
    wScript.Quit
  End If
  '-------------------------------------------------------------
```

```
'--- now that the loader is finished, put the
'--- SharedMemoryOn registry key back to its original
'--- value.
'-------------------------------------------------------
If SharedMemoryRegKey = 1 Then
    WshShell.RegWrite
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SharedMemoryOn", 1, "REG_DWORD"
End If
        '-----------------------------------------
        '--- set post-load options
        '-----------------------------------------
        wScript.Echo FormatDateTime(Now,0) & " ==> Setting database options after load..."
        Call WriteBuildLog("Set post-load database options (DBOPT2)","")
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & UtilityDirectory & "dbopt2.sql -o" & LogDirectory & "Database_Options_2.log")
        Do While oExec.Status = 0
            wScript.Sleep 100
        Loop
        rc = CheckSQLOutput(LogDirectory & "Database_Options_2.log")
        If rc <> 0 Then
            Call WriteBuildLog("Set post-load database options (Database_Options_2)","Step failed! - Check Database_Options_2.log")
            wScript.Quit
        End If
        wScript.Echo FormatDateTime(Now,0) & " ==> Post-load database options set."
        Call WriteBuildLog("Post-load database options set","")
        wScript.Echo ""
        Call WriteBuildLog("Database load and index creation complete","")
        wScript.Echo FormatDateTime(Now,0) & " ==> Database load and index creation complete."
        wScript.Echo ""
'---------------------------------------
'--- now parse the index creation logs
'--- to see if there were any errors
'--- there.
'---------------------------------------
For i = 5 To 15
    rc = CheckSQLOutput(LogDirectory & LogFileArray(i))
    If rc <> 0 Then
        wScript.Quit
    End If
Next
        wScript.Echo FormatDateTime(Now,0) & " ==> Calculating initial database space usage...."
        Call WriteBuildLog("Calculate TPC-C initial database space usage","")
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & ACIDDirectory & "space\scripts\spused.sql -o" & LogDirectory & "spused.ver")
        Do While oExec.Status = 0
            wScript.Sleep 100
        Loop
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & ACIDDirectory & "space\scripts\splog.sql -o" & LogDirectory & "splog.ver")
        Do While oExec.Status = 0
            wScript.Sleep 100
        Loop
        Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -P" & SQLPassword & " -S" & ServerName & " -e -i" & ACIDDirectory & "space\scripts\spfiles.sql -o" & LogDirectory & "spfiles.ver")
        Do While oExec.Status = 0
            wScript.Sleep 100
        Loop
        wScript.Echo FormatDateTime(Now,0) & " ==> Initial database space usage calculated."
        Call WriteBuildLog("TPC-C initial database space usage calculated","")
        wScript.Echo ""
'---------------------------------------
'--- now that the loader is finished
'--- check the .err files and if they
'--- are of zero length, delete them.
'---------------------------------------
Set fsErr = CreateObject("Scripting.FileSystemObject")
Set fErr = fsErr.GetFolder(LogDirectory)
Set fcErr = fErr.Files
For Each f1 In fcErr
    If f1.Type = "ERR File" Then
        If f1.Size = 0 Then
            f1.Delete
        End If
    End If
Next
Set fcErr = Nothing
Set fErr = Nothing
Set fsErr = Nothing
End If
If (BuildOption = "full" Or BuildOption = "objectsfull" Or BuildOption = "bulkloadfull" Or BuildOption = "backup") Then
    wScript.Echo FormatDateTime(Now,0) & " ==> Creating backup device(s)...."
        Call WriteBuildLog("Creating backup device(s)","")
```

```
   Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -
P" & SQLPassword & " -S" & ServerName & " -e -i" &
DBDirectory & "backupdev.sql -o" & LogDirectory &
"backupdev.log")
   Do While oExec.Status = 0
      wScript.Sleep 100
   Loop
   rc = CheckSQLOutput(LogDirectory & "backupdev.log")
   If rc <> 0 Then
      Call WriteBuildLog("Creating backup device(s)","Step
failed! - Check backupdev.log")
            wScript.Echo FormatDateTime(Now,0) & "
==> Backup device(s) creation failed! Check
backupdev.log."
            wScript.Quit
   End If
   wScript.Echo FormatDateTime(Now,0) & " ==> Backup
device(s) created."
         Call WriteBuildLog("Backup device(s)
created","")
   wScript.Echo ""
   wScript.Echo FormatDateTime(Now,0) & " ==> Backing
up TPC-C database...."
         Call WriteBuildLog("Backing up TPC-C
database","")
   Set oExec = WshShell.Exec("osql -U" & SQLUserID & " -
P" & SQLPassword & " -S" & ServerName & " -e -i" &
DBDirectory & "backup.sql -o" & LogDirectory &
"backup.log")
   Do While oExec.Status = 0
      wScript.Sleep 100
   Loop
   rc = CheckSQLOutput(LogDirectory & "backup.log")
   If rc <> 0 Then
      Call WriteBuildLog("Backing up TPC-C
database","Step failed! - Check backup.log")
            wScript.Echo FormatDateTime(Now,0) & "
==> Database backup failed! Check backup.log."
            wScript.Quit
   End If
   wScript.Echo FormatDateTime(Now,0) & " ==> Database
backup complete."
   wScript.Echo ""
         Call WriteBuildLog("Database backup
complete","")
End If
If (BuildOption = "full" Or BuildOption = "objectsfull" Or
BuildOption = "bulkloadfull") Then
   '--------------------------------------------
         '--- run a data load verification script
         '--------------------------------------------
         wScript.Echo FormatDateTime(Now,0) & " ==>
Verify initial TPC-C database load...."
         Call WriteBuildLog("Verify TPC-C initial
database load","")
         Set oExec = WshShell.Exec("osql -U" &
SQLUserID & " -P" & SQLPassword & " -S" & ServerName
& " -e -w300 -i" & UtilityDirectory & "VerifyTPCCLoad.sql
-o" & LogDirectory & "VerifyTPCCLoad.log")
         Do While oExec.Status = 0
               wScript.Sleep 100
         Loop
         rc = CheckSQLOutput(LogDirectory &
"VerifyTPCCLoad.log")
   If rc <> 0 Then
      Call WriteBuildLog("Verify TPC-C initial database
load","Step failed! - Check VerifyTPCCLoad.log")
         wScript.Echo FormatDateTime(Now,0) & "
==> TPC-C database verification failed! Check
VerifyTPCCLoad.log."
            wScript.Quit
   End If
         wScript.Echo FormatDateTime(Now,0) & " ==>
TPC-C initial database load verified."
         Call WriteBuildLog("TPC-C initial database load
verified","")
         wScript.Echo ""
End If
'----------------------------------------
'--- display banner message
'----------------------------------------
wScript.Echo
"**************************************************
*****************************"
wScript.Echo "*
*"
wScript.Echo "*  Microsoft TPC-C Benchmark Kit Ver." &
Kit_Version & "                          *"
wScript.Echo "*
*"
wScript.Echo "*  Database Setup Complete
*"
wScript.Echo "*
*"
wScript.Echo
"**************************************************
*****************************"
wScript.Quit
'------------------------------------------------------
'--- ShowUsage
'------------------------------------------------------
Function ShowUsage()
      wScript.Echo
"**************************************************
*****************************"
      wScript.Echo "*
*"
      wScript.Echo "*  Microsoft TPC-C Benchmark Kit
Ver." & Kit_Version & "                          *"
      wScript.Echo "*
*"
```

```
	wScript.Echo "*  Usage:
*"
	wScript.Echo "*     Optionally, you can pass the
following positional arguments to SETUP *"
	wScript.Echo "*       /S:<Server Name> (can be """" for
local host)                  *"
	wScript.Echo "*       /U:<SQL Server User ID>
(recommended you use sa)               *"
	wScript.Echo "*       /P:<SQL Sever Account
Password>                           *"
	wScript.Echo "*          (enter BLANK if you do not
have a password defined)          *"
	wScript.Echo "*       /W:<Number of Warehouses to
Build>                          *"
	wScript.Echo "*       /B:<Build Option>
*"
	wScript.Echo "*
[full,builddb,objects,objectsfull,bulkload,bulkloadfull,backup]
*"
	wScript.Echo "*       /D:<Database Type>
*"
	wScript.Echo "*         [normal or scale_down]
*"
	wScript.Echo "*       /V:<Verbose\Unattended Install>
*"
	wScript.Echo "*         [true or false]
*"
	wScript.Echo "*
*"
	wScript.Echo "*     If you do not pass the parameters,
then you will be prompted for the *"
	wScript.Echo "*     information by the application.
*"
	wScript.Echo "*
*"
	wScript.Echo
"**************************************************
*****************************"
	wScript.Quit
End Function
'-------------------------------------------------------
'--- define function to check for any error messages
'-------------------------------------------------------
Function CheckSQLOutput(SQL_Out)
	ErrorFlag = 0
	Set SQL_fso =
CreateObject("Scripting.FileSystemObject")
	If SQL_fso.FileExists(SQL_Out) Then
		Set SQL_Out_File =
SQL_fso.OpenTextFile(SQL_Out, 1)
		Do While SQL_Out_File.AtEndOfStream <> True
			SQL_Line = SQL_Out_File.ReadLine
			'first check to see if the output contains a
message about the login password
			If InStr(SQL_Line, "Login failed") Then
				'display the messages and get out of here
				ErrorFlag = 1
				wScript.Echo "The login for userid 'sa'
failed."
				wScript.Echo "Please restart SETUP with
the correct password."
			Else
				If InStr(SQL_Line, "Msg") Then
					'find out where the "Msg" indicator
is in the line
					LocMsg = InStr(SQL_Line, "Msg")
					'find out where the comma is after
the error code
					LocComma = InStr(SQL_Line, ",")
					'now isolate the error code
					ErrorCode = Mid(SQL_Line,
(LocMsg + 4), (LocComma - (LocMsg + 4)))
					Select Case ErrorCode
						Case " 170"
							ErrorFlag = 1
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
							wScript.Echo "Syntax
Error."
							wScript.Echo "SQL
Server Error 170."
							wScript.Echo "Check
CREATEDB.SQL."
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
						Case "1801"
							ErrorFlag = 1
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
							wScript.Echo "Database
'tpcc' already exists."
							wScript.Echo "SQL
Server Error 1801."
							wScript.Echo "Check
CREATEDB.SQL."
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
						Case "1802"
							ErrorFlag = 1
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
							wScript.Echo "CREATE
DATABASE failed."
							wScript.Echo "SQL
Server Error 1802."
							wScript.Echo "Check
CREATEDB.SQL."
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
						Case "1921"
							ErrorFlag = 1
							wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
```

```
                                wScript.Echo "CREATE
INDEX failed."
                                wScript.Echo "SQL
Server Error 1921."
                                wScript.Echo "Check " &
SQL_Out & "."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case "3013"
                        ErrorFlag = 1
                        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "BACKUP
DATABASE is terminating abnormally."
                                wScript.Echo "SQL
Server Error 3013."
                                wScript.Echo "Check the
SQL Server error log for more details."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case "3201"
                        ErrorFlag = 1
                        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "Cannot
open backup device."
                                wScript.Echo "Device
error or device off-line."
                                wScript.Echo "SQL
Server Error 3201."
                                wScript.Echo "See the
SQL Server error log for more details."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case "5105"
                        ErrorFlag = 1
                        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "Device
Activation Error."
                                wScript.Echo "SQL
Server Error 5105."
                                wScript.Echo "Check
CREATEDB.SQL."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case "5170"
                                ErrorFlag = 1
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "Cannot
create one or more files because it already exists."
                                wScript.Echo "SQL
Server Error 5170."
                                wScript.Echo "Check
CREATEDB.SQL."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case "15010", "15012", "3701"
                                ErrorFlag = 0
                            Case "15069"
                                ErrorFlag = 1
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "One or
more users are using the database."
                                wScript.Echo "The
requested operation cannot be completed."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                            Case Else
                                ErrorFlag = 1
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                                wScript.Echo "An error
occurred."
                                wScript.Echo "SQL
Server Error Code: " & ErrorCode & "."
                                wScript.Echo "Check " &
SQL_Out & " for more information."
                                wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
                        End Select
                    End If
                End If
            Loop
            SQL_Out_File.Close
        End If
        CheckSQLOutput = ErrorFlag
End Function
'----------------------------------------
'--- end function
'----------------------------------------
'------------------------------------------------------
'--- define function to prompt for user input if necessary
'------------------------------------------------------
Function GetUserInput(UserInput)
    Select Case UserInput
        Case "ServerName"
            '--- pre-fill the prompt with the machine name
            TempServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
            '--- prompt the use for the setup particulars
            TempResponse = InputBox("Enter your server
name:", "TPC-C Setup", TempServerName)
            Do While TempResponse = ""
                rc = MsgBox("You must enter a valid
server name.", 21)
                If rc = 2 Then
```

```
                    wScript.Echo ""
                    wScript.Echo "TPC-C Setup
cancelled by user."
                    wScript.Quit
                End If
                TempResponse =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
                TempResponse = InputBox("Enter your
server name:", "TPC-C Setup", TempServerName)
            Loop
        Case "SQLUserID"
            TempResponse = InputBox("Enter the SQL
Server User ID to use:" & _
                                    Chr(13) &
"Note: You must use SQL Authentication for TPC-C", "TPC-
C Setup (V" & Kit_Version & ")", "sa")
            Do While TempResponse = ""
                rc = MsgBox("You must enter a valid
SQL Server User ID.", 21)
                If rc = 2 Then
                    wScript.Echo ""
                    wScript.Echo "TPC-C Setup
cancelled by user."
                    wScript.Quit
                End If
                TempResponse = InputBox("Enter the
SQL Server User ID to use:", "TPC-C Setup (V" &
Kit_Version & ")", "sa")
            Loop
        Case "SQLPassword"
            TempResponse = InputBox("Enter the SQL
Server password for " & SQLUserID & ": " & _

                                    Chr(13) & Chr(13) &
"NOTE: We strongly recommend that you do not use a blank
password for the account." & _

                                    Chr(13) & "If you choose
to ignore this recommendation," & _

                                    Chr(13) & "then please
enter the word BLANK in lieu of the password.", "TPC-C
Setup (V" & Kit_Version & ")")
                                    If TempResponse =
" " Then

TempResponse = "BLANK"
                                    Else
                                        Do
While TempResponse = ""

rc = MsgBox("You must enter a valid SQL Server Password.
(Blank is NOT recommended.)", 21)

If rc = 2 Then

                wScript.Echo ""
                wScript.Echo "TPC-E Setup cancelled by
user."

                wScript.Quit

End If

TempResponse = InputBox("Enter the SQL Server password
for " & SQLUserID & ": " & _

                                    Chr(13) & Chr(13) &
"NOTE: We strongly recommend that you do not use a blank
password for the 'sa' account." & _

                                    Chr(13) & "If you
choose to ignore this recommendation," & _

                                    Chr(13) & "then please
press the spacebar in lieu of the password.", "TPC-C Setup
(V" & Kit_Version & ")")

If TempResponse = " " Then

                TempResponse = "BLANK"
                End If
            Loop
                                End If
        Case "NumberWarehouses"
            TempResponse = InputBox("Enter the number
of warehouses to build:", "TPC-C Setup (V" & Kit_Version
& ")")
            Do While TempResponse = ""
                rc = MsgBox("You must enter a value for
Number of Warehouses.", 21)
                If rc = 2 Then
                    wScript.Echo ""
                    wScript.Echo "TPC-C Setup
cancelled by user."
                    wScript.Quit
                End If
                TempResponse = InputBox("Enter the
number of warehouses to build:", "TPC-C Setup (V" &
Kit_Version & ")")
            Loop
        Case "BuildOption"
            TempResponse = InputBox("Build Option:" &
Chr(13) &
"(full,builddb,objects,objectsfull,bulkload,bulkloadfull,backu
p)", "TPC-C Setup (V" & Kit_Version & ")", "full")
            TempResponse = LCase(TempResponse)
            Flag = 0
            Do While Flag = 0
                Select Case TempResponse
                    Case "full"
                        'TempResponse = "full"
                        Flag = 1
```

```
                    Case "builddb"
                        'TempResponse = "builddb"
                        Flag = 1
                    Case "objects"
                        'TempResponse = "objects"
                        Flag = 1
                    Case "objectsfull"
                        'TempResponse = "objectsfull"
                        Flag = 1
                    Case "bulkload"
                        'TempResponse = "bulkload"
                        Flag = 1
                    Case "bulkloadfull"
                        'TempResponse =
"bulkloadfull"
                        Flag = 1
                    Case "backup"
                        'TempResponse = "backup"
                        Flag = 1
                    Case Else
                        rc = MsgBox("Invalid
Database Build Option.", 21)
                        If rc = 2 Then
                            wScript.Echo ""
                            wScript.Echo "TPC-C
Setup cancelled by user."
                            wScript.Quit
                        End If
                        Flag = 0
                        TempResponse =
InputBox("Build Option:" & Chr(13) &
"(full,builddb,objects,objectsfull,bulkload,bulkloadfull,backu
p)", , "full")
                        TempResponse =
LCase(TempResponse)
                End Select
            Loop
                                    Case
"DatabaseType"
            TempResponse = InputBox("Database Type:"
& Chr(13) & "(normal or scale_down)", "TPC-C Setup (V"
& Kit_Version & ")", "normal")
            TempResponse = LCase(TempResponse)
            '--- set flag
            Flag = 0
            Do While Flag = 0
                Select Case TempResponse
                    Case "normal"
                        TempResponse = "0"
                        Flag = 1
                    Case "scale_down"
                        TempResponse = "1"
                        Flag = 1
                    Case Else
                        rc = MsgBox("Invalid
Database Type.", 21)
                        If rc = 2 Then
                            wScript.Echo ""
                            wScript.Echo "TPC-C
Setup cancelled by user."
                            wScript.Quit
                        End If
                        Flag = 0
                        TempResponse =
InputBox("Database Type:" & Chr(13) & "(normal or
scale_down)", , "normal")
                        TempResponse =
LCase(TempResponse)
                End Select
            Loop
                                    Case
"UnattendedBuild"
            TempResponse = InputBox("Unattended
Build?:" & Chr(13) & "(true or false)", "TPC-C Setup (V" &
Kit_Version & ")", "false")
            TempResponse = LCase(TempResponse)
            '--- set flag
            Flag = 0
            Do While TempResponse = ""
                rc = MsgBox("You must enter true or
false for Unattended Build.", 21)
                If rc = 2 Then
                    wScript.Echo ""
                    wScript.Echo "TPC-C Setup
cancelled by user."
                    wScript.Quit
                End If
                TempResponse = InputBox("Unattended
Build?:" & Chr(13) & "(true or false)", "TPC-C Setup (V" &
Kit_Version & ")", "false")
                TempResponse = LCase(TempResponse)
            Loop
    End Select
    GetUserInput = TempResponse
End Function
'----------------------------------------
'--- end function
'----------------------------------------
'----------------------------------------
'--- subroutine to write BuildLog data
'----------------------------------------
Sub WriteBuildLog(StepMessage, ErrMessage)
        Set StepLog = fs.OpenTextFile(BuildStepLogFile,
8, true)
        If LEN(ErrMessage) > 0 Then
                msg = FormatDateTime(Now,0) & "
==> " & StepMessage & " : " & ErrMessage
```

```
        Else
                msg = FormatDateTime(Now,0) & "
==> " & StepMessage
        End If
        StepLog.WriteLine (msg)
        StepLog.close
End Sub
'-----------------------------------------
'--- end sub
'-----------------------------------------
'------------------------------------------------------------
'--- function to check for registry key existence
'------------------------------------------------------------
Function CheckRegKey(RegStr)
        On Error Resume Next
                WshShell.RegRead RegStr
                If Err Then
                        CheckRegKey = False
                Else
                        CheckRegKey = True
                End If
        On Error Goto 0
End Function
'-----------------------------------------
'--- end function
'-----------------------------------------
```

## time.c

```
//      File:           TIME.C
//                                      Microsoft TPC-
C Kit Ver. 4.62
//                                      Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2005
//      Purpose:    Source file for time functions


// Includes
#include "tpcc.h"

// Globals
static long start_sec;


//=========================================
============================
//
// Function name: TimeNow
//
//=========================================
============================
long TimeNow()
{
  long          time_now;
  struct    _timeb el_time;

#ifdef DEBUG
   printf("[%ld]DBG: Entering TimeNow()\n", (int)
GetCurrentThreadId());
#endif


  _ftime(&el_time);


  time_now = ((el_time.time - start_sec) * 1000) +
el_time.millitm;


  return time_now;
}
```

## tpccldr.c

```
//=========================================
============================
//      File:           TPCCLDR.C
//                                      Microsoft TPC-
C Kit Ver. 4.51
//                                      Copyright
Microsoft, 1996, 1997, 1998, 1999,
//                                      2000, 2001,
2002, 2003
//      Purpose:    Source file for TPC-C database loader
//=========================================
============================
// Includes
#include "tpcc.h"
#include "search.h"

// Defines
#define MAXITEMS            100000
#define MAXITEMS_SCALE_DOWN                 100
#define CUSTOMERS_PER_DISTRICT  3000
#define CUSTOMERS_SCALE_DOWN    30
#define DISTRICT_PER_WAREHOUSE  10
#define ORDERS_PER_DISTRICT     3000
#define ORDERS_SCALE_DOWN       30
#define MAX_CUSTOMER_THREADS    2
#define MAX_ORDER_THREADS       3
#define MAX_MAIN_THREADS        4
#define MAX_SQL_ERRORS                      10

// Functions declarations
void HandleErrorDBC (SQLHDBC  hdbc1);
long NURand();
```

```
void LoadItem();
void LoadWarehouse();
void Stock();
void District();
void LoadCustomer();
void CustomerBufInit();
void CustomerBufLoad();
void LoadCustomerTable();
void LoadHistoryTable();
void LoadOrders();
void OrdersBufInit();
void OrdersBufLoad();
void LoadOrdersTable();
void LoadNewOrderTable();
void LoadOrderLineTable();
void GetPermutation();
void CheckForCommit();
void CheckForCommit_Big();
void OpenConnections();
void BuildIndex();
void FormatDate ();

// Shared memory structures
typedef struct
{
        double                                  ol;
  long          ol_i_id;
        long
        ol_supply_w_id;
  short         ol_quantity;
  double         ol_amount;
  char          ol_dist_info[DIST_INFO_LEN+1];
        char
        ol_delivery_d[OL_DELIVERY_D_LEN+1];
} ORDER_LINE_STRUCT;

typedef struct
{
  long          o_id;
  short         o_d_id;
        long
        o_w_id;
  long          o_c_id;
  short         o_carrier_id;
  short         o_ol_cnt;
  short         o_all_local;
        ORDER_LINE_STRUCT   o_ol[15];
} ORDERS_STRUCT;

typedef struct
{
  long                                  c_id;
  short                                 c_d_id;
        long
        c_w_id;
        char
        c_first[FIRST_NAME_LEN+1];
  char
        c_middle[MIDDLE_NAME_LEN+1];
  char
        c_last[LAST_NAME_LEN+1];
  char
        c_street_1[ADDRESS_LEN+1];
  char
        c_street_2[ADDRESS_LEN+1];
  char
        c_city[ADDRESS_LEN+1];
  char
        c_state[STATE_LEN+1];
  char
        c_zip[ZIP_LEN+1];
  char
        c_phone[PHONE_LEN+1];
  char
        c_credit[CREDIT_LEN+1];
  double                                c_credit_lim;
  double                                c_discount;
        char
        c_balance[6];
  double                                c_ytd_payment;
        short
        c_payment_cnt;
        short
        c_delivery_cnt;
        char
        c_data[C_DATA_LEN+1];
        double
        h_amount;
  char
        h_data[H_DATA_LEN+1];
} CUSTOMER_STRUCT;

typedef struct
{
        char
        c_last[LAST_NAME_LEN+1];
        char
        c_first[FIRST_NAME_LEN+1];
  long                                  c_id;
} CUSTOMER_SORT_STRUCT;

typedef struct
{
  long          time_start;
} LOADER_TIME_STRUCT;
```

```
// Global variables
char        szLastError[300];

HENV        henv;

HDBC        v_hdbc;
                    // for SQL Server version verification
HDBC        i_hdbc1;
            // for ITEM table
HDBC        w_hdbc1;
            // for WAREHOUSE, DISTRICT, STOCK
HDBC        c_hdbc1;
            // for CUSTOMER
HDBC        c_hdbc2;
            // for HISTORY
HDBC        o_hdbc1;
            // for ORDERS
HDBC        o_hdbc2;
            // for NEW-ORDER

HDBC        o_hdbc3;
            // for ORDER-LINE

HSTMT       v_hstmt;
            // for SQL Server version verification
HSTMT       i_hstmt1;
HSTMT       w_hstmt1;
HSTMT       c_hstmt1, c_hstmt2;
HSTMT       o_hstmt1, o_hstmt2, o_hstmt3;

int                     total_db_errors;

ORDERS_STRUCT
            orders_buf[ORDERS_PER_DISTRICT];
CUSTOMER_STRUCT
            customer_buf[CUSTOMERS_PER_DISTRICT];
long                            orders_rows_loaded;
double                          new_order_rows_loaded;
double                          order_line_rows_loaded;
long                            history_rows_loaded;
long                            customer_rows_loaded;
double                          stock_rows_loaded;
long                            district_rows_loaded;
long                            item_rows_loaded;
long                            warehouse_rows_loaded;
long                            main_time_start;
long                            main_time_end;
long                            max_items;
long                            customers_per_district;
long                            orders_per_district;
long                            first_new_order;
long                            last_new_order;

TPCCLDR_ARGS    *aptr, args;

//=======================================
============================
//
// Function name: main
//
//=======================================
============================
int main(int  argc, char **argv)
{

            DWORD
dwThreadID[MAX_MAIN_THREADS];
            HANDLE
hThread[MAX_MAIN_THREADS];
            FILE          *fLoader;
            char          buffer[255];
            int                                     i;

            for (i=0; i<MAX_MAIN_THREADS; i++)
                        hThread[i] = NULL;


printf("\n*****************************************
*********");
            printf("\n*                                     *");
            printf("\n*  Microsoft SQL Server
*");
            printf("\n*                                     *");
            printf("\n*  TPC-C BENCHMARK KIT:
Database loader        *");
            printf("\n*  Version %s                         *",
TPCKIT_VER);
            printf("\n*                                     *");
            printf("\n*********************************
******************\n\n");

   // process command line arguments
   aptr = &args;
   GetArgsLoader(argc, argv, aptr);

            printf("Build interface is ODBC.\n");

            if (aptr->build_index == 0)
                        printf("Data load only - no index
creation.\n");
            else
                        printf("Data load and index
creation.\n");

            if (aptr->index_order == 0)
                        printf("Clustered indexes will be
created after bulk load.\n");
            else
```

```
                printf("Clustered indexes will be
created before bulk load.\n");

        // set database scale values
        if (aptr->scale_down == 1)
        {
                printf("*** Scaled Down Database
***\n");
                max_items =
MAXITEMS_SCALE_DOWN;
                customers_per_district =
CUSTOMERS_SCALE_DOWN;
                orders_per_district =
ORDERS_SCALE_DOWN;
                first_new_order = 0;
                last_new_order  = 30;
        }
        else
        {
                max_items = MAXITEMS;
                customers_per_district =
CUSTOMERS_PER_DISTRICT;
                orders_per_district =
ORDERS_PER_DISTRICT;
                first_new_order = 2100;
                last_new_order  = 3000;
        }

        // open connections to SQL Server
        OpenConnections();

        // open file for loader results
        fLoader = fopen(aptr->loader_res_file, "w");


   if (fLoader == NULL)
        {
                printf("Error, loader result file open
failed.");
                exit(-1);
        }

   // start loading data
   sprintf(buffer,"TPC-C load started for %ld
warehouses.\n",aptr->num_warehouses);
        if      (aptr->scale_down == 1)
        {
                sprintf(buffer,"SCALED DOWN
DATABASE.\n");
        }

        printf("%s",buffer);
        fprintf(fLoader,"%s",buffer);

        main_time_start = (TimeNow() / MILLI);

        // start parallel load threads
        if (aptr->tables_all || aptr->table_item)
        {
                fprintf(fLoader, "\nStarting loader
threads for: item\n");


                hThread[0] = CreateThread(NULL,

                        0,


(LPTHREAD_START_ROUTINE) LoadItem,

                        NULL,

                        0,

                        &dwThreadID[0]);

                if (hThread[0] == NULL)
                {
                        printf("Error, failed in
creating creating thread = 0.\n");
                        exit(-1);
                }
        }

        if (aptr->tables_all || aptr->table_warehouse)
        {
                fprintf(fLoader, "Starting loader
threads for: warehouse\n");

                hThread[1] = CreateThread(NULL,

                        0,


(LPTHREAD_START_ROUTINE) LoadWarehouse,

                        NULL,

                        0,

                        &dwThreadID[1]);

                if (hThread[1] == NULL)
                {
                        printf("Error, failed in
creating creating thread = 1.\n");
                        exit(-1);
                }
```

```
        }

        if (aptr->tables_all || aptr->table_customer)
        {
                fprintf(fLoader, "Starting loader
threads for: customer\n");

                hThread[2] = CreateThread(NULL,
                        0,
(LPTHREAD_START_ROUTINE) LoadCustomer,
                        NULL,
                        0,
                        &dwThreadID[2]);

                if (hThread[2] == NULL)
                {
                        printf("Error, failed in
creating creating main thread = 2.\n");
                        exit(-1);
                }
        }

        if (aptr->tables_all || aptr->table_orders)
        {
                fprintf(fLoader, "Starting loader
threads for: orders\n");

                hThread[3] = CreateThread(NULL,
                        0,
(LPTHREAD_START_ROUTINE) LoadOrders,
                        NULL,
                        0,
                        &dwThreadID[3]);

                if (hThread[3] == NULL)
                {
                        printf("Error, failed in
creating creating main thread = 3.\n");
                        exit(-1);
                }
        }

        // Wait for threads to finish...
        for (i=0; i<MAX_MAIN_THREADS; i++)
        {
                if (hThread[i] != NULL)
                {
WaitForSingleObject( hThread[i], INFINITE );
                        CloseHandle(hThread[i]);
                        hThread[i] = NULL;
                }
        }

        main_time_end = (TimeNow() / MILLI);

   sprintf(buffer,"\nTPC-C load completed successfully in
%ld minutes.\n",
                        (main_time_end -
main_time_start)/60);

        printf("%s",buffer);
        fprintf(fLoader, "%s", buffer);

        fclose(fLoader);

        SQLFreeEnv(henv);

   exit(0);

        return 0;
}


//=========================================
============================
//
// Function name: LoadItem
//
//=========================================
============================
void LoadItem()
{
   int                  i;
        long            i_id;
        long            i_im_id;
   char         i_name[I_NAME_LEN+1];
   double       i_price;
   char         i_data[I_DATA_LEN+1];
        char            name[20];
        long            time_start;
        RETCODE                 rc;
        DBINT           rcint;
        char            bcphint[128];
        char            err_log_path[256];
```

```
	// Seed with unique number
	seed(11);

	printf("Loading item table...\n");

	//if build index before load
	if ((aptr->build_index == 1) && (aptr->index_order == 1))
		BuildIndex("idxitmcl");

	InitString(i_name, I_NAME_LEN+1);
	InitString(i_data, I_DATA_LEN+1);

	sprintf(name, "%s..%s", aptr->database, "item");

	strcpy(err_log_path,aptr->log_path);
	strcat(err_log_path,"item.err");
	rc = bcp_init(i_hdbc1, name, NULL, err_log_path , DB_IN);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);

	if ((aptr->build_index == 1) && (aptr->index_order == 1))
	{
		sprintf(bcphint, "tablock, order (i_id), ROWS_PER_BATCH = 100000");
		rc = bcp_control(i_hdbc1, BCPHINTS, (void*) bcphint);
		if (rc != SUCCEED)
			HandleErrorDBC(i_hdbc1);
	}

	i = 0;
	rc = bcp_bind(i_hdbc1, (BYTE *) &i_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);
	rc = bcp_bind(i_hdbc1, (BYTE *) i_name, 0, I_NAME_LEN, NULL, 0, 0, ++i);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);
	rc = bcp_bind(i_hdbc1, (BYTE *) &i_price, 0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);
	rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0, SQL_VARLEN_DATA, "", 1, 0, ++i);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);
	rc = bcp_bind(i_hdbc1, (BYTE *) &i_im_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
	if (rc != SUCCEED)
		HandleErrorDBC(i_hdbc1);

	time_start = (TimeNow() / MILLI);

	item_rows_loaded = 0;

	for (i_id = 1; i_id <= max_items; i_id++)
	{
		i_im_id = RandomNumber(1L, 10000L);

		MakeAlphaStringPadded(14, 24, I_NAME_LEN, i_name);

		i_price = ((float) RandomNumber(100L, 10000L))/100.0;

		MakeOriginalAlphaString(26, 50, I_DATA_LEN, i_data, 10);

		rc = bcp_sendrow(i_hdbc1);

		if (rc != SUCCEED)
			HandleErrorDBC(i_hdbc1);

		item_rows_loaded++;
		CheckForCommit(i_hdbc1, i_hstmt1, item_rows_loaded, "item", &time_start);
	}

	rcint = bcp_done(i_hdbc1);
	if (rcint < 0)
		HandleErrorDBC(i_hdbc1);

	printf("Finished loading item table.\n");

	SQLFreeStmt(i_hstmt1, SQL_DROP);
	SQLDisconnect(i_hdbc1);
	SQLFreeConnect(i_hdbc1);

	// if build index after load
	if ((aptr->build_index == 1) && (aptr->index_order == 0))
		BuildIndex("idxitmcl");

}

//========================================================================
//
// Function   : LoadWarehouse
```

```
//
// Loads WAREHOUSE table and loads Stock and District as Warehouses are created
//
//=========================================
==================================
void LoadWarehouse()
{
        int             i;
        long    w_id;
  char  w_name[W_NAME_LEN+1];
  char  w_street_1[ADDRESS_LEN+1];
  char  w_street_2[ADDRESS_LEN+1];
  char  w_city[ADDRESS_LEN+1];
  char  w_state[STATE_LEN+1];
  char  w_zip[ZIP_LEN+1];
  double w_tax;
  double w_ytd;
        char    name[20];
        long    time_start;
        RETCODE         rc;
        DBINT   rcint;
        char    bcphint[128];
        char    err_log_path[256];

        // Seed with unique number
        seed(2);

        printf("Loading warehouse table...\n");

        // if build index before load...
        if ((aptr->build_index == 1) && (aptr->index_order == 1))
                BuildIndex("idxwarcl");

        InitString(w_name, W_NAME_LEN+1);
        InitAddress(w_street_1, w_street_2, w_city, w_state, w_zip);

        sprintf(name, "%s..%s", aptr->database, "warehouse");

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"whouse.err");
        rc = bcp_init(w_hdbc1, name, NULL, err_log_path, DB_IN);

        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (w_id), ROWS_PER_BATCH = %d", aptr->num_warehouses);
                rc = bcp_control(w_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)

        HandleErrorDBC(w_hdbc1);
        }

        i = 0;
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_ytd, 0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_tax, 0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_name, 0, W_NAME_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_street_1, 0, ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_street_2, 0, ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_city, 0, ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_state, 0, STATE_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_zip, 0, ZIP_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        time_start = (TimeNow() / MILLI);

        warehouse_rows_loaded = 0;

        for (w_id = (long)aptr->starting_warehouse; w_id <= aptr->num_warehouses; w_id++)
```

```
        {
                MakeAlphaStringPadded(6,10,
W_NAME_LEN, w_name);

                MakeAddress(w_street_1, w_street_2,
w_city, w_state, w_zip);

                w_tax = ((float)
RandomNumber(0L,2000L))/10000.00;

                w_ytd = 300000.00;

                rc = bcp_sendrow(w_hdbc1);
                if (rc != SUCCEED)

        HandleErrorDBC(w_hdbc1);

                warehouse_rows_loaded++;
                CheckForCommit(w_hdbc1, i_hstmt1,
warehouse_rows_loaded, "warehouse", &time_start);
        }

        rcint = bcp_done(w_hdbc1);
        if (rcint < 0)
                HandleErrorDBC(w_hdbc1);


        printf("Finished loading warehouse table.\n");


        // if build index after load...
        if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
                BuildIndex("idxwarcl");

        stock_rows_loaded = 0;
        district_rows_loaded = 0;

        District();
        Stock();
}

//=========================================
============================
//
// Function   : District
//
//=========================================
============================
void District()
{
   int              i;
        short       d_id;
        long        d_w_id;
   char     d_name[D_NAME_LEN+1];
   char     d_street_1[ADDRESS_LEN+1];
   char     d_street_2[ADDRESS_LEN+1];
   char     d_city[ADDRESS_LEN+1];
   char     d_state[STATE_LEN+1];
   char     d_zip[ZIP_LEN+1];
   double   d_tax;
   double   d_ytd;
        char        name[20];
   long     d_next_o_id;
        long        time_start;
        long        w_id;
        RETCODE             rc;
        DBINT       rcint;
        char        bcphint[128];
        char        err_log_path[256];

        // Seed with unique number
        seed(4);

        printf("Loading district table...\n");

        // build index before load
        if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
                BuildIndex("idxdiscl");

        InitString(d_name, D_NAME_LEN+1);
       InitAddress(d_street_1, d_street_2, d_city, d_state,
d_zip);
      sprintf(name, "%s..%s", aptr->database, "district");

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"district.err");
        rc = bcp_init(w_hdbc1, name, NULL,
err_log_path, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
        {
                sprintf(bcphint, "tablock, order
(d_w_id, d_id), ROWS_PER_BATCH = %u", (aptr-
>num_warehouses * 10));
                rc = bcp_control(w_hdbc1,
BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)

        HandleErrorDBC(w_hdbc1);
        }
```

```
        i = 0;
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_ytd, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_next_o_id,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_tax, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_name, 0,
D_NAME_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_street_1, 0,
ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_street_2, 0,
ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_city, 0,
ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_state, 0,
STATE_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_zip, 0,
ZIP_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        d_ytd  = 30000.0;

        d_next_o_id = orders_per_district+1;

        time_start = (TimeNow() / MILLI);

        for (w_id = aptr->starting_warehouse; w_id <=
aptr->num_warehouses; w_id++)
        {
                d_w_id = w_id;

                for (d_id = 1; d_id <=
DISTRICT_PER_WAREHOUSE; d_id++)
                {

        MakeAlphaStringPadded(6,10,D_NAME_LEN,
d_name);

                        MakeAddress(d_street_1,
d_street_2, d_city, d_state, d_zip);

                        d_tax = ((float)
RandomNumber(0L,2000L))/10000.00;

                        rc =
bcp_sendrow(w_hdbc1);
                        if (rc != SUCCEED)

        HandleErrorDBC(w_hdbc1);

                        district_rows_loaded++;
                       CheckForCommit(w_hdbc1,
w_hstmt1, district_rows_loaded, "district", &time_start);
                }
   }

        rcint = bcp_done(w_hdbc1);
        if (rcint < 0)
                HandleErrorDBC(w_hdbc1);

        printf("Finished loading district table.\n");

        // if build index after load...
        if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
                BuildIndex("idxdiscl");

   return;
}

//=========================================
============================
//
// Function   : Stock
//
//=========================================
============================
void Stock()
{
        int             i;
        long        s_i_id;
```

```
        long        s_w_id;
    short    s_quantity;
    char     s_dist_01[S_DIST_LEN+1];
    char     s_dist_02[S_DIST_LEN+1];
    char     s_dist_03[S_DIST_LEN+1];
    char     s_dist_04[S_DIST_LEN+1];
    char     s_dist_05[S_DIST_LEN+1];
    char     s_dist_06[S_DIST_LEN+1];
    char     s_dist_07[S_DIST_LEN+1];
    char     s_dist_08[S_DIST_LEN+1];
    char     s_dist_09[S_DIST_LEN+1];
    char     s_dist_10[S_DIST_LEN+1];
    long     s_ytd;
    short    s_order_cnt;
    short    s_remote_cnt;
    char     s_data[S_DATA_LEN+1];
    short    len;
        char        name[20];
        long        time_start;
        RETCODE             rc;
        DBINT    rcint;
        char        bcphint[128];
        char        err_log_path[256];

        // Seed with unique number
        seed(3);

        // if build index before load...
        if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
                BuildIndex("idxstkcl");

        sprintf(name, "%s..%s", aptr->database, "stock");

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"stock.err");
        rc = bcp_init(w_hdbc1, name, NULL,
err_log_path, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
        {
                sprintf(bcphint, "tablock, order (s_i_id,
s_w_id), ROWS_PER_BATCH = %u", (aptr-
>num_warehouses * 100000));
                rc = bcp_control(w_hdbc1,
BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)

        HandleErrorDBC(w_hdbc1);
        }

        i = 0;
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_i_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_quantity,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_ytd, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_order_cnt,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *)
&s_remote_cnt, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0,
SQL_VARLEN_DATA, "", 1, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_01, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_02, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_03, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_04, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_05, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_06, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
```

```
		if (rc != SUCCEED)
			HandleErrorDBC(w_hdbc1);
		rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_07, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(w_hdbc1);
		rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_08, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(w_hdbc1);
		rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_09, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(w_hdbc1);
		rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_10, 0,
S_DIST_LEN, NULL, 0, 0, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(w_hdbc1);

		s_ytd = s_order_cnt = s_remote_cnt = 0;

		time_start = (TimeNow() / MILLI);

		printf("...Loading stock table\n");

		for (s_i_id=1; s_i_id <= max_items; s_i_id++)
		{

			for (s_w_id = (long)aptr-
>starting_warehouse; s_w_id <= aptr->num_warehouses;
s_w_id++)
			{

				s_quantity =
(short)RandomNumber(10L,100L);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_01);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_02);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_03);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_04);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_05);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_06);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_07);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_08);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_09);
				len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_10);
				len =
MakeOriginalAlphaString(26,50, S_DATA_LEN, s_data,10);

				rc =
bcp_sendrow(w_hdbc1);
				if (rc != SUCCEED)
		HandleErrorDBC(w_hdbc1);

				stock_rows_loaded++;

		CheckForCommit_Big(w_hdbc1, w_hstmt1,
stock_rows_loaded, "stock", &time_start);
			}
		}

		rcint = bcp_done(w_hdbc1);
		if (rcint < 0)
			HandleErrorDBC(w_hdbc1);

		printf("Finished loading stock table.\n");

		SQLFreeStmt(w_hstmt1, SQL_DROP);
		SQLDisconnect(w_hdbc1);
		SQLFreeConnect(w_hdbc1);

		// if build index after load...
		if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
			BuildIndex("idxstkcl");

		return;
}

//=========================================
============================
//
// Function   : LoadCustomer
//
//=========================================
============================
void LoadCustomer()
{
		LOADER_TIME_STRUCT
customer_time_start;
		LOADER_TIME_STRUCT	history_time_start;
		long
		w_id;
  short		d_id;
		DWORD
		dwThreadID[MAX_CUSTOMER_THREADS];
```

```
	HANDLE
	hThread[MAX_CUSTOMER_THREADS];
	char                                    name[20];
	RETCODE
		rc;
	DBINT
	rcint;
	char
	bcphint[128];
	char
	cmd[256];
	int
		num_procs;
	char
	err_log_path_cust[256];
	char
	err_log_path_hist[256];

	// Seed with unique number
	seed(5);

	printf("Loading customer and history tables...\n");

	// if build index before load...
	if ((aptr->build_index == 1) && (aptr->index_order == 1))
	{
		BuildIndex("idxcuscl");
		 // check the number of processors on this system
		 // if 8 or more processors, then build index on History.
		 // if less than 8 processors, do not build the index
		num_procs = atoi(getenv( "NUMBER_OF_PROCESSORS" ));
		if ( num_procs >= 8 )
			BuildIndex("idxhiscl");
	}

	// Initialize bulk copy
	sprintf(name, "%s..%s", aptr->database, "customer");

	strcpy(err_log_path_cust,aptr->log_path);
	strcat(err_log_path_cust,"customer.err");
	rc = bcp_init(c_hdbc1, name, NULL, err_log_path_cust, DB_IN);
	if (rc != SUCCEED)
		HandleErrorDBC(c_hdbc1);

	if ((aptr->build_index == 1) && (aptr->index_order == 1))
	{
		sprintf(bcphint, "tablock, order (c_w_id, c_d_id, c_id), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 30000));
		rc = bcp_control(c_hdbc1, BCPHINTS, (void*) bcphint);
		if (rc != SUCCEED)
			HandleErrorDBC(c_hdbc1);
	}

	sprintf(name, "%s..%s", aptr->database, "history");

	rc = bcp_init(c_hdbc2, name, NULL, "logs\\history.err", DB_IN);
	strcpy(err_log_path_hist,aptr->log_path);
	strcat(err_log_path_hist,"history.err");
	rc = bcp_init(c_hdbc2, name, NULL, err_log_path_hist, DB_IN);
	if (rc != SUCCEED)
		HandleErrorDBC(c_hdbc2);

	sprintf(bcphint, "tablock");
	rc = bcp_control(c_hdbc2, BCPHINTS, (void*) bcphint);
	if (rc != SUCCEED)
		HandleErrorDBC(c_hdbc2);

	customer_rows_loaded    = 0;
	history_rows_loaded     = 0;

	CustomerBufInit();

	customer_time_start.time_start = (TimeNow() / MILLI);
	history_time_start.time_start = (TimeNow() / MILLI);

	for (w_id = (long)aptr->starting_warehouse; w_id <= aptr->num_warehouses; w_id++)
	{
		for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
		{

			CustomerBufLoad(d_id, w_id);

			// Start parallel loading threads here...
			// Start customer table thread
			printf("...Loading customer table for: d_id = %d, w_id = %d\n", d_id, w_id);

			hThread[0] = CreateThread(NULL,
```

```
                                        0,

(LPTHREAD_START_ROUTINE) LoadCustomerTable,

&customer_time_start,

                                        0,

&dwThreadID[0]);

                                if (hThread[0] == NULL)
                                {
                                        printf("Error,
failed in creating creating thread = 0.\n");
                                        exit(-1);
                                }

                                // Start History table thread
                                printf("...Loading history
table for: d_id = %d, w_id = %d\n", d_id, w_id);

                                hThread[1] =
CreateThread(NULL,

                                        0,

(LPTHREAD_START_ROUTINE) LoadHistoryTable,

&history_time_start,

                                        0,

&dwThreadID[1]);

                                if (hThread[1] == NULL)
                                {
                                        printf("Error,
failed in creating creating thread = 1.\n");
                                        exit(-1);
                                }


        WaitForSingleObject( hThread[0], INFINITE );

        WaitForSingleObject( hThread[1], INFINITE );

                               if (CloseHandle(hThread[0])
== FALSE)
                                {
                                        printf("Error,
failed in closing customer thread handle with errno: %d\n",
GetLastError());
                                }


                               if (CloseHandle(hThread[1])
== FALSE)
                                {
                                        printf("Error,
failed in closing history thread handle with errno: %d\n",
GetLastError());
                                }
                        }
                }

                // flush the bulk connection
                rcint = bcp_done(c_hdbc1);
                if (rcint < 0)
                        HandleErrorDBC(c_hdbc1);


                rcint = bcp_done(c_hdbc2);
                if (rcint < 0)
                        HandleErrorDBC(c_hdbc2);


                printf("Finished loading customer table.\n");

                // if build index after load...
                if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
                {
                        BuildIndex("idxcuscl");
                        // check the number of processors on
this system
                        // if 8 or more processors, then build
index on History.
                        // if less than 8 processors, do not build
the index
                        num_procs =
atoi(getenv( "NUMBER_OF_PROCESSORS" ));
                        if (num_procs >= 8)
                                BuildIndex("idxhiscl");
                }

                // build non-clustered index
                if (aptr->build_index == 1)
                        BuildIndex("idxcusnc");

                // Output the NURAND used for the loader into
C_FIRST for C_ID = 1,
                // C_W_ID = 1, and C_D_ID = 1
                sprintf(cmd, "osql -S%s -U%s -P%s -d%s -e -
Q\"update customer set c_first = 'C_LOAD = %d' where c_id
= 1 and c_w_id = 1 and c_d_id = 1\" > %snurand_load.log",
```

```
                                        aptr->server,
                                        aptr->user,
                                        aptr->password,
                                        aptr->database,

        LOADER_NURAND_C,
                                        aptr->log_path);

        system(cmd);

        SQLFreeStmt(c_hstmt1, SQL_DROP);
        SQLDisconnect(c_hdbc1);
        SQLFreeConnect(c_hdbc1);

        SQLFreeStmt(c_hstmt2, SQL_DROP);
        SQLDisconnect(c_hdbc2);
        SQLFreeConnect(c_hdbc2);

   return;
}

//========================================
============================
//
// Function   : CustomerBufInit
//
//========================================
============================
void CustomerBufInit()
{
        long    i;

        for (i=0;i<customers_per_district;i++)
        {
                customer_buf[i].c_id = 0;
                customer_buf[i].c_d_id = 0;
                customer_buf[i].c_w_id = 0;

                strcpy(customer_buf[i].c_first,"");
                strcpy(customer_buf[i].c_middle,"");
                strcpy(customer_buf[i].c_last,"");
                strcpy(customer_buf[i].c_street_1,"");
                strcpy(customer_buf[i].c_street_2,"");
                strcpy(customer_buf[i].c_city,"");
                strcpy(customer_buf[i].c_state,"");
                strcpy(customer_buf[i].c_zip,"");
                strcpy(customer_buf[i].c_phone,"");
                strcpy(customer_buf[i].c_credit,"");

                customer_buf[i].c_credit_lim = 0;
                customer_buf[i].c_discount = (float) 0;
                strcpy(customer_buf[i].c_balance,"");

                customer_buf[i].c_ytd_payment = 0;
                customer_buf[i].c_payment_cnt = 0;
                customer_buf[i].c_delivery_cnt = 0;

                strcpy(customer_buf[i].c_data,"");

                customer_buf[i].h_amount = 0;

                strcpy(customer_buf[i].h_data,"");
        }
}

//========================================
============================
//
// Function   : CustomerBufLoad
//
// Fills shared buffer for HISTORY and CUSTOMER
//========================================
============================
void CustomerBufLoad(int d_id, long w_id)
{
        long                                    i;
   CUSTOMER_SORT_STRUCT
c[CUSTOMERS_PER_DISTRICT];

        for (i=0;i<customers_per_district;i++)
        {
                if (i < 1000)
                        LastName(i, c[i].c_last);
                else

        LastName(NURand(255,0,999,LOADER_NURA
ND_C), c[i].c_last);


        MakeAlphaStringPadded(8,16,FIRST_NAME_L
EN, c[i].c_first);

                c[i].c_id = i+1;
        }

        printf("...Loading customer buffer for: d_id = %d,
w_id = %d\n",
                        d_id, w_id);

        for (i=0;i<customers_per_district;i++)
        {
                customer_buf[i].c_d_id = d_id;
```

```
                        customer_buf[i].c_w_id = w_id;
                        customer_buf[i].h_amount = 10.0;
                        customer_buf[i].c_ytd_payment  =
10.0;
                        customer_buf[i].c_payment_cnt  = 1;
                        customer_buf[i].c_delivery_cnt = 0;
                        customer_buf[i].c_id = c[i].c_id;
                        strcpy(customer_buf[i].c_first,
c[i].c_first);
                        strcpy(customer_buf[i].c_last,
c[i].c_last);
                        customer_buf[i].c_middle[0] = 'O';
                        customer_buf[i].c_middle[1] = 'E';

                MakeAddress(customer_buf[i].c_street_1,

customer_buf[i].c_street_2,

customer_buf[i].c_city,

customer_buf[i].c_state,

customer_buf[i].c_zip);
                        MakeNumberString(16, 16,
PHONE_LEN, customer_buf[i].c_phone);


                        if (RandomNumber(1L, 100L) > 10)
                                customer_buf[i].c_credit[0]
= 'G';
                        else
                                customer_buf[i].c_credit[0]
= 'B';
                        customer_buf[i].c_credit[1] = 'C';
                        customer_buf[i].c_credit_lim =
50000.0;
                        customer_buf[i].c_discount = ((float)
RandomNumber(0L, 5000L)) / 10000.0;

                        strcpy(customer_buf[i].c_balance,"-
10.0");
                        MakeAlphaStringPadded(300, 500,
C_DATA_LEN, customer_buf[i].c_data);


                        // Generate HISTORY data
                        MakeAlphaStringPadded(12, 24,
H_DATA_LEN, customer_buf[i].h_data);
                }
}

//=========================================
============================
//
// Function   : LoadCustomerTable
//
//=========================================
============================
```

```
void LoadCustomerTable(LOADER_TIME_STRUCT
*customer_time_start)
{
                long                    i;
   long       c_id;
   short      c_d_id;
                long                    c_w_id;
   char       c_first[FIRST_NAME_LEN+1];
   char       c_middle[MIDDLE_NAME_LEN+1];
   char       c_last[LAST_NAME_LEN+1];
   char       c_street_1[ADDRESS_LEN+1];
   char       c_street_2[ADDRESS_LEN+1];
   char       c_city[ADDRESS_LEN+1];
   char       c_state[STATE_LEN+1];
   char       c_zip[ZIP_LEN+1];
   char       c_phone[PHONE_LEN+1];
   char       c_credit[CREDIT_LEN+1];
   double     c_credit_lim;
   double     c_discount;
                char                    c_balance[6];
   double     c_ytd_payment;
   short      c_payment_cnt;
   short      c_delivery_cnt;
   char       c_data[C_DATA_LEN+1];
                char                    c_since[C_SINCE_LEN+1];

                RETCODE                 rc;


   i = 0;
                rc = bcp_bind(c_hdbc1, (BYTE *) &c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
                rc = bcp_bind(c_hdbc1, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_discount, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_credit_lim, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_last, 0,
LAST_NAME_LEN, NULL, 0, 0, ++i);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);
```

```
        rc = bcp_bind(c_hdbc1, (BYTE *) c_first, 0,
FIRST_NAME_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_credit, 0,
CREDIT_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5, NULL,
0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_ytd_payment, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_payment_cnt, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) &c_delivery_cnt,0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_street_1, 0,
ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_street_2, 0,
ADDRESS_LEN, NULL,0,0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_city, 0,
ADDRESS_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_state, 0,
STATE_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_zip, 0, ZIP_LEN,
NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_phone, 0,
PHONE_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
        rc = bcp_bind(c_hdbc1, (BYTE *) &c_since, 0,
C_SINCE_LEN, NULL, 0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
        rc = bcp_bind(c_hdbc1, (BYTE *) c_middle, 0,
MIDDLE_NAME_LEN,NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);
   rc = bcp_bind(c_hdbc1, (BYTE *) c_data, 0,
C_DATA_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);


   for (i = 0; i < customers_per_district; i++)
   {
                c_id = customer_buf[i].c_id;
                c_d_id = customer_buf[i].c_d_id;
                c_w_id = customer_buf[i].c_w_id;


                strcpy(c_first, customer_buf[i].c_first);
                strcpy(c_middle,
customer_buf[i].c_middle);
                strcpy(c_last, customer_buf[i].c_last);
                strcpy(c_street_1,
customer_buf[i].c_street_1);
                strcpy(c_street_2,
customer_buf[i].c_street_2);
                strcpy(c_city, customer_buf[i].c_city);
                strcpy(c_state,
customer_buf[i].c_state);
                strcpy(c_zip, customer_buf[i].c_zip);
                strcpy(c_phone,
customer_buf[i].c_phone);
                strcpy(c_credit,
customer_buf[i].c_credit);


                FormatDate(&c_since);



                c_credit_lim =
customer_buf[i].c_credit_lim;
                c_discount =
customer_buf[i].c_discount;
                strcpy(c_balance,
customer_buf[i].c_balance);
                c_ytd_payment =
customer_buf[i].c_ytd_payment;
                c_payment_cnt =
customer_buf[i].c_payment_cnt;
                c_delivery_cnt =
customer_buf[i].c_delivery_cnt;
               strcpy(c_data,  customer_buf[i].c_data);



                // Send data to server
                rc = bcp_sendrow(c_hdbc1);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);



                customer_rows_loaded++;
```

```
                    CheckForCommit(c_hdbc1, c_hstmt1,
customer_rows_loaded, "customer", &customer_time_start-
>time_start);
   }
}

//=========================================
============================
//
// Function   : LoadHistoryTable
//
//=========================================
============================
void LoadHistoryTable(LOADER_TIME_STRUCT
*history_time_start)
{
        long            i;
   long     c_id;
   short    c_d_id;
        long            c_w_id;
        double     h_amount;
   char     h_data[H_DATA_LEN+1];
        char            h_date[H_DATE_LEN+1];

        RETCODE                 rc;

        i = 0;
   rc = bcp_bind(c_hdbc2, (BYTE *) &c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
   rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
   rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &h_date, 0,
H_DATE_LEN, NULL, 0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
   rc = bcp_bind(c_hdbc2, (BYTE *) &h_amount, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
   rc = bcp_bind(c_hdbc2, (BYTE *) h_data, 0,
H_DATA_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);

   for (i = 0; i < customers_per_district; i++)
   {
                c_id = customer_buf[i].c_id;
                c_d_id = customer_buf[i].c_d_id;
                c_w_id = customer_buf[i].c_w_id;
                h_amount =
customer_buf[i].h_amount;
               strcpy(h_data, customer_buf[i].h_data);

                FormatDate(&h_date);

                // send to server
                rc = bcp_sendrow(c_hdbc2);
                if (rc != SUCCEED)

                        HandleErrorDBC(c_hdbc2);

                history_rows_loaded++;
                CheckForCommit(c_hdbc2, c_hstmt2,
history_rows_loaded, "history", &history_time_start-
>time_start);
   }
}

//=========================================
==================-===============
//
// Function   : LoadOrders
//
//=========================================
==================================
void LoadOrders()
{
        LOADER_TIME_STRUCT      orders_time_start;
        LOADER_TIME_STRUCT
new_order_time_start;
        LOADER_TIME_STRUCT
order_line_time_start;
        long
        w_id;
   short            d_id;
        DWORD
        dwThreadID[MAX_ORDER_THREADS];
        HANDLE
        hThread[MAX_ORDER_THREADS];
        char                    name[20];
```

```
        RETCODE
                rc;
        char
        bcphint[128];
        char
        err_log_path_ord[256];
        char
        err_log_path_nord[256];
        char
        err_log_path_ordl[256];

        // seed with unique number
        seed(6);

        printf("Loading orders...\n");

        // if build index before load...
        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                        BuildIndex("idxordcl");
                        BuildIndex("idxnodcl");
                        BuildIndex("idxodlcl");
        }

        // initialize bulk copy
        sprintf(name, "%s..%s", aptr->database, "orders");

        rc = bcp_init(o_hdbc1, name, NULL, "logs\\orders.err", DB_IN);
        strcpy(err_log_path_ord,aptr->log_path);
        strcat(err_log_path_ord,"orders.err");
        rc = bcp_init(o_hdbc1, name, NULL, err_log_path_ord, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (o_w_id, o_d_id, o_id), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 30000));
                rc = bcp_control(o_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc1);
        }

        sprintf(name, "%s..%s", aptr->database, "new_order");

        rc = bcp_init(o_hdbc2, name, NULL, "logs\\neword.err", DB_IN);
        strcpy(err_log_path_nord,aptr->log_path);
        strcat(err_log_path_nord,"neword.err");
        rc = bcp_init(o_hdbc2, name, NULL, err_log_path_nord, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (no_w_id, no_d_id, no_o_id), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 9000));
                rc = bcp_control(o_hdbc2, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
        }

        sprintf(name, "%s..%s", aptr->database, "order_line");

        rc = bcp_init(o_hdbc3, name, NULL, "logs\\ordline.err", DB_IN);
        strcpy(err_log_path_ordl,aptr->log_path);
        strcat(err_log_path_ordl,"ordline.err");
        rc = bcp_init(o_hdbc3, name, NULL, err_log_path_ordl, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (ol_w_id, ol_d_id, ol_o_id, ol_number), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 300000));
                rc = bcp_control(o_hdbc3, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc3);
        }

        orders_rows_loaded      = 0;
        new_order_rows_loaded   = 0;
        order_line_rows_loaded  = 0;

        OrdersBufInit();

        orders_time_start.time_start = (TimeNow() / MILLI);
        new_order_time_start.time_start = (TimeNow() / MILLI);
        order_line_time_start.time_start = (TimeNow() / MILLI);
```

```
        for (w_id = (long)aptr->starting_warehouse; w_id
<= aptr->num_warehouses; w_id++)
        {
                for (d_id = 1; d_id <=
DISTRICT_PER_WAREHOUSE; d_id++)
                {

                        OrdersBufLoad(d_id, w_id);

                        // start parallel loading
threads here...
                        // start Orders table thread
                        printf("...Loading Order
Table for: d_id = %d, w_id = %d\n", d_id, w_id);

                        hThread[0] =
CreateThread(NULL,
                                0,

(LPTHREAD_START_ROUTINE) LoadOrdersTable,

&orders_time_start,
                                0,

&dwThreadID[0]);

                        if (hThread[0] == NULL)
                        {
                                printf("Error,
failed in creating creating thread = 0.\n");
                                exit(-1);
                        }

                        // start NewOrder table
thread
                        printf("...Loading New-
Order Table for: d_id = %d, w_id = %d\n", d_id, w_id);

                        hThread[1] =
CreateThread(NULL,
                                0,

(LPTHREAD_START_ROUTINE) LoadNewOrderTable,

&new_order_time_start,
                                0,

&dwThreadID[1]);

                        if (hThread[1] == NULL)
                        {
                                printf("Error,
failed in creating creating thread = 1.\n");
                                exit(-1);
                        }

                        // start Order-Line table
thread
                        printf("...Loading Order-
Line Table for: d_id = %d, w_id = %d\n", d_id, w_id);

                        hThread[2] =
CreateThread(NULL,
                                0,

(LPTHREAD_START_ROUTINE) LoadOrderLineTable,

&order_line_time_start,
                                0,

&dwThreadID[2]);

                        if (hThread[2] == NULL)
                        {
                                printf("Error,
failed in creating creating thread = 2.\n");
                                exit(-1);
                        }


        WaitForSingleObject( hThread[0], INFINITE );

        WaitForSingleObject( hThread[1], INFINITE );

        WaitForSingleObject( hThread[2], INFINITE );

                        if (CloseHandle(hThread[0])
== FALSE)
                        {
                                printf("Error,
failed in closing Orders thread handle with errno: %d\n",
GetLastError());
                        }

                        if (CloseHandle(hThread[1])
== FALSE)
                        {
```

```
                                        printf("Error,
failed in closing NewOrder thread handle with errno: %d\n",
GetLastError());
                                }

                                if (CloseHandle(hThread[2])
== FALSE)
                                {
                                        printf("Error,
failed in closing OrderLine thread handle with errno: %d\n",
GetLastError());
                                }
                        }
                }

                printf("Finished loading orders.\n");

   return;
}

//========================================
============================
//
// Function   : OrdersBufInit
//
// Clears shared buffer for ORDERS, NEWORDER, and
ORDERLINE
//
//========================================
============================
void OrdersBufInit()
{
        int     i;
        int             j;

        for (i=0;i<orders_per_district;i++)
        {
                orders_buf[i].o_id = 0;
                orders_buf[i].o_d_id = 0;
                orders_buf[i].o_w_id = 0;
                orders_buf[i].o_c_id = 0;
                orders_buf[i].o_carrier_id = 0;
                orders_buf[i].o_ol_cnt = 0;
                orders_buf[i].o_all_local = 0;

                for (j=0;j<=14;j++)
                {
                        orders_buf[i].o_ol[j].ol = 0;

        orders_buf[i].o_ol[j].ol_i_id = 0;

        orders_buf[i].o_ol[j].ol_supply_w_id = 0;

        orders_buf[i].o_ol[j].ol_quantity = 0;

        orders_buf[i].o_ol[j].ol_amount = 0;

        strcpy(orders_buf[i].o_ol[j].ol_dist_info,"");
                }
        }
}

//========================================
============================
//
// Function   : OrdersBufLoad
//
// Fills shared buffer for ORDERS, NEWORDER, and
ORDERLINE
//
//========================================
============================
void OrdersBufLoad(short d_id, long w_id)
{

        int     cust[ORDERS_PER_DISTRICT+1];
        long    o_id;
        long        ol;

        printf("...Loading Order Buffer for: d_id = %d,
w_id = %d\n",
                                d_id, w_id);

        GetPermutation(cust, orders_per_district);

        for (o_id=0;o_id<orders_per_district;o_id++)
        {
                // Generate ORDER and NEW-
ORDER data
                orders_buf[o_id].o_d_id = d_id;
                orders_buf[o_id].o_w_id = w_id;
                orders_buf[o_id].o_id = o_id+1;
                orders_buf[o_id].o_c_id =
cust[o_id+1];
                orders_buf[o_id].o_ol_cnt =
(short)RandomNumber(5L, 15L);

                if (o_id < first_new_order)
                {

        orders_buf[o_id].o_carrier_id =
(short)RandomNumber(1L, 10L);

        orders_buf[o_id].o_all_local  = 1;
                }
                else
                {
```

```
		orders_buf[o_id].o_carrier_id = 0;

		orders_buf[o_id].o_all_local  = 1;
			}


			for (ol=0;
ol<orders_buf[o_id].o_ol_cnt; ol++)
			{



		orders_buf[o_id].o_ol[ol].ol = ol+1;

		orders_buf[o_id].o_ol[ol].ol_i_id =
RandomNumber(1L, max_items);

		orders_buf[o_id].o_ol[ol].ol_supply_w_id = w_id;

		orders_buf[o_id].o_ol[ol].ol_quantity = 5;
					MakeAlphaString(24, 24,
OL_DIST_INFO_LEN,
&orders_buf[o_id].o_ol[ol].ol_dist_info);


					// Generate ORDER-LINE
data
					if (o_id < first_new_order)
					{

		orders_buf[o_id].o_ol[ol].ol_amount = 0;
						// Added to
insure ol_delivery_d set properly during load

		FormatDate(&orders_buf[o_id].o_ol[ol].ol_delive
ry_d);

					}
					else
					{

		orders_buf[o_id].o_ol[ol].ol_amount =
RandomNumber(1,999999)/100.0;
						// Added to
insure ol_delivery_d set properly during load

						// odbc datetime
format

		strcpy(orders_buf[o_id].o_ol[ol].ol_delivery_d,"1
899-12-31 00:00:00.000");
					}
			}
		}
	}

//=========================================
============================
//
// Function   : LoadOrdersTable
//
//=========================================
============================
void LoadOrdersTable(LOADER_TIME_STRUCT
*orders_time_start)
{
		int	i;
  long	o_id;
		short	o_d_id;
		long		o_w_id;
  long	o_c_id;
  short	o_carrier_id;
  short	o_ol_cnt;
  short	o_all_local;
		char
		o_entry_d[O_ENTRY_D_LEN+1];
		RETCODE			rc;
		DBINT		rcint;


		// bind ORDER data
  i = 0;
		rc = bcp_bind(o_hdbc1, (BYTE *) &o_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
  rc = bcp_bind(o_hdbc1, (BYTE *) &o_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
		rc = bcp_bind(o_hdbc1, (BYTE *) &o_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
  rc = bcp_bind(o_hdbc1, (BYTE *) &o_c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
  rc = bcp_bind(o_hdbc1, (BYTE *) &o_carrier_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
  rc = bcp_bind(o_hdbc1, (BYTE *) &o_ol_cnt, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
  rc = bcp_bind(o_hdbc1, (BYTE *) &o_all_local, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
		rc = bcp_bind(o_hdbc1, (BYTE *) &o_entry_d, 0,
O_ENTRY_D_LEN, NULL, 0, SQLCHARACTER, ++i);
		if (rc != SUCCEED)
			HandleErrorDBC(o_hdbc1);
```

```
   for (i = 0; i < orders_per_district; i++)
   {
                        o_id        = orders_buf[i].o_id;
                        o_d_id      = orders_buf[i].o_d_id;
                        o_w_id      = orders_buf[i].o_w_id;
                        o_c_id      = orders_buf[i].o_c_id;
                        o_carrier_id =
orders_buf[i].o_carrier_id;
                        o_ol_cnt    = orders_buf[i].o_ol_cnt;
                       o_all_local  = orders_buf[i].o_all_local;


                        FormatDate(&o_entry_d);

                        // send data to server
                        rc = bcp_sendrow(o_hdbc1);
                        if (rc != SUCCEED)

                                HandleErrorDBC(o_hdbc1);


                        orders_rows_loaded++;
                        CheckForCommit(o_hdbc1, o_hstmt1,
orders_rows_loaded, "orders", &orders_time_start-
>time_start);
   }


            if ((o_w_id == aptr->num_warehouses) &&
(o_d_id == 10))
            {
                        rcint = bcp_done(o_hdbc1);

                        if (rcint < 0)
                                HandleErrorDBC(o_hdbc1);


                       SQLFreeStmt(o_hstmt1,  SQL_DROP);
                        SQLDisconnect(o_hdbc1);
                        SQLFreeConnect(o_hdbc1);

                        // if build index after load...
                        if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
                                BuildIndex("idxordcl");

                        // build non-clustered index
                        if (aptr->build_index == 1)
                                BuildIndex("idxordnc");
            }
}

//=========================================
============================
```

```
//
// Function   : LoadNewOrderTable
//
//=========================================
============================
void LoadNewOrderTable(LOADER_TIME_STRUCT
*new_order_time_start)
{
            long                    i;
   long      o_id;
   short     o_d_id;
            long                    o_w_id;
            RETCODE                         rc;
            DBINT                   rcint;


            // Bind NEW-ORDER data
            i = 0;
   rc = bcp_bind(o_hdbc2, (BYTE *) &o_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
            if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
   rc = bcp_bind(o_hdbc2, (BYTE *) &o_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
            if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
            rc = bcp_bind(o_hdbc2, (BYTE *) &o_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
            if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);


            for (i = first_new_order; i < last_new_order; i++)
            {
                        o_id    = orders_buf[i].o_id;
                        o_d_id  = orders_buf[i].o_d_id;
                        o_w_id  = orders_buf[i].o_w_id;


                        rc = bcp_sendrow(o_hdbc2);
                        if (rc != SUCCEED)

                                    HandleErrorDBC(o_hdbc2);


                        new_order_rows_loaded++;

                        CheckForCommit_Big(o_hdbc2,
o_hstmt2, new_order_rows_loaded, "new_order",
&new_order_time_start->time_start);
            }


            if ((o_w_id == aptr->num_warehouses) &&
(o_d_id == 10))
            {
                        rcint = bcp_done(o_hdbc2);
```

```
                        if (rcint < 0)
                                HandleErrorDBC(o_hdbc2);


                        SQLFreeStmt(o_hstmt2,  SQL_DROP);
                        SQLDisconnect(o_hdbc2);
                        SQLFreeConnect(o_hdbc2);

                        // if build index after load...
                        if ((aptr->build_index == 1) && (aptr->index_order == 0))
                                BuildIndex("idxnodcl");
        }
}

//=========================================================================
//
// Function   : LoadOrderLineTable
//
//=========================================================================
void LoadOrderLineTable(LOADER_TIME_STRUCT *order_line_time_start)
{
        long            i;
        long            j;
  long   o_id;
        short   o_d_id;
        long            o_w_id;
        double          ol;
        long    ol_i_id;
        long            ol_supply_w_id;
  short   ol_quantity;
  double   ol_amount;
  char   ol_dist_info[DIST_INFO_LEN+1];
        char ol_delivery_d[OL_DELIVERY_D_LEN+1];
        RETCODE                 rc;
        DBINT           rcint;

        // bind ORDER-LINE data
        i = 0;
  rc = bcp_bind(o_hdbc3, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
  rc = bcp_bind(o_hdbc3, (BYTE *) &o_d_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol, 0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
  rc = bcp_bind(o_hdbc3, (BYTE *) &ol_i_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol_delivery_d, 0, OL_DELIVERY_D_LEN, NULL, 0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
  rc = bcp_bind(o_hdbc3, (BYTE *) &ol_amount, 0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol_supply_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
  rc = bcp_bind(o_hdbc3, (BYTE *) &ol_quantity, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
  rc = bcp_bind(o_hdbc3, (BYTE *) ol_dist_info, 0, DIST_INFO_LEN, NULL, 0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);


        for (i = 0; i < orders_per_district; i++)
  {
                o_id    = orders_buf[i].o_id;
                o_d_id  = orders_buf[i].o_d_id;
                o_w_id  = orders_buf[i].o_w_id;


                for (j=0; j < orders_buf[i].o_ol_cnt; j++)
                {
                        ol              = orders_buf[i].o_ol[j].ol;
                        ol_i_id         = orders_buf[i].o_ol[j].ol_i_id;
                        ol_supply_w_id = orders_buf[i].o_ol[j].ol_supply_w_id;
                        ol_quantity     = orders_buf[i].o_ol[j].ol_quantity;
                        ol_amount       = orders_buf[i].o_ol[j].ol_amount;

        strcpy(ol_delivery_d,orders_buf[i].o_ol[j].ol_delivery_d);
```

```
		strcpy(ol_dist_info,orders_buf[i].o_ol[j].ol_dist_i
nfo);

                                rc =
bcp_sendrow(o_hdbc3);
                                if (rc != SUCCEED)

		HandleErrorDBC(o_hdbc3);

                                order_line_rows_loaded++;


		CheckForCommit_Big(o_hdbc3, o_hstmt3,
order_line_rows_loaded, "order_line",
&order_line_time_start->time_start);
                        }
		}

		if ((o_w_id == aptr->num_warehouses) &&
(o_d_id == 10))
		{
                        rcint = bcp_done(o_hdbc3);

                        if (rcint < 0)
                                HandleErrorDBC(o_hdbc3);


                       SQLFreeStmt(o_hstmt3,  SQL_DROP);
                        SQLDisconnect(o_hdbc3);
                        SQLFreeConnect(o_hdbc3);

                        // if build index after load...
                        if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
                                BuildIndex("idxodlcl");
		}
}

//=========================================
============================
//
// Function   : GetPermutation
//
//=========================================
============================
void GetPermutation(int perm[], int n)
{
		int i, r, t;

		for (i=1;i<=n;i++)
                        perm[i] = i;

		for (i=1;i<=n;i++)
		{
                        r = RandomNumber(i,n);
                        t = perm[i];
                        perm[i] = perm[r];
                        perm[r] = t;
		}
}

//=========================================
============================
//
// Function   : CheckForCommit
//
//=========================================
============================
void CheckForCommit(HDBC hdbc,

		HSTMT hstmt,
                                                long
rows_loaded,
                                                char
*table_name,
                                        long  *time_start)
{

   long      time_end, time_diff;

   if ( !(rows_loaded % aptr->batch) )
   {
                        time_end = (TimeNow() / MILLI);
                        time_diff = time_end - *time_start;

                        printf("-> Loaded %ld rows into %s in
%ld sec - Total = %d (%.2f rps)\n",
                                        aptr->batch,
                                        table_name,
                                                time_diff,
                                        rows_loaded,
                                                (float) aptr-
>batch / (time_diff ? time_diff : 1L));

                        *time_start = time_end;
   }

   return;
}

//=========================================
============================
//
// Function   : CheckForCommit_Big
```

```
//
//=========================================
============================
void CheckForCommit_Big(HDBC hdbc,

        HSTMT hstmt,

        double rows_loaded,
                                                char
*table_name,
                                        long  *time_start)
{

   long      time_end, time_diff;

   if ( !(fmod(rows_loaded,aptr->batch) ) )
   {
                time_end = (TimeNow() / MILLI);
                time_diff = time_end - *time_start;


                printf("-> Loaded %ld rows into %s in
%ld sec - Total = %.0f (%.2f rps)\n",
                        aptr->batch,
                        table_name,
                                time_diff,
                        rows_loaded,
                                (float) aptr-
>batch / (time_diff ? time_diff : 1L));

                *time_start = time_end;
   }

   return;
}

//=========================================
============================
//
// Function   : OpenConnections
//
//=========================================
============================
void OpenConnections()
{

        RETCODE        rc;

        char
        szDriverString[300];
        char
        szDriverStringOut[1024];
        SQLSMALLINT
        cbDriverStringOut;

        SQLAllocHandle(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv );


        SQLSetEnvAttr(henv,
SQL_ATTR_ODBC_VERSION, (void*)SQL_OV_ODBC3,
0 );


        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&i_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&w_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&c_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&c_hdbc2);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc2);
        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc3);


        SQLSetConnectAttr(i_hdbc1,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(w_hdbc1,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(c_hdbc1,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(c_hdbc2,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc1,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc2,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc3,
SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );


        // Open connections to SQL Server
        // Connection 1
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

          aptr->server,

          aptr->user,

          aptr->password,

          aptr->database );
```

```
        rc = SQLSetConnectOption (i_hdbc1,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);

        rc = SQLDriverConnect ( i_hdbc1,

NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(i_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 2
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (w_hdbc1,
SQL_PACKET_SIZE, aptr->pack_size);

        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        rc = SQLDriverConnect ( w_hdbc1,

                NULL,

                (SQLCHAR*)&szDriverString[0] ,

                SQL_NTS,

                (SQLCHAR*)&szDriverStringOut[0],

                sizeof(szDriverStringOut),

                &cbDriverStringOut,

                SQL_DRIVER_NOPROMPT );

        if ( (rc != SUCCEED) &&
                (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(w_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 3
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (c_hdbc1,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);

        rc = SQLDriverConnect ( c_hdbc1,

                NULL,

                (SQLCHAR*)&szDriverString[0] ,

                SQL_NTS,

                (SQLCHAR*)&szDriverStringOut[0],

                sizeof(szDriverStringOut),

                &cbDriverStringOut,

                SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(c_hdbc1);
```

```
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 4
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (c_hdbc2,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);

        rc = SQLDriverConnect ( c_hdbc2,

                NULL,

                (SQLCHAR*)&szDriverString[0] ,

                SQL_NTS,

                (SQLCHAR*)&szDriverStringOut[0],

                sizeof(szDriverStringOut),

                &cbDriverStringOut,

                SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                 (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(c_hdbc2);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 5
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (o_hdbc1,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

        rc = SQLDriverConnect ( o_hdbc1,

                NULL,

                (SQLCHAR*)&szDriverString[0] ,

                SQL_NTS,

                (SQLCHAR*)&szDriverStringOut[0],

                sizeof(szDriverStringOut),

                &cbDriverStringOut,

                SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                 (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(o_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 6
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (o_hdbc2,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        rc = SQLDriverConnect ( o_hdbc2,

                NULL,

                (SQLCHAR*)&szDriverString[0] ,
```

```
                        SQL_NTS,

                        (SQLCHAR*)&szDriverStringOut[0],

                        sizeof(szDriverStringOut),

                        &cbDriverStringOut,

                        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                        (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                        HandleErrorDBC(o_hdbc2);
                        printf("TPC-C Loader aborted!\n");
                        exit(9);
        }

        // Connection 7
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
" ,

         aptr->server,

         aptr->user,

         aptr->password,

         aptr->database );

        rc = SQLSetConnectOption (o_hdbc3,
SQL_PACKET_SIZE, aptr->pack_size);
        if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc3);

        rc = SQLDriverConnect ( o_hdbc3,

                        NULL,

                        (SQLCHAR*)&szDriverString[0] ,

                        SQL_NTS,

                        (SQLCHAR*)&szDriverStringOut[0],

                        sizeof(szDriverStringOut),

                        &cbDriverStringOut,

                        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                        (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
                        HandleErrorDBC(o_hdbc3);
                        printf("TPC-C Loader aborted!\n");
                        exit(9);
        }
}

//=========================================
============================
//
// Function name: BuildIndex
//
//=========================================
============================
void BuildIndex(char  *index_script)
{
        char        cmd[256];

        printf("Starting index creation:
%s\n",index_script);

        sprintf(cmd, "osql -S%s -U%s -P%s -e -
i%s\\%s.sql > %s%s.log",
                                        aptr->server,
                                        aptr->user,
                                        aptr->password,
                                        aptr-
>index_script_path,
                                        index_script,
                                        aptr->log_path,
                                        index_script);

        system(cmd);

        printf("Finished index creation:
%s\n",index_script);
}

//=========================================
============================
//
// Function name: HandleErrorDBC
//
//=========================================
============================
void HandleErrorDBC (SQLHDBC  hdbc1)
{

        SQLCHAR                 SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
        SQLLEN          NativeError;
        SQLSMALLINT i, MsgLen;
        SQLRETURN   rc2;
        char                    timebuf[128];
```

```
        char            datebuf[128];
        char            err_log_path[256];
        FILE            *fp1;

        i = 1;
        while (( rc2 =
SQLGetDiagRec(SQL_HANDLE_DBC , hdbc1, i, SqlState ,
&NativeError,
                                        Msg,
sizeof(Msg) , &MsgLen )) != SQL_NO_DATA )
        {
                sprintf( szLastError , "%s" ,  Msg );

                _strtime(timebuf);
                _strdate(datebuf);

                printf( "[%s : %s] %s\n==>SQLState:
%s\n" , datebuf, timebuf, szLastError, SqlState);

                strcpy(err_log_path,aptr->log_path);
                strcat(err_log_path,"tpccldr.err");
                fp1 = fopen(err_log_path,"a+");
                if (fp1 == NULL)
                        printf("ERROR:  Unable to
open errorlog file.\n");
                else
                {
                        fprintf(fp1, "[%s : %s]
%s\nSQLState: %s\n" , datebuf, timebuf, szLastError,
SqlState);
                        fclose(fp1);
                }

                i++;
        }
}

//=========================================
============================
//
// Function   : HandleErrorSTMT
//
//=========================================
============================
void HandleErrorSTMT (HSTMT  hstmt1)
{
        SQLCHAR             SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
        SQLLEN              NativeError;
        SQLSMALLINT i, MsgLen;
        SQLRETURN   rc2;
        char            timebuf[128];
        char            datebuf[128];
        char            err_log_path[256];
        FILE            *fp1;

        i = 1;
        while (( rc2 =
SQLGetDiagRec(SQL_HANDLE_STMT , hstmt1, i,
SqlState , &NativeError,
                                        Msg,
sizeof(Msg) , &MsgLen )) != SQL_NO_DATA )
        {
                if (total_db_errors >=
MAX_SQL_ERRORS)
                {
                        printf(">>>>> Maximum
SQL errors of %d exceeded.  Terminating
TPCCLDR.<<<<<\n",total_db_errors);
                        exit(9);
                }
                total_db_errors++;

                sprintf( szLastError , "%s" ,  Msg );

                _strtime(timebuf);
                _strdate(datebuf);

                printf( "[%s : %s] %s\nSQLState:
%s\n" , datebuf, timebuf, szLastError, SqlState);

                strcpy(err_log_path,aptr->log_path);
                strcat(err_log_path,"tpccldr.err");
                fp1 = fopen(err_log_path,"a+");
                if (fp1 == NULL)
                        printf("ERROR:  Unable to
open errorlog file.\n");
                else
                {
                        fprintf(fp1, "[%s : %s]
%s\nSQLState: %s\n" , datebuf, timebuf, szLastError,
SqlState);
                        fclose(fp1);
                }

                i++;
        }
}

//=========================================
============================
//
// Function   : FormatDate
//
//=========================================
============================
void FormatDate ( char* szTimeCOutput )
```

```
{
        struct tm when;
        time_t now;

        time( &now );
        when  = *localtime( &now );

        mktime( &when );

        // odbc datetime format
        strftime( szTimeCOutput , 30 , "%Y-%m-%d
%H:%M:%S.000", &when );

        return;
}
```

## random.c

```
//          File:                   RANDOM.C
//                                              Microsoft TPC-
C Kit Ver. 4.62
//                                              Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2005
//          Purpose:    Random number generation routines
for database loader



// Includes
#include "tpcc.h"
#include "math.h"

// Defines
#define A           16807
#define M       2147483647
#define Q           127773      /* M div A */
#define R            2836      /* M mod A */
#define Thread          __declspec(thread)

// Globals
long        Thread Seed = 0;       /* thread local seed */

/************************************************
*******************************
*                                                 *
* random -                                            *
*       Implements a GOOD pseudo random number generator.
This generator     *
*       will/should? run the complete period before repeating.
*
*                                                 *
* Copied from:                                        *
*       Random Numbers Generators: Good Ones Are Hard to
Find.              *
*       Communications of the ACM - October 1988 Volume
31 Number 10         *
*                                                 *
* Machine Dependencies:                               *
*       long must be 2 ^ 31 - 1 or greater.
*
*                                                 *
************************************************
*******************************/


/************************************************
*******************************
* seed - load the Seed value used in irand and drand.  Should
be used before  *
*       first call to irand or drand.                 *
************************************************
*******************************/


void seed(long val)
{

#ifdef DEBUG
    printf("[%ld]DBG: Entering seed()...\n", (int)
GetCurrentThreadId());
            printf("Old Seed %ld New Seed %ld\n",Seed, val);
#endif

    if ( val < 0 )
                val = abs(val);

    Seed = val;

}



/************************************************
*******************************
*                                                 *
* irand - returns a 32 bit integer pseudo random number with
a period of     *
*       1 to 2 ^ 32 - 1.                          *
*                                                 *
* parameters:                                         *
*       none.                                     *
*                                                 *
* returns:                                            *
*       32 bit integer - defined as long ( see above ).
*
*                                                 *
* side effects:                                       *
*       seed get recomputed.                          *
```

```
**********************************************
**************************/

long irand()
{
   register long    s;     /* copy of seed */
   register long    test;  /* test flag */
   register long    hi;    /* tmp value for speed */
   register long    lo;    /* tmp value for speed */

#ifdef DEBUG
   printf("[%ld]DBG: Entering irand()...\n", (int)
GetCurrentThreadId());
#endif

   s = Seed;
   hi = s / Q;
   lo = s % Q;

   test = A * lo - R * hi;
   if ( test > 0 )
                        Seed = test;
   else
                        Seed = test + M;

   return( Seed );
}



/**********************************************
******************************
*                                                *
* drand - returns a double pseudo random number between
0.0 and 1.0.        *
*       See irand.                                *
**********************************************
**************************/
double drand()
{

#ifdef DEBUG
   printf("[%ld]DBG: Entering drand()...\n", (int)
GetCurrentThreadId());
#endif

   return( (double)irand() / 2147483647.0);
}



//=======================================
============================
// Function   : RandomNumber
//
// Description:
//=======================================
============================
long RandomNumber(long lower, long upper)
{
   long rand_num;

#ifdef DEBUG
   printf("[%ld]DBG: Entering RandomNumber()...\n", (int)
GetCurrentThreadId());
#endif

            if ( upper == lower )   /* pgd 08-13-96 perf
enhancement */
                        return lower;


            upper++;


   if ( upper <= lower )
                        rand_num = upper;
   else
                        rand_num = lower + irand() % (upper -
lower); /* pgd 08-13-96 perf enhancement */



#ifdef DEBUG
   printf("[%ld]DBG: RandomNumber between %ld & %ld
==> %ld\n",
                                                (int)
GetCurrentThreadId(), lower, upper, rand_num);
#endif



   return rand_num;
}



#if 0

//Orginal code pgd 08/13/96

long RandomNumber(long lower,
                                                long upper)
{
   long rand_num;

#ifdef DEBUG
   printf("[%ld]DBG: Entering RandomNumber()...\n", (int)
GetCurrentThreadId());
#endif
```

```
        upper++;

    if ((upper <= lower))
                rand_num = upper;
    else
                rand_num = lower + irand() % ((upper
> lower) ? upper - lower : upper);



#ifdef DEBUG
    printf("[%ld]DBG: RandomNumber between %ld & %ld
==> %ld\n",
                                        (int)
GetCurrentThreadId(), lower, upper, rand_num);
#endif



    return rand_num;
}
#endif

//=========================================
============================
// Function   : NURand
//
// Description:
//=========================================
============================
long NURand(int iConst,
            long x,
            long y,
            long C)
{
    long rand_num;

#ifdef DEBUG
    printf("[%ld]DBG: Entering NURand()...\n", (int)
GetCurrentThreadId());
#endif

    rand_num = (((RandomNumber(0,iConst) |
RandomNumber(x,y)) + C) % (y-x+1))+x;

#ifdef DEBUG
    printf("[%ld]DBG: NURand: num = %d\n", (int)
GetCurrentThreadId(), rand_num);
#endif

    return rand_num;
}
```

## runsqlcfg.vbs

```
'--------------------------------------------------------------------
--------------
'---  FILE:      RESTORE.VBS
'---             Microsoft TPC-C Kit Ver. 4.68
'---             Copyright Microsoft, 2001, 2002, 2006
'---             All Rights Reserved
'---
'---  PURPOSE:    This module executes a database restore
'---
'--------------------------------------------------------------------
--------------
'------------------------------------------------
'--- set the kit verison variable for later display
'------------------------------------------------
Kit_Version = "  4.68"
'----------------------------------------
'--- open an windows scripting object
'----------------------------------------
set WshShell = CreateObject("WScript.Shell")
'------------------------------------------------
'--- set up windows scripting argument collection
'------------------------------------------------
Set objArgs = wScript.Arguments
'----------------------------------------
'--- display a banner message
'----------------------------------------
wScript.Echo
"**************************************************
*****************************"
wScript.Echo "*
*"
wScript.Echo "*  Microsoft TPC-C Benchmark Kit Ver." &
Kit_Version & "                          *"
wScript.Echo "*
*"
wScript.Echo "*  Configure SQL Server
*"
wScript.Echo "*
*"
wScript.Echo
"**************************************************
*****************************"
'------------------------------------------------
'--- define function to check for any error messages
'------------------------------------------------
Function CheckSQLOutput(SQL_Out)
            ErrorFlag = 0
            Set SQL_fso =
CreateObject("Scripting.FileSystemObject")
            Set SQL_Out_File =
SQL_fso.OpenTextFile(SQL_Out,1)
```

```
        Do While SQL_Out_File.AtEndOfStream <>
True
                SQL_Line = SQL_Out_File.ReadLine
                'first check to see if the output contains
a message about the login password
                If InStr(SQL_Line, "Login failed")
Then
                        'display the messages and
get out of here
                        ErrorFlag = 1
                        Wscript.Echo "The login
for userid 'sa' failed."
                        Wscript.Echo "Please
restart SETUP with the correct password."
                End If
   Loop
        SQL_Out_File.Close
        CheckSQLOutput = ErrorFlag
End Function
'-----------------------------------------------------
'--- end function
'-----------------------------------------------------
'-----------------------------------------------------
'--- open a file system object
'-----------------------------------------------------
Set fs = CreateObject("Scripting.FileSystemObject")
'-----------------------------------------------------
'--- grab the current directory value
'-----------------------------------------------------
SetupDirectory = WshShell.CurrentDirectory & "\"
'-----------------------------------------------------
'--- now calculate the other directories
'-----------------------------------------------------
ScriptDirectory = SetupDirectory & "SCRIPTS\"
LogDirectory = SetupDirectory & "LOGS\"
'-----------------------------------------------------------------
'--- check to see if the user passed in the server name and sa
password
'-----------------------------------------------------------------
Select Case objArgs.Length
        Case 0
                '---------------------------------------
                '--- the user did not pass us anything
                '--- grab the Computer Name from
Windows
                '---------------------------------------
                ServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
                '-----------------------------------------------
                '--- prompt the user to confirm the
server name
                '-----------------------------------------------
                ServerName = InputBox("Enter your
server name",Test_Name,ServerName)
                Do While ServerName = ""
                        rc = MsgBox ("You must
enter a valid server name.",21)
                        If rc = 2 Then
                                wScript.Echo ""
                                wScript.Echo
"TPC-C Setup cancelled by user."
                                wScript.Quit
                        End If
                        ServerName =
WshShell.ExpandEnvironmentStrings("%COMPUTERNAM
E%")
                        ServerName =
InputBox("Enter your server name","Database Server
Name",ServerName)
                Loop
                '---------------------------------------
                '--- prompt the user for the sa password
                '---------------------------------------
                saPassword = InputBox("Enter the 'sa'
password",Test_Name)
        Case 1
                '-----------------------------------------------
------------------
                '--- the user passed 1 argument, so
assume it is the server name
                '-----------------------------------------------
------------------
                ServerName = objArgs(0)
                '---------------------------------------
                '--- prompt the user for the sa password
                '---------------------------------------
                saPassword = InputBox("Enter the 'sa'
password",Test_Name)
        Case 2
                '-----------------------------------------------
-----
                '--- the user passed 2 arguments, so try
to use them
                '-----------------------------------------------
-----
                ServerName = objArgs(0)
                saPassword = objArgs(1)
End Select
'-----------------------------------------------------------------
'--- now that we have all the variables filled in, let's get to
work
'-----------------------------------------------------------------
If fs.FileExists(LogDirectory & "runsqlcfg.log") Then
        fs.DeleteFile LogDirectory & "runsqlcfg.log"
End If
'-------------------------------------------------
'--- configure SQL Server
```

```
'---------------------------------------------------
wScript.Echo " "
wScript.Echo "Configuring Microsoft SQL Server
installation..."
Set oExec = WshShell.Exec("osql -Usa -P" & saPassword &
" -S" & ServerName & " -e -i" & ScriptDirectory &
"utility\runsqlcfg.sql -o" & LogDirectory & "runsqlcfg.log")
Do While oExec.Status = 0
    WScript.Sleep 100
Loop
rc = CheckSQLOutput(LogDirectory & "runsqlcfg.log")
If rc <> 0 Then
        Wscript.Quit
End If
wScript.Echo " "
wScript.Echo "SQL Server Configuration Complete."
'---------------------------------------------------
'--- shutdown SQL Server
'---------------------------------------------------
wScript.Echo " "
wScript.Echo "Shutting down SQL Server..."
Set oExec = WshShell.Exec("osql -Usa -P" & saPassword &
" -S" & ServerName & " -e -i" & ScriptDirectory &
"utility\sqlshutdown.sql")
wScript.Echo " "
wScript.Echo "Waiting for SQL Server to shutdown..."
Set oExec = WshShell.Exec("..\tools\sleep\sleep.exe 20")
Do While oExec.Status = 0
    WScript.Sleep 100
Loop
'---------------------------------------------------
'--- Restarting SQL Server
'---------------------------------------------------
wScript.Echo " "
wScript.Echo "Restarting SQL Server..."
wScript.Echo " "
CMD_String = "start sqlservr.exe -c -t3502"
oExec = WshShell.Run(CMD_String, 2, false)
wScript.Echo ""
wScript.Echo
"**************************************************
******************************"
wScript.Echo "*
*"
wScript.Echo "*  Microsoft TPC-C Benchmark Kit Ver." &
Kit_Version & "                    *"
wScript.Echo "*
*"
wScript.Echo "*  SQL Server configuration complete.
*"
wScript.Echo "*
*"
wScript.Echo
"**************************************************
******************************"
```

## strings.c

```
// File: STRINGS.C
//                                          Microsoft TPC-
C Kit Ver. 4.51
//                                          Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
// Purpose: Source file for database loader string
functions



// Includes
#include "tpcc.h"
#include <string.h>
#include <ctype.h>

//=========================================
============================
//
// Function name: MakeAddress
//
//=========================================
============================

void MakeAddress(char *street_1,
                                          char *street_2,
                                          char *city,
                                          char *state,
                                          char *zip)
{

#ifdef DEBUG
   printf("[%ld]DBG: Entering MakeAddress()\n", (int)
GetCurrentThreadId());
#endif

   MakeAlphaString (10, 20, ADDRESS_LEN, street_1);
   MakeAlphaString (10, 20, ADDRESS_LEN, street_2);
   MakeAlphaString (10, 20, ADDRESS_LEN, city);
   MakeAlphaString ( 2,  2, STATE_LEN, state);
   MakeZipNumberString( 9,  9, ZIP_LEN, zip);

#ifdef DEBUG
   printf("[%ld]DBG: MakeAddress: street_1: %s, street_2:
%s, city: %s, state: %s, zip: %s\n",
                                    (int) GetCurrentThreadId(),
street_1, street_2, city, state, zip);
#endif
```

```
   return;

}


//=========================================
============================
//
// Function name: LastName
//
//=========================================
============================

void LastName(int  num,
                        char *name)
{
   static char *n[] =
   {
                "BAR" , "OUGHT", "ABLE" , "PRI"  ,
"PRES",
                "ESE" , "ANTI" , "CALLY",
"ATION", "EING"
   };

#ifdef DEBUG
   printf("[%ld]DBG: Entering LastName()\n", (int)
GetCurrentThreadId());
#endif

   if ((num >= 0) && (num < 1000))
   {
                strcpy(name, n[(num/100)%10]);
                strcat(name, n[(num/10)%10]);
                strcat(name, n[(num/1)%10]);

               if (strlen(name) < LAST_NAME_LEN)
                {

        PaddString(LAST_NAME_LEN, name);
                }

   }
   else
   {
                printf("\nError in LastName()... num
<%ld> out of range (0,999)\n", num);
                exit(-1);
   }


#ifdef DEBUG
   printf("[%ld]DBG: LastName: num = [%d] ==>
[%d][%d][%d]\n",
                                (int) GetCurrentThreadId(),
num, num/100, (num/10)%10, num%10);
        printf("[%ld]DBG: LastName: String = %s\n",
(int) GetCurrentThreadId(), name);
#endif


   return;

}



//=========================================
============================
//
// Function name: MakeAlphaString
//
//=========================================
============================


//philipdu 08/13/96 Changed MakeAlphaString to use A-Z, a-
z, and 0-9 in
//accordance with spec see below:
//The spec says:
//4.3.2.2     The notation random a-string [x .. y]
//(respectively, n-string [x .. y]) represents a string of random
alphanumeric
//(respectively, numeric) characters of a random length of
minimum x, maximum y,
//and mean (y+x)/2. Alphanumerics are A..Z, a..z, and 0..9.
The only other
//requirement is that the character set used "must be able to
represent a minimum
//of 128 different characters".  We are using 8-bit chars, so
this is a non issue.
//It is completely unreasonable to stuff non-printing chars
into the text fields.
//-CLevine 08/13/96


int MakeAlphaString( int  x, int  y, int  z, char *str)
{
        int             len;
        int             i;
   char    cc = 'a';
        static  char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcd
efghijklmnopqrstuvwxyz";
        static  int     chArrayMax = 61;


#ifdef DEBUG
   printf("[%ld]DBG: Entering MakeAlphaString()\n", (int)
GetCurrentThreadId());
#endif


        len= RandomNumber(x, y);
```

```
        for (i=0; i<len; i++)
                str[i] =
chArray[RandomNumber(0,chArrayMax)];
        str[len] = 0;


   return len;
}


int MakeAlphaStringPadded( int  minLen, int  maxLen, int
padLen, char *str)
{
        int             len;
        int             i;
   char    cc = 'a';
        static  char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcd
efghijklmnopqrstuvwxyz";
        static  int     chArrayMax = 61;


#ifdef DEBUG
   printf("[%ld]DBG: Entering MakeAlphaStringPadded()\n",
(int) GetCurrentThreadId());
#endif


        len= RandomNumber(minLen, maxLen);


        for (i=0; i<len; i++)
                str[i] =
chArray[RandomNumber(0,chArrayMax)];
        if (len < padLen)
                memset(str+len, ' ', padLen - len);
        str[padLen] = 0;
   return padLen;
}




//=========================================
============================
//
// Function name: MakeOriginalAlphaString
//
//=========================================
============================


int MakeOriginalAlphaString(int  x,

        int  y,

                int  z,

        char *str,

        int  percent)
{
   int             len;
   int             val;
   int             start;


#ifdef DEBUG
   printf("[%ld]DBG: Entering
MakeOriginalAlphaString()\n", (int) GetCurrentThreadId());
#endif


   // verify prercentage is valid
   if ((percent < 0) || (percent > 100))
   {
                printf("MakeOrigianlAlphaString:
Invalid percentage: %d\n", percent);
                exit(-1);
   }


   // verify string is at least 8 chars in length
   if (x < 8)
   {
                printf("MakeOriginalAlphaString:
string length must be >= 8\n");
                exit(-1);
   }


   // Make Alpha String
   len = MakeAlphaString(x,y, z, str);


   val = RandomNumber(1,100);
   if (val <= percent)
   {
                start = RandomNumber(0, len - 8);
                strncpy(str + start, "ORIGINAL", 8);
   }



#ifdef DEBUG
   printf("[%ld]DBG: MakeOriginalAlphaString: : %s\n",
                        (int) GetCurrentThreadId(),
str);
#endif


   return len;
}



//=========================================
============================
//
```

```
// Function name: MakeNumberString
//
//=========================================
============================
int MakeNumberString(int  x, int  y, int  z, char *str)
{
        char tmp[16];

        //MakeNumberString is always called
MakeZipNumberString(16, 16, 16, string)

        memset(str, '0', 16);
        itoa(RandomNumber(0, 99999999), tmp, 10);
        memcpy(str, tmp, strlen(tmp));

        itoa(RandomNumber(0, 99999999), tmp, 10);
        memcpy(str+8, tmp, strlen(tmp));

        str[16] = 0;

   return 16;
}



//=========================================
============================
//
// Function name: MakeZipNumberString
//
//=========================================
============================
int MakeZipNumberString(int  x, int  y, int  z, char *str)
{
        char tmp[16];

        //MakeZipNumberString is always called
MakeZipNumberString(9, 9, 9, string)

        strcpy(str, "000011111");

        itoa(RandomNumber(0, 9999), tmp, 10);
        memcpy(str, tmp, strlen(tmp));

   return 9;
}



//=========================================
============================
//
// Function name: InitString
//
//=========================================
============================
void InitString(char *str, int len)
{
#ifdef DEBUG
   printf("[%ld]DBG: Entering InitString()\n", (int)
GetCurrentThreadId());
#endif

        memset(str, ' ', len);
   str[len] = 0;
}



//=========================================
============================
// Function name: InitAddress
//
// Description:
//
//=========================================
============================

void InitAddress(char *street_1, char *street_2, char *city,
char *state, char *zip)
{
        memset(street_1, ' ', ADDRESS_LEN+1);
        memset(street_2, ' ', ADDRESS_LEN+1);
        memset(city, ' ', ADDRESS_LEN+1);

   street_1[ADDRESS_LEN+1] = 0;
   street_2[ADDRESS_LEN+1] = 0;
   city[ADDRESS_LEN+1]     = 0;

        memset(state, ' ', STATE_LEN+1);
   state[STATE_LEN+1] = 0;

        memset(zip, ' ', ZIP_LEN+1);
   zip[ZIP_LEN+1] = 0;
}



//=========================================
============================
//
// Function name: PaddString
//
//=========================================
============================

void PaddString(int max, char *name)
{
```

```
        int                     len;

        len = strlen(name);
        if ( len < max )
                memset(name+len, ' ', max - len);
        name[max] = 0;

        return;
}
```

## tpcc.h

```
//      File:           TPCC.H
//                                      Microsoft TPC-C Kit Ver. 4.51
//                                      Copyright Microsoft, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005
//      Purpose:    Header file for TPC-C database loader


// Build number of TPC Benchmark Kit
#define TPCKIT_VER          "4.51"

// General headers
#include <windows.h>
#include <winbase.h>
#include <stdlib.h>
#include <stdio.h>
#include <process.h>
#include <stddef.h>
#include <stdarg.h>
#include <string.h>
#include <time.h>
#include <sys\timeb.h>
#include <sys\types.h>
#include <math.h>

// ODBC headers
#include <sql.h>
#include <sqlext.h>
#include <odbcss.h>

// General constants
#define MILLI                   1000
#define FALSE                                   0
#define TRUE                            1
#define UNDEF
        -1
#define MINPRINTASCII                           32
#define MAXPRINTASCII                           126

// Default environment constants
#define SERVER                                  ""
#define DATABASE
        "tpcc"
#define USER                            "sa"
#define PASSWORD                        ""

// Default loader arguments
#define BATCH
                10000
#define DEFLDPACKSIZE
        32768
#define LOADER_RES_FILE
        "C:\\MSTPCC.450\\SETUP\\LOGS\\load.out"
#define LOADER_LOG_PATH
        "C:\\MSTPCC.450\\SETUP\\LOGS\\"
#define LOADER_NURAND_C
        123
#define DEF_STARTING_WAREHOUSE          1
#define BUILD_INDEX
                1       // build both data and indexes
#define INDEX_ORDER
                1       // build indexes before load
#define SCALE_DOWN
                0   // build a normal scale database
#define INDEX_SCRIPT_PATH
        "scripts"


typedef struct
{
   char                                 *server;
   char                                 *database;
   char                                 *user;
   char                                 *password;
        BOOL
        tables_all;                     // set if loading all tables
        BOOL
        table_item;                     // set if loading ITEM table specifically
        BOOL
        table_warehouse;        // set if loading WAREHOUSE, DISTRICT, and STOCK
        BOOL
        table_customer;                 // set if loading CUSTOMER and HISTORY
        BOOL
        table_orders;                   // set if loading NEW-ORDER, ORDERS, ORDER-LINE
   long
        num_warehouses;
   long                                 batch;
   long                                 verbose;
```

```
        long
        pack_size;
        char
        *loader_res_file;
        char
        *log_path;
        char
        *synch_servername;
        long
        case_sensitivity;
        long
        starting_warehouse;
        long
        build_index;
        long
        index_order;
        long
        scale_down;
        char
        *index_script_path;
} TPCCLDR_ARGS;

// String length constants
        #define SERVER_NAME_LEN         20
        #define DATABASE_NAME_LEN       20
        #define USER_NAME_LEN           20
        #define PASSWORD_LEN            20
        #define TABLE_NAME_LEN          20
        #define I_DATA_LEN              50
        #define I_NAME_LEN              24
        #define BRAND_LEN               1
        #define LAST_NAME_LEN           16
        #define W_NAME_LEN              10
        #define ADDRESS_LEN             20
        #define STATE_LEN               2
        #define ZIP_LEN                 9
        #define S_DIST_LEN              24
        #define S_DATA_LEN              50
        #define D_NAME_LEN              10
        #define FIRST_NAME_LEN          16
        #define MIDDLE_NAME_LEN         2
        #define PHONE_LEN               16
        #define CREDIT_LEN              2
        #define C_DATA_LEN              500
        #define H_DATA_LEN              24
        #define DIST_INFO_LEN           24
        #define MAX_OL_NEW_ORDER_ITEMS  15
        #define MAX_OL_ORDER_STATUS_ITEMS
15
        #define STATUS_LEN              25
        #define OL_DIST_INFO_LEN                24

        #define C_SINCE_LEN
                23
        #define H_DATE_LEN
                23
        #define OL_DELIVERY_D_LEN
          23
        #define O_ENTRY_D_LEN           23


// Functions in random.c
void    seed();
long    irand();
double  drand();
void    WUCreate();
short   WURand();
long    RandomNumber(long lower, long upper);

// Functions in getargs.c;
void    GetArgsLoader();
void    GetArgsLoaderUsage();

// Functions in time.c
long    TimeNow();

// Functions in strings.c
void    MakeAddress();
void    LastName();
int     MakeAlphaString();
int             MakeAlphaStringPadded();
int     MakeOriginalAlphaString();
int     MakeNumberString();
int     MakeZipNumberString();
void    InitString();
void    InitAddress();
void    PaddString();
```

# Appendix C: Tunable Parameters

## Microsoft SQL Server 2005 Configuration Parameters

```
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> ----------
------------------------------------------------------------
--                                                        --
-- File:   VERSION.SQL                                    --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68
--
--        Copyright Microsoft, 2006                       --
--                                                        --
--        - Extracts current version of SQL Server
--
--                                                        --
------------------------------------------------------------------------
----

USE master
1> 2> 3> 4> 5>
SELECT  CONVERT(char(20),
SERVERPROPERTY('ProductVersion')),
       CONVERT(char(20),
SERVERPROPERTY('ProductLevel')),
       CONVERT(char(29), SERVERPROPERTY('Edition'))

 -------------------- -------------------- ----------------------------
 9.00.2047.00         SP1                  Enterprise Edition (64-bit)

(1 row affected)
1> 2> 3>
SELECT  CONVERT(char(30), GETDATE(), 21)

 ------------------------------
 2007-02-17 08:34:18.867

(1 row affected)
1>
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> 13> 14>
------------------------------------------------------------------------
----
--                                                        --
-- File:   CONFIG.SQL                                     --
--        Microsoft TPC-C Benchmark Kit Ver. 4.68
--
--        Copyright Microsoft, 2006                       --
--                                                        --
--        - Collects SQL Server configuration parameters
--
--                                                        --
------------------------------------------------------------------------
----

PRINT  ' '
SELECT  CONVERT(char(30), GETDATE(), 21)
PRINT  ' '

 ------------------------------
 2007-02-17 08:34:19.053

(1 row affected)

1> 2> 3> Configuration option 'show advanced options'
changed from 1 to 1. Run the RECONFIGURE statement to
install.

sp_configure 'show advanced',1
1> 2> 3>
RECONFIGURE WITH OVERRIDE
1> 2> 3>
sp_configure
 name                                minimum     maximum
config_value run_value
 ----------------------------------- ----------- ----------- ------------ -
----------
 Ad Hoc Distributed Queries                0           1           0
0
 affinity I/O mask                 -2147483648  2147483647
0           0
 affinity mask                     -2147483648  2147483647
-1          -1
 affinity64 I/O mask               -2147483648  2147483647
0           0
 affinity64 mask                   -2147483648  2147483647
0           0
 Agent XPs                                 0           1           0
0
 allow updates                             0           1           0
0
 awe enabled                               0           1           0
0
 blocked process threshold                 0       86400           0
0
 c2 audit mode                             0           1           0
0
 clr enabled                               0           1           0
0
 cost threshold for parallelism            0       32767           5
5
 cross db ownership chaining               0           1           0
0
 cursor threshold                         -1  2147483647          -1
-1
 Database Mail XPs                         0           1           0
0
 default full-text language                0  2147483647
1033        1033
 default language                          0        9999           0
0
```

```
default trace enabled                   0        1          0
0
disallow results from triggers          0        1          0
0
fill factor (%)                         0      100          0          0
ft crawl bandwidth (max)                0    32767        100
100
ft crawl bandwidth (min)                0    32767          0
0
ft notify bandwidth (max)               0    32767        100
100
ft notify bandwidth (min)               0    32767          0
0
in-doubt xact resolution                0        2          0
0
index create memory (KB)              704  2147483647
704        704
lightweight pooling                     0        1          1
1
locks                                5000  2147483647          0
0
max degree of parallelism               0       64          1
1
max full-text crawl range               0      256          4
4
max server memory (MB)                 16  2147483647
122232     122232
max text repl size (B)                  0  2147483647
65536      65536
max worker threads                    128    32767       1325
1325
media retention                         0      365          0
0
min memory per query (KB)             512  2147483647
1024       1024
min server memory (MB)                  0  2147483647
16         16
nested triggers                         0        1          1          1
network packet size (B)               512    32767
4096       4096
Ole Automation Procedures               0        1          0
0
open objects                            0  2147483647          0
0
PH timeout (s)                          1     3600         60
60
precompute rank                         0        1          0
0
priority boost                          0        1          1          1
query governor cost limit               0  2147483647
0          0
query wait (s)                         -1  2147483647         -1
-1
recovery interval (min)                 0    32767      32767
32767
remote access                           0        1          1          1
remote admin connections                0        1          0
0
remote login timeout (s)                0  2147483647
0          0
remote proc trans                       0        1          0
0
remote query timeout (s)                0  2147483647
0          0
Replication XPs                         0        1          0
0
scan for startup procs                  0        1          0
0
server trigger recursion                0        1          1
1
set working set size                    0        1          0
0
show advanced options                   0        1          1
1
SMO and DMO XPs                         0        1          1
1
SQL Mail XPs                            0        1          0
0
transform noise words                   0        1          0
0
two digit year cutoff                1753     9999       2049
2049
user connections                        0    32767          0
0
user options                            0    32767          0
0
Web Assistant Procedures                0        1          0
0
xp_cmdshell                             0        1          0          0


1>
```

# Microsoft Windows Server 2003 Enterprise x64 Edition

## Changes to the SUT

Changes made to the default installation of Windows Server 2003 x64 SP1 Enterprise Edition on the SUT:

OS Updates:

KB912222 - Microsoft Scalable Networking Pack
KB908675 - DPC Update
KB916048 - STORport Update

OS Services:

The following services were disabled:

Automatic Updates
Computer Browser
Error Reporting Service
Help and Support

Messenger

Print Spooler

Windows Time

Wireless Configuration

Device Drivers:

Drivers were updated/added for the following devices:

Onboard Broadcom Ethernet

Onboard Adaptec SAS

Onboard ATI video

Adaptec SAS log controller

IBM (QLogic) FC controllers

IBM Active PCI (hotplug)

OS Settings:

Display = "Adjust for best performance", 1024x768x16

Display hardware acceleration = full

gpedit.msc - Computer Configuration - Windows Settings - Security Settings - Local Policies - User Rights Assignments - policy 'Lock pages in memory' added group 'Administrators'

Update hosts file as needed for benchmark configuration

Microsoft SQL Server Startup Parameters

sqlservr -c -x -T661 -T834 -T836 -T1228 -T3502 -T8011 -T8012 -T8018 -T8019 -T8020 -T8744

where:

-c Start SQL Server independent of the Service Control Manager

-x Disable the keeping of CPU timeand cache hit ratio statistice

-T661 - Disable the ghost record removal process

-T834 - Use Large Pages

-T836 - Use “Max Server Memory” setting for the buffer pool

-T1228 - Enable lock partitioning

-T3502 - Display checkpoint information in errorlog

-T8011 - Disable ring buffer for resource monitor

-T8012 - Disable ring buffer for schedulers

-T8018 - Disable exception ring buffer

-T8019 - Disable stack collection for exception ring buffers

-T8020 - Disable working set trimming

-T8744 - Disable pre-fetch

Server Registry Parameters:

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanmanserver\parameters]

"autodisconnect"=dword:0000000f

"enableforcedlogoff"=dword:00000001

"enablesecuritysignature"=dword:00000000

"requiresecuritysignature"=dword:00000000

"restrictnullsessaccess"=dword:00000001

"NullSessionPipes"=hex(7):43,00,4f,00,4d,00,4e,00,41,00,50,00,00,00,43,00,4f,\

00,4d,00,4e,00,4f,00,44,00,45,00,00,00,53,00,51,00,4c,00,5c,00,51,00,55,00,\

45,00,52,00,59,00,00,00,53,00,50,00,4f,00,4f,00,4c,00,53,00,53,00,00,00,4e,\

00,45,00,54,00,4c,00,4f,00,47,00,4f,00,4e,00,00,00,4c,00,53,00,41,00,52,00,\

50,00,43,00,00,00,53,00,41,00,4d,00,52,00,00,00,42,00,52,00,4f,00,57,00,53,\

00,45,00,52,00,00,00,00,00

"NullSessionShares"=hex(7):43,00,4f,00,4d,00,43,00,46,00,47,00,00,00,44,00,46,\

00,53,00,24,00,00,00,00,00

"ServiceDll"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\

73,00,72,00,76,00,73,00,76,00,63,00,2e,00,64,00,6c,00,6c,00,00,00

"Lmannounce"=dword:00000000

"Size"=dword:00000003

"AdjustedNullSessionPipes"=dword:00000001

"Guid"=hex:8e,37,f6,64,95,95,d5,40,a7,c8,aa,5a,85,7b,41,de

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS]

"DisplayName"="NDIS System Driver"

"ErrorControl"=dword:00000001

"Group"="NDIS Wrapper"

"Start"=dword:00000000

"Type"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\MediaTypes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\Parameters]

"ProcessorAffinityMask"=dword:0a000a00

"PacketStackSize"=dword:00000004

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\Enum]

"0"="Root\\LEGACY_NDIS\\0000"

"Count"=dword:00000001

"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300]

"ErrorControl"=dword:00000001

"Group"="SCSI miniport"

"Start"=dword:00000000

"Tag"=dword:00000040

"Type"=dword:00000001

"ImagePath"=hex(2):73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,44,00,\

52,00,49,00,56,00,45,00,52,00,53,00,5c,00,71,00,6c,00,32,00,33,00,30,00,30,\

00,2e,00,73,00,79,00,73,00,00,00

"DisplayName"="QLogic Fibre Channel SCSI Miniport Driver (wx64 IP)"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters]

"BusType"=dword:00000006

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\Device]

"CreateInitiatorLU"=dword:00000001

"DriverParameters"="UseSameNN=1;buschange=0"

"BusType"=dword:00000006

"MaximumSGList"=dword:000000ff

"NumberOfRequests"=dword:000000ff

"DriverParameter"=""

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\PnpInterface]

"5"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Enum]

"0"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&1070020&0&08"

"Count"=dword:00000008

"NextInstance"=dword:00000008

"1"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&1070020&0&09"

"2"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&172e68dd&0&08"

"3"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&172e68dd&0&09"

"4"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&300bc0be&0&08"

"5"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&300bc0be&0&09"

"6"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&19e45801&0&08"

"7"="PCI\\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\\3&19e45801&0&09"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qldirect]

"ErrorControl"=dword:00000001

"Type"=dword:00000001

"Start"=dword:00000002

"ImagePath"=hex(2):73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,44,00,\

52,00,49,00,56,00,45,00,52,00,53,00,5c,00,71,00,6c,00,64,00,69,00,72,00,65,\

00,63,00,74,00,2e,00,73,00,79,00,73,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qldirect\Parameters]

"MaxPathsPerDevice"=dword:00000001

"SrbListSize"=dword:00000064

"PerCpuData"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qldirect\Security]

"Security"=hex:01,00,14,80,b8,00,00,00,c4,00,00,00,14,00,00,00,30,00,00,00,02,\

00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,00,01,00,00,\

00,00,02,00,88,00,06,00,00,00,00,00,14,00,fd,01,02,00,01,01,00,00,00,00,00,\

05,12,00,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,00,00,05,20,00,00,00,\

20,02,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,04,00,00,00,00,\

00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,06,00,00,00,00,00,14,00,00,01,\

00,00,01,01,00,00,00,00,00,05,0b,00,00,00,00,00,18,00,fd,01,02,00,01,02,00,\

00,00,00,00,05,20,00,00,00,23,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,\

01,01,00,00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qldirect\Enum]

"0"="Root\\LEGACY_QLDIRECT\\0000"

"Count"=dword:00000002

"NextInstance"=dword:00000002

"1"="Root\\SCSIADAPTER\\0000"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\I/O System]

"CountOperations"=dword:00000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Image File Execution Options\sqlservr.exe]

"UseLargePages"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management]

"ClearPageFileAtShutdown"=dword:00000000

"DisablePagingExecutive"=dword:00000001

"LargeSystemCache"=dword:00000000

"NonPagedPoolQuota"=dword:00000000

"NonPagedPoolSize"=dword:00000000

"PagedPoolQuota"=dword:00000000

"PagedPoolSize"=dword:00000000

"SecondLevelDataCache"=dword:00000000

"SystemPages"=dword:00000000

"PagingFiles"=hex(7):43,00,3a,00,5c,00,70,00,61,00,67,00,65,00,66,00,69,00,6c,\

00,65,00,2e,00,73,00,79,00,73,00,20,00,32,00,30,00,34,00,36,00,20,00,34,00,\

30,00,39,00,32,00,00,00,00,00

"PhysicalAddressExtension"=dword:00000001

"WriteWatch"=dword:00000001

"DontVerifyRandomDrivers"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management\PrefetchParameters]

"VideoInitTime"=dword:0000a20c

"EnablePrefetcher"=dword:00000002

"AppLaunchMaxNumPages"=dword:00000fa0

"AppLaunchMaxNumSections"=dword:000000aa

"AppLaunchTimerPeriod"=hex:80,69,67,ff,ff,ff,ff,ff

"BootMaxNumPages"=dword:0001f400

"BootMaxNumSections"=dword:00000ff0

"BootTimerPeriod"=hex:00,f2,d8,f8,ff,ff,ff,ff

"MaxNumActiveTraces"=dword:00000008

"MaxNumSavedTraces"=dword:00000008

"RootDirPath"="Prefetch"

"HostingAppList"="DLLHOST.EXE,MMC.EXE,RUNDLL32.EXE"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration]

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node0]

"CPUMask"=dword:0000000c

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node1]

"CPUMask"=dword:00000003

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node10]

"CPUMask"=dword:00300000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node11]

"CPUMask"=dword:00c00000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node12]

"CPUMask"=dword:30000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node13]

"CPUMask"=dword:0c000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node14]

"CPUMask"=dword:03000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node15]

"CPUMask"=dword:c0000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node2]

"CPUMask"=dword:00000030

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node3]

"CPUMask"=dword:000000c0

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node4]

"CPUMask"=dword:00000300

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node5]

"CPUMask"=dword:00000c00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node6]

"CPUMask"=dword:00003000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node7]

"CPUMask"=dword:0000c000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node8]

"CPUMask"=dword:00030000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node9]

"CPUMask"=dword:000c0000

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp]

"Enabled"=dword:00000001

"ListenOnAllIPs"=dword:00000001

"NoDelay"=dword:00000000

"KeepAlive"=dword:00007530

"DisplayName"="TCP/IP"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP1]

"Enabled"=dword:00000001

"Active"=dword:00000001

"TcpPort"="1434[0x1]"

"TcpDynamicPorts"=""

"DisplayName"="Specific IP Address"

"IpAddress"="10.0.0.1"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP2]

"Enabled"=dword:00000001

"Active"=dword:00000001

"TcpPort"="1436[0x2]"

"TcpDynamicPorts"=""

"DisplayName"="Specific IP Address"

"IpAddress"="10.0.1.1"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP3]

"Enabled"=dword:00000001

"Active"=dword:00000001

"TcpPort"="1433"

"TcpDynamicPorts"=""

"DisplayName"="Specific IP Address"

"IpAddress"="127.0.0.1"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IPAll]

"TcpPort"="1433,1434[0x1],1436[0x4],1438[0x10],1440[0x40],1442[0x100],1444[0x400],1446[0x4000],1448[0x1000],1450[0x2], 1451[0x8], 1452[0x20], 1453[0x80],1454[0x200], 1455[0x800], 1456[0x2000], 1457[0x8000]"

"TcpDynamicPorts"=""

"DisplayName"="Any IP Address"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]

"NV Hostname"="ibmserv4"

"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\

00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\

64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,00,00

"NameServer"=""

"ForwardBroadcasts"=dword:00000000

"IPEnableRouter"=dword:00000000

"Domain"=""

"Hostname"="ibmserv4"

"SearchList"=""

"UseDomainNameDevolution"=dword:00000001

"EnableICMPRedirect"=dword:00000001

"DeadGWDetectDefault"=dword:00000001

"DontAddDefaultGatewayDefault"=dword:00000000

"EnableSecurityFilters"=dword:00000000

"ReservedPorts"=hex(7):31,00,34,00,33,00,33,00,2d,00,31,00,34,00,33,00,34,00,\

00,00,33,00,33,00,34,00,33,00,2d,00,33,00,33,00,34,00,33,00,00,00,00,00

"EnableTCPA"=dword:00000001

"EnableRSS"=dword:00000001

"EnableTCPChimney"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\NdisWanIp]

"LLInterface"="WANARP"

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,00,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,33,00,37,00,34,00,33,00,44,00,41,00,\

42,00,41,00,2d,00,33,00,42,00,45,00,36,00,2d,00,34,00,46,00,33,00,30,00,2d,\

00,39,00,45,00,38,00,34,00,2d,00,35,00,31,00,44,00,45,00,36
,00,38,00,31,00,\

32,00,44,00,45,00,43,00,39,00,7d,00,00,00,54,00,63,00,70,00
,69,00,70,00,5c,\

00,50,00,61,00,72,00,61,00,6d,00,65,00,74,00,65,00,72,00,73
,00,5c,00,49,00,\

6e,00,74,00,65,00,72,00,66,00,61,00,63,00,65,00,73,00,5c,00
,7b,00,42,00,34,\

00,32,00,42,00,33,00,44,00,30,00,45,00,2d,00,32,00,38,00,33
,00,45,00,2d,00,\

34,00,42,00,31,00,46,00,2d,00,39,00,43,00,42,00,43,00,2d,00
,38,00,43,00,44,\

00,32,00,39,00,34,00,41,00,33,00,33,00,35,00,35,00,38,00,7d
,00,00,00,00,00

"NumInterfaces"=dword:00000002

"IpInterfaces"=hex:ba,da,43,37,e6,3b,30,4f,9e,84,51,de,68,12
,de,c9,0e,3d,2b,b4,\

3e,28,1f,4b,9c,bc,8c,d2,94,a3,35,58

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{127F81F3-1075-42D3-
A465-12CA138720BE}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,31,00,32,00,37,00,46
,00,38,00,31,00,\

46,00,33,00,2d,00,31,00,30,00,37,00,35,00,2d,00,34,00,32,00
,44,00,33,00,2d,\

00,41,00,34,00,36,00,35,00,2d,00,31,00,32,00,43,00,41,00,31
,00,33,00,38,00,\

37,00,32,00,30,00,42,00,45,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{239EF1DD-15A3-
4A53-9D32-2CAC2DFBD86C}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,32,00,33,00,39,00,45
,00,46,00,31,00,\

44,00,44,00,2d,00,31,00,35,00,41,00,33,00,2d,00,34,00,41,00
,35,00,33,00,2d,\

00,39,00,44,00,33,00,32,00,2d,00,32,00,43,00,41,00,43,00,32
,00,44,00,46,00,\

42,00,44,00,38,00,36,00,43,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{304185E6-82C4-4507-
8C77-1125456E5794}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,33,00,30,00,34,00,31
,00,38,00,35,00,\

45,00,36,00,2d,00,38,00,32,00,43,00,34,00,2d,00,34,00,35,00
,30,00,37,00,2d,\

00,38,00,43,00,37,00,37,00,2d,00,31,00,31,00,32,00,35,00,34
,00,35,00,36,00,\

45,00,35,00,37,00,39,00,34,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{3907B349-8864-4EF3-
A0A3-5E15548C68AC}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,33,00,39,00,30,00,37
,00,42,00,33,00,\

34,00,39,00,2d,00,38,00,38,00,36,00,34,00,2d,00,34,00,45,00
,46,00,33,00,2d,\

00,41,00,30,00,41,00,33,00,2d,00,35,00,45,00,31,00,35,00,35
,00,34,00,38,00,\

43,00,36,00,38,00,41,00,43,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{3CA6316E-4429-
46B1-AEB5-E45BABF23DB0}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,33,00,43,00,41,00,36
,00,33,00,31,00,\

```
36,00,45,00,2d,00,34,00,34,00,32,00,39,00,2d,00,34,00,36,00
,42,00,31,00,2d,\

00,41,00,45,00,42,00,35,00,2d,00,45,00,34,00,35,00,42,00,41
,00,42,00,46,00,\
  32,00,33,00,44,00,42,00,30,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{57451F87-D450-
4DB5-B2C0-F83D6D37D473}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,35,00,37,00,34,00,35
,00,31,00,46,00,\

38,00,37,00,2d,00,44,00,34,00,35,00,30,00,2d,00,34,00,44,00
,42,00,35,00,2d,\

00,42,00,32,00,43,00,30,00,2d,00,46,00,38,00,33,00,44,00,36
,00,44,00,33,00,\
  37,00,44,00,34,00,37,00,33,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{7B37F155-4288-431F-
9E43-C8E6F950415F}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,37,00,42,00,33,00,37
,00,46,00,31,00,\

35,00,35,00,2d,00,34,00,32,00,38,00,38,00,2d,00,34,00,33,00
,31,00,46,00,2d,\

00,39,00,45,00,34,00,33,00,2d,00,43,00,38,00,45,00,36,00,46
,00,39,00,35,00,\
  30,00,34,00,31,00,35,00,46,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{83E8CF2C-8BDD-
4796-AC00-88B311354735}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,38,00,33,00,45,00,38
,00,43,00,46,00,\

32,00,43,00,2d,00,38,00,42,00,44,00,44,00,2d,00,34,00,37,00
,39,00,36,00,2d,\

00,41,00,43,00,30,00,30,00,2d,00,38,00,38,00,42,00,33,00,31
,00,31,00,33,00,\
  35,00,34,00,37,00,33,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{931762ED-45AD-
4A61-BE31-F624BE044A8C}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,39,00,33,00,31,00,37
,00,36,00,32,00,\

45,00,44,00,2d,00,34,00,35,00,41,00,44,00,2d,00,34,00,41,00
,36,00,31,00,2d,\

00,42,00,45,00,33,00,31,00,2d,00,46,00,36,00,32,00,34,00,42
,00,45,00,30,00,\
  34,00,34,00,41,00,38,00,43,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{954C5ECF-2DFC-
4F23-B83B-05E719F24245}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,39,00,35,00,34,00,43
,00,35,00,45,00,\

43,00,46,00,2d,00,32,00,44,00,46,00,43,00,2d,00,34,00,46,00
,32,00,33,00,2d,\

00,42,00,38,00,33,00,42,00,2d,00,30,00,35,00,45,00,37,00,31
,00,39,00,46,00,\
  32,00,34,00,32,00,34,00,35,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{96A26831-8EAA-
4207-8125-037DBAABC4AC}]
"LLInterface"=""
"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,39,00,36,00,41,00,32
,00,36,00,38,00,\
```

33,00,31,00,2d,00,38,00,45,00,41,00,41,00,2d,00,34,00,32,00
,30,00,37,00,2d,\

00,38,00,31,00,32,00,35,00,2d,00,30,00,33,00,37,00,44,00,42
,00,41,00,41,00,\

42,00,43,00,34,00,41,00,43,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{BBF43CF0-A375-
4BB1-842F-DBF42B275B5D}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,42,00,42,00,46,00,34
,00,33,00,43,00,\

46,00,30,00,2d,00,41,00,33,00,37,00,35,00,2d,00,34,00,42,00
,42,00,31,00,2d,\

00,38,00,34,00,32,00,46,00,2d,00,44,00,42,00,46,00,34,00,32
,00,42,00,32,00,\

37,00,35,00,42,00,35,00,44,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{DEA02254-7425-
46D5-9285-52FFFE88E892}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,44,00,45,00,41,00,30
,00,32,00,32,00,\

35,00,34,00,2d,00,37,00,34,00,32,00,35,00,2d,00,34,00,36,00
,44,00,35,00,2d,\

00,39,00,32,00,38,00,35,00,2d,00,35,00,32,00,46,00,46,00,46
,00,45,00,38,00,\

38,00,45,00,38,00,39,00,32,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{E0FE76A7-C3D3-
4247-AFBD-33A0EDFA0931}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,45,00,30,00,46,00,45
,00,37,00,36,00,\

41,00,37,00,2d,00,43,00,33,00,44,00,33,00,2d,00,34,00,32,00
,34,00,37,00,2d,\

00,41,00,46,00,42,00,44,00,2d,00,33,00,33,00,41,00,30,00,45
,00,44,00,46,00,\

41,00,30,00,39,00,33,00,31,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{F10B3D6B-0FF6-
4FF5-A318-6C38330D0F8F}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,46,00,31,00,30,00,42
,00,33,00,44,00,\

36,00,42,00,2d,00,30,00,46,00,46,00,36,00,2d,00,34,00,46,00
,46,00,35,00,2d,\

00,41,00,33,00,31,00,38,00,2d,00,36,00,43,00,33,00,38,00,33
,00,33,00,30,00,\

44,00,30,00,46,00,38,00,46,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Adapters\{FA868688-48D4-
4851-B82E-DF045FFDC20D}]

"LLInterface"=""

"IpConfig"=hex(7):54,00,63,00,70,00,69,00,70,00,5c,00,50,0
0,61,00,72,00,61,00,\

6d,00,65,00,74,00,65,00,72,00,73,00,5c,00,49,00,6e,00,74,00
,65,00,72,00,66,\

00,61,00,63,00,65,00,73,00,5c,00,7b,00,46,00,41,00,38,00,36
,00,38,00,36,00,\

38,00,38,00,2d,00,34,00,38,00,44,00,34,00,2d,00,34,00,38,00
,35,00,31,00,2d,\

00,42,00,38,00,32,00,45,00,2d,00,44,00,46,00,30,00,34,00,35
,00,46,00,46,00,\

44,00,43,00,32,00,30,00,44,00,7d,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\DNSRegisteredAdapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Interfaces]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\Tcpip\Parameters\Interfaces\{127F81F3-1075-
42D3-A465-12CA138720BE}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):31,00,30,00,2e,00,30,00,2e,00,30,00,2e,00,31,00,00,00,00,00

"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\

00,35,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

32,00,00,00,00,00

"DhcpClassIdBin"=hex:

"DhcpServer"="255.255.255.255"

"Lease"=dword:00000e10

"LeaseObtainedTime"=dword:43d6510f

"T1"=dword:43d65817

"T2"=dword:43d65d5d

"LeaseTerminatesTime"=dword:43d65f1f

"IPAutoconfigurationAddress"="0.0.0.0"

"IPAutoconfigurationMask"="255.255.0.0"

"IPAutoconfigurationSeed"=dword:00000000

"AddressType"=dword:00000000

"DhcpIPAddress"="0.0.0.0"

"DhcpSubnetMask"="255.0.0.0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{239EF1DD-15A3-4A53-9D32-2CAC2DFBD86C}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

32,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{304185E6-82C4-4507-8C77-1125456E5794}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

33,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{3743DABA-3BE6-4F30-9E84-51DE6812DEC9}]

"UseZeroBroadcast"=dword:00000000

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"EnableDeadGWDetect"=dword:00000001

"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{3907B349-8864-4EF3-A0A3-5E15548C68AC}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

33,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{3CA6316E-4429-46B1-AEB5-E45BABF23DB0}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

32,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{57451F87-D450-4DB5-B2C0-F83D6D37D473}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{7B37F155-4288-431F-9E43-C8E6F950415F}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\

36,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{83E8CF2C-8BDD-4796-AC00-88B311354735}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{931762ED-45AD-4A61-BE31-F624BE044A8C}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):31,00,39,00,32,00,2e,00,31,00,36,00,38,00,2e,00,34,00,30,00,\

2e,00,31,00,00,00,00,00

"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\

00,35,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  33,00,00,00,00,00

"DhcpClassIdBin"=hex:

"DhcpServer"="255.255.255.255"

"Lease"=dword:00000e10

"LeaseObtainedTime"=dword:43d650f3

"T1"=dword:43d657fb

"T2"=dword:43d65d41

"LeaseTerminatesTime"=dword:43d65f03

"IPAutoconfigurationAddress"="0.0.0.0"

"IPAutoconfigurationMask"="255.255.0.0"

"IPAutoconfigurationSeed"=dword:00000000

"AddressType"=dword:00000000

"DhcpIPAddress"="0.0.0.0"

"DhcpSubnetMask"="255.0.0.0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{954C5ECF-2DFC-4F23-B83B-05E719F24245}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):31,00,30,00,2e,00,30,00,2e,00,31,00,2e,00,31,00,00,00,00,00

"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  34,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{96A26831-8EAA-4207-8125-037DBAABC4AC}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{B42B3D0E-283E-4B1F-9CBC-8CD294A33558}]

"UseZeroBroadcast"=dword:00000000

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"EnableDeadGWDetect"=dword:00000001

"DontAddDefaultGateway"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{BBF43CF0-A375-4BB1-842F-DBF42B275B5D}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):31,00,30,00,2e,00,30,00,2e,00,31,00,30,00,2e,00,31,00,00,00,\
  00,00

"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\
  00,35,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
  32,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{DEA02254-7425-46D5-9285-52FFFE88E892}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{E0FE76A7-C3D3-4247-AFBD-33A0EDFA0931}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
 39,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{F10B3D6B-0FF6-4FF5-A318-6C38330D0F8F}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000001

"IPAddress"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"SubnetMask"=hex(7):30,00,2e,00,30,00,2e,00,30,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):00,00

"DhcpIPAddress"="0.0.0.0"

"DhcpSubnetMask"="255.0.0.0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{FA868688-48D4-4851-B82E-DF045FFDC20D}]

"UseZeroBroadcast"=dword:00000000

"EnableDeadGWDetect"=dword:00000001

"EnableDHCP"=dword:00000000

"IPAddress"=hex(7):31,00,30,00,2e,00,30,00,2e,00,31,00,31,00,2e,00,31,00,00,00,\
 00,00

"SubnetMask"=hex(7):32,00,35,00,35,00,2e,00,32,00,35,00,35,00,2e,00,32,00,35,\
 00,35,00,2e,00,30,00,00,00,00,00

"DefaultGateway"=hex(7):00,00

"DefaultGatewayMetric"=hex(7):00,00

"NameServer"=""

"Domain"=""

"RegistrationEnabled"=dword:00000001

"RegisterAdapterName"=dword:00000000

"TCPAllowedPorts"=hex(7):30,00,00,00,00,00

"UDPAllowedPorts"=hex(7):30,00,00,00,00,00

"RawIPAllowedProtocols"=hex(7):30,00,00,00,00,00

"NTEContextList"=hex(7):30,00,78,00,30,00,30,00,30,00,30,00,30,00,30,00,30,00,\
 33,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Winsock]

"UseDelayedAcceptance"=dword:00000000

"HelperDllName"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,\

6f,00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,\

00,77,00,73,00,68,00,74,00,63,00,70,00,69,00,70,00,2e,00,64,00,6c,00,6c,00,\
 00,00

"MaxSockAddrLength"=dword:00000010

"MinSockAddrLength"=dword:00000010

"Mapping"=hex:0b,00,00,00,03,00,00,00,02,00,00,00,01,00,00,00,06,00,00,00,02,\

00,00,00,01,00,00,00,00,00,00,00,02,00,00,00,00,00,00,00,06,00,00,00,00,00,\

00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00,06,00,00,00,02,00,00,\

00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00,00,00,00,02,00,00,00,\

00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00,00,00,00,00,00,00,02,\

00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00,00

## SUT System Information Report

System Information report written at: 02/17/07 07:05:54

System Name: IBMSERV4

[System Summary]

Item Value

OS Name Microsoft(R) Windows(R) Server 2003 Enterprise x64 Edition

Version 5.2.3790 Service Pack 1 Build 3790

Other OS Description Not Available

OS Manufacturer Microsoft Corporation

System Name IBMSERV4

System Manufacturer IBM

System Model IBM x3950-[88724RZ]-

System Type x64-based PC

Processor EM64T Family 15 Model 6 Stepping 8 GenuineIntel ~3503 Mhz

Page File Space 2.00 GB

Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource Device

Memory Address 0xF0C00000-0xF0CFFFFF PCI bus

Memory Address 0xF0C00000-0xF0CFFFFF Adaptec AIC-9410w SAS Controller

I/O Port 0x00000000-0x00000CF7 PCI bus

I/O Port 0x00000000-0x00000CF7 Direct memory access controller

Memory Address 0xF8800000-0xF88FFFFF PCI bus

Memory Address 0xF8800000-0xF88FFFFF NEC PCI to USB Open Host Controller

I/O Port 0x00002A00-0x00002BFF PCI bus

I/O Port 0x00002A00-0x00002BFF QLogic Fibre Channel Adapter

I/O Port 0x00002000-0x000027FF PCI bus

I/O Port 0x00002000-0x000027FF Adaptec AIC-9410w SAS Controller

Memory Address 0xE8000000-0xEFFFFFFF PCI bus

Memory Address 0xE8000000-0xEFFFFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation)

I/O Port 0x00006400-0x000065FF PCI bus

I/O Port 0x00006400-0x000065FF QLogic Fibre Channel Adapter

IRQ 23 NEC PCI to USB Open Host Controller

IRQ 23 NEC PCI to USB Open Host Controller

IRQ 23 Standard Enhanced PCI to USB Host Controller

IRQ 12 Microsoft ACPI-Compliant System

IRQ 12 PS/2 Compatible Mouse

Memory Address 0xF1C00000-0xF1EFFFFF PCI bus

Memory Address 0xF1C00000-0xF1EFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF1C00000-0xF1EFFFFF Adaptec SAS RAID 4800SAS Controller

I/O Port 0x00002800-0x000029FF PCI bus

I/O Port 0x00002800-0x000029FF QLogic Fibre Channel Adapter

I/O Port 0x00006200-0x000063FF PCI bus

I/O Port 0x00006200-0x000063FF QLogic Fibre Channel Adapter

Memory Address 0xA0000-0xBFFFF PCI bus

Memory Address 0xA0000-0xBFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation)

Memory Address 0xF1F00000-0xF1FFFFFF PCI bus

Memory Address 0xF1F00000-0xF1FFFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation)

IRQ 95 NEC PCI to USB Open Host Controller

IRQ 95 NEC PCI to USB Open Host Controller

IRQ 95 Standard Enhanced PCI to USB Host Controller

[DMA]

Resource Device Status

Channel 4 Direct memory access controller OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource Device Status

0x00000000-0x00000CF7 PCI bus OK

0x00000000-0x00000CF7 Direct memory access controller OK

0x00000D00-0x00001FFF PCI bus OK

0x00001800-0x000018FF Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK

0x000003B0-0x000003BB Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK

0x000003C0-0x000003DF Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK

0x00000700-0x0000070F Standard Dual Channel PCI IDE Controller OK

0x000001F0-0x000001F7 Primary IDE Channel OK

0x000003F6-0x000003F6 Primary IDE Channel OK

0x00000170-0x00000177 Secondary IDE Channel OK

0x00000376-0x00000376 Secondary IDE Channel OK

0x00000060-0x00000060 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x00000064-0x00000064 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x000002F8-0x000002FF Communications Port (COM2) OK

0x00000020-0x00000021 Advanced programmable interrupt controller OK

0x000000A0-0x000000A1 Advanced programmable interrupt controller OK

0x00000080-0x0000008F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x00000040-0x00000043 System timer OK

0x00000070-0x00000073 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x000000F0-0x000000FF Numeric data processor OK

0x0000002E-0x0000002F Motherboard resources OK

0x0000004E-0x0000004F Motherboard resources OK

0x00000052-0x00000053 Motherboard resources OK

0x00000092-0x00000092 Motherboard resources OK

0x00000094-0x0000009F Motherboard resources OK

0x000000A8-0x000000A9 Motherboard resources OK

0x00000400-0x0000047F Motherboard resources OK

0x00000480-0x000004FF Motherboard resources OK

0x00000500-0x0000055F Motherboard resources OK

0x00000600-0x00000600 Motherboard resources OK

0x00000800-0x00000803 Motherboard resources OK

0x00000C00-0x00000CDF Motherboard resources OK

0x00000F50-0x00000F5F Motherboard resources OK

0x00002000-0x000027FF PCI bus OK

0x00002000-0x000027FF Adaptec AIC-9410w SAS Controller OK

0x00002800-0x000029FF PCI bus OK

0x00002800-0x000029FF QLogic Fibre Channel Adapter OK

0x00002900-0x000029FF QLogic Fibre Channel Adapter OK

0x00003000-0x00003FFF PCI bus OK

0x00002A00-0x00002BFF PCI bus OK

0x00002A00-0x00002BFF QLogic Fibre Channel Adapter OK

0x00002B00-0x00002BFF QLogic Fibre Channel Adapter OK

0x00004000-0x00004FFF PCI bus OK

0x00005000-0x00005FFF PCI bus OK

0x00006000-0x000061FF PCI bus OK

0x00006200-0x000063FF PCI bus OK

0x00006200-0x000063FF QLogic Fibre Channel Adapter OK

0x00006300-0x000063FF QLogic Fibre Channel Adapter OK

0x00007000-0x00007FFF PCI bus OK

0x00006400-0x000065FF PCI bus OK

0x00006400-0x000065FF QLogic Fibre Channel Adapter OK

0x00006500-0x000065FF QLogic Fibre Channel Adapter OK

0x00008000-0x00008FFF PCI bus OK

0x00009000-0x00009FFF PCI bus OK

0x0000A000-0x0000AFFF PCI bus OK

[IRQs]

Resource Device Status

IRQ 12 Microsoft ACPI-Compliant System OK

IRQ 12 PS/2 Compatible Mouse OK

IRQ 19 Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK

IRQ 23 NEC PCI to USB Open Host Controller OK

IRQ 23 NEC PCI to USB Open Host Controller OK

IRQ 23 Standard Enhanced PCI to USB Host Controller OK

IRQ 14 Primary IDE Channel OK

IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

IRQ 4 Communications Port (COM1) OK

IRQ 3 Communications Port (COM2) OK

IRQ 0 System timer OK

IRQ 8 System CMOS/real time clock OK

IRQ 13 Numeric data processor OK

IRQ 27 Broadcom NetXtreme Gigabit Ethernet #2 OK

IRQ 31 Broadcom NetXtreme Gigabit Ethernet OK

IRQ 28 Adaptec AIC-9410w SAS Controller OK

IRQ 21 QLogic Fibre Channel Adapter OK
IRQ 25 QLogic Fibre Channel Adapter OK
IRQ 55 QLogic Fibre Channel Adapter OK
IRQ 59 QLogic Fibre Channel Adapter OK
IRQ 65 Adaptec SAS RAID 4800SAS Controller OK

IRQ 95 NEC PCI to USB Open Host Controller OK

IRQ 95 NEC PCI to USB Open Host Controller OK

IRQ 95 Standard Enhanced PCI to USB Host Controller OK
IRQ 103 Broadcom NetXtreme Gigabit Ethernet #4 OK

IRQ 93 QLogic Fibre Channel Adapter OK
IRQ 97 QLogic Fibre Channel Adapter OK
IRQ 127 QLogic Fibre Channel Adapter OK
IRQ 131 QLogic Fibre Channel Adapter OK

[Memory]

Resource Device Status
0xA0000-0xBFFFF PCI bus OK
0xA0000-0xBFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK
0xE8000000-0xEFFFFFFF PCI bus OK
0xE8000000-0xEFFFFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK
0xF1F00000-0xF1FFFFFF PCI bus OK
0xF1F00000-0xF1FFFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation) OK
0xF1F10000-0xF1F10FFF NEC PCI to USB Open Host Controller OK
0xF1F11000-0xF1F11FFF NEC PCI to USB Open Host Controller OK
0xF1F12000-0xF1F120FF Standard Enhanced PCI to USB Host Controller OK
0x0400-0x04FF System board OK
0x100000-0x7FFFFFFF Memory Module OK

0xF0C00000-0xF0CFFFFF PCI bus OK
0xF0C00000-0xF0CFFFFF Adaptec AIC-9410w SAS Controller OK
0xF2000000-0xF20FFFFF PCI bus OK
0xF20C0000-0xF20CFFFF Broadcom NetXtreme Gigabit Ethernet #2 OK
0xF20D0000-0xF20DFFFF Broadcom NetXtreme Gigabit Ethernet OK
0xF2080000-0xF20BFFFF Adaptec AIC-9410w SAS Controller OK
0xF2100000-0xF21FFFFF PCI bus OK
0xF2140000-0xF2140FFF QLogic Fibre Channel Adapter OK
0xF2141000-0xF2141FFF QLogic Fibre Channel Adapter OK
0xF0000000-0xF03FFFFF PCI bus OK
0xF1000000-0xF13FFFFF PCI bus OK
0xF2200000-0xF22FFFFF PCI bus OK
0xF2240000-0xF2240FFF QLogic Fibre Channel Adapter OK
0xF2241000-0xF2241FFF QLogic Fibre Channel Adapter OK
0xF0400000-0xF07FFFFF PCI bus OK
0xF1400000-0xF17FFFFF PCI bus OK
0xF1C00000-0xF1EFFFFF PCI bus OK
0xF1C00000-0xF1EFFFFF PCI standard PCI-to-PCI bridge OK
0xF1C00000-0xF1EFFFFF Adaptec SAS RAID 4800SAS Controller OK
0xF0800000-0xF0BFFFFF PCI bus OK
0xF1800000-0xF1BFFFFF PCI bus OK
0xF8800000-0xF88FFFFF PCI bus OK
0xF8800000-0xF88FFFFF NEC PCI to USB Open Host Controller OK
0xF8801000-0xF8801FFF NEC PCI to USB Open Host Controller OK
0xF8802000-0xF88020FF Standard Enhanced PCI to USB Host Controller OK
0xF8900000-0xF89FFFFF PCI bus OK
0xF8910000-0xF891FFFF Broadcom NetXtreme Gigabit Ethernet #4 OK
0xF8A00000-0xF8AFFFFF PCI bus OK
0xF8A40000-0xF8A40FFF QLogic Fibre Channel Adapter OK
0xF8A41000-0xF8A41FFF QLogic Fibre Channel Adapter OK
0xF7800000-0xF7BFFFFF PCI bus OK
0xF8C00000-0xF8FFFFFF PCI bus OK
0xF8B00000-0xF8BFFFFF PCI bus OK
0xF8B40000-0xF8B40FFF QLogic Fibre Channel Adapter OK
0xF8B41000-0xF8B41FFF QLogic Fibre Channel Adapter OK
0xF7C00000-0xF7FFFFFF PCI bus OK
0xF9000000-0xF93FFFFF PCI bus OK
0xF8000000-0xF83FFFFF PCI bus OK
0xF9400000-0xF97FFFFF PCI bus OK
0xF8400000-0xF87FFFFF PCI bus OK
0xF9800000-0xF9BFFFFF PCI bus OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

c:\windows\system32\imaadp32.acm Microsoft Corporation OK
C:\WINDOWS\system32\IMAADP32.ACM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 3/25/2005 7:00 AM

c:\windows\system32\msgsm32.acm Microsoft Corporation OK
C:\WINDOWS\system32\MSGSM32.ACM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
34.50 KB (35,328 bytes) 3/25/2005 7:00 AM

c:\windows\system32\msg711.acm Microsoft Corporation OK
C:\WINDOWS\system32\MSG711.ACM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
13.50 KB (13,824 bytes) 3/25/2005 7:00 AM

c:\windows\system32\tssoft32.acm DSP GROUP, INC. OK
C:\WINDOWS\system32\TSSOFT32.ACM 1.01
13.50 KB (13,824 bytes) 3/25/2005 7:00 AM

c:\windows\system32\msadp32.acm Microsoft Corporation OK
C:\WINDOWS\system32\MSADP32.ACM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
23.50 KB (24,064 bytes) 3/25/2005 7:00 AM

[Video Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

c:\windows\system32\tsbyuv.dll Microsoft Corporation OK
C:\WINDOWS\system32\TSBYUV.DLL
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.50 KB (12,800 bytes) 3/24/2005 12:34 PM

c:\windows\system32\msvidc32.dll Microsoft Corporation OK
C:\WINDOWS\system32\MSVIDC32.DLL
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
43.00 KB (44,032 bytes) 3/25/2005 7:00 AM

c:\windows\system32\msrle32.dll Microsoft Corporation OK
C:\WINDOWS\system32\MSRLE32.DLL
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
15.50 KB (15,872 bytes) 3/25/2005 7:00 AM

c:\windows\system32\msyuv.dll Microsoft Corporation OK
C:\WINDOWS\system32\MSYUV.DLL
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
21.00 KB (21,504 bytes) 3/24/2005 12:21 PM

c:\windows\system32\iyuv_32.dll Microsoft Corporation OK
C:\WINDOWS\system32\IYUV_32.DLL
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
52.50 KB (53,760 bytes) 3/24/2005 12:19 PM

[CD-ROM]

| Item | Value |
|---|---|
| Drive | D: |
| Description | CD-ROM Drive |
| Media Loaded | No |
| Media Type | CD-ROM |
| Name | MATSHITA DVD-ROM SR-8178 |
| Manufacturer | (Standard CD-ROM drives) |
| Status | OK |
| Transfer Rate | Not Available |
| SCSI Target ID | 0 |
| PNP Device ID | IDE\CDROMMATSHITA_DVD-ROM_SR-8178_____PJ22____\5&A8D2D22&0&0.0.0 |

Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 75.50 KB (77,312 bytes), 3/25/2005 7:00 AM)

[Sound Device]

Item Value

[Display]

| Item | Value |
|---|---|
| Name | Radeon 7000 / RADEON VE Family (Microsoft Corporation) |
| PNP Device ID | PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\3&267A616A&0&08 |
| Adapter Type | Not Available |
| Adapter Description | ATI Technologies Inc. |
| Adapter RAM | Not Available |
| Installed Drivers | Not Available |
| Driver Version | Not Available |
| INF File | 6.14.10.6509 (atiixpag.inf section) |
| Color Planes | ati2mtag_RV100 |
| Color Table Entries | Not Available |
| Resolution | Not Available |
| Bits/Pixel | Not Available |
| Memory Address | 0xE8000000-0xEFFFFFFF |
| I/O Port | 0x00001800-0x000018FF |
| Memory Address | 0xF1F00000-0xF1FFFFFF |

IRQ Channel IRQ 19

I/O Port 0x000003B0-0x000003BB

I/O Port 0x000003C0-0x000003DF

Memory Address 0xA0000-0xBFFFF

Driver c:\windows\system32\drivers\ati2mtag.sys (6.14.10.6509, 1.39 MB (1,452,544 bytes), 1/24/2006 4:53 AM)

[Infrared]

Item Value

[Input]

[Keyboard]

Item Value

Description USB Human Interface Device

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID USB\VID_04B3&PID_4001&MI_00\6&91D87B8&0&0000

Number of Function Keys 12

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 7:00 AM)

Description Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID ACPI\PNP0303\4&13245C1&0

Number of Function Keys 12

I/O Port 0x00000060-0x00000060

I/O Port 0x00000064-0x00000064

IRQ Channel IRQ 1

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB (93,184 bytes), 3/25/2005 7:00 AM)

Description USB Human Interface Device

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID USB\VID_04B3&PID_4001&MI_00\6&91D87B8&0&0000

Number of Function Keys 12

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 7:00 AM)

[Pointing Device]

Item Value

Hardware Type USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B3&PID_4001&MI_01\6&91D87B8&0&0001

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 7:00 AM)

Hardware Type PS/2 Compatible Mouse

Number of Buttons 3

Status OK

PNP Device ID ACPI\PNP0F13\4&13245C1&0

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

IRQ Channel IRQ 12

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB (93,184 bytes), 3/25/2005 7:00 AM)

Hardware Type USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B3&PID_4001&MI_01\6&91D87B8&0&0001

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 7:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value

Name [00000001] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Ethernet 802.3
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID PCI\VEN_14E4&DEV_1648&SUBSYS_02E710 14&REV_10\3&13C0B0C5&0&09
Last Reset 2/17/2007 6:52 AM
Index 1
Service Name b57nd
IP Address 10.0.0.1
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:14:5E:7A:4C:8F
Memory Address 0xF20D0000-0xF20DFFFF
IRQ Channel IRQ 31
Driver c:\windows\system32\drivers\b57amd64.sys (10.24.0.0 built by: WinDDK, 254.00 KB (260,096 bytes), 1/24/2006 4:54 AM)

Name [00000002] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Ethernet 802.3
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID PCI\VEN_14E4&DEV_1648&SUBSYS_02E710 14&REV_10\3&13C0B0C5&0&08
Last Reset 2/17/2007 6:52 AM
Index 2
Service Name b57nd
IP Address 192.168.40.1
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:14:5E:7A:4C:8E
Memory Address 0xF20C0000-0xF20CFFFF
IRQ Channel IRQ 27
Driver c:\windows\system32\drivers\b57amd64.sys (10.24.0.0 built by: WinDDK, 254.00 KB (260,096 bytes), 1/24/2006 4:54 AM)

Name [00000003] RAS Async Adapter
Adapter Type Not Available
Product Type RAS Async Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 3
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000004] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPORT\0000

Last Reset 2/17/2007 6:52 AM
Index 4
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\rasl2tp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 132.00 KB (135,168 bytes), 3/25/2005 7:00 AM)

Name [00000005] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes
PNP Device ID ROOT\MS_PPTPMINIPORT\0000

Last Reset 2/17/2007 6:52 AM
Index 5
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30

Driver c:\windows\system32\drivers\raspptp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 117.50 KB (120,320 bytes), 3/25/2005 7:00 AM)

Name [00000006] WAN Miniport (PPPOE)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPPOE)
Installed Yes
PNP Device ID ROOT\MS_PPPOEMINIPORT\0000

Last Reset 2/17/2007 6:52 AM
Index 6
Service Name RasPppoe
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 33:50:6F:45:30:30
Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 67.50 KB (69,120 bytes), 3/25/2005 7:00 AM)

Name [00000007] Direct Parallel
Adapter Type Not Available
Product Type Direct Parallel
Installed Yes
PNP Device ID ROOT\MS_PTIMINIPORT\0000

Last Reset 2/17/2007 6:52 AM
Index 7
Service Name Raspti
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\raspti.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 30.50 KB (31,232 bytes), 3/25/2005 7:00 AM)

Name [00000008] WAN Miniport (IP)
Adapter Type Not Available
Product Type WAN Miniport (IP)
Installed Yes
PNP Device ID ROOT\MS_NDISWANIP\0000
Last Reset 2/17/2007 6:52 AM
Index 8
Service Name NdisWan
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 157.50 KB (161,280 bytes), 3/25/2005 7:00 AM)

Name [00000009] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&08
Last Reset 2/17/2007 6:52 AM
Index 9
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\b57amd64.sys (10.24.0.0 built by: WinDDK, 254.00 KB (260,096 bytes), 1/24/2006 4:54 AM)

Name [00000010] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Ethernet 802.3
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&09
Last Reset 2/17/2007 6:52 AM
Index 10
Service Name b57nd
IP Address 10.0.1.1
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available

DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:14:5E:7A:4C:81
Memory Address 0xF8910000-0xF891FFFF
IRQ Channel IRQ 103
Driver c:\windows\system32\drivers\b57amd64.sys (10.24.0.0 built by: WinDDK, 254.00 KB (260,096 bytes), 1/24/2006 4:54 AM)

Name [00000011] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 11
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000012] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 12
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000013] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 13
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000014] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 14
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000015] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Not Available
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 15
Service Name E1000
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000016] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Not Available
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 16
Service Name E1000
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000017] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Not Available
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 17
Service Name E1000
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000018] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Not Available
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 18
Service Name E1000
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000019] Alacritech SEN2002XT Accelerator

Adapter Type Not Available
Product Type Alacritech SEN2002XT Accelerator

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 19
Service Name SLIC
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000020] Alacritech SEN2002XT Accelerator

Adapter Type Not Available
Product Type Alacritech SEN2002XT Accelerator

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 20
Service Name SLIC
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000021] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 21

Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000022] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 2/17/2007 6:52 AM
Index 22
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

[Protocol]

Item Value
Name MSAFD Tcpip [TCP/IP]
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data Yes
Supports Graceful Closing Yes
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD Tcpip [UDP/IP]
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP UDP Service Provider
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data Yes

Supports Graceful Closing Yes
Supports Guaranteed Bandwidth No
Supports Multicasting No

[WinSock]

Item Value
File c:\windows\system32\wsock32.dll
Size 24.50 KB (25,088 bytes)
Version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)

[Ports]

[Serial]

Item Value
Name Communications Port (COM1)
Status OK
PNP Device ID ACPI\PNP0501\1
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000003F8-0x000003FF
IRQ Channel IRQ 4
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 118.50 KB (121,344 bytes), 3/25/2005 7:00 AM)

Name Communications Port (COM2)
Status OK
PNP Device ID ACPI\PNP0501\2
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17

XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000002F8-0x000002FF
IRQ Channel IRQ 3
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 118.50 KB (121,344 bytes), 3/25/2005 7:00 AM)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.89 GB (36,388,605,952 bytes)
Free Space 15.60 GB (16,753,016,832 bytes)
Volume Name
Volume Serial Number B0DE3BB9

Drive D:
Description CD-ROM Disc

Drive E:
Description Local Fixed Disk
Compressed Not Available
File System Not Available
Size Not Available
Free Space Not Available
Volume Name Not Available
Volume Serial Number Not Available

Drive F:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 94.10 MB (98,670,592 bytes)
Free Space 83.60 MB (87,663,104 bytes)
Volume Name F_drive
Volume Serial Number 8014BD6D

[Disks]

Item Value
Description Disk drive
Manufacturer (Standard disk drives)
Model Adaptec Array SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 4
SCSI Logical Unit 0
SCSI Port 3
SCSI Target ID 0
Sectors/Track 63
Size 1.60 TB (1,760,283,947,520 bytes)
Total Cylinders 214,009
Total Sectors 3,438,054,585
Total Tracks 54,572,295
Tracks/Cylinder 255
Partition Disk #1, Partition #0
Partition Size 1.60 TB (1,760,275,722,240 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 5
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #10, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes

Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 5
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #11, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 5
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #12, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 5
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #13, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 5
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #14, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 5
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #15, Partition #0

Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 5
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #16, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 5
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #17, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #58, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #59, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 11

SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #60, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #61, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 11
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #62, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 11
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #63, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 11
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #64, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)

Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 11
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #65, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #26, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #27, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #28, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730

Tracks/Cylinder 255
Partition Disk #29, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 7
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #30, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 7
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #31, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 7
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #32, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 7
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #33, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0

SCSI Logical Unit 0
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #34, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #35, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #36, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #37, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 8
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #38, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 8
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #39, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 8
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #40, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 8
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #41, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 4
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #2, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 4
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646

Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #3, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 4
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #4, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 4
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #5, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 4
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #6, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 4
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #7, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk

Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 4
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #8, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 4
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #9, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #42, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #43, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #44, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #45, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 9
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #46, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 9
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #47, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 9
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #48, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 9
SCSI Target ID 1
Sectors/Track 63

Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #49, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #50, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #51, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #52, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #53, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 10
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #54, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 10
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #55, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 10
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #56, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 10
SCSI Target ID 1
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #57, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 6
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255

Partition Disk #18, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 6
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #19, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 6
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #20, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 6
SCSI Target ID 0
Sectors/Track 63
Size 801.63 GB (860,742,650,880 bytes)
Total Cylinders 104,646
Total Sectors 1,681,137,990
Total Tracks 26,684,730
Tracks/Cylinder 255
Partition Disk #21, Partition #0
Partition Size 801.62 GB (860,734,425,600 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 6
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #22, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 3

SCSI Port 6
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #23, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 6
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #24, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1815 FAStT SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 6
SCSI Target ID 1
Sectors/Track 63
Size 935.23 GB (1,004,199,759,360 bytes)
Total Cylinders 122,087
Total Sectors 1,961,327,655
Total Tracks 31,132,185
Tracks/Cylinder 255
Partition Disk #25, Partition #0
Partition Size 935.23 GB (1,004,191,534,080 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS ST936701SS SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 2
SCSI Logical Unit 0
SCSI Port 2
SCSI Target ID 2
Sectors/Track 63
Size 33.90 GB (36,396,864,000 bytes)
Total Cylinders 4,425
Total Sectors 71,087,625
Total Tracks 1,128,375
Tracks/Cylinder 255
Partition Disk #0, Partition #0
Partition Size 33.89 GB (36,388,606,464 bytes)
Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
Name Adaptec AIC-9410w SAS Controller
Manufacturer Adaptec
Status OK
PNP Device ID PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&13C0B0C5&0&10
Memory Address 0xF2080000-0xF20BFFFF
Memory Address 0xF0C00000-0xF0CFFFFF
I/O Port 0x00002000-0x000027FF
IRQ Channel IRQ 28
Driver c:\windows\system32\drivers\adp94xx.sys (1.1.608.818 built by: WinDDK, 522.50 KB (535,040 bytes), 3/28/2005 12:04 PM)

Name Adaptec Processor Device (Pseudo)
Manufacturer Adaptec
Status OK
PNP Device ID SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&4963A81&0&077E00

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&1070020&0&08

I/O Port 0x00002800-0x000029FF

Memory Address 0xF2140000-0xF2140FFF

IRQ Channel IRQ 21

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&1070020&0&09

I/O Port 0x00002900-0x000029FF

Memory Address 0xF2141000-0xF2141FFF

IRQ Channel IRQ 25

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&172E68DD&0&08

I/O Port 0x00002A00-0x00002BFF

Memory Address 0xF2240000-0xF2240FFF

IRQ Channel IRQ 55

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&172E68DD&0&09

I/O Port 0x00002B00-0x00002BFF

Memory Address 0xF2241000-0xF2241FFF

IRQ Channel IRQ 59

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name Adaptec SAS RAID 4800SAS Controller

Manufacturer Adaptec

Status OK

PNP Device ID PCI\VEN_9005&DEV_0285&SUBSYS_02999005&REV_0A\4&3AD3359D&0&7008

Memory Address 0xF1C00000-0xF1EFFFFF

IRQ Channel IRQ 65

Driver c:\windows\system32\drivers\arcsas.sys (5.2.0.11518 built by: WinDDK, 72.00 KB (73,728 bytes), 9/18/2006 10:40 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&300BC0BE&0&08

I/O Port 0x00006200-0x000063FF

Memory Address 0xF8A40000-0xF8A40FFF

IRQ Channel IRQ 93

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&300BC0BE&0&09

I/O Port 0x00006300-0x000063FF

Memory Address 0xF8A41000-0xF8A41FFF

IRQ Channel IRQ 97

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&19E45801&0&08

I/O Port 0x00006400-0x000065FF

Memory Address 0xF8B40000-0xF8B40FFF

IRQ Channel IRQ 127

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&19E45801&0&09

I/O Port 0x00006500-0x000065FF

Memory Address 0xF8B41000-0xF8B41FFF

IRQ Channel IRQ 131

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 5/16/2006 2:48 PM)

Name QLogic Optimizing and Multipath Driver

Manufacturer QLogic

Status Degraded

PNP Device ID ROOT\SCSIADAPTER\0000

Driver c:\windows\system32\drivers\qldirect.sys (8.01.13 Beta 3 (wx64), 62.00 KB (63,488 bytes), 1/22/2006 10:41 AM)

[IDE]

Item Value

Name Standard Dual Channel PCI IDE Controller

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCI\VEN_1166&DEV_0213&SUBSYS_02121166&REV_A0\3&267A616A&0&79

I/O Port 0x00000700-0x0000070F

Driver c:\windows\system32\drivers\pciide.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 6.00 KB (6,144 bytes), 3/25/2005 7:00 AM)

Name Primary IDE Channel

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&101988B2&0&0

I/O Port 0x000001F0-0x000001F7

I/O Port 0x000003F6-0x000003F6

IRQ Channel IRQ 14

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 145.00 KB (148,480 bytes), 3/25/2005 7:00 AM)

Name Secondary IDE Channel

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&101988B2&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 145.00 KB (148,480 bytes), 3/25/2005 7:00 AM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

Broadcom NetXtreme Gigabit Ethernet #3 PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&08 This device is disabled.

[USB]

Device PNP Device ID

NEC PCI to USB Open Host Controller PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&18

NEC PCI to USB Open Host Controller PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&19

Standard Enhanced PCI to USB Host Controller PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&267A616A&0&1A

NEC PCI to USB Open Host Controller PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&18

NEC PCI to USB Open Host Controller PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&19

Standard Enhanced PCI to USB Host Controller PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&A985F74&0&1A

[Software Environment]

[System Drivers]

Name Description File Type Started Start Mode State Status Error Control Accept Pause Accept Stop

aacmgt AACMgt c:\windows\system32\drivers\aacmgt.sys Kernel Driver Yes Boot Running OK Normal No Yes

abiosdsk Abiosdsk Not Available Kernel Driver No Disabled Stopped OK Ignore No No

acpi Microsoft ACPI Driver c:\windows\system32\drivers\acpi.sys Kernel Driver Yes Boot Running OK Normal No Yes

acpiec ACPIEC c:\windows\system32\drivers\acpiec.sys Kernel Driver No Disabled

```
            Stopped  OK       Normal   No       No

adp94xx     adp94xx
            c:\windows\system32\drivers\adp94xx.sys
            Kernel Driver            Yes      Boot
            Running  OK       Normal   No       Yes

adpu160m    adpu160m Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

adpu320     adpu320  Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

afd         AFD      c:\windows\system32\drivers\afd.sys
            Kernel Driver            Yes      System
            Running  OK       Normal   No       Yes

aic78u2     aic78u2  Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

aic78xx     aic78xx  Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

aliide      AliIde   Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

amdide      AmdIde   Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

arc         arc      Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

arcsas      Adaptec SAS RAID Storport's Miniport Driver
            c:\windows\system32\drivers\arcsas.sys
            Kernel Driver            Yes      Boot
            Running  OK       Normal   No       Yes

asyncmac    RAS Asynchronous Media Driver
            c:\windows\system32\drivers\asyncmac.sys
            Kernel Driver            No       Manual
            Stopped  OK       Normal   No       No

atapi       Standard IDE/ESDI Hard Disk Controller
            c:\windows\system32\drivers\atapi.sys
            Kernel Driver            Yes      Boot
            Running  OK       Normal   No       Yes

atdisk      Atdisk   Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Ignore   No       No

ati2mtag    ati2mtag
            c:\windows\system32\drivers\ati2mtag.sys
            Kernel Driver            Yes      Manual
            Running  OK       Ignore   No       Yes

atmarpc     ATM ARP Client Protocol
            c:\windows\system32\drivers\atmarpc.sys
            Kernel Driver            No       Manual
            Stopped  OK       Normal   No       No

audstub     Audio Stub Driver
            c:\windows\system32\drivers\audstub.sys
            Kernel Driver            Yes      Manual
            Running  OK       Normal   No       Yes

b57nd       Broadcom NetXtreme Gigabit Ethernet
            c:\windows\system32\drivers\b57amd64.sys
            Kernel Driver            Yes      Manual
            Running  OK       Normal   No       Yes

beep        Beep     c:\windows\system32\drivers\beep.sys
            Kernel Driver            Yes      System
            Running  OK       Normal   No       Yes

cdac15ba    CdaC15BA
            c:\windows\system32\drivers\cdac15ba.sys
            Kernel Driver            No       Disabled
            Stopped  OK       Normal   No       No

cdad10ba    CdaD10BA
            c:\windows\system32\drivers\cdad10ba.sys
            Kernel Driver            No       Disabled
            Stopped  OK       Normal   No       No

cdfs        Cdfs     c:\windows\system32\drivers\cdfs.sys
            File System Driver       Yes      Disabled
            Running  OK       Normal   No       Yes

cdrom       CD-ROM Driver
            c:\windows\system32\drivers\cdrom.sys
            Kernel Driver            Yes      System
            Running  OK       Normal   No       Yes

changer     Changer  Not Available            Kernel Driver
            No       System   Stopped  OK
            Ignore   No       No

clusdisk    Cluster Disk Driver
            c:\windows\system32\drivers\clusdisk.sys
            Kernel Driver            No       Disabled
            Stopped  OK       Normal   No       No

cmdide      CmdIde   Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

cpqcissm    cpqcissm Not Available            Kernel Driver
            No       Disabled Stopped  OK
            Normal   No       No

crcdisk     CRC Disk Filter Driver
            c:\windows\system32\drivers\crcdisk.sys
            Kernel Driver            Yes      Boot
            Running  OK       Normal   No       Yes

dfsdriver   DfsDriver c:\windows\system32\drivers\dfs.sys
            File System Driver       Yes      Boot
            Running  OK       Normal   No       Yes

disk        Disk Driver
            c:\windows\system32\drivers\disk.sys
            Kernel Driver            Yes      Boot
            Running  OK       Normal   No       Yes

dmboot      dmboot
            c:\windows\system32\drivers\dmboot.sys
            Kernel Driver            No       Disabled
            Stopped  OK       Normal   No       No
```

dmio Logical Disk Manager Driver
c:\windows\system32\drivers\dmio.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmload dmload
c:\windows\system32\drivers\dmload.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dpti2o dpti2o Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

e1000 Intel(R) PRO/1000 Network Connection Driver
c:\windows\system32\drivers\e1g5132e.sys
Kernel Driver No Manual
Stopped OK Normal No No

elxstor elxstor Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

em em
\??\c:\windows\system32\drivers\em.sys
Kernel Driver No Manual
Stopped OK Normal No No

fastfat Fastfat
c:\windows\system32\drivers\fastfat.sys File
System Driver No Disabled Stopped OK
Normal No No

fdc Fdc c:\windows\system32\drivers\fdc.sys
Kernel Driver No System
Stopped OK Ignore No No

fips Fips c:\windows\system32\drivers\fips.sys
Kernel Driver Yes System
Running OK Normal No Yes

flpydisk Flpydisk
c:\windows\system32\drivers\flpydisk.sys
Kernel Driver No System
Stopped OK Ignore No No

fltmgr FltMgr
c:\windows\system32\drivers\fltmgr.sys File
System Driver Yes Boot Running OK
Normal No Yes

ftdisk Volume Manager Driver
c:\windows\system32\drivers\ftdisk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

gpc Generic Packet Classifier
c:\windows\system32\drivers\msgpc.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

hidusb Microsoft HID Class Driver
c:\windows\system32\drivers\hidusb.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

hpcisss hpcisss Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

http HTTP c:\windows\system32\drivers\http.sys
Kernel Driver No Manual
Stopped OK Normal No No

i2omgmt i2omgmt Not Available Kernel Driver
No System Stopped OK
Normal No No

i8042prt i8042 Keyboard and PS/2 Mouse Port Driver
c:\windows\system32\drivers\i8042prt.sys
Kernel Driver Yes System
Running OK Normal No Yes

ibmhpa IBMHPA
c:\windows\system32\drivers\ibmhpa.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

iirsp iirsp Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

imapi CD-Burning Filter Driver
c:\windows\system32\drivers\imapi.sys
Kernel Driver No System
Stopped OK Normal No No

intelide IntelIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

intelppm Intel Processor Driver
c:\windows\system32\drivers\intelppm.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

iomonkey IoMonkey
\??\c:\docume~1\admini~1\locals~1\temp\iomonk
ey.sys Kernel Driver No Manual
Stopped OK Normal No No

ip6fw IPv6 Windows Firewall Driver
c:\windows\system32\drivers\ip6fw.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipfilterdriver IP Traffic Filter Driver
c:\windows\system32\drivers\ipfltdrv.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipinip IP in IP Tunnel Driver
c:\windows\system32\drivers\ipinip.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipnat IP Network Address Translator
c:\windows\system32\drivers\ipnat.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipsec IPSEC driver
c:\windows\system32\drivers\ipsec.sys
Kernel Driver Yes System

Running OK Normal No Yes

isapnp PnP ISA/EISA Bus Driver
c:\windows\system32\drivers\isapnp.sys
Kernel Driver Yes Boot
Running OK Critical No Yes

kbdclass Keyboard Class Driver
c:\windows\system32\drivers\kbdclass.sys
Kernel Driver Yes System
Running OK Normal No Yes

kbdhid Keyboard HID Driver
c:\windows\system32\drivers\kbdhid.sys
Kernel Driver Yes System
Running OK Ignore No Yes

ksecdd KSecDD
c:\windows\system32\drivers\ksecdd.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

ksthunk Kernel Streaming WOW64 Thunk Service
c:\windows\system32\drivers\ksthunk.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

lp6nds35 lp6nds35 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

mnmdd mnmdd
c:\windows\system32\drivers\mnmdd.sys
Kernel Driver Yes System
Running OK Ignore No Yes

modem Modem
c:\windows\system32\drivers\modem.sys
Kernel Driver No Manual
Stopped OK Ignore No No

mouclass Mouse Class Driver
c:\windows\system32\drivers\mouclass.sys
Kernel Driver Yes System
Running OK Normal No Yes

mouhid Mouse HID Driver
c:\windows\system32\drivers\mouhid.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

mountmgr Mount Point Manager
c:\windows\system32\drivers\mountmgr.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

mraid35x mraid35x Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

mrxdav WebDav Client Redirector
c:\windows\system32\drivers\mrxdav.sys File
System Driver No Manual Stopped OK
Normal No No

mrxsmb MRXSMB
c:\windows\system32\drivers\mrxsmb.sys File
System Driver Yes System Running OK
Normal No Yes

msfs Msfs c:\windows\system32\drivers\msfs.sys
File System Driver Yes System
Running OK Normal No Yes

mssmbios Microsoft System Management BIOS Driver
c:\windows\system32\drivers\mssmbios.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

mup Mup c:\windows\system32\drivers\mup.sys
File System Driver Yes Boot
Running OK Normal No Yes

nal Nal Service
\??\c:\windows\system32\drivers\iqvw64e.sys
Kernel Driver No Manual
Stopped OK Normal No No

ndis NDIS System Driver
c:\windows\system32\drivers\ndis.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

ndistapi Remote Access NDIS TAPI Driver
c:\windows\system32\drivers\ndistapi.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ndisuio NDIS Usermode I/O Protocol
c:\windows\system32\drivers\ndisuio.sys
Kernel Driver No Manual
Stopped OK Normal No No

ndiswan Remote Access NDIS WAN Driver
c:\windows\system32\drivers\ndiswan.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ndproxy NDIS Proxy
c:\windows\system32\drivers\ndproxy.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

netbios NetBIOS Interface
c:\windows\system32\drivers\netbios.sys File
System Driver Yes System Running OK
Normal No Yes

netbt NetBios over Tcpip
c:\windows\system32\drivers\netbt.sys
Kernel Driver Yes System
Running OK Normal No Yes

nfrd960 nfrd960
c:\windows\system32\drivers\nfrd960.sys
Kernel Driver No Disabled
Stopped OK Normal No No

npfs Npfs c:\windows\system32\drivers\npfs.sys
File System Driver Yes System
Running OK Normal No Yes

```
ntfs            Ntfs            c:\windows\system32\drivers\ntfs.sys
                File System Driver      Yes             Disabled
                Running  OK           Normal          No              Yes

null            Null            c:\windows\system32\drivers\null.sys
                Kernel Driver           Yes             System
                Running  OK           Normal          No              Yes

parport         Parport
                c:\windows\system32\drivers\parport.sys
                Kernel Driver           No              Manual
                Stopped  OK           Ignore          No              No

partmgr         Partition Manager
                c:\windows\system32\drivers\partmgr.sys
                Kernel Driver           Yes             Boot
                Running  OK           Normal          No              Yes

pci             PCI Bus Driver
                c:\windows\system32\drivers\pci.sys
                Kernel Driver           Yes             Boot
                Running  OK           Critical        No              Yes

pciide          PCIIde
                c:\windows\system32\drivers\pciide.sys
                Kernel Driver           Yes             Boot
                Running  OK           Normal          No              Yes

pcmcia          Pcmcia
                c:\windows\system32\drivers\pcmcia.sys
                Kernel Driver           No              Disabled
                Stopped  OK           Normal          No              No

pdcomp          PDCOMP  Not Available           Kernel Driver
                No      Manual  Stopped  OK
                Ignore  No      No

pdframe         PDFRAME         Not Available
                Kernel Driver           No              Manual
                Stopped  OK           Ignore          No              No

pdreli          PDRELI  Not Available           Kernel Driver
                No      Manual  Stopped  OK
                Ignore  No      No

pdrframe        PDRFRAME        Not Available
                Kernel Driver           No              Manual
                Stopped  OK           Ignore          No              No

pmxdrv          pmxdrv
                \??\c:\windows\system32\drivers\pmxdrv.sys
                Kernel Driver           No              Manual
                Stopped  OK           Normal          No              No

pnpmem          Microsoft Memory Module Driver
                c:\windows\system32\drivers\pnpmem.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

pptpminiport            WAN Miniport (PPTP)
                c:\windows\system32\drivers\raspptp.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

ptilink         Direct Parallel Link Driver
                c:\windows\system32\drivers\ptilink.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

ql2300          QLogic Fibre Channel SCSI Miniport Driver
(wx64 IP)       c:\windows\system32\drivers\ql2300.sys
                Kernel Driver           Yes             Boot
                Running  OK           Normal          No              Yes

qldirect        qldirect
                c:\windows\system32\drivers\qldirect.sys
                Kernel Driver           Yes             Auto
                Running  OK           Normal          No              Yes

rasacd          Remote Access Auto Connection Driver
                c:\windows\system32\drivers\rasacd.sys
                Kernel Driver           Yes             System
                Running  OK           Normal          No              Yes

rasl2tp         WAN Miniport (L2TP)
                c:\windows\system32\drivers\rasl2tp.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

raspppoe        Remote Access PPPOE Driver
                c:\windows\system32\drivers\raspppoe.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

raspti          Direct Parallel
                c:\windows\system32\drivers\raspti.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

rdbss           Rdbss           c:\windows\system32\drivers\rdbss.sys
                File System Driver      Yes             System
                Running  OK           Normal          No              Yes

rdpcdd          RDPCDD
                c:\windows\system32\drivers\rdpcdd.sys
                Kernel Driver           Yes             System
                Running  OK           Ignore          No              Yes

rdpdr           Terminal Server Device Redirector Driver
                c:\windows\system32\drivers\rdpdr.sys
                Kernel Driver           Yes             Manual
                Running  OK           Normal          No              Yes

rdpwd           RDPWD
                c:\windows\system32\drivers\rdpwd.sys
                Kernel Driver           Yes             Manual
                Running  OK           Ignore          No              Yes

redbook         Digital CD Audio Playback Filter Driver
                c:\windows\system32\drivers\redbook.sys
                Kernel Driver           Yes             System
                Running  OK           Normal          No              Yes

secdrv          Security Driver
                c:\windows\system32\drivers\secdrv.sys
                Kernel Driver           No              Disabled
                Stopped  OK           Normal          No              No

serenum         Serenum Filter Driver
                c:\windows\system32\drivers\serenum.sys
                Kernel Driver           Yes             Manual
```

Running OK Normal No Yes

serial Serial port driver
c:\windows\system32\drivers\serial.sys
Kernel Driver Yes System
Running OK Ignore No Yes

sfloppy High-Capacity Floppy Disk Drive
c:\windows\system32\drivers\sfloppy.sys
Kernel Driver No Manual
Stopped OK Normal No No

simbad Simbad Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sivdriver SIV Kernel Driver
\??\c:\windows\system32\drivers\sivx64.sys
Kernel Driver No Manual
Stopped OK Normal No No

slic Alacritech Accelerator
c:\windows\system32\drivers\slic.sys
Kernel Driver No Manual
Stopped OK Normal No No

srv Srv c:\windows\system32\drivers\srv.sys
File System Driver Yes Manual
Running OK Normal No Yes

swenum Software Bus Driver
c:\windows\system32\drivers\swenum.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

symc8xx symc8xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

symmpi symmpi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_hi sym_hi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_u3 sym_u3 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

tcpip TCP/IP Protocol Driver
c:\windows\system32\drivers\tcpip.sys
Kernel Driver Yes System
Running OK Normal No Yes

tdpipe TDPIPE
c:\windows\system32\drivers\tdpipe.sys
Kernel Driver No Manual
Stopped OK Ignore No No

tdtcp TDTCP c:\windows\system32\drivers\tdtcp.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

termdd Terminal Device Driver
c:\windows\system32\drivers\termdd.sys
Kernel Driver Yes System
Running OK Normal No Yes

toside TosIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

udfs Udfs c:\windows\system32\drivers\udfs.sys
File System Driver No Disabled
Stopped OK Normal No No

ultra ultra Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

update Microcode Update Driver
c:\windows\system32\drivers\update.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbccgp Microsoft USB Generic Parent Driver
c:\windows\system32\drivers\usbccgp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver
c:\windows\system32\drivers\usbehci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbhub USB2 Enabled Hub
c:\windows\system32\drivers\usbhub.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbohci Microsoft USB Open Host Controller Miniport Driver
c:\windows\system32\drivers\usbohci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbstor USB Mass Storage Driver
c:\windows\system32\drivers\usbstor.sys
Kernel Driver No Manual
Stopped OK Normal No No

vgasave VGA Display Controller.
c:\windows\system32\drivers\vga.sys
Kernel Driver Yes System
Running OK Ignore No Yes

viaide ViaIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

volsnap Storage volumes
c:\windows\system32\drivers\volsnap.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

wanarp Remote Access IP ARP Driver
c:\windows\system32\drivers\wanarp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

wdica WDICA Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

wlbs Network Load Balancing
c:\windows\system32\drivers\wlbs.sys
Kernel Driver No Manual
Stopped OK Normal No No

[Signed Drivers]

Device Name Signed Device Class
Driver Version Driver Date
Manufacturer INF Name Driver Name
Device ID

Microsoft System Management BIOS Driver No
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0002

Microcode Update Device No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\SYSTEM\0001

Plug and Play Software Device Enumerator No
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0000

QLogic Optimizing and Multipath Driver No
SCSIADAPTER Not Available Not
Available Not Available oem4.inf Not Available
ROOT\SCSIADAPTER\0000

Terminal Server Mouse Driver No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\RDP_MOU\0000

Terminal Server Keyboard Driver No
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\RDP_KBD\0000

Terminal Server Device Redirector No
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\RDPDR\0000

Direct Parallel No NET 5.2.3790.1830
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_PTIMINIPORT\0000

WAN Miniport (PPTP) No NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_PPTPMINIPORT\0000

WAN Miniport (PPPOE) No NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_PPPOEMINIPORT\0000

WAN Miniport (IP) No NET 5.2.3790.1830
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) No NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_L2TPMINIPORT\0000

Video Codecs No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices No MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices No MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio Drivers No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_WANARP\0000

volsnap Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_VOLSNAP\0000

VGA Display Controller. Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_VGASAVE\0000

TDTCP Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_TDTCP\0000

TCP/IP Protocol Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_TCPIP\0000

SIV Kernel Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_SIVDRIVER\0000

Security Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_SECDRV\0000

RDPWD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPWD\0000

RDPCDD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPCDD\0000

Remote Access Auto Connection Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RASACD\0000

qldirect Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_QLDIRECT\0000

pmxdrv Not Available LEGACYDRIVER Not
Available Not Available Not Available Not

Available Not Available
ROOT\LEGACY_PMXDRV\0000

Partition Manager Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_PARTMGR\0000

Null Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NULL\0000

nfrd960 Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NFRD960\0000

NetBios over Tcpip Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NETBT\0000

NDProxy Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NDPROXY\0000

NDIS Usermode I/O Protocol Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDIS\0000

Nal Service Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NAL\0000

mountmgr Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_MOUNTMGR\0000

mnmdd Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_MNMDD\0000

ksecdd Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_KSECDD\0000

IPSEC driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_IPSEC\0000

IP Network Address Translator Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_IPNAT\0000

Generic Packet Classifier Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_GPC\0000

Fips Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_FIPS\0000

em Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_EM\0000

dmload Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_DMLOAD\0000

dmboot Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_DMBOOT\0000

CRC Disk Filter Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_CRCDISK\0000

CdaD10BA Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_CDAD10BA\0000

CdaC15BA Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_CDAC15BA\0000

Beep Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_BEEP\0000

AFD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_AFD\0000

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBD6OFFSET92872DA00LENGTH5018CEE0
0

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBD6OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBAFOFFSET92872DA00LENGTH5018CEE0
0

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBAFOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBA8OFFSET92872DA00LENGTH5018CEE0
0

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAFFEEBA8OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBA1OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBA1OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBBAOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBBAOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBB3OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBB3OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB8COFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB8COFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB85OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB85OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB2BOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB2BOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB24OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB24OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB3DOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB3DOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB36OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB36OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB0FOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB0FOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB07OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB07OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB00OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB00OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB19OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB19OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECBCOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECBCOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECB4OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECB4OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC8DOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC8DOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC86OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC86OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC9FOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC9FOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC98OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC98OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC91OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC91OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB6AOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB6AOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC0FOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC0FOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC08OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC08OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC01OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC01OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC1AOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC1AOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC13OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEC13OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECECOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECECOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECE5OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECE5OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECFEOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECFEOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURE772CCB7AOFFSET199D337D800LENGTH5E19A00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURE772CCB7AOFFSET7E0000LENGTH199D2B95A00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECF7OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECF7OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECF0OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECF0OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECC9OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECC9OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECC1OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECC1OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECDAOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECDAOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECD3OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECD3OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECACOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECACOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECA4OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEECA4OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB63OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB63OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB7COFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB7COFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB75OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB75OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB4EOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB4EOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB47OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB47OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB40OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB40OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB59OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB59OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB52OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB52OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB12OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB12OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBEBOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBEBOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBE4OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBE4OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBFAOFFSETE2A004600LENGTHDBA4F80800

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBFAOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBFAOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBF3OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBF3OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBCCOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBCCOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBC5OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBC5OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBDEOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEBDEOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB9EOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB9EOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB97OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB97OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB90OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEB90OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA69OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA69OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA62OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA62OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA7BOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA7BOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA74OFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA74OFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA4DOFFSET92872DA00LENGTH5018CEE00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREAFFEEA4DOFFSET7E0000LENGTH927F45C00

Generic volume No VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREF9BEF9BEOFFSET7E00LENGTH878EE1200

Volume Manager No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\FTDISK\0000

Logical Disk Manager No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\DMIO\0000

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&36B90202&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\17

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available

PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&3BCEF44&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\16

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&2C9E08A6&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\15

Qlogic processor device No SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&148BE96D&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&016

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&014

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&012

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&010

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&006

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&004

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&002

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&148BE96D&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&19E45801&0&09

Qlogic processor device No SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&1D238C8&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&015

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&013

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&012

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&010

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&007

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&005

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&003

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&1D238C8&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&19E45801&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&19E45801&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\14

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&72AA75C&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\13

Qlogic processor device No SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&3D5A382&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&016

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&014

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&012

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&010

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&007

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&005

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&003

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&3D5A382&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&300BC0BE&0&09

Qlogic processor device No SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&168F5427&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&016

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&014

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&012

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&010

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&007

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&005

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&003

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FASTT&REV_0914\4&168F5427&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_01341077&REV_02\3&300BC0BE&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&300BC0BE&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\12

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem18.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&09

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem18.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&1D521019&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\11

Serverworks Champion CSB6 - SouthBridge 6 LPC No SYSTEM 5.2.3790.1830 10/1/2002 ServerWorks (RCC) machine.inf Not Available PCI\VEN_1166&DEV_0227&SUBSYS_00000000&REV_00\3&A985F74&0&7B

ServerWorks Champion CSB6 - SouthBridge 6 No SYSTEM 5.2.3790.1830 10/1/2002 ServerWorks (RCC) machine.inf Not Available PCI\VEN_1166&DEV_0203&SUBSYS_00000000&REV_A0\3&A985F74&0&78

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&26176FDA&0

Standard Enhanced PCI to USB Host Controller No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&A985F74&0&1A

HID-compliant device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available HID\VID_04B3&PID_4001&MI_02\7&19A2797B&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_02\6&2F17CBFC&1&0002

HID-compliant mouse No MOUSE 5.2.3790.1830 10/1/2002 Microsoft msmouse.inf Not Available HID\VID_04B3&PID_4001&MI_01\7&316605C0&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_01\6&2F17CBFC&1&0001

HID Keyboard Device No KEYBOARD 5.2.3790.1830 10/1/2002 (Standard keyboards) keyboard.inf Not Available HID\VID_04B3&PID_4001&MI_00\7&D8EC7FE&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_00\6&2F17CBFC&1&0000

USB Composite Device No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usb.inf Not Available USB\VID_04B3&PID_4001\000D6046D97A

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&14A79F01&1

NEC PCI to USB Open Host Controller No USB 5.2.3790.1830 10/1/2002 NEC usbport.inf Not Available PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&19

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&27614FA6&0

NEC PCI to USB Open Host Controller No USB 5.2.3790.1830 10/1/2002 NEC usbport.inf Not Available PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&18

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&A985F74&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\10

Memory Module No MEMORY 5.2.3790.1830 10/1/2002 Microsoft memory.inf Not Available ACPI\PNP0C80\2

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\31

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\30

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\29

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\28

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\27

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\26

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_6\25

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available

ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\24

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\23

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\22

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\21

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\20

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\19

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\18

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\17

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\16

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_04\3&20FEA912&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\7

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_ADAPTEC&PROD_ARRAY
&REV_V1.0\5&5287F60&0&040000

IBM-ESXS EXP3000 SCSI Enclosure Device Not
Available Not Available Not Available Not
Available Not Available Not Available Not
Available SCSI\ENCLOSURE&VEN_IBM-
ESXS&PROD_EXP3000&REV_0166\5&5287F60&0&0201
00

IBM-ESXS EXP3000 SCSI Enclosure Device Not
Available Not Available Not Available Not
Available Not Available Not Available Not
Available SCSI\ENCLOSURE&VEN_IBM-
ESXS&PROD_EXP3000&REV_0166\5&5287F60&0&0200
00

Adaptec SAS RAID 4800SAS Controller No
SCSIADAPTER 5.2.0.11518
9/14/2006 Adaptec oem17.inf Not Available
PCI\VEN_9005&DEV_0285&SUBSYS_029990
05&REV_0A\4&3AD3359D&0&7008

PCI standard PCI-to-PCI bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_8086&DEV_0335&SUBSYS_000000
00&REV_0A\3&E44F86D&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_04\3&E44F86D&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\6

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_04\3&474B838&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\5

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&5EDAC71&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&017

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&015

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&013

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&011

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&007

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available

SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&005

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&003

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&5EDAC71&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem1.inf Not
Available
PCI\VEN_1077&DEV_2422&SUBSYS_013410
77&REV_02\3&172E68DD&0&09

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&348844D5&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&017

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&016

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&014

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&011

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&006

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&004

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&002

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&348844D5&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem1.inf Not
Available
PCI\VEN_1077&DEV_2422&SUBSYS_013410
77&REV_02\3&172E68DD&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_04\3&172E68DD&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\4

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_04\3&29E81982&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\3

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&C805747&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&017

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&015

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&013

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&011

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&006

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&004

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&002

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1815_____FA
STT&REV_0914\4&C805747&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_013410 77&REV_02\3&1070020&0&09

Qlogic processor device No SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_P SEUDO_DEVICE&REV_\4&356170A9&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&017

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&015

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&013

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&011

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&006

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&004

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&002

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM&PROD_1815_____FA STT&REV_0914\4&356170A9&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem1.inf Not Available PCI\VEN_1077&DEV_2422&SUBSYS_013410 77&REV_02\3&1070020&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_000000 00&REV_04\3&1070020&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\2

Adaptec Processor Device (Pseudo) No SCSIADAPTER 1.10.608.818 8/22/2005 Adaptec oem12.inf Not Available SCSI\PROCESSOR&VEN_ADAPTEC&PROD_ HOSTRAID&REV_1.0\4&4963A81&0&077E00

Disk drive No DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST936701SS&REV_B51D\4&4963A81&0& 020200

Adaptec AIC-9410w SAS Controller No SCSIADAPTER 1.10.608.818 8/22/2005 Adaptec oem12.inf Not Available PCI\VEN_9005&DEV_041E&SUBSYS_02E710 14&REV_08\3&13C0B0C5&0&10

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem18.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E710 14&REV_10\3&13C0B0C5&0&09

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem18.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E710 14&REV_10\3&13C0B0C5&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_000000 00&REV_04\3&13C0B0C5&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\1

Memory Module No MEMORY 5.2.3790.1830 10/1/2002 Microsoft memory.inf Not Available ACPI\PNP0C80\0

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_- _EM64T_FAMILY_15_MODEL_6\15

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_- _EM64T_FAMILY_15_MODEL_6\14

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_- _EM64T_FAMILY_15_MODEL_6\13

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_- _EM64T_FAMILY_15_MODEL_6\12

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_- _EM64T_FAMILY_15_MODEL_6\11

Intel Processor No PROCESSOR 5.2.3790.1830 10/1/2002 Intel

cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6\10

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_9

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_8

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_7

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_6

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_5

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_4

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_3

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_2

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_1

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_6_0

ACPI Fixed Feature Button No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\FIXEDBUTTON\2&DABA3FF&0

System board No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C01\1

IBM Active PCI Device No SYSTEM
5.2.1.0 8/30/2005 IBM Corporation
oem11.inf Not Available
ACPI\IBM37D4\2&DABA3FF&0

Motherboard resources No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0C02\3

Numeric data processor No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0C04\4&13245C1&0

System speaker No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0800\4&13245C1&0

System CMOS/real time clock No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0B00\4&13245C1&0

System timer No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\4&13245C1&0

Direct memory access controller No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0200\4&13245C1&0

Advanced programmable interrupt controller No
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available
ACPI\PNP0003\4&13245C1&0

Communications Port No PORTS 5.2.3790.1830
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\2

Communications Port No PORTS 5.2.3790.1830
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\1

PS/2 Compatible Mouse No MOUSE
5.2.3790.1830 10/1/2002 Microsoft
msmouse.inf Not Available
ACPI\PNP0F13\4&13245C1&0

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
No KEYBOARD 5.2.3790.1830
10/1/2002 (Standard keyboards) keyboard.inf
Not Available
ACPI\PNP0303\4&13245C1&0

Serverworks Champion CSB6 - SouthBridge 6 LPC No
SYSTEM 5.2.3790.1830 10/1/2002
ServerWorks (RCC) machine.inf Not
Available
PCI\VEN_1166&DEV_0227&SUBSYS_000000
00&REV_00\3&267A616A&0&7B

Secondary IDE Channel No HDC
5.2.3790.1830 10/1/2002 (Standard IDE
ATA/ATAPI controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&101988B2&0&1

CD-ROM Drive No CDROM 5.2.3790.1830
10/1/2002 (Standard CD-ROM drives)
cdrom.inf Not Available
IDE\CDROMMATSHITA_DVD-ROM_SR-
8178_____PJ22____\5&A8D2D22&0&0.0.0

Primary IDE Channel No HDC 5.2.3790.1830
10/1/2002 (Standard IDE ATA/ATAPI
controllers) mshdc.inf Not Available

PCIIDE\IDECHANNEL\4&101988B2&0&0

Standard Dual Channel PCI IDE Controller No HDC 5.2.3790.1830 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available PCI\VEN_1166&DEV_0213&SUBSYS_02121166&REV_A0\3&267A616A&0&79

ServerWorks Champion CSB6 - SouthBridge 6 No SYSTEM 5.2.3790.1830 10/1/2002 ServerWorks (RCC) machine.inf Not Available PCI\VEN_1166&DEV_0203&SUBSYS_00000000&REV_A0\3&267A616A&0&78

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&2B778F81&0

Standard Enhanced PCI to USB Host Controller No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&267A616A&0&1A

HID-compliant deviceNo HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available HID\VID_04B3&PID_4001&MI_02\7&BB6D957&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_02\6&91D87B8&0&0002

HID-compliant mouseNo MOUSE 5.2.3790.1830 10/1/2002 Microsoft msmouse.inf Not Available HID\VID_04B3&PID_4001&MI_01\7&1EE6F595&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_01\6&91D87B8&0&0001

HID Keyboard Device No KEYBOARD 5.2.3790.1830 10/1/2002 (Standard keyboards)keyboard.inf Not Available HID\VID_04B3&PID_4001&MI_00\7&321711D3&0&0000

USB Human Interface Device No HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_00\6&91D87B8&0&0000

USB Composite Device No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usb.inf Not Available USB\VID_04B3&PID_4001\000D6046D4BF

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&2DDBD7B&0

NEC PCI to USB Open Host Controller No USB 5.2.3790.1830 10/1/2002 NEC usbport.inf Not Available PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&19

USB Root Hub No USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&15976E20&0

NEC PCI to USB Open Host Controller No USB 5.2.3790.1830 10/1/2002 NEC usbport.inf Not Available PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&18

Default Monitor No MONITOR 5.2.3790.1830 10/1/2002 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\4&36FA8DD8&0&10000000&00&01

Plug and Play Monitor No MONITOR 5.2.3790.1830 10/1/2002 (Standard monitor types) monitor.inf Not Available DISPLAY\IBM029A\4&36FA8DD8&0&10000082&00&01

Radeon 7000 / RADEON VE Family (Microsoft Corporation) No DISPLAY 6.14.10.6508 12/3/2004 ATI Technologies Inc. atiixpag.inf Not Available PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\3&267A616A&0&08

PCI standard host CPU bridge No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_04\3&267A616A&0&00

PCI bus No SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\0

Microsoft ACPI-Compliant System No SYSTEM 5.2.3790.1830 10/1/2002 Microsoft acpi.inf Not Available ACPI_HAL\PNP0C08\0

ACPI Multiprocessor x64-based PC No COMPUTER 5.2.3790.1830 10/1/2002 (Standard computers) hal.inf Not Available ROOT\ACPI_HAL\0000

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available HTREE\ROOT\0

[Environment Variables]

Variable Value User Name

ClusterLogC:\WINDOWS\Cluster\cluster.log <SYSTEM>

ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>

FP_NO_HOST_CHECK NO <SYSTEM>

lib C:\Program Files\SQLXML 4.0\bin\ <SYSTEM>

NUMBER_OF_PROCESSORS 32 <SYSTEM>

OS Windows_NT <SYSTEM>

Path %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;C:\Program Files (x86)\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\binn\;C:\Program Files (x86)\Microsoft SQL Server\90\Tools\binn\;C:\Program Files (x86)\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files (x86)\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\;C:\Program Files (x86)\Microsoft Visual Studio 8\Common7\IDE\PrivateAssemblies\;c:\x64_krate;c:\tools\util;c:\tools;C:\Program Files\Intel\DMIX <SYSTEM>

PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE AMD64 <SYSTEM>

PROCESSOR_IDENTIFIER EM64T Family 15 Model 6 Stepping 8, GenuineIntel <SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_REVISION 0608 <SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>

TMP %SystemRoot%\TEMP <SYSTEM>

windir %SystemRoot% <SYSTEM>

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TEMP %USERPROFILE%\Local Settings\Temp IBMSERV4\Administrator

TMP %USERPROFILE%\Local Settings\Temp IBMSERV4\Administrator

[Print Jobs]

Document Size Owner Notify Status Time Submitted Start Time Until Time Elapsed Time Pages Printed Job ID Priority Parameters Driver Print Processor Host Print Queue Data Type Name

[Network Connections]

Local Name Remote Name Type Status User Name

[Running Tasks]

Name Path Process ID Priority Min Working Set Max Working Set Start Time Version Size File Date

system idle process Not Available 0 0 Not Available Not Available Not Available Not Available Not Available Not Available

system Not Available 4 8 0 1413120 Not Available Not Available Not Available Not Available

smss.exe Not Available 376 11 204800 1413120 2/17/2007 6:54 AM Not Available Not Available Not Available

csrss.exe Not Available 424 13 Not Available Not Available 2/17/2007 6:54 AM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe 448 13 204800 1413120 2/17/2007 6:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 901.00 KB (922,624 bytes) 3/25/2005 7:00 AM

services.exe c:\windows\system32\services.exe 492 9 204800 1413120 2/17/2007 6:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 216.50 KB (221,696 bytes) 3/25/2005 7:00 AM

lsass.exe c:\windows\system32\lsass.exe 504 9 204800 1413120 2/17/2007 6:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/25/2005 7:00 AM

svchost.exe c:\windows\system32\svchost.exe 688 8 204800 1413120 2/17/2007 6:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes) 3/25/2005 7:00 AM

svchost.exe Not Available 744 8 Not Available Not Available 2/17/2007 6:55 AM Not Available Not Available Not Available Not Available

svchost.exe Not Available 792 8 Not Available Not Available 2/17/2007 6:55 AM Not Available Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 820 8 204800 1413120 2/17/2007 6:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes) 3/25/2005 7:00 AM

msdtc.exe Not Available 932 8 Not Available Not Available 2/17/2007 6:55 AM Not Available Not Available Not Available Not Available

ibmhpasv.exe c:\windows\system32\ibmhpasv.exe 1088 8 204800 1413120 2/17/2007 6:55 AM 5.2.1.0 17.50 KB (17,920 bytes) 8/30/2005 11:48 AM

svchost.exe Not Available 1120 8 Not Available Not Available 2/17/2007 6:55 AM Not Available Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe
1492 8 204800 1413120
2/17/2007 6:55 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM

wmiprvse.exe Not Available 1636 8
Not Available Not Available
2/17/2007 6:56 AM Not Available Not
Available Not Available

explorer.exe c:\windows\explorer.exe 1928
8 204800 1413120 2/17/2007 6:59
AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,364,480 bytes) 3/25/2005 7:00
AM

csrss.exe Not Available 1880 13 Not
Available Not Available 2/17/2007 7:01 AM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
1996 13 204800 1413120
2/17/2007 7:01 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 901.00 KB (922,624 bytes)
3/25/2005 7:00 AM

rdpclip.exe c:\windows\system32\rdpclip.exe 2008 8
204800 1413120 2/17/2007 7:01 AM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
99.00 KB (101,376 bytes) 1/24/2006 10:00
AM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe
2168 8 204800 1413120
2/17/2007 7:02 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.30 MB (1,363,456 bytes)
1/24/2006 10:02 AM

wmiprvse.exe Not Available 2228 8
Not Available Not Available
2/17/2007 7:02 AM Not Available Not
Available Not Available

helpsvc.exe
c:\windows\pchealth\helpctr\binaries\helpsvc.exe
2244 8 204800 1413120
2/17/2007 7:02 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.52 MB (1,591,296 bytes)
1/24/2006 10:02 AM

[Loaded Modules]

Name Version Size File Date Manufacturer
Path

winlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
901.00 KB (922,624 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\winlogon.exe

ntdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.20 MB (1,257,472 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntdll.dll

kernel32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.43 MB (1,500,160 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\kernel32.dll

advapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,051,136 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\advapi32.dll

rpcrt4 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.63 MB (1,714,176 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rpcrt4.dll

crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
1.36 MB (1,428,992 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\crypt32.dll

msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
152.50 KB (156,160 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msasn1.dll

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447)
508.00 KB (520,192 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.04 MB (1,085,952 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
592.00 KB (606,208 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\gdi32.dll

nddeapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
25.00 KB (25,600 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\nddeapi.dll

profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
589.00 KB (603,136 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netapi32.dll

userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.02 MB (1,069,056 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\userenv.dll

psapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
29.00 KB (29,696 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.50 KB (111,104 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.00 KB (122,880 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\secur32.dll

setupapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.45 MB (1,523,200 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\setupapi.dll

version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
28.00 KB (28,672 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
89.00 KB (91,136 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\winsta.dll

ws2_32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 176.50 KB (180,736 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\ws2_32.dll

ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 30.50 KB (31,232 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\ws2help.dll

msgina 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.14 MB (1,193,472 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 193.50 KB (198,144 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 606.50 KB (621,056 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\shlwapi.dll

sfc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 6.00 KB (6,144 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\sfc.dll

sfc_os 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 183.50 KB (187,904 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\sfc_os.dll

wintrust 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 297.50 KB (304,640 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\wintrust.dll

imagehlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 57.50 KB (58,880 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\imagehlp.dll

ole32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 2.43 MB (2,543,616 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\ole32.dll

comctl32 6.0 (srv03_sp1_rtm.050324-1447) 1.51 MB (1,584,128 bytes) 1/23/2006 1:14 PM Microsoft Corporation c:\windows\winsxs\amd64_microsoft.windows.common-controls_6595b64144ccf1df_6.0.3790.1830_x-ww_aced72af\comctl32.dll

winscard 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 230.00 KB (235,520 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\winscard.dll

wtsapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 29.00 KB (29,696 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\wtsapi32.dll

sxs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.91 MB (2,003,968 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\sxs.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 303.50 KB (310,784 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\winmm.dll

shell32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 10.01 MB (10,492,416 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\shell32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 241.96 KB (247,768 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\rsaenh.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 390.00 KB (399,360 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\wldap32.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 151.50 KB (155,136 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 28.00 KB (28,672 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 148.00 KB (151,552 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\wlnotify.dll

mpr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 115.00 KB (117,760 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 1.06 MB (1,116,160 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 247.00 KB (252,928 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447) 934.50 KB (956,928 bytes) 1/23/2006 1:14 PM Microsoft Corporation c:\windows\winsxs\amd64_microsoft.windows.common-controls_6595b64144ccf1df_5.82.3790.1830_x-ww_4d792d2a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 494.50 KB (506,368 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\uxtheme.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 154.50 KB (158,208 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 348.50 KB (356,864 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 240.50 KB (246,272 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 202.00 KB (206,848 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\credui.dll

atl 3.05.2284 96.50 KB (98,816 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\atl.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 66.00 KB (67,584 bytes) 3/25/2005 7:00

AM Microsoft Corporation
c:\windows\system32\rtutils.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
69.00 KB (70,656 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\samlib.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
865.00 KB (885,760 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\clbcatq.dll

comres 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
779.50 KB (798,208 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\comres.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.77 MB (2,899,456 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
441.00 KB (451,584 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cscui.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
222.50 KB (227,840 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntmarta.dll

scredir 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
38.50 KB (39,424 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\scredir.dll

rdpsnd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
25.00 KB (25,600 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rdpsnd.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
216.50 KB (221,696 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
80.00 KB (81,920 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

msvcp60 7.0.3790.1830 (srv03_sp1_rtm.050324-1447)
919.50 KB (941,568 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msvcp60.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
594.50 KB (608,768 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
167.00 KB (171,008 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
205.00 KB (209,920 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
127.00 KB (130,048 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\eventlog.dll

lsass 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.50 MB (1,568,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\lsasrv.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
127.50 KB (130,560 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
297.50 KB (304,640 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dnsapi.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.01 MB (1,059,328 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\samsrv.dll

cryptdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
47.00 KB (48,128 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cryptdll.dll

msprivs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
47.50 KB (48,640 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msprivs.dll

kerberos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
698.00 KB (714,752 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\kerberos.dll

msv1_0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
253.00 KB (259,072 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msv1_0.dll

iphlpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
177.00 KB (181,248 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
666.00 KB (681,984 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
400.50 KB (410,112 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
248.00 KB (253,952 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
130.50 KB (133,632 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
409.00 KB (418,816 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\kdcsvc.dll

ntdsa 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.81 MB (2,948,096 bytes) 3/25/2005 7:00

AM Microsoft Corporation
c:\windows\system32\ntdsa.dll

esent 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.26 MB (2,366,976 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
51.00 KB (52,224 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
478.00 KB (489,472 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mswsock.dll

scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
308.00 KB (315,392 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\scecli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
794.00 KB (813,056 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
561.00 KB (574,464 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\hnetcfg.dll

wshtcpip 5.2.3790.2670 (srv03_sp1_qfe.060328-1821)
29.00 KB (29,696 bytes) 3/29/2006 8:53
AM Microsoft Corporation
c:\windows\system32\wshtcpip.dll

pstorsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\pstorsvc.dll

psbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
124.00 KB (126,976 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\psbase.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
226.96 KB (232,408 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dssenh.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.50 KB (25,088 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
672.00 KB (688,128 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rpcss.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
308.50 KB (315,904 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\system32\schedsvc.dll

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
9.00 KB (9,216 bytes)3/25/2005 7:00 AM
Microsoft Corporation
c:\windows\system32\msidle.dll

wkssvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
221.00 KB (226,304 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wkssvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
57.00 KB (58,368 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wiarpc.dll

aelupsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
241.00 KB (246,784 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\apphelp.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.50 KB (37,376 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dmserver.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
357.00 KB (365,568 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\es.dll

srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.50 KB (160,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\srvsvc.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
27.50 KB (28,160 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\seclogon.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
63.50 KB (65,024 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\sens.dll

trkwks 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
177.50 KB (181,760 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\trkwks.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.26 MB (1,320,960 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\vssapi.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
2.06 MB (2,156,544 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\comsvcs.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.24 MB (1,299,968 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
626.50 KB (641,536 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\esscli.dll

wbemcomn 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 524.00 KB (536,576 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
866.50 KB (887,296 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
171.00 KB (175,104 bytes) 1/24/2006 10:00

AM Microsoft Corporation
c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
353.50 KB (361,984 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
743.00 KB (760,832 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
532.50 KB (545,280 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemess.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
73.00 KB (74,752 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\ncprov.dll

wbemsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
58.00 KB (59,392 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemsvc.dll

wbemcons 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
65.50 KB (67,072 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemcons.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
457.00 KB (467,968 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netman.dll

netshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.32 MB (2,437,120 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
127.00 KB (130,048 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\clusapi.dll

rasapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
410.00 KB (419,840 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasapi32.dll

rasman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
95.50 KB (97,792 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasman.dll

tapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
332.50 KB (340,480 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\tapi32.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.13 MB (1,186,304 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
49.00 KB (50,176 bytes) 3/24/2005 12:35
PM Microsoft Corporation
c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
492.00 KB (503,808 bytes) 3/24/2005 12:35
PM Microsoft Corporation
c:\windows\system32\wzcsvc.dll

wmi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
5.50 KB (5,632 bytes) 3/25/2005 7:00 AM
Microsoft Corporation
c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
219.00 KB (224,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dhcpcsvc.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
859.50 KB (880,128 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.00 KB (12,288 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasadhlp.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
76.00 KB (77,824 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchsvc.dll

ibmhpasv 5.2.1.0 17.50 KB (17,920 bytes)
8/30/2005 11:48 AM IBM Corporation
c:\windows\system32\ibmhpasv.exe

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
354.50 KB (363,008 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
27.50 KB (28,160 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
187.00 KB (191,488 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
170.13 KB (174,216 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\rdpwsx.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,364,480 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\explorer.exe

browseui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.53 MB (1,601,536 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\browseui.dll

shdocvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
2.30 MB (2,416,128 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
705.50 KB (722,432 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cryptui.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
530.50 KB (543,232 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\themeui.dll

msimg32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
6.50 KB (6,656 bytes) 3/25/2005 7:00 AM
Microsoft Corporation
c:\windows\system32\msimg32.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 3/25/2005 7:00

AM Microsoft Corporation
c:\windows\system32\actxprxy.dll

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
30.00 KB (30,720 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
184.00 KB (188,416 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.02 MB (1,074,176 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
439.00 KB (449,536 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\webcheck.dll

wsock32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.50 KB (25,088 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wsock32.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
142.50 KB (145,920 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
41.50 KB (42,496 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
32.50 KB (33,280 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\powrprof.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
71.50 KB (73,216 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntlanman.dll

netui0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
130.00 KB (133,120 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netui0.dll

netui1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
338.50 KB (346,624 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netui1.dll

davclnt 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
38.00 KB (38,912 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\davclnt.dll

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
99.00 KB (101,376 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\rdpclip.exe

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
112.00 KB (114,688 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msacm32.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,363,456 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
7.50 KB (7,680 bytes) 1/24/2006 10:02 AM
Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
208.00 KB (212,992 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\itss.dll

msxml3 8.70.1104.0 2.04 MB (2,141,184 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\msxml3.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
155.00 KB (158,720 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
686.00 KB (702,464 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mlang.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
5.65 MB (5,928,448 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 357.00 KB (365,568 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
380.50 KB (389,632 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
617.50 KB (632,320 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msctf.dll

shdoclc 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
589.50 KB (603,648 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\shdoclc.dll

jscript 5.6.0.8827 974.50 KB (997,888 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
208.00 KB (212,992 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
905.50 KB (927,232 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 646.50 KB (662,016 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
636.00 KB (651,264 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.50.9146.0 1.39 MB (1,462,272 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\mfc42u.dll

comdlg32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 446.50 KB (457,216 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\comdlg32.dll

riched32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.00 KB (7,168 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\riched32.dll

riched20 5.31.23.1224 1.10 MB (1,157,120 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\riched20.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 38.00 KB (38,912 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\wbem\wbemprox.dll

browselc 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 63.00 KB (64,512 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\browselc.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.52 MB (1,591,296 bytes) 1/24/2006 10:02 AM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\helpsvc.exe

[Services]

Display Name Name State Start Mode Service Type Path Error Control Start Name Tag ID

Adaptec Storage Manager Agent AdaptecStorageManagerAgent Stopped Manual Own Process "c:\program files (x86)\adaptec\adaptec storage manager\storserv.exe" Normal LocalSystem 0

Application Experience Lookup Service AeLookupSvc Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Alerter Alerter Stopped Disabled Share Process c:\windows\system32\svchost.exe -k localservice Normal NT AUTHORITY\LocalService 0

Application Layer Gateway Service ALG Stopped Manual Own Process c:\windows\system32\alg.exe Normal NT AUTHORITY\LocalService 0

Application Management AppMgmt Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

ASP.NET State Service aspnet_state Stopped Manual Own Process c:\windows\microsoft.net\framework64\v2.0.50727\aspnet_state.exe Normal NT AUTHORITY\NetworkService 0

Windows Audio AudioSrv Stopped Disabled Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Background Intelligent Transfer Service BITS Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Computer Browser Browser Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Indexing Service CiSvc Stopped Disabled Share Process c:\windows\system32\cisvc.exe Normal LocalSystem 0

ClipBook ClipSrv Stopped Disabled Own Process c:\windows\system32\clipsrv.exe Normal LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_X86 clr_optimization_v2.0.50727_32 Stopped Manual Own Process c:\windows\microsoft.net\framework\v2.0.50727\mscorsvw.exe Ignore LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_x64 clr_optimization_v2.0.50727_64 Stopped Manual Own Process c:\windows\microsoft.net\framework64\v2.0.50727\mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp Stopped Manual Own Process c:\windows\system32\dllhost.exe /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235} Normal LocalSystem 0

Cryptographic Services CryptSvc Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch Running Auto Share Process c:\windows\system32\svchost.exe -k dcomlaunch Normal LocalSystem 0

Distributed File System Dfs Stopped Manual Own Process c:\windows\system32\dfssvc.exe Normal LocalSystem 0

DHCP Client Dhcp Stopped Manual Share Process c:\windows\system32\svchost.exe -k networkservice Normal NT AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service dmadmin Stopped Manual Share Process c:\windows\system32\dmadmin.exe /com Normal LocalSystem 0

Logical Disk Managerdmserver Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DNS Client Dnscache Stopped Manual Share Process c:\windows\system32\svchost.exe -k networkservice Normal NT AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped Manual Share Process

c:\windows\system32\svchost.exe -k winerr
Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

COM+ Event System EventSystem Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Help and Support helpsvc Running Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Human Interface Device Access HidServ Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

HTTP SSL HTTPFilter Stopped Manual
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

IAS Jet Database Access IASJet Stopped
Manual Share Process
c:\windows\syswow64\svchost.exe -k iasjet
Normal LocalSystem 0

IBM Active PCI Alert Service IBMHPS Running Auto
Own Process
c:\windows\system32\ibmhpasv.exe
Normal LocalSystem 0

InstallDriver Table Manager IDriverT Stopped
Manual Own Process "c:\program
files (x86)\common files\installshield\driver\1050\intel
32\idrivert.exe" Ignore LocalSystem 0

IMAPI CD-Burning COM Service ImapiService
Stopped Disabled Own Process
c:\windows\system32\imapi.exe Normal
LocalSystem 0

Intersite Messaging IsmServ Stopped Disabled Own
Process c:\windows\system32\ismserv.exe
Normal LocalSystem 0

Kerberos Key Distribution Center kdc
Stopped Disabled Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Server lanmanserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Workstation lanmanworkstation Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

License Logging LicenseService Stopped
Disabled Own Process
c:\windows\system32\llssrv.exe Normal NT
AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
Stopped Disabled Own Process
c:\windows\system32\mnmsrvc.exe
Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
Running Auto Own Process
c:\windows\system32\msdtc.exe Normal NT
AUTHORITY\NetworkService 0

SQL Server FullText Search (MSSQLSERVER)
msftesql Stopped Disabled Own Process
"c:\program files\microsoft sql
server\mssql.1\mssql\binn\msftesql.exe" -s:mssql.1 -
f:mssqlserver Normal LocalSystem 0

Windows Installer MSIServer Stopped Manual
Share Process
c:\windows\system32\msiexec.exe /v
Normal LocalSystem 0

SQL Server (MSSQLSERVER) MSSQLSERVER
Stopped Manual Own Process
"c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlservr.exe" -smssqlserver
Normal LocalSystem 0

SQL Server Active Directory Helper
MSSQLServerADHelper Stopped
Disabled Own Process "c:\program
files\microsoft sql server\90\shared\sqladhlp90.exe"
Normal NT AUTHORITY\NetworkService
0

SQL Server Analysis Services (MSSQLSERVER)
MSSQLServerOLAPService Stopped
Manual Own Process "c:\program
files\microsoft sql server\mssql.2\olap\bin\msmdsrv.exe" -s
"c:\program files\microsoft sql server\mssql.2\olap\config"
Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Network DDE DSDM NetDDEdsdm Stopped
Disabled Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Network Connections Netman Running Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Location Awareness (NLA) Nla
Running Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own
Process c:\windows\system32\ntfrs.exe Ignore
LocalSystem 0

NT LM Security Support Provider NtLmSsp
Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own
Process "c:\program files (x86)\common files\microsoft
shared\source engine\ose.exe" Normal LocalSystem
0

Plug and Play PlugPlay Running Auto
Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

IPSEC Services PolicyAgent Stopped
Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Protected Storage ProtectedStorage Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Remote Access Auto Connection Manager RasAuto
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Access Connection Manager RasMan
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
Stopped Manual Own Process
c:\windows\system32\sessmgr.exe
Normal LocalSystem 0

Routing and Remote Access RemoteAccess
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
Share Process
c:\windows\system32\svchost.exe -k regsvc
Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
Stopped Manual Own Process
c:\windows\system32\locator.exe Normal NT
AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
Share Process
c:\windows\system32\svchost.exe -k rpcss
Normal NT AUTHORITY\NetworkService
0

Resultant Set of Policy Provider RSoPProv Stopped
Manual Share Process
c:\windows\system32\rsopprov.exe
Normal LocalSystem 0

Special Administration Console Helper sacsvr
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Sandra Data Service SandraDataSrv Stopped
Manual Own Process c:\program
files\sisoftware\sisoftware sandra lite
2007.sp1\win32\rpcdatasrv.exe Normal LocalSystem
0

Sandra Service SandraTheSrv Stopped
Manual Own Process c:\program
files\sisoftware\sisoftware sandra lite
2007.sp1\rpcsandrasrv.exe Normal LocalSystem
0

Smart Card SCardSvr Stopped Manual
Share Process
c:\windows\system32\scardsvr.exe
Ignore NT AUTHORITY\LocalService 0

Task Scheduler Schedule Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Secondary Logon seclogon Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

System Event Notification SENS Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
SharedAccess Stopped Disabled
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own
Process c:\windows\system32\spoolsv.exe
Normal LocalSystem 0

SQL Server Browser SQLBrowser Stopped
Disabled Own Process "c:\program
files (x86)\microsoft sql server\90\shared\sqlbrowser.exe"
Normal LocalSystem 0

SQL Server Agent (MSSQLSERVER)
SQLSERVERAGENT Stopped
Disabled Own Process "c:\program
files\microsoft sql server\mssql.1\mssql\binn\sqlagent90.exe"
-i mssqlserver Normal LocalSystem 0

SQL Server VSS Writer SQLWriterStopped
Disabled Own Process "c:\program
files\microsoft sql server\90\shared\sqlwriter.exe"
Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k imgsvc
Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
Stopped Manual Own Process
c:\windows\system32\svchost.exe -k swprv
Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
Stopped Auto Own Process
c:\windows\system32\smlogsvc.exe

Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
c:\windows\system32\svchost.exe -k tapisrv
Normal LocalSystem 0

Terminal Services TermService Running
Manual Share Process
c:\windows\system32\svchost.exe -k termsvcs
Normal LocalSystem 0

Themes Themes Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Telnet TlntSvr Stopped Disabled Own Process
c:\windows\system32\tlntsvr.exe Normal NT AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Distributed Link Tracking Client TrkWks Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Terminal Services Session Directory Tssdis
Stopped Disabled Own Process
c:\windows\system32\tssdis.exe Normal
LocalSystem 0

Windows User Mode Driver Framework UMWdf
Stopped Manual Own Process
c:\windows\system32\wdfmgr.exe
Normal NT AUTHORITY\LocalService 0

Uninterruptible Power Supply UPS Stopped
Manual Own Process
c:\windows\system32\ups.exe Normal NT AUTHORITY\LocalService 0

Virtual Disk Service vds Stopped Manual Own Process c:\windows\system32\vds.exe Normal
LocalSystem 0

Volume Shadow Copy VSS Stopped
Manual Own Process
c:\windows\system32\vssvc.exe Normal
LocalSystem 0

Windows Time W32Time Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

WebClient WebClient Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

WinHTTP Web Proxy Auto-Discovery Service
WinHttpAutoProxySvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Windows Management Instrumentation winmgmt
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Portable Media Serial Number Service WmdmPmSN
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Management Instrumentation Driver Extensions
Wmi Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

WMI Performance Adapter WmiApSrv
Stopped Manual Own Process
c:\windows\system32\wbem\wmiapsrv.exe
Normal LocalSystem 0

Automatic Updates wuauserv Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

[Program Groups]

Group Name Name User Name

Accessories Default User:Accessories
Default User

Accessories\Accessibility Default
User:Accessories\Accessibility Default User

Accessories\Entertainment Default
User:Accessories\Entertainment Default User

Startup Default User:Startup Default User

Accessories All Users:Accessories All Users

Accessories\Accessibility All
Users:Accessories\Accessibility All Users

Accessories\Communications All
Users:Accessories\Communications All Users

Accessories\Entertainment All
Users:Accessories\Entertainment All Users

Accessories\Media Center All
Users:Accessories\Media Center All Users

Accessories\Media Center\Media Center Programs All
Users:Accessories\Media Center\Media Center Programs
All Users

Accessories\System Tools All
Users:Accessories\System Tools All Users

Adaptec Storage Manager All Users:Adaptec Storage
Manager All Users

Administrative Tools All Users:Administrative Tools All
Users

Broadcom All Users:Broadcom All Users

Debugging Tools for Windows 64-bit All
Users:Debugging Tools for Windows 64-bit All Users

Microsoft SQL Server 2005 All Users:Microsoft SQL
Server 2005 All Users

Microsoft SQL Server 2005\Analysis Services All
Users:Microsoft SQL Server 2005\Analysis Services All
Users

Microsoft SQL Server 2005\Configuration Tools All Users:Microsoft SQL Server 2005\Configuration Tools All Users

Microsoft SQL Server 2005\Documentation and Tutorials All Users:Microsoft SQL Server 2005\Documentation and Tutorials All Users

Microsoft SQL Server 2005\Documentation and Tutorials\Tutorials All Users:Microsoft SQL Server 2005\Documentation and Tutorials\Tutorials All Users

Microsoft SQL Server 2005\Performance Tools All Users:Microsoft SQL Server 2005\Performance Tools All Users

Microsoft Visual Studio 2005 All Users:Microsoft Visual Studio 2005 All Users

Microsoft Visual Studio 2005\Visual Studio Tools All Users:Microsoft Visual Studio 2005\Visual Studio Tools All Users

SelfTest All Users:SelfTest All Users

SiSoftware All Users:SiSoftware All Users

SiSoftware\Internet Links All Users:SiSoftware\Internet Links All Users

Startup All Users:Startup All Users

Accessories NT AUTHORITY\SYSTEM:Accessories NT AUTHORITY\SYSTEM

Accessories\Accessibility NT AUTHORITY\SYSTEM:Accessories\Accessibility NT AUTHORITY\SYSTEM

Accessories\Entertainment NT AUTHORITY\SYSTEM:Accessories\Entertainment NT AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT AUTHORITY\SYSTEM

Accessories IBMSERV4\Administrator:Accessories IBMSERV4\Administrator

Accessories\Accessibility IBMSERV4\Administrator:Accessories\Accessibility IBMSERV4\Administrator

Accessories\Entertainment IBMSERV4\Administrator:Accessories\Entertainment IBMSERV4\Administrator

Administrative Tools IBMSERV4\Administrator:Administrative Tools IBMSERV4\Administrator

RightMark CPU Clock Utility IBMSERV4\Administrator:RightMark CPU Clock Utility IBMSERV4\Administrator

RightMark Memory Analyzer IBMSERV4\Administrator:RightMark Memory Analyzer IBMSERV4\Administrator

Startup IBMSERV4\Administrator:Startup IBMSERV4\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM Startup

desktop desktop.ini IBMSERV4\Administrator Startup

Shortcut to synchtime shortcut to synchtime.lnk IBMSERV4\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

KernelFaultCheck %systemroot%\system32\dumprep 0 -k All Users HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clip mplay32.exe /avi

MIDI Sequence mplay32.exe /mid

Sound Not Available

Media Clip Not Available

WordPad Document "%programfiles%\windows nt\accessories\wordpad.exe"

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time Type Details

[Internet Settings]

[Internet Explorer]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Version 6.0.3790.1830

Build 63790.1830

Application Path C:\Program Files\Internet Explorer

Language English (United States)

Active Printer Not Available

Cipher Strength 128-bit

Content Advisor Disabled

IEAK Install No

[File Versions]

File Version Size Date Path Company

actxprxy.dll 6.0.3790.1830 221 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 146 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

asctrls.ocx 6.0.3790.1830 147 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browselc.dll 6.0.3790.1830 63 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browseui.dll 6.0.3790.1830 1,564 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 216 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 935 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 320 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 549 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

iecont.dll <File Missing> Not Available Not Available Not Available Not Available

iecontlc.dll <File Missing> Not Available Not Available Not Available Not Available

iedkcs32.dll 16.0.3790.1830 417 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 361 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 71 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 94 KB 3/25/2005 7:00:00 AM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 61 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 428 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inetcplc.dll 6.0.3790.1830 110 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inseng.dll 6.0.3790.1830 147 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 686 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll <File Missing> Not Available Not Available Not Available Not Available

mshta.exe 6.0.3790.1830 38 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 5,790 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 906 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 69 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msidntld.dll 6.0.3790.1830 16 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msieftp.dll 6.0.3790.1830 369 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 240 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 878 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 126 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx <File Missing> Not Available Not Available Not Available Not Available

sendmail.dll 6.0.3790.1830 64 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shdoclc.dll 6.0.3790.1830 590 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shdocvw.dll 6.0.3790.1830 2,360 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 34 KB 3/25/2005 7:00:00 AM

C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 607 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

tdc.ocx 1.3.0.3130 91 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

url.dll 6.0.3790.1830 40 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 1,049 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 439 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 1,159 KB 3/25/2005 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

[Connectivity]

Item Value

Connection Preference Never dial

LAN Settings

AutoConfigProxy wininet.dll

AutoProxyDetectMode Disabled

AutoConfigURL

Proxy Disabled

ProxyServer

ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Page Refresh Type Automatic

Temporary Internet Files Folder C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files

Total Disk Space Not Available

Available Disk Space Not Available

Maximum Cache Size Not Available

Available Cache Size Not Available

[List of Objects]

Program File Status CodeBase

No cached object information available

[Content]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Content Advisor Disabled

[Personal Certificates]

Issued To Issued By Validity Signature Algorithm

No personal certificate information available

[Other People Certificates]

Issued To Issued By Validity Signature Algorithm

No other people certificate information available

[Publishers]

Name

No publisher information available

[Security]

Zone Security Level

My Computer Custom

Local intranet Custom

Trusted sites Custom

Internet High

Restricted sites Custom

## System Configuration File for Adaptec 4800 SAS Controller

February 16, 2007 6:14:32 PM EST

Configuration summary

---

Server name.....node1

Adaptec Storage Manager agent...4.30.00 (16038)

Adaptec Storage Manager console.4.30.00 (16038)

Number of controllers.....2

Operating system.....Windows

Configuration information for controller 1
---
Type.....Controller
Model.....AIC-9410 (adp94xx)
BIOS.....1.1-0 (1325)
Device driver.....1.1-818 (608)
Controller status.....Optimal
Number of logical devices.....0
Number of hot-spare drives.....0
Number of ready drives.....0
Phy 0.....No device attached
Phy 1.....No device attached
Phy 2.....1.50 Gb/s
Phy 3.....No device attached
Phy 4.....No device attached
Phy 5.....No device attached
Phy 6.....No device attached
Phy 7.....No device attached
Phy 8.....No device attached
Phy 9.....No device attached

Serial attached SCSI
---
Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST936701SS
FRU part number.....26K5778
Serial number.....3LC02ZPQ
Firmware level.....B51D
Reported channel.....2
Reported SCSI device ID.....2
World-wide name.....5000C50000316804
Interface type.....Serial attached SCSI
Size.....33.901 GB
Location.....Enclosure 0, slot 2
Negotiated transfer speed.....3.00 Gb/s
State.....Partitioned
S.M.A.R.T. error.....No
Partitioned.....Yes
Phy 0.....3.00 Gb/s
Phy 1.....No device attached

Serial attached SCSI
---
Type.....Enclosure management device
Vendor.....IBM
Model.....SAS SES-2 DEVIC
Firmware level.....0.09
Enclosure status.....Optimal

End of the configuration information for controller 1
---

Configuration information for controller 2
---
Type.....Controller
Model.....Adaptec 4800SAS
Controller number.....2
Installed memory size.....128 MB
Serial number.....6A260CB9FFD
BIOS.....5.2-0 (11564)
Firmware.....5.2-0 (11564)
Device driver.....5.2-0 (11518)
API.....5.2-0 (10237)
Controller status.....Optimal
Battery status .....Not installed
Background consistency check....Disabled
Copy back.....Disabled
Controller temperature.....Normal (32C / 89F)
Number of logical devices.....1
Number of hot-spare drives.....0
Number of ready drives.....24
Phy 0.....No device attached
Phy 1.....No device attached
Phy 2.....No device attached
Phy 3.....No device attached
Phy 4.....3.00 Gb/s
Phy 5.....3.00 Gb/s
Phy 6.....3.00 Gb/s
Phy 7.....3.00 Gb/s

Logical device.....1
Logical device name.....LOG
RAID level.....10
Data space.....1.601 TB
Parity space.....1.601 TB
Date created.....11/15/2006
Stripe size.....256K
Interface type.....Serial attached SCSI
State.....Optimal
Read-cache mode .....Enabled
Write-cache mode.....Disabled (write-through)
Write-cache setting.....Disabled (write-through)
Partitioned.....Yes
Protected by hot spare.....No
Bad stripes.....No

Serial attached SCSI
---

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN21V2F
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....8
World-wide name.....5000C50000084138
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 1
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22LDE
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....9
World-wide name.....5000C500000846A4
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 2
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WDS
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....10
World-wide name.....5000C50000083AB0
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 3
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WG5
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....11
World-wide name.....5000C5000008387C
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 4
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WKV
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....12
World-wide name.....5000C50000083950
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 5
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22FGR

Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....13
World-wide name.....5000C50000082DC4
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 6
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22Y01
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....14
World-wide name.....5000C5000008390C
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 7
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WRJ
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....15
World-wide name.....5000C500000838EC
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 8
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN219NH
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....16
World-wide name.....5000C50000082630
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 9
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22LS8
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....17
World-wide name.....5000C50000084730
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 10
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN226DD
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....18
World-wide name.....5000C50000084144
Interface type.....Serial attached SCSI

Size.....136.731 GB
Location.....Enclosure 0, slot 11
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WLL
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....19
World-wide name.....5000C50000083AD4
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 0, slot 12
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN2242W
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....20
World-wide name.....5000C500000839D4
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 1
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN2260X
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....21
World-wide name.....5000C500000839CC
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 2
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WRW
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....22
World-wide name.....5000C50000083FE0
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 3
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22XGB
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....23
World-wide name.....5000C50000083D4C
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 4
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No

Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22WG0
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....24
World-wide name.....5000C500000839BC
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 5
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN21Y6D
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....25
World-wide name.....5000C500000841F4
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 6
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22DZP
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....26
World-wide name.....5000C50000083944
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 7
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22DZ0
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....27
World-wide name.....5000C50000082E74
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 8
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22XYK
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....28
World-wide name.....5000C500000838A0
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 9
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive

Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22HZE
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....29
World-wide name.....5000C50000083B6C
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 10
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN21RG4
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....30
World-wide name.....5000C50000082D90
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 11
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Type.....Disk drive
Vendor.....IBM-ESXS
Model.....ST3146854SS
FRU part number.....39R7350
Serial number.....3KN22E09
Firmware level.....BA18
Reported channel.....0
Reported SCSI device ID.....31
World-wide name.....5000C500000839F8
Interface type.....Serial attached SCSI
Size.....136.731 GB
Location.....Enclosure 1, slot 12
Negotiated transfer speed.....3.00 Gb/s
State.....Optimal
S.M.A.R.T. error.....No
Write-cache mode.....Write back
Phy 0.....3.00 Gb/s
Phy 1.....3.00 Gb/s

Serial attached SCSI
---
Type.....Enclosure management device
Vendor.....IBM-ESXS
Model.....EXP3000
Firmware level.....0166
Enclosure status.....Optimal
Fan 1 status.....Optimal (3,420 RPM)
Fan 2 status.....Optimal (3,400 RPM)
Fan 3 status.....Optimal (3,350 RPM)
Fan 4 status.....Optimal (3,420 RPM)
Power supply 1 status.....Optimal
Power supply 2 status.....Optimal
Temperature sensor 1 status.....Normal (29C / 84F)
Temperature sensor 2 status.....Normal (26C / 78F)
Temperature sensor 3 status.....Normal (31C / 87F)
Temperature sensor 4 status.....Normal (30C / 86F)

Type.....Enclosure management device
Vendor.....IBM-ESXS
Model.....EXP3000
Firmware level.....0166
Enclosure status.....Optimal
Fan 1 status.....Optimal (3,400 RPM)
Fan 2 status.....Optimal (3,420 RPM)
Fan 3 status.....Optimal (3,470 RPM)
Fan 4 status.....Optimal (3,500 RPM)
Power supply 1 status.....Optimal
Power supply 2 status.....Optimal
Temperature sensor 1 status.....Normal (30C / 86F)
Temperature sensor 2 status.....Normal (30C / 86F)
Temperature sensor 3 status.....Normal (29C / 84F)
Temperature sensor 4 status.....Normal (28C / 82F)

End of the configuration information for controller 2
---

## System Configuration File for DS4800 Controllers

(Priced configuration; Measured configuration for 7 of the 8 racks of database storage)

PROFILE FOR STORAGE SUBSYSTEM: B1_4800 (2/15/07 2:18:23 PM)

SUMMARY----------

Number of controllers: 2

Number of arrays: 8

Total number of logical drives (includes an access logical drive): 9 of 2048 used
Number of standard logical drives: 8
Number of access logical drives: 1

Number of drives: 192
Supported drive types: Fibre (192)
Total hot spare drives: 0
Standby: 0
In use: 0

Access logical drive: LUN 31 (see Mappings section for details)
Default host OS: Windows 2000/Server 2003 Non-Clustered (Host OS index 2)

Current configuration
Firmware version: 06.16.92.00
NVSRAM version: N1815D480R916V13
Pending configuration
Staged firmware download supported: Yes
Firmware version: None
NVSRAM version: None
Transferred on: None
Controller enclosure audible alarm: Disabled

NVSRAM configured for batteries: Yes

Start cache flushing at (in percentage): 1
Stop cache flushing at (in percentage): 1
Cache block size (in KB): 16

Media scan frequency (in days): Disabled

Failover alert delay (in minutes): 5

Feature enable identifier: 37313938370000000000000044C4E9EE

Storage Subsystem worldwide name (ID): 600A0B800011A2CE00000000455B2C77

Management software version: 09.19.G5.06

CONTROLLERS----------
Number of controllers: 2

Controller in Enclosure 85, Slot A

Status: Online
Current configuration
Firmware version: 06.16.92.00
Appware version: 06.16.92.00
Bootware version: 06.16.92.00
NVSRAM version: N1815D480R916V13
Pending configuration
Firmware version: None
Appware version: None
Bootware version: None
NVSRAM version: None
Transferred on: None
Current ID (ALPA)
On drive channel 1: 125/0x1
On drive channel 2: 125/0x1
On drive channel 3: 125/0x1
On drive channel 4: 125/0x1
Replacement part number: 22R4275
Board ID: 6091
Submodel ID: 2
Product ID: 1815 FAStT
Product revision: 0914
Serial number: 1T60772147
Date of manufacture: February 20, 2006
Vendor: IBM
Cache
Total data cache: 2048 MB
Processor cache: 508 MB
Host Interface Board
Board ID: 0901
Host card status: Optimal
Serial number: SN 1T55361996
Date of manufacture: January 1, 2006

Associated Logical Drives (* = Preferred Owner):
Array_1*, Array_3*, Array_5*, Array_7*

Controller host name:
Remote login: Disabled

Ethernet port: 1
MAC address: 00:a0:b8:11:a2:ce
Network configuration: Static

```
  IP address:            192.168.40.216
  Subnet mask:           255.255.255.0
  Gateway:               0.0.0.0

Ethernet port:           2
  MAC address:           00:a0:b8:11:a2:cf
  Network configuration: Static
  IP address:            192.168.129.101
  Subnet mask:           255.255.255.0
  Gateway:               0.0.0.0


Drive interface:       Fibre
  Channel:             1
  Current ID:          125/0x1
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Up
Drive interface:       Fibre
  Channel:             2
  Current ID:          125/0x1
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Up
Drive interface:       Fibre
  Channel:             3
  Current ID:          125/0x1
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Up
Drive interface:       Fibre
  Channel:             4
  Current ID:          125/0x1
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Up
Host interface:        Fibre
  Channel:             1
  Current ID:          Not applicable/0xFFFFFFFF
  Preferred ID:        125/0x1
  NL-Port ID:          0xFFFFFF
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Up
  Topology:            Fabric Attach
  World-wide port name: 20:14:00:a0:b8:11:a2:ce
  World-wide node name: 20:04:00:a0:b8:11:a2:ce
  Part type:           HPFC-5700         revision 5
Host interface:        Fibre
  Channel:             2
  Current ID:          Not applicable/0xFFFFFFFF
  Preferred ID:        1/0xE8
  NL-Port ID:          0xFFFFFF
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Down
  Topology:            Not available
  World-wide port name: 20:24:00:a0:b8:11:a2:ce
  World-wide node name: 20:04:00:a0:b8:11:a2:ce
  Part type:           HPFC-5700         revision 5
Host interface:        Fibre
  Channel:             3
  Current ID:          Not applicable/0xFFFFFFFF
  Preferred ID:        2/0xE4
  NL-Port ID:          0xFFFFFF
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Down
  Topology:            Not available
  World-wide port name: 20:34:00:a0:b8:11:a2:ce
  World-wide node name: 20:04:00:a0:b8:11:a2:ce
  Part type:           HPFC-5700         revision 5
Host interface:        Fibre
  Channel:             4
  Current ID:          Not applicable/0xFFFFFFFF
  Preferred ID:        3/0xE2
  NL-Port ID:          0xFFFFFF
  Maximum data rate:   4 Gbps
  Current data rate:   4 Gbps
  Data rate control:   Auto
  Link status:         Down
  Topology:            Not available
  World-wide port name: 20:44:00:a0:b8:11:a2:ce
  World-wide node name: 20:04:00:a0:b8:11:a2:ce
  Part type:           HPFC-5700         revision 5

Controller in Enclosure 85, Slot B

  Status: Online
  Current configuration
    Firmware version:    06.16.92.00
      Appware version:   06.16.92.00
      Bootware version:  06.16.92.00
```

```
    NVSRAM version:       N1815D480R916V13
  Pending configuration
    Firmware version:     None
      Appware version:    None
      Bootware version:   None
    NVSRAM version:       None
    Transferred on:       None
  Current ID (ALPA)
    On drive channel 1:   124/0x2
    On drive channel 2:   124/0x2
    On drive channel 3:   124/0x2
    On drive channel 4:   124/0x2
  Replacement part number:  22R4275
  Board ID:               6091
  Submodel ID:            2
  Product ID:             1815      FAStT
  Product revision:       0914
  Serial number:          1T60466586
  Date of manufacture:    January 23, 2006
  Vendor:                 IBM
  Cache
    Total data cache:     2048 MB
    Processor cache:      508 MB
  Host Interface Board
    Board ID:             0901
    Host card status:     Optimal
    Serial number:        SN 1T60364283
    Date of manufacture:  January 1, 2006

Associated Logical Drives (* = Preferred Owner):
  Array_2*, Array_4*, Array_6*, Array_8*

Controller host name:
  Remote login:       Disabled

Ethernet port:          1
  MAC address:          00:a0:b8:11:98:5e
  Network configuration:  Static
  IP address:           192.168.40.217
  Subnet mask:          255.255.255.0
  Gateway:              0.0.0.0

Ethernet port:          2
  MAC address:          00:a0:b8:11:98:5f
  Network configuration:  Static
  IP address:           192.168.129.102
  Subnet mask:          255.255.255.0
  Gateway:              0.0.0.0

Drive interface:      Fibre
  Channel:            1
  Current ID:         124/0x2
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Up
Drive interface:      Fibre
  Channel:            2
  Current ID:         124/0x2
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Up
Drive interface:      Fibre
  Channel:            3
  Current ID:         124/0x2
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Up
Drive interface:      Fibre
  Channel:            4
  Current ID:         124/0x2
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Up
Host interface:       Fibre
  Channel:            1
  Current ID:         Not applicable/0xFFFFFFFF
  Preferred ID:       4/0xE1
  NL-Port ID:         0xFFFFFF
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Up
  Topology:           Fabric Attach
  World-wide port name:  20:15:00:a0:b8:11:a2:ce
  World-wide node name:  20:04:00:a0:b8:11:a2:ce
  Part type:          HPFC-5700         revision 5
Host interface:       Fibre
  Channel:            2
  Current ID:         Not applicable/0xFFFFFFFF
  Preferred ID:       5/0xE0
  NL-Port ID:         0xFFFFFF
  Maximum data rate:  4 Gbps
  Current data rate:  4 Gbps
  Data rate control:  Auto
  Link status:        Down
```

```
    Topology:              Not available
    World-wide port name:  20:25:00:a0:b8:11:a2:ce
    World-wide node name:  20:04:00:a0:b8:11:a2:ce
    Part type:             HPFC-5700          revision 5
  Host interface:          Fibre
    Channel:               3
    Current ID:            Not applicable/0xFFFFFFFF
    Preferred ID:          6/0xDC
    NL-Port ID:            0xFFFFFF
    Maximum data rate:     4 Gbps
    Current data rate:     4 Gbps
    Data rate control:     Auto
    Link status:           Down
    Topology:              Not available
    World-wide port name:  20:35:00:a0:b8:11:a2:ce
    World-wide node name:  20:04:00:a0:b8:11:a2:ce
    Part type:             HPFC-5700          revision 5
  Host interface:          Fibre
    Channel:               4
    Current ID:            Not applicable/0xFFFFFFFF
    Preferred ID:          7/0xDA
    NL-Port ID:            0xFFFFFF
    Maximum data rate:     4 Gbps
    Current data rate:     4 Gbps
    Data rate control:     Auto
    Link status:           Down
    Topology:              Not available
    World-wide port name:  20:45:00:a0:b8:11:a2:ce
    World-wide node name:  20:04:00:a0:b8:11:a2:ce
    Part type:             HPFC-5700          revision 5

ARRAYS------------------------------

  Number of arrays: 8

  ARRAY 1 (RAID 0)

    Array status:              Online

    Drive type:                Fibre Channel
    Enclosure loss protection:  No

    Current owner:             Controller in slot A

    Associated logical drives and free capacities:

      LOGICAL DRIVE NAME  CAPACITY
      Array_1             801.633 GB

    Associated drives (in piece order):

      ENCLOSURE  SLOT
      0          1
      0          2
      0          3
      0          4
      0          5
      0          6
      0          7
      0          8
      0          9
      0          10
      0          11
      0          12
      0          13
      0          14
      0          15
      0          16
      1          1
      1          2
      1          3
      1          4
      1          5
      1          6
      1          7
      1          8

  ARRAY 2 (RAID 0)

    Array status:              Online

    Drive type:                Fibre Channel
    Enclosure loss protection:  No

    Current owner:             Controller in slot B

    Associated logical drives and free capacities:

      LOGICAL DRIVE NAME  CAPACITY
      Array_2             801.633 GB

    Associated drives (in piece order):

      ENCLOSURE  SLOT
      1          9
      1          10
      1          11
      1          12
      1          13
      1          14
```

1 15
1 16
2 1
2 2
2 3
2 4
2 5
2 6
2 7
2 8
2 9
2 10
2 11
2 12
2 13
2 14
2 15
2 16

ARRAY 3 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_3 801.633 GB

Associated drives (in piece order):

ENCLOSURE SLOT
3 1
3 2
3 3
3 4
3 5
3 6
3 7
3 8
3 9
3 10
3 11
3 12
3 13
3 14
3 15
3 16
4 1
4 2
4 3
4 4
4 5
4 6
4 7
4 8

ARRAY 4 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_4 801.633 GB

Associated drives (in piece order):

ENCLOSURE SLOT
4 9
4 10
4 11
4 12
4 13
4 14
4 15
4 16
5 1
5 2
5 3
5 4
5 5
5 6
5 7
5 8
5 9
5 10
5 11
5 12
5 13
5 14

5 15
5 16

ARRAY 5 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_5 801.633 GB

Associated drives (in piece order):

ENCLOSURE SLOT
6 1
6 2
6 3
6 4
6 5
6 6
6 7
6 8
6 9
6 10
6 11
6 12
6 13
6 14
6 15
6 16
7 1
7 2
7 3
7 4
7 5
7 6
7 7
7 8

ARRAY 6 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_6 801.633 GB

Associated drives (in piece order):

ENCLOSURE SLOT
7 9
7 10
7 11
7 12
7 13
7 14
7 15
7 16
8 1
8 2
8 3
8 4
8 5
8 6
8 7
8 8
8 9
8 10
8 11
8 12
8 13
8 14
8 15
8 16

ARRAY 7 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_7 801.633 GB

Associated drives (in piece order):

| ENCLOSURE | SLOT |
|---|---|
| 9 | 1 |
| 9 | 2 |
| 9 | 3 |
| 9 | 4 |
| 9 | 5 |
| 9 | 6 |
| 9 | 7 |
| 9 | 8 |
| 9 | 9 |
| 9 | 10 |
| 9 | 11 |
| 9 | 12 |
| 9 | 13 |
| 9 | 14 |
| 9 | 15 |
| 9 | 16 |
| 10 | 1 |
| 10 | 2 |
| 10 | 3 |
| 10 | 4 |
| 10 | 5 |
| 10 | 6 |
| 10 | 7 |
| 10 | 8 |

ARRAY 8 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

| LOGICAL DRIVE NAME | CAPACITY |
|---|---|
| Array_8 | 801.633 GB |

Associated drives (in piece order):

| ENCLOSURE | SLOT |
|---|---|
| 10 | 9 |
| 10 | 10 |
| 10 | 11 |
| 10 | 12 |
| 10 | 13 |
| 10 | 14 |
| 10 | 15 |
| 10 | 16 |
| 11 | 1 |
| 11 | 2 |
| 11 | 3 |
| 11 | 4 |
| 11 | 5 |
| 11 | 6 |
| 11 | 7 |
| 11 | 8 |
| 11 | 9 |
| 11 | 10 |
| 11 | 11 |
| 11 | 12 |
| 11 | 13 |
| 11 | 14 |
| 11 | 15 |
| 11 | 16 |

STANDARD LOGICAL DRIVES----------

SUMMARY

Number of standard logical drives: 8

See other Logical Drives sub-tabs for premium feature information.

| NAME | STATUS | CAPACITY | RAID LEVEL | ARRAY |
|---|---|---|---|---|
| Array_1 | Optimal | 801.633 GB | 0 | 1 |
| Array_2 | Optimal | 801.633 GB | 0 | 2 |
| Array_3 | Optimal | 801.633 GB | 0 | 3 |
| Array_4 | Optimal | 801.633 GB | 0 | 4 |
| Array_5 | Optimal | 801.633 GB | 0 | 5 |
| Array_6 | Optimal | 801.633 GB | 0 | 6 |
| Array_7 | Optimal | 801.633 GB | 0 | 7 |
| Array_8 | Optimal | 801.633 GB | 0 | 8 |

DETAILS

LOGICAL DRIVE NAME: Array_1

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:a2:ce:00:00:a6:ff:45:a2:7b:d0
Subsystem ID (SSID): 0

Associated array: 1
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_2

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:98:5e:00:00:26:1e:45:a2:7c:45
Subsystem ID (SSID): 1
Associated array: 2
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_3

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:a2:ce:00:00:a7:01:45:a2:7c:48
Subsystem ID (SSID): 2
Associated array: 3
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_4

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:98:5e:00:00:26:21:45:a2:7c:af
Subsystem ID (SSID): 3
Associated array: 4
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_5

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:a2:ce:00:00:a7:03:45:a2:7c:b2
Subsystem ID (SSID): 4
Associated array: 5
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_6

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:98:5e:00:00:26:24:45:a2:7d:1f
Subsystem ID (SSID): 5
Associated array: 6
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_7

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:a2:ce:00:00:a7:05:45:a2:7d:26
Subsystem ID (SSID): 6
Associated array: 7
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_8

Logical Drive status: Optimal

Capacity: 801.633 GB (860,746,678,272 Bytes)
Logical Drive ID: 60:0a:0b:80:00:11:98:5e:00:00:26:27:45:a2:7d:91
Subsystem ID (SSID): 7
Associated array: 8
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

MISSING LOGICAL DRIVES----------

Number of missing logical drives: 0

DRIVES----------

SUMMARY
Number of drives: 192
Current drive types: Fibre (192)

BASIC:
TRAY, SLOT STATUS CAPACITY CURRENT DATA RATE PRODUCT ID FIRMWARE VERSION
0, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
0, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
1, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
2, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
2, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A
2, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

2, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

3, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

4, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

5, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

6, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

7, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

8, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

9, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

10, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 1 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 2 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 3 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 4 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 5 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 6 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 7 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 8 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 9 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 10 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 11 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 12 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 13 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 14 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 15 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

11, 16 Optimal 33.902 GB 4 Gbps ST336854FC F B90A

DRIVE CHANNELS:

| TRAY, SLOT | PREFERRED CHANNEL | REDUNDANT CHANNEL |
|---|---|---|
| 0, 1 | 1 | 3 |
| 0, 2 | 3 | 1 |
| 0, 3 | 1 | 3 |
| 0, 4 | 3 | 1 |
| 0, 5 | 1 | 3 |
| 0, 6 | 3 | 1 |
| 0, 7 | 1 | 3 |
| 0, 8 | 3 | 1 |
| 0, 9 | 1 | 3 |
| 0, 10 | 3 | 1 |
| 0, 11 | 1 | 3 |
| 0, 12 | 3 | 1 |
| 0, 13 | 1 | 3 |
| 0, 14 | 3 | 1 |
| 0, 15 | 1 | 3 |
| 0, 16 | 3 | 1 |
| 1, 1 | 1 | 3 |
| 1, 2 | 3 | 1 |
| 1, 3 | 1 | 3 |
| 1, 4 | 3 | 1 |
| 1, 5 | 1 | 3 |
| 1, 6 | 3 | 1 |
| 1, 7 | 1 | 3 |
| 1, 8 | 3 | 1 |
| 1, 9 | 1 | 3 |
| 1, 10 | 3 | 1 |

| | | |
|---|---|---|
| 1, 11 | 1 | 3 |
| 1, 12 | 3 | 1 |
| 1, 13 | 1 | 3 |
| 1, 14 | 3 | 1 |
| 1, 15 | 1 | 3 |
| 1, 16 | 3 | 1 |
| 2, 1 | 1 | 3 |
| 2, 2 | 3 | 1 |
| 2, 3 | 1 | 3 |
| 2, 4 | 3 | 1 |
| 2, 5 | 1 | 3 |
| 2, 6 | 3 | 1 |
| 2, 7 | 1 | 3 |
| 2, 8 | 3 | 1 |
| 2, 9 | 1 | 3 |
| 2, 10 | 3 | 1 |
| 2, 11 | 1 | 3 |
| 2, 12 | 3 | 1 |
| 2, 13 | 1 | 3 |
| 2, 14 | 3 | 1 |
| 2, 15 | 1 | 3 |
| 2, 16 | 3 | 1 |
| 3, 1 | 1 | 3 |
| 3, 2 | 3 | 1 |
| 3, 3 | 1 | 3 |
| 3, 4 | 3 | 1 |
| 3, 5 | 1 | 3 |
| 3, 6 | 3 | 1 |
| 3, 7 | 1 | 3 |
| 3, 8 | 3 | 1 |
| 3, 9 | 1 | 3 |
| 3, 10 | 3 | 1 |
| 3, 11 | 1 | 3 |
| 3, 12 | 3 | 1 |
| 3, 13 | 1 | 3 |
| 3, 14 | 3 | 1 |
| 3, 15 | 1 | 3 |
| 3, 16 | 3 | 1 |
| 4, 1 | 1 | 3 |
| 4, 2 | 3 | 1 |
| 4, 3 | 1 | 3 |
| 4, 4 | 3 | 1 |
| 4, 5 | 1 | 3 |
| 4, 6 | 3 | 1 |
| 4, 7 | 1 | 3 |
| 4, 8 | 3 | 1 |
| 4, 9 | 1 | 3 |
| 4, 10 | 3 | 1 |
| 4, 11 | 1 | 3 |
| 4, 12 | 3 | 1 |
| 4, 13 | 1 | 3 |
| 4, 14 | 3 | 1 |
| 4, 15 | 1 | 3 |
| 4, 16 | 3 | 1 |
| 5, 1 | 1 | 3 |
| 5, 2 | 3 | 1 |
| 5, 3 | 1 | 3 |
| 5, 4 | 3 | 1 |
| 5, 5 | 1 | 3 |
| 5, 6 | 3 | 1 |
| 5, 7 | 1 | 3 |
| 5, 8 | 3 | 1 |
| 5, 9 | 1 | 3 |
| 5, 10 | 3 | 1 |
| 5, 11 | 1 | 3 |
| 5, 12 | 3 | 1 |
| 5, 13 | 1 | 3 |
| 5, 14 | 3 | 1 |
| 5, 15 | 1 | 3 |
| 5, 16 | 3 | 1 |
| 6, 1 | 2 | 4 |
| 6, 2 | 4 | 2 |
| 6, 3 | 2 | 4 |
| 6, 4 | 4 | 2 |
| 6, 5 | 2 | 4 |
| 6, 6 | 4 | 2 |
| 6, 7 | 2 | 4 |
| 6, 8 | 4 | 2 |
| 6, 9 | 2 | 4 |
| 6, 10 | 4 | 2 |
| 6, 11 | 2 | 4 |
| 6, 12 | 4 | 2 |
| 6, 13 | 2 | 4 |
| 6, 14 | 4 | 2 |
| 6, 15 | 2 | 4 |
| 6, 16 | 4 | 2 |
| 7, 1 | 2 | 4 |
| 7, 2 | 4 | 2 |
| 7, 3 | 2 | 4 |
| 7, 4 | 4 | 2 |
| 7, 5 | 2 | 4 |
| 7, 6 | 4 | 2 |
| 7, 7 | 2 | 4 |
| 7, 8 | 4 | 2 |
| 7, 9 | 2 | 4 |
| 7, 10 | 4 | 2 |
| 7, 11 | 2 | 4 |
| 7, 12 | 4 | 2 |
| 7, 13 | 2 | 4 |
| 7, 14 | 4 | 2 |

7, 15 2 4
7, 16 4 2
8, 1 2 4
8, 2 4 2
8, 3 2 4
8, 4 4 2
8, 5 2 4
8, 6 4 2
8, 7 2 4
8, 8 4 2
8, 9 2 4
8, 10 4 2
8, 11 2 4
8, 12 4 2
8, 13 2 4
8, 14 4 2
8, 15 2 4
8, 16 4 2
9, 1 0 0
9, 2 4 2
9, 3 2 4
9, 4 4 2
9, 5 2 4
9, 6 4 2
9, 7 2 4
9, 8 4 2
9, 9 2 4
9, 10 4 2
9, 11 2 4
9, 12 4 2
9, 13 2 4
9, 14 4 2
9, 15 2 4
9, 16 4 2
10, 1 2 4
10, 2 4 2
10, 3 2 4
10, 4 4 2
10, 5 2 4
10, 6 4 2
10, 7 2 4
10, 8 4 2
10, 9 2 4
10, 10 4 2
10, 11 2 4
10, 12 4 2
10, 13 2 4
10, 14 4 2
10, 15 2 4
10, 16 4 2
11, 1 2 4
11, 2 4 2
11, 3 2 4
11, 4 4 2
11, 5 2 4
11, 6 4 2
11, 7 2 4
11, 8 4 2
11, 9 2 4
11, 10 4 2
11, 11 2 4
11, 12 4 2
11, 13 2 4
11, 14 4 2
11, 15 2 4
11, 16 4 2

HOT SPARE COVERAGE:
The following arrays are not protected: 5, 1, 8, 7, 2, 3, 6, 4
Total hot spare drives: 0
Standby: 0
In use: 0

DETAILS
Drive at Enclosure 0, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d4:05
Associated array: 1

PORT CHANNEL ID
0 1 83/0x52
1 3 0/0xEF

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GA700009706QXP4
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 0, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:96
Associated array: 1

| PORT | CHANNEL | ID |
|---|---|---|
| 0 | 3 | 1/0xE8 |
| 1 | 1 | 82/0x53 |

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GAL00009706QVZR
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 0, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:97
Associated array: 1

| PORT | CHANNEL | ID |
|---|---|---|
| 0 | 1 | 81/0x54 |
| 1 | 3 | 2/0xE4 |

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ1ZP2A00007703XLJP
Vendor: IBM-SSG
Date of manufacture: July 25, 2006

Drive at Enclosure 0, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:c5:f3
Associated array: 1

| PORT | CHANNEL | ID |
|---|---|---|
| 0 | 3 | 3/0xE2 |
| 1 | 1 | 80/0x55 |

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20G7P00007703V00N
Vendor: IBM-SSG
Date of manufacture: July 28, 2006

Drive at Enclosure 0, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:ca:63
Associated array: 1

| PORT | CHANNEL | ID |
|---|---|---|
| 0 | 1 | 79/0x56 |
| 1 | 3 | 4/0xE1 |

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210SY00007601M7C2
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 0, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:ca:36
Associated array: 1

PORT CHANNEL ID
0 3 5/0xE0
1 1 78/0x59

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210T800007704H7J9
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 0, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:c9
Associated array: 1

PORT CHANNEL ID
0 1 77/0x5A
1 3 6/0xDC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GV800007703XLDS
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:a5
Associated array: 1

PORT CHANNEL ID
0 3 7/0xDA
1 1 76/0x5C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GVF00007703UVLP
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:b3
Associated array: 1

PORT CHANNEL ID
0 1 75/0x63
1 3 8/0xD9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GSZ00007703XLBT
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:ab
Associated array: 1

PORT CHANNEL ID
0 3 9/0xD6
1 1 74/0x65

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GTA0000770303G0
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:a3
Associated array: 1

PORT CHANNEL ID
0 1 73/0x66
1 3 10/0xD5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GVH00007703XLMR
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:c9:e6
Associated array: 1

PORT CHANNEL ID
0 3 11/0xD4
1 1 72/0x67

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210PW00007704UTTH
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 0, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:a4
Associated array: 1

PORT CHANNEL ID
0 1 71/0x69
1 3 12/0xD3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GTP00007703V05L
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:bc:9f
Associated array: 1

PORT CHANNEL ID
0 3 13/0xD2
1 1 70/0x6A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20GVC0000770302PE
Vendor: IBM-SSG
Date of manufacture: July 26, 2006

Drive at Enclosure 0, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:c9:3c
Associated array: 1

PORT CHANNEL ID
0 1 69/0x6B
1 3 14/0xD1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210J800007704XCN5
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 0, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:c9:3b
Associated array: 1

PORT CHANNEL ID
0 3 15/0xCE
1 1 68/0x6C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210J600007704H68R
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 1, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:cf
Associated array: 1

PORT CHANNEL ID
0 1 100/0x34
1 3 82/0x53

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NWE00009706NMV7
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:6e
Associated array: 1

PORT CHANNEL ID
0 3 83/0x52
1 1 99/0x35

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NSE000097064QKQ
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:b2
Associated array: 1

PORT CHANNEL ID
0 1 98/0x36
1 3 84/0x51

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P3B00009706PSTX
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 1, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:06
Associated array: 1

PORT CHANNEL ID
0 3 85/0x4F
1 1 97/0x39

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QLQ00009706NMSL
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:f6
Associated array: 1

PORT CHANNEL ID
0 1 96/0x3A
1 3 86/0x4D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G14000097064T2B
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:d9
Associated array: 1

PORT CHANNEL ID
0 3 87/0x4C
1 1 95/0x3C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G540000970507UF
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:f2
Associated array: 1

PORT CHANNEL ID
0 1 94/0x43
1 3 88/0x4B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NVL00009706389V
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:61
Associated array: 1

PORT CHANNEL ID
0 3 89/0x4A
1 1 93/0x45

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21VM50000970646MX
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 1, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:fd
Associated array: 2

PORT CHANNEL ID
0 1 92/0x46
1 3 90/0x49

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G5W00007704UTUY
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:d1
Associated array: 2

PORT CHANNEL ID
0 3 91/0x47
1 1 91/0x47

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G2L00009706MZU3
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:6d
Associated array: 2

PORT CHANNEL ID
0 1 90/0x49
1 3 92/0x46

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NX300007703V0Q4
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 1, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:ca
Associated array: 2

PORT CHANNEL ID
0 3 93/0x45
1 1 89/0x4A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QD800007704H75Q
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 1, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:b1
Associated array: 2

PORT CHANNEL ID
0 1 88/0x4B
1 3 94/0x43

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2W00009706PV74
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 1, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:b0
Associated array: 2

PORT CHANNEL ID
0 3 95/0x3C
1 1 87/0x4C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2N00009706PSVC
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 1, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:e7
Associated array: 2

PORT CHANNEL ID
0 1 86/0x4D
1 3 96/0x3A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21SYE000097064N04
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 1, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:df
Associated array: 2

PORT CHANNEL ID
0 3 97/0x39
1 1 85/0x4F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21SWW000097064MK6
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 2, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:bc
Associated array: 2

PORT CHANNEL ID
0 1 0/0xEF
1 3 66/0x6E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QDB000097064S9L
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:17
Associated array: 2

PORT CHANNEL ID
0 3 67/0x6D
1 1 1/0xE8

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GBP0000970646P7
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 2, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:62
Associated array: 2

PORT CHANNEL ID
0 1 2/0xE4
1 3 68/0x6C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21VM30000970646Q1
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 2, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:0d
Associated array: 2

PORT CHANNEL ID
0 3 69/0x6B
1 1 3/0xE2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G3D00009706PSCZ
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:0e
Associated array: 2

PORT CHANNEL ID
0 1 4/0xE1
1 3 70/0x6A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G3N00009706PRSA
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:09
Associated array: 2

PORT CHANNEL ID
0 3 71/0x69
1 1 5/0xE0

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2D00009706N06B
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:fa
Associated array: 2

PORT CHANNEL ID
0 1 6/0xDC
1 3 72/0x67

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NR5000097064SLC
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:f7
Associated array: 2

PORT CHANNEL ID
0 3 73/0x66
1 1 7/0xDA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G9A00009706QW67
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 2, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:c4
Associated array: 2

PORT CHANNEL ID
0 1 8/0xD9
1 3 74/0x65

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21FZY00009706QXP9
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d6:0c
Associated array: 2

PORT CHANNEL ID
0 3 75/0x63
1 1 9/0xD6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G7300009706NT5J
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:ab
Associated array: 2

PORT CHANNEL ID
0 1 10/0xD5
1 3 76/0x5C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2H000097064NCW
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 2, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:d6
Associated array: 2

PORT CHANNEL ID
0 3 77/0x5A
1 1 11/0xD4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21FZR00009706N0UF
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:dc
Associated array: 2

PORT CHANNEL ID
0 1 12/0xD3
1 3 78/0x59

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21FYD00009706LQQX
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 2, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:e8
Associated array: 2

PORT CHANNEL ID
0 3 79/0x56
1 1 13/0xD2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GCK00009706QXJM
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 2, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a2
Associated array: 2

PORT CHANNEL ID
0 1 14/0xD1
1 3 80/0x55

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2J000097064NBV
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 2, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:bb
Associated array: 2

PORT CHANNEL ID
0 3 48/0x98
1 1 15/0xCE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QGZ000097064S9K
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:51
Associated array: 3

PORT CHANNEL ID
0 1 32/0xB2
1 3 50/0x90

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2053S00009706N16D
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:a6
Associated array: 3

PORT CHANNEL ID
0 3 51/0x8F
1 1 31/0xB3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2055F00009706MZDW
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:12
Associated array: 3

PORT CHANNEL ID
0 1 30/0xB4
1 3 52/0x88

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2050T0000970638GX
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:46
Associated array: 3

PORT CHANNEL ID
0 3 53/0x84
1 1 29/0xB5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2053400009706380X
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:ab
Associated array: 3

PORT CHANNEL ID
0 1 28/0xB6
1 3 54/0x82

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205L200009706LRZQ
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:ff
Associated array: 3

PORT CHANNEL ID
0 3 55/0x81
1 1 27/0xB9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206JP00009706LQ2M
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 3, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:c1
Associated array: 3

PORT CHANNEL ID
0 1 26/0xBA
1 3 56/0x80

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ204ZL00009706MZ0U
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:c2
Associated array: 3

PORT CHANNEL ID
0 3 57/0x7C
1 1 25/0xBC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ204YW00009706MZ0W
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 3, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:e8
Associated array: 3

PORT CHANNEL ID
0 1 24/0xC3
1 3 58/0x7A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G9P0000970508AU
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:f5
Associated array: 3

PORT CHANNEL ID
0 3 59/0x79
1 1 23/0xC5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GAE00009706QW6N
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 3, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:e1
Associated array: 3

PORT CHANNEL ID
0 1 22/0xC6
1 3 60/0x76

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G230000970507HP
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:b9
Associated array: 3

PORT CHANNEL ID
0 3 61/0x75
1 1 21/0xC7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G5E000097064S9N
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:f5
Associated array: 3

PORT CHANNEL ID
0 1 20/0xC9
1 3 62/0x74

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21FWN00009706LQHP
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:f8
Associated array: 3

PORT CHANNEL ID
0 3 63/0x73
1 1 19/0xCA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GA400009706QVZZ
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 3, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:df
Associated array: 3

PORT CHANNEL ID
0 1 18/0xCB
1 3 64/0x72

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NSD0000970506PW
Vendor: IBM-SSG
Date of manufacture: August 11, 2006

Drive at Enclosure 3, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:b4
Associated array: 3

PORT CHANNEL ID
0 3 65/0x71
1 1 17/0xCC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P36000097064QKK
Vendor: IBM-SSG
Date of manufacture: August 12, 2006

Drive at Enclosure 4, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:b9
Associated array: 3

PORT CHANNEL ID
0 1 49/0x97
1 3 16/0xCD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2055Q00009706MZ0X
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 4, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:f2
Associated array: 3

PORT CHANNEL ID
0 3 17/0xCC
1 1 48/0x98

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ204ZZ0000970638BM
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 4, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:43
Associated array: 3

PORT CHANNEL ID
0 1 47/0x9B
1 3 18/0xCB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205MG00009706LQTR
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:77
Associated array: 3

PORT CHANNEL ID
0 3 19/0xCA
1 1 46/0x9D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205ZQ00009706PV6J
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:58
Associated array: 3

PORT CHANNEL ID
0 1 45/0x9E
1 3 20/0xC9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205M800009706LQW2
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:b0
Associated array: 3

PORT CHANNEL ID
0 3 21/0xC7
1 1 44/0x9F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205LB00009706LRRQ
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 4, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:97
Associated array: 3

PORT CHANNEL ID
0 1 43/0xA3
1 3 22/0xC6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205YT00009706N0Z6
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:51
Associated array: 3

PORT CHANNEL ID
0 3 23/0xC5
1 1 42/0xA5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205ML00009706LQWT
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:59
Associated array: 4

PORT CHANNEL ID
0 1 41/0xA6
1 3 24/0xC3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206LA00009706N107
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:73
Associated array: 4

PORT CHANNEL ID
0 3 25/0xBC
1 1 40/0xA7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205VA00009706LPU8
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:32
Associated array: 4

PORT CHANNEL ID
0 1 39/0xA9
1 3 26/0xBA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205TD00009706LRRY
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:52
Associated array: 4

PORT CHANNEL ID
0 3 27/0xB9
1 1 38/0xAA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XB00009706LQXY
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:56
Associated array: 4

PORT CHANNEL ID
0 1 37/0xAB
1 3 28/0xB6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206M300009706LRN8
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:11
Associated array: 4

PORT CHANNEL ID
0 3 29/0xB5
1 1 36/0xAC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205SC00009706MZ5C
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:d9
Associated array: 4

PORT CHANNEL ID
0 1 35/0xAD
1 3 30/0xB4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206H600009706LQUM
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 4, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:61
Associated array: 4

PORT CHANNEL ID
0 3 31/0xB3
1 1 34/0xAE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206M700009706LRN7
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 5, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d1:62
Associated array: 4

PORT CHANNEL ID
0 1 66/0x6E
1 3 32/0xB2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QBT00007704H6VX
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d4:11
Associated array: 4

PORT CHANNEL ID
0 3 33/0xB1
1 1 65/0x71

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21QJL00009706387L
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a4
Associated array: 4

PORT CHANNEL ID
0 1 64/0x72
1 3 34/0xAE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P1K000097064NFJ
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d1:65
Associated array: 4

PORT CHANNEL ID
0 3 35/0xAD
1 1 63/0x73

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21Q4V00007704XCXM
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d4:01
Associated array: 4

PORT CHANNEL ID
0 1 62/0x74
1 3 36/0xAC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G8S00009706QX22
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:da
Associated array: 4

PORT CHANNEL ID
0 3 37/0xAB
1 1 61/0x75

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GDD00009706QW04
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:db
Associated array: 4

PORT CHANNEL ID
0 1 60/0x76
1 3 38/0xAA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GDC00009706QXJU
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d4:1e
Associated array: 4

PORT CHANNEL ID
0 3 39/0xA9
1 1 59/0x79

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G4N00009706QWM9
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a1
Associated array: 4

PORT CHANNEL ID
0 1 58/0x7A
1 3 40/0xA7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2M000097064MZG
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:d2
Associated array: 4

PORT CHANNEL ID
0 3 41/0xA6
1 1 57/0x7C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GDJ00009706PRVT
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:f2
Associated array: 4

PORT CHANNEL ID
0 1 56/0x80
1 3 42/0xA5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G9900009706QW01
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a5
Associated array: 4

PORT CHANNEL ID
0 3 43/0xA3
1 1 55/0x81

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P1P000097064NFH
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a8
Associated array: 4

PORT CHANNEL ID
0 1 54/0x82
1 3 44/0x9F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P1R000097064NBZ
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:eb
Associated array: 4

PORT CHANNEL ID
0 3 45/0x9E
1 1 53/0x84

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21G8P000097063GS3
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 5, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:d3
Associated array: 4

PORT CHANNEL ID
0 1 52/0x88
1 3 46/0x9D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GCW00009706NU62
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 5, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:a7
Associated array: 4

PORT CHANNEL ID
0 3 47/0x9B
1 1 51/0x8F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P1Y000097064NFB
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 6, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:39
Associated array: 5

PORT CHANNEL ID
0 2 48/0x98
1 4 67/0x6D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2052M00009706N149
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:ca
Associated array: 5

PORT CHANNEL ID
0 4 68/0x6C
1 2 47/0x9B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ204Z100009706MZCT
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:5c
Associated array: 5

PORT CHANNEL ID
0 2 46/0x9D
1 4 69/0x6B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2053800009706N141
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:2d
Associated array: 5

PORT CHANNEL ID
0 4 70/0x6A
1 2 45/0x9E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2051T00009706LQ0T
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:05
Associated array: 5

PORT CHANNEL ID
0 2 44/0x9F
1 4 71/0x69

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205RK00009706LRAZ
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 6, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:e7
Associated array: 5

PORT CHANNEL ID
0 4 72/0x67
1 2 43/0xA3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ204ZG00009706LR2Q
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:4c
Associated array: 5

PORT CHANNEL ID
0 2 42/0xA5
1 4 73/0x66

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2053M00009706N16P
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:e0
Associated array: 5

PORT CHANNEL ID
0 4 74/0x65
1 2 41/0xA6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2050200009706LPZ5
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:df:8d
Associated array: 5

PORT CHANNEL ID
0 2 40/0xA7
1 4 75/0x63

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2053J00009706MZBV
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:f3
Associated array: 5

PORT CHANNEL ID
0 4 76/0x5C
1 2 39/0xA9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2050C0000970638EC
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:b0
Associated array: 5

PORT CHANNEL ID
0 2 38/0xAA
1 4 77/0x5A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205T400009706N0YB
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:c5
Associated array: 5

PORT CHANNEL ID
0 4 78/0x59
1 2 37/0xAB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205L100009706MYXE
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 6, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:66
Associated array: 5

PORT CHANNEL ID
0 2 36/0xAC
1 4 79/0x56

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21NTF00009706472X
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 6, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d3:de
Associated array: 5

PORT CHANNEL ID
0 4 80/0x55
1 2 35/0xAD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21GCN00009706QXJV
Vendor: IBM-SSG
Date of manufacture: August 9, 2006

Drive at Enclosure 6, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d5:ae
Associated array: 5

PORT CHANNEL ID
0 2 34/0xAE
1 4 81/0x54

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21P2Z000097064NFE
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 6, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:d4:0e
Associated array: 5

PORT CHANNEL ID
0 4 82/0x53
1 2 33/0xB1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ1W4BC00007649LU61
Vendor: IBM-SSG
Date of manufacture: August 10, 2006

Drive at Enclosure 7, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:a0
Associated array: 5

PORT CHANNEL ID
0 2 32/0xB2
1 4 33/0xB1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205SX00009706N0W8
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 7, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:ba
Associated array: 5

PORT CHANNEL ID
0 4 34/0xAE
1 2 31/0xB3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206JX00009706N0H1
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 7, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:c9
Associated array: 5

PORT CHANNEL ID
0 2 30/0xB4
1 4 35/0xAD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205T300009706MZAD
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:7b
Associated array: 5

PORT CHANNEL ID
0 4 36/0xAC
1 2 29/0xB5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XF00009706MZ53
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:04
Associated array: 5

PORT CHANNEL ID
0 2 28/0xB6
1 4 37/0xAB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DTJ00009706MZH8
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 7, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:39
Associated array: 5

PORT CHANNEL ID
0 4 38/0xAA
1 2 27/0xB9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DR8000097064SMT
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 7, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:3f
Associated array: 5

PORT CHANNEL ID
0 2 26/0xBA
1 4 39/0xA9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205ZG00009706LQUZ
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:d3
Associated array: 5

PORT CHANNEL ID
0 4 40/0xA7
1 2 25/0xBC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2064C0000970507ZD
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:19
Associated array: 6

PORT CHANNEL ID
0 2 24/0xC3
1 4 41/0xA6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2062W00009705074V
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:39
Associated array: 6

PORT CHANNEL ID
0 4 42/0xA5
1 2 23/0xC5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XL00009706LRF2
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:07
Associated array: 6

PORT CHANNEL ID
0 2 22/0xC6
1 4 43/0xA3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205RY00009706MZ5B
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:93
Associated array: 6

PORT CHANNEL ID
0 4 44/0x9F
1 2 21/0xC7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2066W00009706LRJ1
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:5d
Associated array: 6

PORT CHANNEL ID
0 2 20/0xC9
1 4 45/0x9E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206LW00009706LRP2
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:4c
Associated array: 6

PORT CHANNEL ID
0 4 46/0x9D
1 2 19/0xCA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206J400009706N0ZH
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:db
Associated array: 6

PORT CHANNEL ID
0 2 18/0xCB
1 4 47/0x9B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2067N00009706LQFY
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 7, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:7f
Associated array: 6

PORT CHANNEL ID
0 4 48/0x98
1 2 17/0xCC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XK0000970505KL
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:c8
Associated array: 6

PORT CHANNEL ID
0 2 0/0xEF
1 4 49/0x97

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206K40000970507MH
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 8, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:56
Associated array: 6

PORT CHANNEL ID
0 4 50/0x90
1 2 1/0xE8

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206HN00009706N105
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:a4
Associated array: 6

PORT CHANNEL ID
0 2 2/0xE4
1 4 51/0x8F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DW600008550B471
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 8, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:37
Associated array: 6

PORT CHANNEL ID
0 4 52/0x88
1 2 3/0xE2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DRP000097064R16
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 8, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:b1
Associated array: 6

PORT CHANNEL ID
0 2 4/0xE1
1 4 53/0x84

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206550000970505MD
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:a7
Associated array: 6

PORT CHANNEL ID
0 4 54/0x82
1 2 5/0xE0

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2068200009706N117
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 8, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:98
Associated array: 6

PORT CHANNEL ID
0 2 6/0xDC
1 4 55/0x81

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20TCJ00009706NSUS
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 8, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:ac
Associated array: 6

PORT CHANNEL ID
0 4 56/0x80
1 2 7/0xDA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DW000007704890L
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 8, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:f3
Associated array: 6

PORT CHANNEL ID
0 2 8/0xD9
1 4 57/0x7C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2069Q000097063853
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:c6
Associated array: 6

PORT CHANNEL ID
0 4 58/0x7A
1 2 9/0xD6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205TE00009706MZA9
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:0c
Associated array: 6

PORT CHANNEL ID
0 2 10/0xD5
1 4 59/0x79

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205QT00009706LPZ7
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:db
Associated array: 6

PORT CHANNEL ID
0 4 60/0x76
1 2 11/0xD4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2060700009706MZ4T
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:94
Associated array: 6

PORT CHANNEL ID
0 2 12/0xD3
1 4 61/0x75

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205Y400009706MZ90
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

Drive at Enclosure 8, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:c4
Associated array: 6

PORT CHANNEL ID
0 4 62/0x74
1 2 13/0xD2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205V400009706N0HE
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 8, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:e8
Associated array: 6

PORT CHANNEL ID
0 2 14/0xD1
1 4 63/0x73

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DT300009706N024
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 8, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:57
Associated array: 6

PORT CHANNEL ID
0 4 64/0x72
1 2 15/0xCE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DWV000097063HJL
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:46
Associated array: 7

PORT CHANNEL ID
0 0 0/0xEF
1 0 0/0xEF

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ210J400007704H66P
Vendor: IBM-SSG
Date of manufacture: August 2, 2006

Drive at Enclosure 9, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:99
Associated array: 7

PORT CHANNEL ID
0 4 17/0xCC
1 2 65/0x71

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20TDE00009706NMRH
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:ea
Associated array: 7

PORT CHANNEL ID
0 2 64/0x72
1 4 18/0xCB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DSV00009706N03P
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:48
Associated array: 7

PORT CHANNEL ID
0 4 19/0xCA
1 2 63/0x73

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DV6000097063HNG
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:dc
Associated array: 7

PORT CHANNEL ID
0 2 62/0x74
1 4 20/0xC9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DSS00009706NSVB
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:a2
Associated array: 7

PORT CHANNEL ID
0 4 21/0xC7
1 2 61/0x75

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DWJ0000770502QH
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:5b
Associated array: 7

PORT CHANNEL ID
0 2 60/0x76
1 4 22/0xC6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DXG000097063HNN
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:cb
Associated array: 7

PORT CHANNEL ID
0 4 23/0xC5
1 2 59/0x79

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DVF000097064QP7
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:c0
Associated array: 7

PORT CHANNEL ID
0 2 58/0x7A
1 4 24/0xC3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DV0000097064R4J
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:d3
Associated array: 7

PORT CHANNEL ID
0 4 25/0xBC
1 2 57/0x7C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DVY00007704H7FX
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:a8
Associated array: 7

PORT CHANNEL ID
0 2 56/0x80
1 4 26/0xBA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ21DX80000970646LB
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:da:97
Associated array: 7

PORT CHANNEL ID
0 4 27/0xB9
1 2 55/0x81

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ20T8700009706NSL3
Vendor: IBM-SSG
Date of manufacture: August 18, 2006

Drive at Enclosure 9, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:9a
Associated array: 7

PORT CHANNEL ID
0 2 54/0x82
1 4 28/0xB6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205Q80000970507V2
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 9, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:b8
Associated array: 7

PORT CHANNEL ID
0 4 29/0xB5
1 2 53/0x84

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205PE00009706LPVQ
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 9, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:86
Associated array: 7

PORT CHANNEL ID
0 2 52/0x88
1 4 30/0xB4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XM00009706MZAA
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 9, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:db
Associated array: 7

PORT CHANNEL ID
0 4 31/0xB3
1 2 51/0x8F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205W50000970638GD
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:d0
Associated array: 7

PORT CHANNEL ID
0 2 83/0x52
1 4 0/0xEF

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205V50000970638E1
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:51
Associated array: 7

PORT CHANNEL ID
0 4 1/0xE8
1 2 82/0x53

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206HD00009706LPV5
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:62
Associated array: 7

PORT CHANNEL ID
0 2 81/0x54
1 4 2/0xE4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2061S00009706LQSX
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:9f
Associated array: 7

PORT CHANNEL ID
0 4 3/0xE2
1 2 80/0x55

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205Y200009706N0W7
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:6c
Associated array: 7

PORT CHANNEL ID
0 2 79/0x56
1 4 4/0xE1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2064J000097063H4U
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:97
Associated array: 7

PORT CHANNEL ID
0 4 5/0xE0
1 2 78/0x59

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2064100009706QYGF
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:81
Associated array: 7

PORT CHANNEL ID
0 2 77/0x5A
1 4 6/0xDC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2063B00009706QYFA
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:12
Associated array: 7

PORT CHANNEL ID
0 4 7/0xDA
1 2 76/0x5C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205MQ00009706N0XL
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:9b
Associated array: 8

PORT CHANNEL ID
0 2 75/0x63
1 4 8/0xD9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2065X00009706N0LV
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:83
Associated array: 8

PORT CHANNEL ID
0 4 9/0xD6
1 2 74/0x65

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205RA00009706QYBR
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:dd
Associated array: 8

PORT CHANNEL ID
0 2 73/0x66
1 4 10/0xD5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206JN00009706388D
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:d5
Associated array: 8

PORT CHANNEL ID
0 4 11/0xD4
1 2 72/0x67

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205VZ00009706LPNW
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:40
Associated array: 8

PORT CHANNEL ID
0 2 71/0x69
1 4 12/0xD3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2060Z00009706LRE0
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:e8
Associated array: 8

PORT CHANNEL ID
0 4 13/0xD2
1 2 70/0x6A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205Z700009706MZ85
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dc:69
Associated array: 8

PORT CHANNEL ID
0 2 69/0x6B
1 4 14/0xD1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206LE00009706N0LN
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 10, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:db:d9
Associated array: 8

PORT CHANNEL ID
0 4 15/0xCE
1 2 68/0x6C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205WL00009706LPZ4
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:35
Associated array: 8

PORT CHANNEL ID
0 2 100/0x34
1 4 83/0x52

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205X000009706LQTS
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:92
Associated array: 8

PORT CHANNEL ID
0 4 84/0x51
1 2 99/0x35

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205PZ00009706PU2A
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:8e
Associated array: 8

PORT CHANNEL ID
0 2 98/0x36
1 4 85/0x4F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XE00009706PU9B
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:a3
Associated array: 8

PORT CHANNEL ID
0 4 86/0x4D
1 2 97/0x39

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XX0000970506P3
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:6e
Associated array: 8

PORT CHANNEL ID
0 2 96/0x3A
1 4 87/0x4C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206KQ00009706MZ52
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:93
Associated array: 8

PORT CHANNEL ID
0 4 88/0x4B
1 2 95/0x3C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XC000097063GZE
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:08
Associated array: 8

PORT CHANNEL ID
0 2 94/0x43
1 4 89/0x4A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2060J00009706MZ94
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:6b
Associated array: 8

PORT CHANNEL ID
0 4 90/0x49
1 2 93/0x45

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206LY00009706MZ6M
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:91
Associated array: 8

PORT CHANNEL ID
0 2 92/0x46
1 4 91/0x47

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205YF00009706LPQ2
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:41
Associated array: 8

PORT CHANNEL ID
0 4 92/0x46
1 2 91/0x47

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205S600009706LRSN
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:19
Associated array: 8

PORT CHANNEL ID
0 2 90/0x49
1 4 93/0x45

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ2069N00009706LQ2J
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:7c
Associated array: 8

PORT CHANNEL ID
0 4 94/0x43
1 2 89/0x4A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205ZL0000970505K0
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:dd:80
Associated array: 8

PORT CHANNEL ID
0 2 88/0x4B
1 4 95/0x3C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ205XJ00009706MZ57
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:5a
Associated array: 8

PORT CHANNEL ID
0 4 96/0x3A
1 2 87/0x4C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206M200009706LRUH
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 15

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:88
Associated array: 8

PORT CHANNEL ID
0 2 86/0x4D
1 4 97/0x39

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206KK00009706MZ6E
Vendor: IBM-SSG
Date of manufacture: August 22, 2006

Drive at Enclosure 11, Slot 16

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:81:de:c3
Associated array: 8

PORT CHANNEL ID
0 4 98/0x36
1 2 85/0x4F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 4 Gbps
Product ID: ST336854FC F
Firmware version: B90A
Serial number: 3KQ206H800009706N0Z9
Vendor: IBM-SSG
Date of manufacture: August 23, 2006

DRIVE CHANNELS----------

SUMMARY

CHANNEL STATUS CTRL A LINK CTRL B LINK
1 Optimal Up Up
2 Optimal Up Up
3 Optimal Up Up
4 Optimal Up Up

DETAILS

DRIVE CHANNEL 1

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 4 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 96

Connected to: Controller A, Port 4
Attached drives: 48
Drive enclosure: 0 (16 drives)
Drive enclosure: 2 (16 drives)
Drive enclosure: 1 (16 drives)
Connected to: Controller A, Port 3
Attached drives: 48
Drive enclosure: 3 (16 drives)
Drive enclosure: 4 (16 drives)
Drive enclosure: 5 (16 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 11/27/06 10:10:51 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:17
Controller detected errors: 38
Drive detected errors: 0
Timeout errors: 0
Link down errors: 12
Total I/O count: 1243785933

Controller B
Baseline time set: 11/27/06 10:10:51 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:17
Controller detected errors: 35
Drive detected errors: 0
Timeout errors: 0
Link down errors: 10
Total I/O count: 1244065266

DRIVE CHANNEL 2

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 4 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 96
Connected to: Controller A, Port 2
Attached drives: 48
Drive enclosure: 7 (16 drives)
Drive enclosure: 8 (16 drives)
Drive enclosure: 6 (16 drives)
Connected to: Controller A, Port 1
Attached drives: 48
Drive enclosure: 11 (16 drives)
Drive enclosure: 9 (16 drives)
Drive enclosure: 10 (16 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 11/27/06 10:10:41 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:27
Controller detected errors: 41
Drive detected errors: 0
Timeout errors: 0
Link down errors: 12
Total I/O count: 1243425195

Controller B
Baseline time set: 11/27/06 10:10:41 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:27
Controller detected errors: 32
Drive detected errors: 0
Timeout errors: 0
Link down errors: 8
Total I/O count: 1242458448

DRIVE CHANNEL 3

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 4 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 96
Connected to: Controller B, Port 1
Attached drives: 48
Drive enclosure: 0 (16 drives)
Drive enclosure: 2 (16 drives)
Drive enclosure: 1 (16 drives)
Connected to: Controller B, Port 2
Attached drives: 48
Drive enclosure: 3 (16 drives)
Drive enclosure: 4 (16 drives)
Drive enclosure: 5 (16 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 11/27/06 10:10:47 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:21
Controller detected errors: 22
Drive detected errors: 0
Timeout errors: 0
Link down errors: 5
Total I/O count: 1247772553

Controller B
Baseline time set: 11/27/06 10:10:45 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:23
Controller detected errors: 28
Drive detected errors: 0
Timeout errors: 0
Link down errors: 6
Total I/O count: 1248498577

DRIVE CHANNEL 4

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 4 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 96
Connected to: Controller B, Port 3
Attached drives: 48
Drive enclosure: 7 (16 drives)
Drive enclosure: 8 (16 drives)
Drive enclosure: 6 (16 drives)
Connected to: Controller B, Port 4
Attached drives: 48
Drive enclosure: 11 (16 drives)
Drive enclosure: 9 (16 drives)
Drive enclosure: 10 (16 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 11/27/06 10:10:42 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:26
Controller detected errors: 18
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 1249016995

Controller B
Baseline time set: 11/27/06 10:10:41 AM
Sample period (days, hh:mm:ss): 80 days, 04:08:27
Controller detected errors: 24
Drive detected errors: 0
Timeout errors: 0
Link down errors: 5
Total I/O count: 1248309993

ENCLOSURES----------
Controller Enclosure 85 Overall Component Information

Enclosure audible alarm: Disabled
Part number: PN 22R4274
Serial number: SN 1T54651240
Vendor: VN IBM
Date of manufacture: November 1, 2005

1 Interconnect-Battery Canister Detected

Interconnect-battery canister status: Optimal
Replacement part number: PN 22R4274
Serial number: SN 1T54651240
Vendor: VN IBM
Date of manufacture: November 1, 2005

1 Interconnect Detected

Interconnect status: Optimal
Location: Interconnect-battery canister

2 Battery Packs Detected

Battery status: Optimal
Location: Interconnect-battery canister (left pack)
Age: 292 days
Days until replacement: 787 days
Replacement part number: PN 22R4875
Serial number: SN 1T60400016
Vendor: VN IBM
Date of manufacture: January 1, 2006

Battery status: Optimal

Location: Interconnect-battery canister (right pack)
Age: 292 days
Days until replacement: 787 days
Replacement part number: PN 22R4875
Serial number: SN 1T60400131
Vendor: VN IBM
Date of manufacture: January 1, 2006

10 SFPs Detected

SFP status: Optimal
Attached to: Host-side of controller B
Location: Channel 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2LTF
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 3, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2LX9
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 3, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2JCE
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 4, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2LTJ
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 4, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U930UJ2
Vendor: FINISAR CORP.
Date of manufacture: January 18, 2006

SFP status: Optimal
Attached to: Host-side of controller A
Location: Channel 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A

Part number: FTRJ8524P2BNV
Serial number: U9E2JCF
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 1, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2LX8
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 1, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2JD3
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 2, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U940BJR
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 2, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9E2JCZ
Vendor: FINISAR CORP.
Date of manufacture: April 10, 2006

2 Power-Fan Canisters Detected

Left Power-fan canister status: Optimal
Part number: PN 23R0646
Serial number: SN YRT054912279
Vendor: VN IBM
Date of manufacture: December 1, 2005

Right Power-fan canister status: Optimal
Part number: PN 23R0646
Serial number: SN YRT054912289
Vendor: VN IBM
Date of manufacture: December 1, 2005

2 Power Supplies Detected

Power supply status: Optimal
Location: Power-fan canister (left)

Power supply status: Optimal
Location: Power-fan canister (right)

2 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (right)

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Drive Enclosure 0 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61445356
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045865
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045885
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060215378
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060215379
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U9720F4
Vendor: FINISAR CORP.
Date of manufacture: February 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out

Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV0AF
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV0S7
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 3 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61445036
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045212
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045211
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal

Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060215402
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060215403
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U940AMU
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV0A3
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV0A4
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 2 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61444665
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045862

Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045217
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060215394
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060215393
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV0HF
Vendor: PICOLIGHT
Date of manufacture: April 25, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U94099L
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C616RV1CY
Vendor: PICOLIGHT
Date of manufacture: April 25, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 1 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718777
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61730742
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61730741
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060214248
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060214241
Vendor: VN IBM
Date of manufacture: January 1, 2006

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U971VA2
Vendor: FINISAR CORP.
Date of manufacture: February 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV0SV
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U8S0QJS
Vendor: FINISAR CORP.
Date of manufacture: December 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV1C6
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 7 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718771
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61731194
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61731206
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060212484
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060212483
Vendor: VN IBM
Date of manufacture: January 1, 2006

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U9409SL
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV07L
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U940AMH
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV33M
Vendor: PICOLIGHT
Date of manufacture: April 27, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 11 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718674
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61730698
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61730697
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060212474
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060212473
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV072
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U94093Z
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV071
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 8 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718999
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045094
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045114
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060213971
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060214020
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C616RV11B
Vendor: PICOLIGHT
Date of manufacture: April 25, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U9306QZ
Vendor: FINISAR CORP.
Date of manufacture: January 18, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV0BB
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 4 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718516
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK

Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61731130
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T61731058
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060212490
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060212488
Vendor: VN IBM
Date of manufacture: January 1, 2006

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U930ULT
Vendor: FINISAR CORP.
Date of manufacture: January 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV33L
Vendor: PICOLIGHT
Date of manufacture: April 27, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U920FT8
Vendor: FINISAR CORP.
Date of manufacture: January 9, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV344
Vendor: PICOLIGHT
Date of manufacture: April 27, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 9 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61718141
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045108
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045109
Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060212440
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060212495
Vendor: VN IBM
Date of manufacture: January 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U971YTU
Vendor: FINISAR CORP.
Date of manufacture: February 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV0BA
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C617RV0B9
Vendor: PICOLIGHT
Date of manufacture: April 22, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 10 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T61445005
Vendor: VN IBM
Date of manufacture: June 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045318
Vendor: IBM
Date of manufacture: May 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62045932

Vendor: IBM
Date of manufacture: May 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT060521263
Vendor: VN IBM
Date of manufacture: January 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT060521262
Vendor: VN IBM
Date of manufacture: January 1, 2006

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U971YUJ
Vendor: FINISAR CORP.
Date of manufacture: February 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV1KM
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U930UBY
Vendor: FINISAR CORP.
Date of manufacture: January 18, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV1BP
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 5 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T63306472
Vendor: VN IBM
Date of manufacture: August 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62927721
Vendor: IBM
Date of manufacture: August 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T62320243
Vendor: IBM
Date of manufacture: August 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT062141194
Vendor: VN IBM
Date of manufacture: May 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT062141178
Vendor: VN IBM
Date of manufacture: May 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV739

Vendor: PICOLIGHT
Date of manufacture: April 29, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U940C4S
Vendor: FINISAR CORP.
Date of manufacture: January 23, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV74V
Vendor: PICOLIGHT
Date of manufacture: April 29, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Drive Enclosure 6 Overall Component Information

Enclosure audible alarm: Enabled
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 41Y5150
Serial number: SN 1T63313432
Vendor: VN IBM
Date of manufacture: August 1, 2006

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T63247615
Vendor: IBM
Date of manufacture: August 1, 2006

ESM card status: Optimal
Firmware version: 9881
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP810
Part number: PN 41Y5151
Serial number: SN 1T63248022
Vendor: IBM
Date of manufacture: August 1, 2006

4 Fans Detected

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (right)

Fan Status: Optimal
Location: Power-fan canister (left)

Fan Status: Optimal

Location: Power-fan canister (left)

2 Power Supplies Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 41Y5155
Serial number: SN YPT062140414
Vendor: VN IBM
Date of manufacture: May 1, 2006

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 41Y5155
Serial number: SN YPT062140415
Vendor: VN IBM
Date of manufacture: May 1, 2006

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1A, In
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTLF8524P2BNV
Serial number: U930KNS
Vendor: FINISAR CORP.
Date of manufacture: January 18, 2006

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV27M
Vendor: PICOLIGHT
Date of manufacture: April 26, 2006

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1B, Out
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 04 85
Revision: 1
Part number: PLRXPLVCSG344N
Serial number: C618RV07B
Vendor: PICOLIGHT
Date of manufacture: April 25, 2006

4 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Temperature sensor status: Optimal
Location: Power-fan canister (right)

MAPPINGS (Storage Partitioning - Enabled (0 of 8 used))----------

| VOLUME NAME | LUN | CONTROLLER ACCESSIBLE BY | VOLUME STATUS |
|---|---|---|---|
| Access Logical Drive | 31 | A,B | Default Group Optimal |
| Array_1 | 0 | A | Default Group Optimal |
| Array_2 | 1 | B | Default Group Optimal |
| Array_3 | 2 | A | Default Group Optimal |
| Array_4 | 3 | B | Default Group Optimal |
| Array_5 | 4 | A | Default Group Optimal |
| Array_6 | 5 | B | Default Group Optimal |
| Array_7 | 6 | A | Default Group Optimal |
| Array_8 | 7 | B | Default Group Optimal |

TOPOLOGY DEFINITIONS

DEFAULT GROUP

Default type: Windows 2000/Server 2003 Non-Clustered

Host Port: 21:00:00:e0:8b:8a:db:6c

Host Port: 21:00:00:e0:8b:8a:b3:70

Host Port: 21:01:00:e0:8b:aa:15:6f

Host Port: 21:00:00:e0:8b:8a:01:6e

Host Port: 21:01:00:e0:8b:aa:db:6c

Host Port: 21:00:00:e0:8b:8a:15:6f

Host Port: 21:00:00:e0:8b:8a:32:70

Host Port: 21:01:00:e0:8b:aa:32:70

Host Port: 21:01:00:e0:8b:aa:b3:70

NVSRAM HOST TYPE DEFINITIONS

HOST TYPE ADT STATUS ASSOCIATED INDEX

AIX Disabled 6

DEFAULT Disabled 0

HP-UX Disabled 7

IBM TS SAN VCE Disabled 12

Irix Disabled 10

LNXCLVMWARE Disabled 13

Linux Disabled 5

Netware Failover Disabled 11

Solaris Disabled 8

Solaris (with Veritas DMP) Disabled 14

Unused1 Disabled 1

Unused4 Disabled 4

Windows 2000/Server 2003 Clustered Disabled 3

Windows 2000/Server 2003 Clustered (supports DMP) Disabled 15

Windows 2000/Server 2003 Non-Clustered Disabled 2 (Default)

Windows 2000/Server 2003 Non-Clustered (supports DMP) Disabled 9

## System Configuration File for DS4800 Controller

(Measured configuration for 1 rack of database storage)

PROFILE FOR STORAGE SUBSYSTEM: B3_4800_710s (2/15/07 2:29:05 PM)

SUMMARY----------

Number of controllers: 2

Number of arrays: 8

Total number of logical drives (includes an access logical drive): 9 of 2048 used

Number of standard logical drives: 8

Number of access logical drives: 1

Number of drives: 224

Supported drive types: Fibre (224)

Total hot spare drives: 0

Standby: 0

In use: 0

Access logical drive: None mapped

Default host OS: Windows 2000/Server 2003 Non-Clustered (Host OS index 2)

Current configuration

Firmware version: 06.16.92.00

NVSRAM version: N1815D480R916V13

Pending configuration

Staged firmware download supported: Yes

Firmware version: None

NVSRAM version: None

Transferred on: None

Controller enclosure audible alarm: Disabled

NVSRAM configured for batteries: Yes

Start cache flushing at (in percentage): 1

Stop cache flushing at (in percentage): 1

Cache block size (in KB): 16

Media scan frequency (in days): Disabled

Failover alert delay (in minutes): 5

Feature enable identifier: 373130303700363335353531004576F975

Storage Subsystem worldwide name (ID): 600A0B8000181AE20000000043256AE4

Management software version: 09.19.G5.06

CONTROLLERS----------

Number of controllers: 2

Controller in Enclosure 0, Slot A

```
  Status: Online
  Current configuration
    Firmware version:     06.16.92.00
      Appware version:    06.16.92.00
      Bootware version:   06.16.92.00
    NVSRAM version:       N1815D480R916V13
  Pending configuration
    Firmware version:     None
      Appware version:    None
      Bootware version:   None
    NVSRAM version:       None
    Transferred on:       None
  Current ID (ALPA)
    On drive channel 1:   125/0x1
    On drive channel 2:   120/0x10
    On drive channel 3:   121/0xF
    On drive channel 4:   125/0x1
  Replacement part number: 22R4275
  Board ID:               6091
  Submodel ID:            2
  Product ID:             1815      FAStT
  Product revision:       0914
  Serial number:          1T60363507
  Date of manufacture:    January 12, 2006
  Vendor:                 IBM
  Cache
    Total data cache:     2048 MB
    Processor cache:      508 MB
  Host Interface Board
    Board ID:             0901
    Host card status:     Optimal
    Serial number:        SN 1T55362080
    Date of manufacture:  January 1, 2006

Associated Logical Drives (* = Preferred Owner):
  Array_1*, Array_3*, Array_5*, Array_7*

Controller host name:   rack7a
  Remote login:         Disabled

Ethernet port:          1
  MAC address:          00:a0:b8:11:45:60
  Network configuration: Static
  IP address:           192.168.40.210
  Subnet mask:          255.255.255.0
  Gateway:              0.0.0.0

Ethernet port:          2
  MAC address:          00:a0:b8:11:45:61
  Network configuration: Static
  IP address:           192.168.129.101
  Subnet mask:          255.255.255.0
  Gateway:              0.0.0.0


Drive interface:        Fibre
  Channel:              1
  Current ID:           125/0x1
  Maximum data rate:    4 Gbps
  Current data rate:    2 Gbps
  Data rate control:    Auto
  Link status:          Up
Drive interface:        Fibre
  Channel:              2
  Current ID:           120/0x10
  Maximum data rate:    4 Gbps
  Current data rate:    2 Gbps
  Data rate control:    Auto
  Link status:          Up
Drive interface:        Fibre
  Channel:              3
  Current ID:           121/0xF
  Maximum data rate:    4 Gbps
  Current data rate:    2 Gbps
  Data rate control:    Auto
  Link status:          Up
Drive interface:        Fibre
  Channel:              4
  Current ID:           125/0x1
  Maximum data rate:    4 Gbps
  Current data rate:    2 Gbps
  Data rate control:    Auto
  Link status:          Up
Host interface:         Fibre
  Channel:              1
  Current ID:           Not applicable/0xFFFFFFFF
  Preferred ID:         0/0xEF
  NL-Port ID:           0xFFFFFF
  Maximum data rate:    4 Gbps
  Current data rate:    4 Gbps
  Data rate control:    Auto
  Link status:          Up
  Topology:             Fabric Attach
  World-wide port name: 20:14:00:a0:b8:11:45:60
  World-wide node name: 20:04:00:a0:b8:11:45:60
  Part type:            HPFC-5700          revision 5
Host interface:         Fibre
  Channel:              2
  Current ID:           Not applicable/0xFFFFFFFF
  Preferred ID:         1/0xE8
```

NL-Port ID: 0xFFFFFF
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Data rate control: Auto
Link status: Down
Topology: Not available
World-wide port name: 20:24:00:a0:b8:11:45:60
World-wide node name: 20:04:00:a0:b8:11:45:60
Part type: HPFC-5700 revision 5
Host interface: Fibre
Channel: 3
Current ID: Not applicable/0xFFFFFFFF
Preferred ID: 2/0xE4
NL-Port ID: 0xFFFFFF
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Data rate control: Auto
Link status: Down
Topology: Not available
World-wide port name: 20:34:00:a0:b8:11:45:60
World-wide node name: 20:04:00:a0:b8:11:45:60
Part type: HPFC-5700 revision 5
Host interface: Fibre
Channel: 4
Current ID: Not applicable/0xFFFFFFFF
Preferred ID: 3/0xE2
NL-Port ID: 0xFFFFFF
Maximum data rate: 4 Gbps
Current data rate: 4 Gbps
Data rate control: Auto
Link status: Down
Topology: Not available
World-wide port name: 20:44:00:a0:b8:11:45:60
World-wide node name: 20:04:00:a0:b8:11:45:60
Part type: HPFC-5700 revision 5

Controller in Enclosure 0, Slot B

Status: Online
Current configuration
Firmware version: 06.16.92.00
Appware version: 06.16.92.00
Bootware version: 06.16.92.00
NVSRAM version: N1815D480R916V13
Pending configuration
Firmware version: None
Appware version: None
Bootware version: None
NVSRAM version: None
Transferred on: None
Current ID (ALPA)
On drive channel 1: 124/0x2
On drive channel 2: 121/0xF
On drive channel 3: 120/0x10
On drive channel 4: 124/0x2
Replacement part number: 22R4275
Board ID: 6091
Submodel ID: 2
Product ID: 1815 FAStT
Product revision: 0914
Serial number: 1T60363551
Date of manufacture: January 17, 2006
Vendor: IBM
Cache
Total data cache: 2048 MB
Processor cache: 508 MB
Host Interface Board
Board ID: 0901
Host card status: Optimal
Serial number: SN 1T60363791
Date of manufacture: January 1, 2006

Associated Logical Drives (* = Preferred Owner):
Array_2*, Array_4*, Array_6*, Array_8*

Controller host name: rack7b
Remote login: Disabled

Ethernet port: 1
MAC address: 00:a0:b8:11:45:9c
Network configuration: Static
IP address: 192.168.40.211
Subnet mask: 255.255.255.0
Gateway: 0.0.0.0

Ethernet port: 2
MAC address: 00:a0:b8:11:45:9d
Network configuration: Static
IP address: 192.168.129.102
Subnet mask: 255.255.255.0
Gateway: 0.0.0.0

Drive interface: Fibre
Channel: 1
Current ID: 124/0x2
Maximum data rate: 4 Gbps
Current data rate: 2 Gbps
Data rate control: Auto
Link status: Up

```
  Drive interface:       Fibre
    Channel:             2
    Current ID:          121/0xF
    Maximum data rate:   4 Gbps
    Current data rate:   2 Gbps
    Data rate control:   Auto
    Link status:         Up
  Drive interface:       Fibre
    Channel:             3
    Current ID:          120/0x10
    Maximum data rate:   4 Gbps
    Current data rate:   2 Gbps
    Data rate control:   Auto
    Link status:         Up
  Drive interface:       Fibre
    Channel:             4
    Current ID:          124/0x2
    Maximum data rate:   4 Gbps
    Current data rate:   2 Gbps
    Data rate control:   Auto
    Link status:         Up
  Host interface:        Fibre
    Channel:             1
    Current ID:          Not applicable/0xFFFFFFFF
    Preferred ID:        4/0xE1
    NL-Port ID:          0xFFFFFF
    Maximum data rate:   4 Gbps
    Current data rate:   4 Gbps
    Data rate control:   Auto
    Link status:         Up
    Topology:            Fabric Attach
    World-wide port name:  20:15:00:a0:b8:11:45:60
    World-wide node name:  20:04:00:a0:b8:11:45:60
    Part type:           HPFC-5700        revision 5
  Host interface:        Fibre
    Channel:             2
    Current ID:          Not applicable/0xFFFFFFFF
    Preferred ID:        5/0xE0
    NL-Port ID:          0xFFFFFF
    Maximum data rate:   4 Gbps
    Current data rate:   4 Gbps
    Data rate control:   Auto
    Link status:         Down
    Topology:            Not available
    World-wide port name:  20:25:00:a0:b8:11:45:60
    World-wide node name:  20:04:00:a0:b8:11:45:60
    Part type:           HPFC-5700        revision 5
  Host interface:        Fibre
    Channel:             3
    Current ID:          Not applicable/0xFFFFFFFF
    Preferred ID:        6/0xDC
    NL-Port ID:          0xFFFFFF
    Maximum data rate:   4 Gbps
    Current data rate:   4 Gbps
    Data rate control:   Auto
    Link status:         Down
    Topology:            Not available
    World-wide port name:  20:35:00:a0:b8:11:45:60
    World-wide node name:  20:04:00:a0:b8:11:45:60
    Part type:           HPFC-5700        revision 5
  Host interface:        Fibre
    Channel:             4
    Current ID:          Not applicable/0xFFFFFFFF
    Preferred ID:        7/0xDA
    NL-Port ID:          0xFFFFFF
    Maximum data rate:   4 Gbps
    Current data rate:   4 Gbps
    Data rate control:   Auto
    Link status:         Down
    Topology:            Not available
    World-wide port name:  20:45:00:a0:b8:11:45:60
    World-wide node name:  20:04:00:a0:b8:11:45:60
    Part type:           HPFC-5700        revision 5

ARRAYS------------------------------

  Number of arrays: 8

  ARRAY 1 (RAID 0)

    Array status:          Online

    Drive type:            Fibre Channel
    Enclosure loss protection:  No

    Current owner:         Controller in slot A

    Associated logical drives and free capacities:

      LOGICAL DRIVE NAME  CAPACITY
      Array_1             935.238 GB

    Associated drives (in piece order):

      ENCLOSURE  SLOT
      20         1
      20         2
      20         3
      20         4
      20         5
```

20 6
20 7
20 8
20 9
20 10
20 11
20 12
20 13
20 14
21 1
21 2
21 3
21 4
21 5
21 6
21 7
21 8
21 9
21 10
21 11
21 12
21 13
21 14

ARRAY 2 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_2 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
22 1
22 2
22 3
22 4
22 5
22 6
22 7
22 8
22 9
22 10
22 11
22 12
22 13
22 14
23 1
23 2
23 3
23 4
23 5
23 6
23 7
23 8
23 9
23 10
23 11
23 12
23 13
23 14

ARRAY 3 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_3 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
30 1
30 2
30 3
30 4
30 5
30 6
30 7
30 8
30 9
30 10
30 11
30 12
30 13

30 14
31 1
31 2
31 3
31 4
31 5
31 6
31 7
31 8
31 9
31 10
31 11
31 12
31 13
31 14

ARRAY 4 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_4 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
10 1
10 2
10 3
10 4
10 5
10 6
10 7
10 8
10 9
10 10
10 11
10 12
10 13
10 14
11 1
11 2
11 3
11 4
11 5
11 6
11 7
11 8
11 9
11 10
11 11
11 12
11 13
11 14

ARRAY 5 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_5 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
12 1
12 2
12 3
12 4
12 5
12 6
12 7
12 8
12 9
12 10
12 11
12 12
12 13
12 14
13 1
13 2
13 3
13 4
13 5
13 6
13 7

13 8
13 9
13 10
13 11
13 12
13 13
13 14

ARRAY 6 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_6 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
32 1
32 2
32 3
32 4
32 5
32 6
32 7
32 8
32 9
32 10
32 11
32 12
32 13
32 14
33 1
33 2
33 3
33 4
33 5
33 6
33 7
33 8
33 9
33 10
33 11
33 12
33 13
33 14

ARRAY 7 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot A

Associated logical drives and free capacities:

LOGICAL DRIVE NAME CAPACITY
Array_7 935.238 GB

Associated drives (in piece order):

ENCLOSURE SLOT
40 1
40 2
40 3
40 4
40 5
40 6
40 7
40 8
40 9
40 10
40 11
40 12
40 13
40 14
41 1
41 2
41 3
41 4
41 5
41 6
41 7
41 8
41 9
41 10
41 11
41 12
41 13
41 14

ARRAY 8 (RAID 0)

Array status: Online

Drive type: Fibre Channel
Enclosure loss protection: No

Current owner: Controller in slot B

Associated logical drives and free capacities:

| LOGICAL DRIVE NAME | CAPACITY |
|---|---|
| Array_8 | 935.238 GB |

Associated drives (in piece order):

| ENCLOSURE | SLOT |
|---|---|
| 42 | 1 |
| 42 | 2 |
| 42 | 3 |
| 42 | 4 |
| 42 | 5 |
| 42 | 6 |
| 42 | 7 |
| 42 | 8 |
| 42 | 9 |
| 42 | 10 |
| 42 | 11 |
| 42 | 12 |
| 42 | 13 |
| 42 | 14 |
| 43 | 1 |
| 43 | 2 |
| 43 | 3 |
| 43 | 4 |
| 43 | 5 |
| 43 | 6 |
| 43 | 7 |
| 43 | 8 |
| 43 | 9 |
| 43 | 10 |
| 43 | 11 |
| 43 | 12 |
| 43 | 13 |
| 43 | 14 |

STANDARD LOGICAL DRIVES----------

SUMMARY

Number of standard logical drives: 8

See other Logical Drives sub-tabs for premium feature information.

| NAME | STATUS | CAPACITY | RAID LEVEL | ARRAY |
|---|---|---|---|---|
| Array_1 | Optimal | 935.238 GB | 0 | 1 |
| Array_2 | Optimal | 935.238 GB | 0 | 2 |
| Array_3 | Optimal | 935.238 GB | 0 | 3 |
| Array_4 | Optimal | 935.238 GB | 0 | 4 |
| Array_5 | Optimal | 935.238 GB | 0 | 5 |
| Array_6 | Optimal | 935.238 GB | 0 | 6 |
| Array_7 | Optimal | 935.238 GB | 0 | 7 |
| Array_8 | Optimal | 935.238 GB | 0 | 8 |

DETAILS

LOGICAL DRIVE NAME: Array_1

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID: 60:0a:0b:80:00:11:45:60:00:00:01:75:45:a2:7a:0e
Subsystem ID (SSID): 0
Associated array: 1
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_2

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:45:9c:00:00:01:83:45:a2:7b:1b
Subsystem ID (SSID): 1
Associated array: 2
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_3

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:45:60:00:00:01:77:45:a2:7a:a8
Subsystem ID (SSID): 2
Associated array: 3
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_4

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:45:9c:00:00:01:ab:45:af:b0:cd
Subsystem ID (SSID): 3
Associated array: 4
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_5

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID:
60:0a:0b:80:00:11:45:60:00:00:01:9c:45:af:b0:18
Subsystem ID (SSID): 4
Associated array: 5
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A

Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_6

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID: 60:0a:0b:80:00:11:45:9c:00:00:01:b0:45:af:b1:27
Subsystem ID (SSID): 5
Associated array: 6
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_7

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID: 60:0a:0b:80:00:11:45:60:00:00:01:a0:45:af:b0:6e
Subsystem ID (SSID): 6
Associated array: 7
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

LOGICAL DRIVE NAME: Array_8

Logical Drive status: Optimal

Capacity: 935.238 GB (1,004,204,457,984 Bytes)
Logical Drive ID: 60:0a:0b:80:00:11:45:9c:00:00:01:b5:45:af:b1:6b
Subsystem ID (SSID): 7
Associated array: 8
RAID level: 0

Drive type: Fibre Channel
Enclosure loss protection: No

Preferred owner: Controller in slot B
Current owner: Controller in slot B

Segment size: 128 KB
Modification priority: High

Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Enabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Dynamic cache read prefetch: Enabled

Enable background media scan: Disabled

Media scan with redundancy check: Disabled

MISSING LOGICAL DRIVES----------

Number of missing logical drives: 0

DRIVES----------

SUMMARY

Number of drives: 224

Current drive types: Fibre (224)

BASIC:

TRAY, SLOT STATUS CAPACITY CURRENT DATA RATE PRODUCT ID FIRMWARE VERSION

10, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

10, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

11, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

12, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

13, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

20, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

21, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

22, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

23, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

30, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

31, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

32, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

33, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

40, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

41, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

42, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 1 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 2 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 3 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 4 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 5 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 6 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 7 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 8 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 9 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 10 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 11 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 12 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 13 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

43, 14 Optimal 33.902 GB 2 Gbps ST336753FC F B95E

DRIVE CHANNELS:

TRAY, SLOT PREFERRED CHANNEL REDUNDANT CHANNEL

| | | |
|---|---|---|
| 10, 1 | 2 | 4 |
| 10, 2 | 4 | 2 |
| 10, 3 | 2 | 4 |
| 10, 4 | 4 | 2 |
| 10, 5 | 2 | 4 |
| 10, 6 | 4 | 2 |
| 10, 7 | 2 | 4 |
| 10, 8 | 4 | 2 |
| 10, 9 | 2 | 4 |
| 10, 10 | 4 | 2 |
| 10, 11 | 2 | 4 |
| 10, 12 | 4 | 2 |
| 10, 13 | 2 | 4 |
| 10, 14 | 4 | 2 |
| 11, 1 | 2 | 4 |
| 11, 2 | 4 | 2 |
| 11, 3 | 2 | 4 |
| 11, 4 | 4 | 2 |
| 11, 5 | 2 | 4 |
| 11, 6 | 4 | 2 |
| 11, 7 | 2 | 4 |
| 11, 8 | 4 | 2 |
| 11, 9 | 2 | 4 |
| 11, 10 | 4 | 2 |
| 11, 11 | 2 | 4 |
| 11, 12 | 4 | 2 |
| 11, 13 | 2 | 4 |
| 11, 14 | 4 | 2 |
| 12, 1 | 2 | 4 |
| 12, 2 | 4 | 2 |
| 12, 3 | 2 | 4 |
| 12, 4 | 4 | 2 |
| 12, 5 | 2 | 4 |
| 12, 6 | 4 | 2 |
| 12, 7 | 2 | 4 |
| 12, 8 | 4 | 2 |
| 12, 9 | 2 | 4 |
| 12, 10 | 4 | 2 |
| 12, 11 | 2 | 4 |
| 12, 12 | 4 | 2 |
| 12, 13 | 2 | 4 |
| 12, 14 | 4 | 2 |
| 13, 1 | 2 | 4 |
| 13, 2 | 4 | 2 |
| 13, 3 | 2 | 4 |
| 13, 4 | 4 | 2 |
| 13, 5 | 2 | 4 |
| 13, 6 | 4 | 2 |
| 13, 7 | 2 | 4 |
| 13, 8 | 4 | 2 |
| 13, 9 | 2 | 4 |
| 13, 10 | 4 | 2 |
| 13, 11 | 2 | 4 |
| 13, 12 | 4 | 2 |
| 13, 13 | 2 | 4 |
| 13, 14 | 4 | 2 |
| 20, 1 | 1 | 3 |
| 20, 2 | 3 | 1 |
| 20, 3 | 1 | 3 |
| 20, 4 | 3 | 1 |
| 20, 5 | 1 | 3 |
| 20, 6 | 3 | 1 |
| 20, 7 | 1 | 3 |
| 20, 8 | 3 | 1 |
| 20, 9 | 1 | 3 |
| 20, 10 | 3 | 1 |
| 20, 11 | 1 | 3 |
| 20, 12 | 3 | 1 |
| 20, 13 | 1 | 3 |
| 20, 14 | 3 | 1 |
| 21, 1 | 1 | 3 |
| 21, 2 | 3 | 1 |
| 21, 3 | 1 | 3 |
| 21, 4 | 3 | 1 |
| 21, 5 | 1 | 3 |
| 21, 6 | 3 | 1 |
| 21, 7 | 1 | 3 |
| 21, 8 | 3 | 1 |
| 21, 9 | 1 | 3 |
| 21, 10 | 3 | 1 |
| 21, 11 | 1 | 3 |
| 21, 12 | 3 | 1 |
| 21, 13 | 1 | 3 |
| 21, 14 | 3 | 1 |
| 22, 1 | 1 | 3 |
| 22, 2 | 3 | 1 |
| 22, 3 | 1 | 3 |
| 22, 4 | 3 | 1 |
| 22, 5 | 1 | 3 |
| 22, 6 | 3 | 1 |
| 22, 7 | 1 | 3 |
| 22, 8 | 3 | 1 |
| 22, 9 | 1 | 3 |

| | | |
|---|---|---|
| 22, 10 | 3 | 1 |
| 22, 11 | 1 | 3 |
| 22, 12 | 3 | 1 |
| 22, 13 | 1 | 3 |
| 22, 14 | 3 | 1 |
| 23, 1 | 1 | 3 |
| 23, 2 | 3 | 1 |
| 23, 3 | 1 | 3 |
| 23, 4 | 3 | 1 |
| 23, 5 | 1 | 3 |
| 23, 6 | 3 | 1 |
| 23, 7 | 1 | 3 |
| 23, 8 | 3 | 1 |
| 23, 9 | 1 | 3 |
| 23, 10 | 3 | 1 |
| 23, 11 | 1 | 3 |
| 23, 12 | 3 | 1 |
| 23, 13 | 1 | 3 |
| 23, 14 | 3 | 1 |
| 30, 1 | 1 | 3 |
| 30, 2 | 3 | 1 |
| 30, 3 | 1 | 3 |
| 30, 4 | 3 | 1 |
| 30, 5 | 1 | 3 |
| 30, 6 | 3 | 1 |
| 30, 7 | 1 | 3 |
| 30, 8 | 3 | 1 |
| 30, 9 | 1 | 3 |
| 30, 10 | 3 | 1 |
| 30, 11 | 1 | 3 |
| 30, 12 | 3 | 1 |
| 30, 13 | 1 | 3 |
| 30, 14 | 3 | 1 |
| 31, 1 | 1 | 3 |
| 31, 2 | 3 | 1 |
| 31, 3 | 1 | 3 |
| 31, 4 | 3 | 1 |
| 31, 5 | 1 | 3 |
| 31, 6 | 3 | 1 |
| 31, 7 | 1 | 3 |
| 31, 8 | 3 | 1 |
| 31, 9 | 1 | 3 |
| 31, 10 | 3 | 1 |
| 31, 11 | 1 | 3 |
| 31, 12 | 3 | 1 |
| 31, 13 | 1 | 3 |
| 31, 14 | 3 | 1 |
| 32, 1 | 1 | 3 |
| 32, 2 | 3 | 1 |
| 32, 3 | 1 | 3 |
| 32, 4 | 3 | 1 |
| 32, 5 | 1 | 3 |
| 32, 6 | 3 | 1 |
| 32, 7 | 1 | 3 |
| 32, 8 | 3 | 1 |
| 32, 9 | 1 | 3 |
| 32, 10 | 3 | 1 |
| 32, 11 | 1 | 3 |
| 32, 12 | 3 | 1 |
| 32, 13 | 1 | 3 |
| 32, 14 | 3 | 1 |
| 33, 1 | 1 | 3 |
| 33, 2 | 3 | 1 |
| 33, 3 | 1 | 3 |
| 33, 4 | 3 | 1 |
| 33, 5 | 1 | 3 |
| 33, 6 | 3 | 1 |
| 33, 7 | 1 | 3 |
| 33, 8 | 3 | 1 |
| 33, 9 | 1 | 3 |
| 33, 10 | 3 | 1 |
| 33, 11 | 1 | 3 |
| 33, 12 | 3 | 1 |
| 33, 13 | 1 | 3 |
| 33, 14 | 3 | 1 |
| 40, 1 | 2 | 4 |
| 40, 2 | 4 | 2 |
| 40, 3 | 2 | 4 |
| 40, 4 | 4 | 2 |
| 40, 5 | 2 | 4 |
| 40, 6 | 4 | 2 |
| 40, 7 | 2 | 4 |
| 40, 8 | 4 | 2 |
| 40, 9 | 2 | 4 |
| 40, 10 | 4 | 2 |
| 40, 11 | 2 | 4 |
| 40, 12 | 4 | 2 |
| 40, 13 | 2 | 4 |
| 40, 14 | 4 | 2 |
| 41, 1 | 2 | 4 |
| 41, 2 | 4 | 2 |
| 41, 3 | 2 | 4 |
| 41, 4 | 4 | 2 |
| 41, 5 | 2 | 4 |
| 41, 6 | 4 | 2 |
| 41, 7 | 2 | 4 |
| 41, 8 | 4 | 2 |
| 41, 9 | 2 | 4 |
| 41, 10 | 4 | 2 |
| 41, 11 | 2 | 4 |

```
   41, 12     4              2
   41, 13     2              4
   41, 14     4              2
   42, 1      2              4
   42, 2      4              2
   42, 3      2              4
   42, 4      4              2
   42, 5      2              4
   42, 6      4              2
   42, 7      2              4
   42, 8      4              2
   42, 9      2              4
   42, 10     4              2
   42, 11     2              4
   42, 12     4              2
   42, 13     2              4
   42, 14     4              2
   43, 1      2              4
   43, 2      4              2
   43, 3      2              4
   43, 4      4              2
   43, 5      2              4
   43, 6      4              2
   43, 7      2              4
   43, 8      4              2
   43, 9      2              4
   43, 10     4              2
   43, 11     2              4
   43, 12     4              2
   43, 13     2              4
   43, 14     4              2


HOT SPARE COVERAGE:
  The following arrays are not protected: 2, 8, 5, 4, 6, 3, 7, 1
  Total hot spare drives: 0
    Standby:  0
    In use:   0


  DETAILS
  Drive at Enclosure 10, Slot 1

    Status:  Optimal

    Mode:  Assigned
    Raw capacity:       33.902 GB
    Usable capacity:    33.402 GB
    World-wide name:    20:00:00:0c:50:45:ab:d7
    Associated array:   4

    PORT  CHANNEL  ID
    0     2        0/0xEF
    1     4        0/0xEF

    Drive path redundancy:  OK
    Drive type:             Fibre Channel

    Speed:                  15015 RPM
    Current data rate:      2 Gbps
    Product ID:             ST336753FC     F
    Firmware version:       B95E
    Serial number:          3HX2NF0000007502AZ9S
    Vendor:                 IBM-ESXS
    Date of manufacture:    July 21, 2004

  Drive at Enclosure 10, Slot 2

    Status:  Optimal

    Mode:  Assigned
    Raw capacity:       33.902 GB
    Usable capacity:    33.402 GB
    World-wide name:    20:00:00:0c:50:45:af:c3
    Associated array:   4

    PORT  CHANNEL  ID
    0     4        1/0xE8
    1     2        1/0xE8

    Drive path redundancy:  OK
    Drive type:             Fibre Channel

    Speed:                  15015 RPM
    Current data rate:      2 Gbps
    Product ID:             ST336753FC     F
    Firmware version:       B95E
    Serial number:          3HX2LMVB00007502BT9J
    Vendor:                 IBM-ESXS
    Date of manufacture:    July 21, 2004

  Drive at Enclosure 10, Slot 3

    Status:  Optimal

    Mode:  Assigned
    Raw capacity:       33.902 GB
    Usable capacity:    33.402 GB
    World-wide name:    20:00:00:0c:50:45:a9:37
    Associated array:   4
```

PORT CHANNEL ID
0 2 2/0xE4
1 4 2/0xE4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MXWH00007502CJ1B
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 10, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ac:83
Associated array: 4

PORT CHANNEL ID
0 4 3/0xE2
1 2 3/0xE2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NEZS00007502CX4P
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 10, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:f0:88
Associated array: 4

PORT CHANNEL ID
0 2 4/0xE1
1 4 4/0xE1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX283W800007440E95N
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 10, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:64
Associated array: 4

PORT CHANNEL ID
0 4 5/0xE0
1 2 5/0xE0

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MY5200007502CX2K
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 10, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:ef:ef
Associated array: 4

PORT CHANNEL ID
0 2 6/0xDC
1 4 6/0xDC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX28BWF00007440P53H
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 10, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:04
Associated array: 4

PORT CHANNEL ID
0 4 7/0xDA
1 2 7/0xDA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NF2E00007502BEW0
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 10, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:f0:52
Associated array: 4

PORT CHANNEL ID
0 2 80/0x55
1 4 80/0x55

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX27Z1100007440E8UE
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 10, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:f3
Associated array: 4

PORT CHANNEL ID
0 4 96/0x3A
1 2 96/0x3A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MWVC00007502AZGK
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 10, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ad:bd
Associated array: 4

PORT CHANNEL ID
0 2 64/0x72
1 4 64/0x72

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MZWQ000075029T2V
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 10, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:de
Associated array: 4

PORT CHANNEL ID
0 4 72/0x67
1 2 72/0x67

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NELA00007502A84B
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 10, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:b0
Associated array: 4

PORT CHANNEL ID
0 2 88/0x4B
1 4 88/0x4B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MWZ600007502BU0V
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 10, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ad:d2
Associated array: 4

PORT CHANNEL ID
0 4 104/0x2E
1 2 104/0x2E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2J9AQ00007502A7L1
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 11, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f1
Associated array: 4

PORT CHANNEL ID
0 2 8/0xD9
1 4 8/0xD9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VCT0000751264RR
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:aa
Associated array: 4

PORT CHANNEL ID
0 4 9/0xD6
1 2 9/0xD6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZE1L00007513A3NL
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:0c
Associated array: 4

PORT CHANNEL ID
0 2 10/0xD5
1 4 10/0xD5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX32GY900007516F4AY
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:fd
Associated array: 4

PORT CHANNEL ID
0 4 11/0xD4
1 2 11/0xD4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VC8000075125C5G
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:a7
Associated array: 4

PORT CHANNEL ID
0 2 12/0xD3
1 4 12/0xD3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2Z52D0000751272VN
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f4
Associated array: 4

PORT CHANNEL ID
0 4 13/0xD2
1 2 13/0xD2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VC600007516EXX6
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:fb
Associated array: 4

PORT CHANNEL ID
0 2 14/0xD1
1 4 14/0xD1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX30HPJ00007516EXZP
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:ac
Associated array: 4

PORT CHANNEL ID
0 4 15/0xCE
1 2 15/0xCE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZFRP00007513A3QK
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:f6
Associated array: 4

PORT CHANNEL ID
0 2 81/0x54
1 4 81/0x54

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3452V00007515CSZD
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 11, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:a1
Associated array: 4

PORT CHANNEL ID
0 4 97/0x39
1 2 97/0x39

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZFRN00007513A4AY
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:ad
Associated array: 4

PORT CHANNEL ID
0 2 65/0x71
1 4 65/0x71

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2YMVV000075139KKP
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 11, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:da:b7
Associated array: 4

PORT CHANNEL ID
0 4 73/0x66
1 2 73/0x66

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DSVH00007447RB6R
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004

Drive at Enclosure 11, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ac:02
Associated array: 4

PORT CHANNEL ID
0 2 89/0x4A
1 4 89/0x4A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MYAF00007502BETG
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 11, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ac:12
Associated array: 4

PORT CHANNEL ID
0 4 105/0x2D
1 2 105/0x2D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2N57N00007502J0ZZ
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 12, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:92:6b
Associated array: 5

PORT CHANNEL ID
0 2 103/0x31
1 4 103/0x31

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33M90000075167746
Vendor: IBM-ESXS
Date of manufacture: October 26, 2004

Drive at Enclosure 12, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:0b
Associated array: 5

PORT CHANNEL ID
0 4 108/0x2A
1 2 108/0x2A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX342QA00007517WCD2
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 12, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:f9:e8:85
Associated array: 5

PORT CHANNEL ID
0 2 102/0x32
1 4 102/0x32

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0K7HQ00007339TYMV
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003

Drive at Enclosure 12, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:f9:e8:37
Associated array: 5

PORT CHANNEL ID
0 4 101/0x33
1 2 101/0x33

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0HT9T00007339TYP0
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003

Drive at Enclosure 12, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:04
Associated array: 5

PORT CHANNEL ID
0 2 100/0x34
1 4 100/0x34

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341G200007517WC09
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 12, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:ff:0d:6a
Associated array: 5

PORT CHANNEL ID
0 4 95/0x3C
1 2 95/0x3C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0KCRZ000073409KPT
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003

Drive at Enclosure 12, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:f9:da:39
Associated array: 5

PORT CHANNEL ID
0 2 94/0x43
1 4 94/0x43

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0HMYD00007339N1M4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003

Drive at Enclosure 12, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:17
Associated array: 5

PORT CHANNEL ID
0 4 93/0x45
1 2 93/0x45

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3478300007517WCA5
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 12, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:04
Associated array: 5

PORT CHANNEL ID
0 2 92/0x46
1 4 92/0x46

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3265F00007515RZME
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 12, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:ea
Associated array: 5

PORT CHANNEL ID
0 4 87/0x4C
1 2 87/0x4C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2Z6ZA00007513A4PM
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 12, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:62
Associated array: 5

PORT CHANNEL ID
0 2 86/0x4D
1 4 86/0x4D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346MG00007506BDGR
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 12, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:b8
Associated array: 5

PORT CHANNEL ID
0 4 109/0x29
1 2 109/0x29

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NESP00007502BU0R
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 12, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d9:2e
Associated array: 5

PORT CHANNEL ID
0 2 110/0x27
1 4 110/0x27

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DCC400007447QT8U
Vendor: IBM-ESXS
Date of manufacture: May 26, 2004

Drive at Enclosure 12, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:bf
Associated array: 5

PORT CHANNEL ID
0 4 111/0x26
1 2 111/0x26

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2N20H00007502CJRX
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 13, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:dc
Associated array: 5

PORT CHANNEL ID
0 2 60/0x76
1 4 60/0x76

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3479S00007517UB34
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 13, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:d2
Associated array: 5

PORT CHANNEL ID
0 4 61/0x75
1 2 61/0x75

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J5Z00007517UBB3
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 13, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:b8
Associated array: 5

PORT CHANNEL ID
0 2 62/0x74
1 4 62/0x74

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3468B00007517WB1V
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 13, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:f1
Associated array: 5

PORT CHANNEL ID
0 4 63/0x73
1 2 63/0x73

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3415000007517RFV4
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 13, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:27
Associated array: 5

PORT CHANNEL ID
0 2 68/0x6C
1 4 68/0x6C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX348RY000075179NH4
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:70
Associated array: 5

PORT CHANNEL ID
0 4 69/0x6B
1 2 69/0x6B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33MEG000075179M8T
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f2
Associated array: 5

PORT CHANNEL ID
0 2 70/0x6A
1 4 70/0x6A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VG100007516EXVN
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 13, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:ca
Associated array: 5

PORT CHANNEL ID
0 4 71/0x69
1 2 71/0x69

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3415400007517TGXQ
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 13, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:42:5a:3a
Associated array: 5

PORT CHANNEL ID
0 2 76/0x5C
1 4 76/0x5C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0A10E000073368NV5
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003

Drive at Enclosure 13, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d0:e8
Associated array: 5

PORT CHANNEL ID
0 4 77/0x5A
1 2 77/0x5A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33J8500007517UXCP
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:eb
Associated array: 5

PORT CHANNEL ID
0 2 78/0x59
1 4 78/0x59

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3478Z00007517UXDC
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:e6
Associated array: 5

PORT CHANNEL ID
0 4 79/0x56
1 2 79/0x56

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX337W900007517NVCA
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:de
Associated array: 5

PORT CHANNEL ID
0 2 84/0x51
1 4 84/0x51

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33GCC00007517CVY0
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 13, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:fc
Associated array: 5

PORT CHANNEL ID
0 4 85/0x4F
1 2 85/0x4F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VE5000075125NGT
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 20, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:51
Associated array: 1

PORT CHANNEL ID
0 1 0/0xEF
1 3 0/0xEF

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34116000075170QSG
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:8f
Associated array: 1

PORT CHANNEL ID
0 3 1/0xE8
1 1 1/0xE8

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33NDJ00007517WBDW
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:d0
Associated array: 1

PORT CHANNEL ID
0 1 2/0xE4
1 3 2/0xE4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3412Q00007517UBV5
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:f4
Associated array: 1

PORT CHANNEL ID
0 3 3/0xE2
1 1 3/0xE2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX345N400007517WC1N
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:34
Associated array: 1

PORT CHANNEL ID
0 1 4/0xE1
1 3 4/0xE1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J2800007517UXJP
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:d2
Associated array: 1

PORT CHANNEL ID
0 3 5/0xE0
1 1 5/0xE0

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JEG00007517UXFA
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:27
Associated array: 1

PORT CHANNEL ID
0 1 6/0xDC
1 3 6/0xDC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346YB00007517WC4B
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:ca
Associated array: 1

PORT CHANNEL ID
0 3 7/0xDA
1 1 7/0xDA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JC500007517UXHX
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:20
Associated array: 1

PORT CHANNEL ID
0 1 80/0x55
1 3 80/0x55

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346P000007517WC63
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:d5
Associated array: 1

PORT CHANNEL ID
0 3 96/0x3A
1 1 96/0x3A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346ZK00007517UXJR
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 20, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:2e
Associated array: 1

PORT CHANNEL ID
0 1 64/0x72
1 3 64/0x72

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341CJ000075173RQP
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:c7
Associated array: 1

PORT CHANNEL ID
0 3 72/0x67
1 1 72/0x67

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33QN400007517WBE9
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:f5
Associated array: 1

PORT CHANNEL ID
0 1 88/0x4B
1 3 88/0x4B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33GJ600007517WC1G
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 20, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:2b
Associated array: 1

PORT CHANNEL ID
0 3 104/0x2E
1 1 104/0x2E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33XPP00007517WBTR
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 21, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:da:6f
Associated array: 1

PORT CHANNEL ID
0 1 8/0xD9
1 3 8/0xD9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2E0B000007447LVXH
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004

Drive at Enclosure 21, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d0:46
Associated array: 1

PORT CHANNEL ID
0 3 9/0xD6
1 1 9/0xD6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DJJW00007447PX7L
Vendor: IBM-ESXS
Date of manufacture: May 26, 2004

Drive at Enclosure 21, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:cc
Associated array: 1

PORT CHANNEL ID
0 1 10/0xD5
1 3 10/0xD5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MZSJ00007502AZY8
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 21, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ac:89
Associated array: 1

PORT CHANNEL ID
0 3 11/0xD4
1 1 11/0xD4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MY6J00007502AZZN
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 21, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ad:6d
Associated array: 1

PORT CHANNEL ID
0 1 12/0xD3
1 3 12/0xD3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MXXM00007502B0HF
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 21, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d0:a3
Associated array: 1

PORT CHANNEL ID
0 3 13/0xD2
1 1 13/0xD2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DTF600007447LVSX
Vendor: IBM-ESXS
Date of manufacture: May 26, 2004

Drive at Enclosure 21, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:83
Associated array: 1

PORT CHANNEL ID
0 1 14/0xD1
1 3 14/0xD1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NEZ1000075029SAP
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 21, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:af:0b
Associated array: 1

PORT CHANNEL ID
0 3 15/0xCE
1 1 15/0xCE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MQGF0000750293AX
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 21, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d9:7a
Associated array: 1

PORT CHANNEL ID
0 1 81/0x54
1 3 81/0x54

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2EB3N00007447NFFC
Vendor: IBM-ESXS
Date of manufacture: May 27, 2004

Drive at Enclosure 21, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d9:4a
Associated array: 1

PORT CHANNEL ID
0 3 97/0x39
1 1 97/0x39

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DNNG00007447BW4F
Vendor: IBM-ESXS
Date of manufacture: May 27, 2004

Drive at Enclosure 21, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:af:6b
Associated array: 1

PORT CHANNEL ID
0 1 65/0x71
1 3 65/0x71

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2N17X00007502BTHC
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 21, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:a8:3a
Associated array: 1

PORT CHANNEL ID
0 3 73/0x66
1 1 73/0x66

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MZJ400007502BTZQ
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 21, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:db:42
Associated array: 1

PORT CHANNEL ID
0 1 89/0x4A
1 3 89/0x4A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2E93D00007447RBL2
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004

Drive at Enclosure 21, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ad:03
Associated array: 1

PORT CHANNEL ID
0 3 105/0x2D
1 1 105/0x2D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2N17D000075029456
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 22, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:a2
Associated array: 2

PORT CHANNEL ID
0 1 86/0x4D
1 3 16/0xCD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JA500007517WAZS
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 22, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f5:14
Associated array: 2

PORT CHANNEL ID
0 3 17/0xCC
1 1 87/0x4C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34KKR00007517RFQM
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 22, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:ec
Associated array: 2

PORT CHANNEL ID
0 1 92/0x46
1 3 18/0xCB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33M3Q00007517UXV2
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:ff
Associated array: 2

PORT CHANNEL ID
0 3 19/0xCA
1 1 93/0x45

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33Y7X00007517B3M5
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:02
Associated array: 2

PORT CHANNEL ID
0 1 94/0x43
1 3 20/0xC9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX32774000075157RWY
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 22, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:93
Associated array: 2

PORT CHANNEL ID
0 3 21/0xC7
1 1 95/0x3C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33ALK00007517RFCC
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:f3
Associated array: 2

PORT CHANNEL ID
0 1 100/0x34
1 3 22/0xC6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX342N200007517RFT6
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:b1:6e
Associated array: 2

PORT CHANNEL ID
0 3 23/0xC5
1 1 101/0x33

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33Y9000007517UXPU
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 22, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:ef
Associated array: 2

PORT CHANNEL ID
0 1 102/0x32
1 3 82/0x53

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VF3000075125CRD
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 22, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:79
Associated array: 2

PORT CHANNEL ID
0 3 98/0x36
1 1 103/0x31

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JHS00007517WB4N
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:7e
Associated array: 2

PORT CHANNEL ID
0 1 108/0x2A
1 3 66/0x6E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX347540000751677AX
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:dd
Associated array: 2

PORT CHANNEL ID
0 3 74/0x65
1 1 109/0x29

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340Y2000075179NWJ
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:af
Associated array: 2

PORT CHANNEL ID
0 1 110/0x27
1 3 90/0x49

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3415S000075179MR8
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 22, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:eb
Associated array: 2

PORT CHANNEL ID
0 3 106/0x2C
1 1 111/0x26

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3414Z00007517UXJK
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:9e
Associated array: 2

PORT CHANNEL ID
0 1 60/0x76
1 3 86/0x4D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JQZ00007517WB5N
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 23, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:29
Associated array: 2

PORT CHANNEL ID
0 3 87/0x4C
1 1 61/0x75

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346TT00007517WC68
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d0:cb
Associated array: 2

PORT CHANNEL ID
0 1 62/0x74
1 3 92/0x46

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346K300007517UXSJ
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:28
Associated array: 2

PORT CHANNEL ID
0 3 93/0x45
1 1 63/0x73

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J26000075172SJ3
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:09
Associated array: 2

PORT CHANNEL ID
0 1 68/0x6C
1 3 94/0x43

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VDJ00007516EY45
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 23, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d8:a4
Associated array: 2

PORT CHANNEL ID
0 3 95/0x3C
1 1 69/0x6B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340X900007517TH90
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f5
Associated array: 2

PORT CHANNEL ID
0 1 70/0x6A
1 3 100/0x34

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VBT00007516EY58
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 23, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:f6:6e:ec
Associated array: 2

PORT CHANNEL ID
0 3 101/0x33
1 1 71/0x69

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX0FC4Q00007337V702
Vendor: IBM-ESXS
Date of manufacture: March 18, 2003

Drive at Enclosure 23, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:fa
Associated array: 2

PORT CHANNEL ID
0 1 76/0x5C
1 3 102/0x32

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX321J100007516EXG0
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 23, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:4f
Associated array: 2

PORT CHANNEL ID
0 3 103/0x31
1 1 77/0x5A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2Z6JJ00007513AZM9
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 23, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:92:c9
Associated array: 2

PORT CHANNEL ID
0 1 78/0x59
1 3 108/0x2A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33NGS00007517RFKW
Vendor: IBM-ESXS
Date of manufacture: October 26, 2004

Drive at Enclosure 23, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:eb
Associated array: 2

PORT CHANNEL ID
0 3 109/0x29
1 1 79/0x56

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZEJZ00007513BC5M
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 23, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d8:8d
Associated array: 2

PORT CHANNEL ID
0 1 84/0x51
1 3 110/0x27

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341BH00007517THF9
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 23, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:0a
Associated array: 2

PORT CHANNEL ID
0 3 111/0x26
1 1 85/0x4F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX32BVP00007516F2RX
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 30, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:ba
Associated array: 3

PORT CHANNEL ID
0 1 46/0x9D
1 3 60/0x76

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JRK00007517WB2X
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f5:a3
Associated array: 3

PORT CHANNEL ID
0 3 61/0x75
1 1 47/0x9B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34KDR00007517B1TF
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 30, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f8:30
Associated array: 3

PORT CHANNEL ID
0 1 48/0x98
1 3 62/0x74

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34S9J00007517RFGP
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 30, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:f4:9a:56
Associated array: 3

PORT CHANNEL ID
0 3 63/0x73
1 1 49/0x97

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX27JR100007512ZMN3
Vendor: IBM-ESXS
Date of manufacture: March 15, 2005

Drive at Enclosure 30, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f5:17
Associated array: 3

PORT CHANNEL ID
0 1 50/0x90
1 3 68/0x6C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JP300007517GV7Q
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 30, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d3:fa
Associated array: 3

PORT CHANNEL ID
0 3 69/0x6B
1 1 51/0x8F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33M2H00007517WC7N
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:47
Associated array: 3

PORT CHANNEL ID
0 1 52/0x88
1 3 70/0x6A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX345LJ00007517WBV2
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:c2
Associated array: 3

PORT CHANNEL ID
0 3 71/0x69
1 1 53/0x84

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H3J00007517WAYK
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:90
Associated array: 3

PORT CHANNEL ID
0 1 54/0x82
1 3 76/0x5C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX345TQ00007517WAZ7
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:e0
Associated array: 3

PORT CHANNEL ID
0 3 77/0x5A
1 1 55/0x81

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3415Q00007517TGVG
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:89
Associated array: 3

PORT CHANNEL ID
0 1 56/0x80
1 3 78/0x59

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H5G00007517WB5F
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f2:a8
Associated array: 3

PORT CHANNEL ID
0 3 79/0x56
1 1 57/0x7C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H0H000075172R4G
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 30, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:9d
Associated array: 3

PORT CHANNEL ID
0 1 58/0x7A
1 3 84/0x51

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX348620000751677BP
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 30, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:76
Associated array: 3

PORT CHANNEL ID
0 3 85/0x4F
1 1 59/0x79

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX348P40000751676JV
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:b8
Associated array: 3

PORT CHANNEL ID
0 1 32/0xB2
1 3 46/0x9D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33188000075179NW6
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:eb
Associated array: 3

PORT CHANNEL ID
0 3 47/0x9B
1 1 33/0xB1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX345L600007517QN53
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:00
Associated array: 3

PORT CHANNEL ID
0 1 34/0xAE
1 3 48/0x98

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3414K00007517TGS7
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 31, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:08
Associated array: 3

PORT CHANNEL ID
0 3 49/0x97
1 1 35/0xAD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34140000075172SB6
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:e1
Associated array: 3

PORT CHANNEL ID
0 1 36/0xAC
1 3 50/0x90

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33YL800007517UBM0
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d8:9d
Associated array: 3

PORT CHANNEL ID
0 3 51/0x8F
1 1 37/0xAB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341GB00007517TH2M
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:47
Associated array: 3

PORT CHANNEL ID
0 1 38/0xAA
1 3 52/0x88

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340KB00007517TFX8
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:19
Associated array: 3

PORT CHANNEL ID
0 3 53/0x84
1 1 39/0xA9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX32C2000007517TFX2
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:27
Associated array: 3

PORT CHANNEL ID
0 1 40/0xA7
1 3 54/0x82

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340G500007517WBTF
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:2a
Associated array: 3

PORT CHANNEL ID
0 3 55/0x81
1 1 41/0xA6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX343T500007517WBRS
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:12
Associated array: 3

PORT CHANNEL ID
0 1 42/0xA5
1 3 56/0x80

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX332LN00007517GW39
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:4b
Associated array: 3

PORT CHANNEL ID
0 3 57/0x7C
1 1 43/0xA3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3414Q000075170PLT
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:08
Associated array: 3

PORT CHANNEL ID
0 1 44/0x9F
1 3 58/0x7A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3472H000075172SQH
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 31, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:00
Associated array: 3

PORT CHANNEL ID
0 3 59/0x79
1 1 45/0x9E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33MRQ00007517WCAV
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:c4
Associated array: 6

PORT CHANNEL ID
0 1 16/0xCD
1 3 32/0xB2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340WB00007517UXLP
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 32, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:63:60:2d
Associated array: 6

PORT CHANNEL ID
0 3 33/0xB1
1 1 17/0xCC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3JANW00007527F0CT
Vendor: IBM-ESXS
Date of manufacture: January 21, 2005

Drive at Enclosure 32, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:1e
Associated array: 6

PORT CHANNEL ID
0 1 18/0xCB
1 3 34/0xAE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340XS00007517WBS7
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:09
Associated array: 6

PORT CHANNEL ID
0 3 35/0xAD
1 1 19/0xCA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JDG00007517WCDE
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 32, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:2d
Associated array: 6

PORT CHANNEL ID
0 1 20/0xC9
1 3 36/0xAC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JAH00007517TFYE
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:78
Associated array: 6

PORT CHANNEL ID
0 3 37/0xAB
1 1 21/0xC7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33KE500007516LRY1
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:41
Associated array: 6

PORT CHANNEL ID
0 1 22/0xC6
1 3 38/0xAA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346MV00007517WC13
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:f2
Associated array: 6

PORT CHANNEL ID
0 3 39/0xA9
1 1 23/0xC5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340XP00007517RFUQ
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f0:74
Associated array: 6

PORT CHANNEL ID
0 1 82/0x53
1 3 40/0xA7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34244000075170PXY
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:8f
Associated array: 6

PORT CHANNEL ID
0 3 41/0xA6
1 1 98/0x36

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340Z80000751677CG
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:af:b7:5a
Associated array: 6

PORT CHANNEL ID
0 1 66/0x6E
1 3 42/0xA5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX22RR800007433LECQ
Vendor: IBM-ESXS
Date of manufacture: February 15, 2004

Drive at Enclosure 32, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:f5:a0
Associated array: 6

PORT CHANNEL ID
0 3 43/0xA3
1 1 74/0x65

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34S8Y00007517NVAF
Vendor: IBM-ESXS
Date of manufacture: October 31, 2004

Drive at Enclosure 32, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:a9
Associated array: 6

PORT CHANNEL ID
0 1 90/0x49
1 3 44/0x9F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3476D00007517WB0J
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 32, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:af:a9:04
Associated array: 6

PORT CHANNEL ID
0 3 45/0x9E
1 1 106/0x2C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX22GWE00007433FQWF
Vendor: IBM-ESXS
Date of manufacture: February 14, 2004

Drive at Enclosure 33, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:33
Associated array: 6

PORT CHANNEL ID
0 1 24/0xC3
1 3 24/0xC3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346DE000075173RV0
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f8
Associated array: 6

PORT CHANNEL ID
0 3 25/0xBC
1 1 25/0xBC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VFG00007516EY2R
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 33, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:58
Associated array: 6

PORT CHANNEL ID
0 1 26/0xBA
1 3 26/0xBA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J1L00007515BW4G
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:fd
Associated array: 6

PORT CHANNEL ID
0 3 27/0xB9
1 1 27/0xB9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX342MG000075170R1U
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d8:04
Associated array: 6

PORT CHANNEL ID
0 1 28/0xB6
1 3 28/0xB6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340YF00007517CWRL
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d0:c8
Associated array: 6

PORT CHANNEL ID
0 3 29/0xB5
1 1 29/0xB5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346WN00007517UXSK
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:ee
Associated array: 6

PORT CHANNEL ID
0 1 30/0xB4
1 3 30/0xB4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX343M7000075170RFV
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:d7
Associated array: 6

PORT CHANNEL ID
0 3 31/0xB3
1 1 31/0xB3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX342MD00007517CVX0
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:f9
Associated array: 6

PORT CHANNEL ID
0 1 83/0x52
1 3 83/0x52

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3318X00007517RFRL
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 33, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:fe
Associated array: 6

PORT CHANNEL ID
0 3 99/0x35
1 1 99/0x35

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VX600007515A0NT
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 33, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:af
Associated array: 6

PORT CHANNEL ID
0 1 67/0x6D
1 3 67/0x6D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZKF700007513R1LL
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 33, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:4d
Associated array: 6

PORT CHANNEL ID
0 3 75/0x63
1 1 75/0x63

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2YP9Y00007513A3PT
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 33, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f9
Associated array: 6

PORT CHANNEL ID
0 1 91/0x47
1 3 91/0x47

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VBV0000751265NT
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 33, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:ae
Associated array: 6

PORT CHANNEL ID
0 3 107/0x2B
1 1 107/0x2B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2Z85L00007513A49J
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:ee
Associated array: 7

PORT CHANNEL ID
0 2 46/0x9D
1 4 46/0x9D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZHZ500007513AZS3
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f6
Associated array: 7

PORT CHANNEL ID
0 4 47/0x9B
1 2 47/0x9B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31VEA0000751265DJ
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:a2
Associated array: 7

PORT CHANNEL ID
0 2 48/0x98
1 4 48/0x98

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2YVFS000075138Y6Z
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:ed
Associated array: 7

PORT CHANNEL ID
0 4 49/0x97
1 2 49/0x97

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX30HRR00007516EY18
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c8:b1
Associated array: 7

PORT CHANNEL ID
0 2 50/0x90
1 4 50/0x90

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2ZE39000075138F5L
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 40, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:26
Associated array: 7

PORT CHANNEL ID
0 4 51/0x8F
1 2 51/0x8F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340XN00007517UXGZ
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:b5
Associated array: 7

PORT CHANNEL ID
0 2 52/0x88
1 4 52/0x88

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J2A000075179NPS
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:bc
Associated array: 7

PORT CHANNEL ID
0 4 53/0x84
1 2 53/0x84

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340WW000075179NTU
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:fc
Associated array: 7

PORT CHANNEL ID
0 2 54/0x82
1 4 54/0x82

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX346XP00007517UXK5
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:1e
Associated array: 7

PORT CHANNEL ID
0 4 55/0x81
1 2 55/0x81

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3413100007517TFTK
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:e5
Associated array: 7

PORT CHANNEL ID
0 2 56/0x80
1 4 56/0x80

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3412A00007517RFR6
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:e6
Associated array: 7

PORT CHANNEL ID
0 4 57/0x7C
1 2 57/0x7C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3401K000075179MNP
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:ce
Associated array: 7

PORT CHANNEL ID
0 2 58/0x7A
1 4 58/0x7A

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340X600007517TGVL
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 40, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d7:30
Associated array: 7

PORT CHANNEL ID
0 4 59/0x79
1 2 59/0x79

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33GK0000075179M6X
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:18
Associated array: 7

PORT CHANNEL ID
0 2 32/0xB2
1 4 32/0xB2

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33FJ700007517WBWG
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:08
Associated array: 7

PORT CHANNEL ID
0 4 33/0xB1
1 2 33/0xB1

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H3E000075170PTQ
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:c7:f7
Associated array: 7

PORT CHANNEL ID
0 2 34/0xAE
1 4 34/0xAE

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX31GY500007515A0DW
Vendor: IBM-ESXS
Date of manufacture: October 28, 2004

Drive at Enclosure 41, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:3d
Associated array: 7

PORT CHANNEL ID
0 4 35/0xAD
1 2 35/0xAD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341J200007517RFUJ
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dc:ad
Associated array: 7

PORT CHANNEL ID
0 2 36/0xAC
1 4 36/0xAC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JVN00007517GWBD
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:c9
Associated array: 7

PORT CHANNEL ID
0 4 37/0xAB
1 2 37/0xAB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3477X000075170RCA
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:87
Associated array: 7

PORT CHANNEL ID
0 2 38/0xAA
1 4 38/0xAA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX348RD0000751677A9
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:04
Associated array: 7

PORT CHANNEL ID
0 4 39/0xA9
1 2 39/0xA9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3470800007517UXH5
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:c6
Associated array: 7

PORT CHANNEL ID
0 2 40/0xA7
1 4 40/0xA7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3471M00007517UXLM
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:f5
Associated array: 7

PORT CHANNEL ID
0 4 41/0xA6
1 2 41/0xA6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340KL00007517GW55
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 41, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:da:e9
Associated array: 7

PORT CHANNEL ID
0 2 42/0xA5
1 4 42/0xA5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX33JDD000075179MNF
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:de:53
Associated array: 7

PORT CHANNEL ID
0 4 43/0xA3
1 2 43/0xA3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3412Y000075173RMS
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 41, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dc:ff
Associated array: 7

PORT CHANNEL ID
0 2 44/0x9F
1 4 44/0x9F

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JR700007517GWAN
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 41, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:c9
Associated array: 7

PORT CHANNEL ID
0 4 45/0x9E
1 2 45/0x9E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H4T00007517WBQE
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 42, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:d9:e1
Associated array: 8

PORT CHANNEL ID
0 2 16/0xCD
1 4 16/0xCD

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2CH2K00007447KURQ
Vendor: IBM-ESXS
Date of manufacture: May 27, 2004

Drive at Enclosure 42, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:da:3e
Associated array: 8

PORT CHANNEL ID
0 4 17/0xCC
1 2 17/0xCC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DQN400007447RBBS
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004

Drive at Enclosure 42, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ad:1d
Associated array: 8

PORT CHANNEL ID
0 2 18/0xCB
1 4 18/0xCB

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MD4M00007502A825
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 42, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:ef:48
Associated array: 8

PORT CHANNEL ID
0 4 19/0xCA
1 2 19/0xCA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX282V000007441T2JY
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 42, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:da:3a
Associated array: 8

PORT CHANNEL ID
0 2 20/0xC9
1 4 20/0xC9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2DX2K00007445Q6DP
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004

Drive at Enclosure 42, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ac:15
Associated array: 8

PORT CHANNEL ID
0 4 21/0xC7
1 2 21/0xC7

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MQLS00007502BELC
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 42, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:f0:7b
Associated array: 8

PORT CHANNEL ID
0 2 22/0xC6
1 4 22/0xC6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX28A2Q00007440E8UQ
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 42, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:b6
Associated array: 8

PORT CHANNEL ID
0 4 23/0xC5
1 2 23/0xC5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2N3J300007502AZTV
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 42, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:f0:1c
Associated array: 8

PORT CHANNEL ID
0 2 82/0x53
1 4 82/0x53

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX281LQ00007440P5PG
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 42, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:aa:92
Associated array: 8

PORT CHANNEL ID
0 4 98/0x36
1 2 98/0x36

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NENS00007502A7W7
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 42, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:af:16
Associated array: 8

PORT CHANNEL ID
0 2 66/0x6E
1 4 66/0x6E

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2M6S500007502BEVX
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 42, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:d6:ef:9d
Associated array: 8

PORT CHANNEL ID
0 4 74/0x65
1 2 74/0x65

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX283RK00007440EKBF
Vendor: IBM-ESXS
Date of manufacture: May 31, 2004

Drive at Enclosure 42, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:af:5d
Associated array: 8

PORT CHANNEL ID
0 2 90/0x49
1 4 90/0x49

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2MDPC00007502AZMN
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004

Drive at Enclosure 42, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:0c:50:45:ab:51
Associated array: 8

PORT CHANNEL ID
0 4 106/0x2C
1 2 106/0x2C

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX2NEV600007453V8E9
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004

Drive at Enclosure 43, Slot 1

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:04:cf:86:95:87
Associated array: 8

PORT CHANNEL ID
0 2 24/0xC3
1 4 24/0xC3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX018DH00002248C7Q3
Vendor: IBM-ESXS
Date of manufacture: October 4, 2002

Drive at Enclosure 43, Slot 2

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:f1
Associated array: 8

PORT CHANNEL ID
0 4 25/0xBC
1 2 25/0xBC

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX32KH500007517GVQS
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 3

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d6:df
Associated array: 8

PORT CHANNEL ID
0 2 26/0xBA
1 4 26/0xBA

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX340W000007517CVY1
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 4

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:df
Associated array: 8

PORT CHANNEL ID
0 4 27/0xB9
1 2 27/0xB9

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JEY00007517GV0N
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 5

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:f0
Associated array: 8

PORT CHANNEL ID
0 2 28/0xB6
1 4 28/0xB6

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34J4L00007517GVAT
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 6

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:e5
Associated array: 8

PORT CHANNEL ID
0 4 29/0xB5
1 2 29/0xB5

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3475B00007517UXCN
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 7

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d5:f3
Associated array: 8

PORT CHANNEL ID
0 2 30/0xB4
1 4 30/0xB4

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3345F00007517UXJX
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 8

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:4b
Associated array: 8

PORT CHANNEL ID
0 4 31/0xB3
1 2 31/0xB3

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34JCS00007517TFW0
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004

Drive at Enclosure 43, Slot 9

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:93
Associated array: 8

PORT CHANNEL ID
0 2 83/0x52
1 4 83/0x52

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341JJ00007517WAWC
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 43, Slot 10

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:5d
Associated array: 8

PORT CHANNEL ID
0 4 99/0x35
1 2 99/0x35

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX343XJ00007517WBLS
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 43, Slot 11

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:49
Associated array: 8

PORT CHANNEL ID
0 2 67/0x6D
1 4 67/0x6D

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX3418N00007517WC11
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 43, Slot 12

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:d4:45
Associated array: 8

PORT CHANNEL ID
0 4 75/0x63
1 2 75/0x63

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX347NQ00007517TFVS
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 43, Slot 13

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:db:42
Associated array: 8

PORT CHANNEL ID
0 2 91/0x47
1 4 91/0x47

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX341JV00007517WBZ3
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

Drive at Enclosure 43, Slot 14

Status: Optimal

Mode: Assigned
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
World-wide name: 20:00:00:11:c6:23:dd:c5
Associated array: 8

PORT CHANNEL ID
0 4 107/0x2B
1 2 107/0x2B

Drive path redundancy: OK
Drive type: Fibre Channel

Speed: 15015 RPM
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95E
Serial number: 3HX34H3300007517WBBK
Vendor: IBM-ESXS
Date of manufacture: October 30, 2004

DRIVE CHANNELS----------

SUMMARY

CHANNEL STATUS CTRL A LINK CTRL B LINK
1 Optimal Up Up
2 Optimal Up Up
3 Optimal Up Up
4 Optimal Up Up

DETAILS

DRIVE CHANNEL 1

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 2 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 112
Connected to: Controller A, Port 4
Attached drives: 56
Drive enclosure: 23 (14 drives)
Drive enclosure: 22 (14 drives)
Drive enclosure: 21 (14 drives)
Drive enclosure: 20 (14 drives)
Connected to: Controller A, Port 3
Attached drives: 56
Drive enclosure: 30 (14 drives)
Drive enclosure: 32 (14 drives)
Drive enclosure: 31 (14 drives)
Drive enclosure: 33 (14 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 12/6/06 6:18:27 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:37
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 0
Total I/O count: 1119756768

Controller B
Baseline time set: 12/6/06 6:18:27 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:37
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 0
Total I/O count: 1007580163

DRIVE CHANNEL 2

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 2 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 112
Connected to: Controller A, Port 2
Attached drives: 56
Drive enclosure: 41 (14 drives)
Drive enclosure: 40 (14 drives)
Drive enclosure: 42 (14 drives)
Drive enclosure: 43 (14 drives)
Connected to: Controller A, Port 1
Attached drives: 56
Drive enclosure: 13 (14 drives)
Drive enclosure: 10 (14 drives)
Drive enclosure: 11 (14 drives)
Drive enclosure: 12 (14 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 4
Total I/O count: 931824718

Controller B
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 4
Total I/O count: 929461816

DRIVE CHANNEL 3

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 2 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 112
Connected to: Controller B, Port 1
Attached drives: 56
Drive enclosure: 23 (14 drives)
Drive enclosure: 22 (14 drives)
Drive enclosure: 21 (14 drives)
Drive enclosure: 20 (14 drives)
Connected to: Controller B, Port 2
Attached drives: 56
Drive enclosure: 30 (14 drives)
Drive enclosure: 32 (14 drives)
Drive enclosure: 31 (14 drives)
Drive enclosure: 33 (14 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 0
Total I/O count: 1103220213

Controller B
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 0
Total I/O count: 1024871377

DRIVE CHANNEL 4

Status: Optimal
Max. Rate: 4 Gbps
Current Rate: 2 Gbps
Rate Control: Auto
Controller A link status: Up
Controller B link status: Up

DRIVE COUNTS

Total # of attached drives: 112
Connected to: Controller B, Port 3
Attached drives: 56
Drive enclosure: 41 (14 drives)
Drive enclosure: 40 (14 drives)
Drive enclosure: 42 (14 drives)
Drive enclosure: 43 (14 drives)
Connected to: Controller B, Port 4
Attached drives: 56
Drive enclosure: 13 (14 drives)
Drive enclosure: 10 (14 drives)
Drive enclosure: 11 (14 drives)
Drive enclosure: 12 (14 drives)

CUMULATIVE ERROR COUNTS

Controller A
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 926486053

Controller B
Baseline time set: 12/6/06 6:18:22 PM
Sample period (days, hh:mm:ss): 70 days, 20:06:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 934999036

ENCLOSURES----------
Controller Enclosure 0 Overall Component Information

Enclosure audible alarm: Disabled
Part number: PN 22R4274
Serial number: SN 1T60465448
Vendor: VN IBM
Date of manufacture: January 1, 2006

1 Interconnect-Battery Canister Detected

Interconnect-battery canister status: Optimal
Replacement part number: PN 22R4274
Serial number: SN 1T60465448
Vendor: VN IBM
Date of manufacture: January 1, 2006

1 Interconnect Detected

Interconnect status: Optimal
Location: Interconnect-battery canister

2 Battery Packs Detected

Battery status: Optimal
Location: Interconnect-battery canister (left pack)
Age: 70 days
Days until replacement: 1,009 days
Replacement part number: PN 22R4875
Serial number: SN 1T60600270
Vendor: VN IBM
Date of manufacture: February 1, 2006

Battery status: Optimal
Location: Interconnect-battery canister (right pack)
Age: 163 days
Days until replacement: 916 days
Replacement part number: PN 22R4875
Serial number: SN 1T60600233
Vendor: VN IBM
Date of manufacture: February 1, 2006

12 SFPs Detected

SFP status: Optimal
Attached to: Host-side of controller B
Location: Channel 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0EGJ
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

SFP status: Optimal
Attached to: Host-side of controller B
Location: Channel 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0K0G
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 3, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0JWN
Vendor: FINISAR CORP.
Date of manufacture: March 28, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 3, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F5134350052F
Vendor: JDS UNIPHASE
Date of manufacture: March 20, 2005

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 4, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0EGM
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

SFP status: Optimal
Attached to: Drive-side of controller B
Location: Channel 4, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F40743501315
Vendor: JDS UNIPHASE
Date of manufacture: February 9, 2004

SFP status: Optimal
Attached to: Host-side of controller A
Location: Channel 1
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0EGV
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

SFP status: Optimal
Attached to: Host-side of controller A
Location: Channel 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate

Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0K0R
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 1, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600FMWB
Vendor: IBM
Date of manufacture: October 16, 2002

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 1, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0JX4
Vendor: FINISAR CORP.
Date of manufacture: March 28, 2006

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 2, Port 1
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P14760069MB
Vendor: IBM
Date of manufacture: April 13, 2002

SFP status: Optimal
Attached to: Drive-side of controller A
Location: Channel 2, Port 2
Supported data rate(s): 1 Gbps, 2 Gbps, 4 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 90 65
Revision: A
Part number: FTRJ8524P2BNV
Serial number: U9D0K8Q
Vendor: FINISAR CORP.
Date of manufacture: March 29, 2006

2 Power-Fan Canisters Detected

Left Power-fan canister status: Optimal
Part number: PN 23R0646
Serial number: SN YRT054912564
Vendor: VN IBM
Date of manufacture: December 1, 2005

Right Power-fan canister status: Optimal
Part number: PN 23R0646
Serial number: SN YRT054912573
Vendor: VN IBM
Date of manufacture: December 1, 2005

2 Power Supplies Detected

Power supply status: Optimal
Location: Power-fan canister (left)

Power supply status: Optimal
Location: Power-fan canister (right)

2 Fans Detected

Fan Status: Optimal

Location: Power-fan canister (left)

Fan Status: Optimal
Location: Power-fan canister (right)

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: Power-fan canister (right)

Temperature sensor status: Optimal
Location: Power-fan canister (left)

Drive Enclosure 41 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 1T508100650
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51090285
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196820
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004JM01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004P701
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F3374350150C
Vendor: JDS UNIPHASE
Date of manufacture: September 11, 2003

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps

Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F513435007DD
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500666
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500525
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 23 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13L9860
Vendor: VN IBM
Date of manufacture: February 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543274
Vendor: IBM
Date of manufacture: February 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50538082
Vendor: IBM
Date of manufacture: January 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5757Q02M001
Vendor: VN IBM
Date of manufacture: December 1, 2004

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5757Q02M201
Vendor: VN IBM
Date of manufacture: December 1, 2004

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PR5A
Vendor: IBM
Date of manufacture: January 18, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PCB0
Vendor: IBM
Date of manufacture: January 17, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600FPR1
Vendor: IBM
Date of manufacture: October 16, 2002

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 30 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13L9858
Vendor: VN IBM
Date of manufacture: February 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543334
Vendor: IBM
Date of manufacture: February 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543347
Vendor: IBM
Date of manufacture: February 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5757V00XA01
Vendor: VN IBM
Date of manufacture: January 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5757Q01PC01
Vendor: VN IBM
Date of manufacture: December 1, 2004

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600S69V
Vendor: IBM
Date of manufacture: March 10, 2003

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600P6SR
Vendor: IBM
Date of manufacture: January 13, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PU0T
Vendor: IBM
Date of manufacture: January 18, 2003

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 32 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13L9857
Vendor: VN IBM
Date of manufacture: February 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543322
Vendor: IBM
Date of manufacture: February 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543559
Vendor: IBM
Date of manufacture: February 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5757V00XG01
Vendor: VN IBM
Date of manufacture: January 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5757Q009201
Vendor: VN IBM
Date of manufacture: December 1, 2004

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PB8R
Vendor: IBM
Date of manufacture: January 14, 2003

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500A94
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC

Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PTTE
Vendor: IBM
Date of manufacture: January 18, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PUA5
Vendor: IBM
Date of manufacture: January 18, 2003

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 31 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13L9867
Vendor: VN IBM
Date of manufacture: February 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543517
Vendor: IBM
Date of manufacture: February 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543430
Vendor: IBM
Date of manufacture: February 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN A6847201X10F
Vendor: VN IBM
Date of manufacture: July 1, 2004

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN A6846X000A0F
Vendor: VN IBM
Date of manufacture: June 1, 2004

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600S64F
Vendor: IBM
Date of manufacture: March 10, 2003

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600NTNL
Vendor: IBM
Date of manufacture: January 14, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PQQ4
Vendor: IBM
Date of manufacture: January 17, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PRV7
Vendor: IBM
Date of manufacture: January 17, 2003

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 22 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13L9928
Vendor: VN IBM
Date of manufacture: February 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543238
Vendor: IBM
Date of manufacture: February 1, 2005

ESM card status: Optimal
Firmware version: 9640

Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T50543565
Vendor: IBM
Date of manufacture: February 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN A6846S011Z0F
Vendor: VN IBM
Date of manufacture: April 1, 2004

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN A6846M00570F
Vendor: VN IBM
Date of manufacture: March 1, 2004

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600MRHH
Vendor: IBM
Date of manufacture: January 14, 2003

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600S6DM
Vendor: IBM
Date of manufacture: March 10, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: Unknown
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500B86
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PH1E
Vendor: IBM
Date of manufacture: January 17, 2003

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 21 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0671
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196879
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196897
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004KK01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004J501
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500659
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC

Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600033P
Vendor: IBM
Date of manufacture: December 1, 2001

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): Unknown
Link length: Unknown
Connector: Unknown
Transmitter type: Unknown
Transmission media: Unknown
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600NPTV
Vendor: IBM
Date of manufacture: January 14, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PAYF
Vendor: IBM
Date of manufacture: January 14, 2003

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 20 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0680
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51090428
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196434
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)

Part number: PN 19K1289
Serial number: SN D5758004HK01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004KZ01
Vendor: VN IBM
Date of manufacture: February 1, 2005

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500B1B
Vendor: JDS UNIPHASE
Date of manufacture: March 20, 2005

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500908
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51243502835
Vendor: JDS UNIPHASE
Date of manufacture: March 18, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 13 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 174071013M057
Vendor: 9N IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51197186
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps

Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51204751
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758005R801
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758005QV01
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F513435008C9
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500662
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P1476006A1C
Vendor: IBM
Date of manufacture: April 13, 2002

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F512435029A2
Vendor: JDS UNIPHASE
Date of manufacture: March 18, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 10 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 174071013M057
Vendor: 8N IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196592
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51197063
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758005RJ01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN A6842G00UF0B
Vendor: VN IBM
Date of manufacture: August 1, 2001

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P14760069UV
Vendor: IBM
Date of manufacture: April 13, 2002

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a

Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PRD9
Vendor: IBM
Date of manufacture: January 17, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P1476000429
Vendor: IBM
Date of manufacture: December 2, 2001

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 40 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0658
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196379
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196436
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004HM01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004KU01
Vendor: VN IBM
Date of manufacture: February 1, 2005

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In

Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500900
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500B1E
Vendor: JDS UNIPHASE
Date of manufacture: March 20, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500A1B
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 11 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0583
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196749
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196767
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758005RN01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004G201
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P1476000352
Vendor: IBM
Date of manufacture: December 1, 2001

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P1476006A3V
Vendor: IBM
Date of manufacture: April 14, 2002

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P14760069PD
Vendor: IBM
Date of manufacture: April 13, 2002

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600036C
Vendor: IBM
Date of manufacture: December 1, 2001

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 33 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 174071013M058

Vendor: 7N IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51197051
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51196965
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004H201
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004FN01
Vendor: VN IBM
Date of manufacture: February 1, 2005

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51243502288
Vendor: JDS UNIPHASE
Date of manufacture: March 18, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600PPYP
Vendor: IBM
Date of manufacture: January 18, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:

Part number: JSP-21S0AA1
Serial number: F5134350065D
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 42 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0598
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51197912
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51198231
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004ZT01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004ZW01
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F513435007C8
Vendor: JDS UNIPHASE
Date of manufacture: March 20, 2005

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps

Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51243502839
Vendor: JDS UNIPHASE
Date of manufacture: March 18, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F5134350052B
Vendor: JDS UNIPHASE
Date of manufacture: March 20, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51243501848
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 12 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0600
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51090233
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51089866
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D57580050501
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004ZX01
Vendor: VN IBM
Date of manufacture: February 1, 2005

4 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): Unknown
Link length: Unknown
Connector: Unknown
Transmitter type: Unknown
Transmission media: Unknown
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P14760068K4
Vendor: IBM
Date of manufacture: April 13, 2002

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F5124350260D
Vendor: JDS UNIPHASE
Date of manufacture: March 18, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F337435017B1
Vendor: JDS UNIPHASE
Date of manufacture: September 11, 2003

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 08 00 5a
Revision: AA10
Part number: IBM42P21SNY
Serial number: 53P147600032A
Vendor: IBM
Date of manufacture: December 1, 2001

2 Temperature Sensors Detected

Temperature sensor status: Optimal
Location: ESM Canister A (left canister)

Temperature sensor status: Optimal
Location: ESM Canister B (right canister)

Drive Enclosure 43 Overall Component Information

Enclosure audible alarm: Not manageable
Enclosure path redundancy: OK
Current drive types: Fibre channel
Part number: PN 25R0226
Serial number: SN 13M0530
Vendor: VN IBM
Date of manufacture: April 1, 2005

2 ESM Canisters Detected

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: A (left canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51198219
Vendor: IBM
Date of manufacture: March 1, 2005

ESM card status: Optimal
Firmware version: 9640
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Location: B (right canister)
Card communication: OK
Product ID: EXP710
Part number: PN 25R0186
Serial number: SN 1T51198218
Vendor: IBM
Date of manufacture: March 1, 2005

2 Fan Canisters Detected

Fan Status: Optimal
Location: Fan canister (left)

Fan Status: Optimal
Location: Fan canister (right)

2 Power Supply Canisters Detected

Power supply status: Optimal
Location: Power supply canister (left)
Part number: PN 19K1289
Serial number: SN D5758004FU01
Vendor: VN IBM
Date of manufacture: February 1, 2005

Power supply status: Optimal
Location: Power supply canister (right)
Part number: PN 19K1289
Serial number: SN D5758004XV01
Vendor: VN IBM
Date of manufacture: February 1, 2005

3 SFPs Detected

SFP status: Optimal
Attached to: ESM Canister A (left canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500BB3
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 1, In
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F51343500A28
Vendor: JDS UNIPHASE
Date of manufacture: March 21, 2005

SFP status: Optimal
Attached to: ESM Canister B (right canister)
Location: Port 2, Out
Supported data rate(s): 1 Gbps, 2 Gbps
Link length: Intermediate
Connector: LC
Transmitter type: Shortwave Laser w/o OFC
Transmission media: TM Multi-mode 50m(M5) TM Multi-mode 62.5m(M6)
IEEE company ID: 00 01 9c
Revision:
Part number: JSP-21S0AA1
Serial number: F513435007CF

Vendor: JDS UNIPHASE

Date of manufacture: March 20, 2005

2 Temperature Sensors Detected

Temperature sensor status: Optimal

Location: ESM Canister A (left canister)

Temperature sensor status: Optimal

Location: ESM Canister B (right canister)

MAPPINGS (Storage Partitioning - Enabled (0 of 8 used))----------

VOLUME NAME LUN CONTROLLER ACCESSIBLE BY VOLUME STATUS

Array_1 0 A Default Group Optimal

Array_2 1 B Default Group Optimal

Array_3 2 A Default Group Optimal

Array_4 3 B Default Group Optimal

Array_5 4 A Default Group Optimal

Array_6 5 B Default Group Optimal

Array_7 6 A Default Group Optimal

Array_8 7 B Default Group Optimal

TOPOLOGY DEFINITIONS

DEFAULT GROUP

Default type: Windows 2000/Server 2003 Non-Clustered

Host Port: 21:00:00:e0:8b:8a:b3:70

Host Port: 21:00:00:e0:8b:8a:15:6f

Host Port: 21:01:00:e0:8b:aa:db:6c

Host Port: 21:00:00:e0:8b:8a:32:70

Host Port: 21:01:00:e0:8b:aa:15:6f

Host Port: 21:00:00:e0:8b:8a:93:6b

NVSRAM HOST TYPE DEFINITIONS

HOST TYPE ADT STATUS ASSOCIATED INDEX

AIX Disabled 6

DEFAULT Disabled 0

HP-UX Disabled 7

IBM TS SAN VCE Disabled 12

Irix Disabled 10

LNXCLVMWARE Disabled 13

Linux Disabled 5

Netware Failover Disabled 11

Solaris Disabled 8

Solaris (with Veritas DMP) Disabled 14

Unused1 Disabled 1

Unused4 Disabled 4

Windows 2000/Server 2003 Clustered Disabled 3

Windows 2000/Server 2003 Clustered (supports DMP) Disabled 15

Windows 2000/Server 2003 Non-Clustered Disabled 2 (Default)

Windows 2000/Server 2003 Non-Clustered (supports DMP) Disabled 9

## Client System Information Report for x3500 3.0GHz Intel Xeon 5160 Processor

(Priced configuration for all 16 clients; measured configuration for 8 of the 16 clients)

System Information report written at: 02/15/07 15:48:05

System Name: FCLIENT65

[System Summary]

Item Value

OS Name Microsoft(R) Windows(R) Server 2003, Standard Edition

Version 5.2.3790 Service Pack 1 Build 3790

Other OS Description Not Available

OS Manufacturer Microsoft Corporation

System Name FCLIENT65

System Manufacturer IBM

System Model -[7977AC1]-

System Type X86-based PC

Processor x86 Family 6 Model 15 Stepping 6 GenuineIntel ~2992 Mhz

Processor x86 Family 6 Model 15 Stepping 6 GenuineIntel ~2992 Mhz

BIOS Version/Date IBM IBM BIOS Version 1.48-[SPE148AUS-1.48]-, 1/15/2007

SMBIOS Version 2.34

Windows Directory C:\WINDOWS

System Directory C:\WINDOWS\system32

Boot Device \Device\HarddiskVolume1

Locale United States

Hardware Abstraction Layer Version = "5.2.3790.1830 (srv03_sp1_rtm.050324-1447)"

User Name FCLIENT65\Administrator

Time Zone Eastern Standard Time

Total Physical Memory 2,046.87 MB

Available Physical Memory 1.72 GB

Total Virtual Memory 3.85 GB

Available Virtual Memory 3.73 GB

Page File Space 2.00 GB

Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource Device

Memory Address 0xC8500000-0xC85FFFFF
Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9

Memory Address 0xC8500000-0xC85FFFFF
Intel(R) PRO/1000 PT Dual Port Server Adapter

I/O Port 0x00000000-0x00000CF7 PCI bus

I/O Port 0x00000000-0x00000CF7 Direct memory access controller

I/O Port 0x00000060-0x00000060 Motherboard resources

I/O Port 0x00000060-0x00000060 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Memory Address 0xC8700000-0xC87FFFFF
Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 2 - 2692

Memory Address 0xC8700000-0xC87FFFFF
Broadcom NetXtreme Gigabit Ethernet #2

Memory Address 0xC8200000-0xC83FFFFF
Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500

Memory Address 0xC8200000-0xC83FFFFF
Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510

Memory Address 0xC8200000-0xC83FFFFF IBM ServeRAID 8k/8k-l Controller

I/O Port 0x00000064-0x00000064 Motherboard resources

I/O Port 0x00000064-0x00000064 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

I/O Port 0x00003000-0x00003FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7

I/O Port 0x00003000-0x00003FFF Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500

I/O Port 0x00003000-0x00003FFF Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510

I/O Port 0x00003000-0x00003FFF IBM ServeRAID 8k/8k-l Controller

Memory Address 0xC8B00000-0xC8BFFFFF
Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7

Memory Address 0xC8B00000-0xC8BFFFFF
Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500

Memory Address 0xC8B00000-0xC8BFFFFF
Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510

Memory Address 0xC8B00000-0xC8BFFFFF IBM ServeRAID 8k/8k-l Controller

IRQ 16 Intel(R) 5000P Chipset Memory Controller Hub - 25D8

IRQ 16 Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E2 - 3514

IRQ 16 Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8

IRQ 16 Intel(R) PRO/1000 PT Dual Port Server Adapter #3

IRQ 16 Intel(R) 5000 Series Chipset PCI Express x4 Port 5 - 25E5

IRQ 16 Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9

IRQ 16 Intel(R) PRO/1000 PT Dual Port Server Adapter

IRQ 16 Intel(R) 5000 Series Chipset PCI Express x4 Port 7 - 25E7

IRQ 16 Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 1 - 2690

IRQ 16 Broadcom NetXtreme Gigabit Ethernet

IRQ 16 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268B

IRQ 16 ATI ES1000

I/O Port 0x00005000-0x00005FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9

I/O Port 0x00005000-0x00005FFF Intel(R) PRO/1000 PT Dual Port Server Adapter

IRQ 17 Intel(R) PRO/1000 PT Dual Port Server Adapter #4

IRQ 17 Intel(R) PRO/1000 PT Dual Port Server Adapter #2

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 2 - 2692

IRQ 17 Broadcom NetXtreme Gigabit Ethernet #2

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2688

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset USB2 Enhanced Host Controller - 268C

IRQ 19 Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7

IRQ 19 Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500

IRQ 19 Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510

IRQ 19 IBM ServeRAID 8k/8k-l Controller

IRQ 19 Intel(R) 5000 Series Chipset PCI Express x4 Port 3 - 25E3

IRQ 19 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2689

IRQ 19 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268A

Memory Address 0xA0000-0xBFFFF PCI bus

Memory Address 0xA0000-0xBFFFF ATI ES1000

Memory Address 0xC8600000-0xC86FFFFF Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 1 - 2690

Memory Address 0xC8600000-0xC86FFFFF Broadcom NetXtreme Gigabit Ethernet

I/O Port 0x00004000-0x00004FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8

I/O Port 0x00004000-0x00004FFF Intel(R) PRO/1000 PT Dual Port Server Adapter #3

Memory Address 0xC8400000-0xC84FFFFF Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8

Memory Address 0xC8400000-0xC84FFFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #3

[DMA]

Resource Device Status

Channel 4 Direct memory access controller OK

Channel 1 ECP Printer Port (LPT1) OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource Device Status

0x00000000-0x00000CF7 PCI bus OK

0x00000000-0x00000CF7 Direct memory access controller OK

0x00000D00-0x0000FFFF PCI bus OK

0x00003000-0x00003FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7 OK

0x00003000-0x00003FFF Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500 OK

0x00003000-0x00003FFF Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510 OK

0x00003000-0x00003FFF IBM ServeRAID 8k/8k-l Controller OK

0x00004000-0x00004FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8 OK

0x00004000-0x00004FFF Intel(R) PRO/1000 PT Dual Port Server Adapter #3 OK

0x00004020-0x0000403F Intel(R) PRO/1000 PT Dual Port Server Adapter #4 OK

0x00005000-0x00005FFF Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9 OK

0x00005000-0x00005FFF Intel(R) PRO/1000 PT Dual Port Server Adapter OK

0x00005020-0x0000503F Intel(R) PRO/1000 PT Dual Port Server Adapter #2 OK

0x00001800-0x0000181F Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2688 OK

0x00001820-0x0000183F Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2689 OK

0x00001840-0x0000185F Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268A OK

0x00001860-0x0000187F Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268B OK

0x00006000-0x000060FF ATI ES1000 OK

0x000003B0-0x000003BB ATI ES1000 OK

0x000003C0-0x000003DF ATI ES1000 OK

0x00000A79-0x00000A79 ISAPNP Read Data Port OK

0x00000279-0x00000279 ISAPNP Read Data Port OK

0x00000274-0x00000277 ISAPNP Read Data Port OK

0x00000010-0x0000001F Motherboard resources OK

0x00000024-0x00000025 Motherboard resources OK

0x00000028-0x00000029 Motherboard resources OK

0x0000002C-0x0000002D Motherboard resources OK

0x0000002E-0x0000002F Motherboard resources OK

0x00000030-0x00000031 Motherboard resources OK

0x00000034-0x00000035 Motherboard resources OK

0x00000038-0x00000039 Motherboard resources OK

0x0000003C-0x0000003D Motherboard resources OK

0x0000004E-0x0000004F Motherboard resources OK

0x00000050-0x00000053 Motherboard resources OK

0x00000060-0x00000060 Motherboard resources OK

0x00000060-0x00000060 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x00000062-0x00000062 Motherboard resources OK

0x00000063-0x00000063 Motherboard resources OK

0x00000064-0x00000064 Motherboard resources OK

0x00000064-0x00000064 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x00000065-0x00000065 Motherboard resources OK

0x00000066-0x00000066 Motherboard resources OK

0x00000067-0x00000067 Motherboard resources OK

0x00000072-0x00000077 Motherboard resources OK

0x00000080-0x00000080 Motherboard resources OK

0x00000090-0x0000009F Motherboard resources OK

0x000000A4-0x000000A5 Motherboard resources OK

0x000000A8-0x000000A9 Motherboard resources OK

0x000000AC-0x000000AD Motherboard resources OK

0x000000B0-0x000000B5 Motherboard resources OK

0x000000B8-0x000000B9 Motherboard resources OK

0x000000BC-0x000000BD Motherboard resources OK

0x000004D0-0x000004D1 Motherboard resources OK

0x00001000-0x0000107F Motherboard resources OK

0x00001180-0x000011BF Motherboard resources OK

0x0000FE00-0x0000FE00 Motherboard resources OK

0x00000800-0x0000083F Motherboard resources OK

0x00000600-0x0000063F Motherboard resources OK

0x00000CA8-0x00000CAB Motherboard resources OK

0x00000CAC-0x00000CAF Motherboard resources OK

0x00000081-0x00000091 Direct memory access controller OK

0x00000093-0x0000009F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x000000F0-0x000000FE Numeric data processor OK

0x00000020-0x00000021 Programmable interrupt controller OK

0x000000A0-0x000000A1 Programmable interrupt controller OK

0x00000070-0x00000071 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x00000040-0x00000043 System timer OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x00000378-0x0000037F ECP Printer Port (LPT1) OK

0x00000778-0x0000077F ECP Printer Port (LPT1) OK

0x000002F8-0x000002FF Communications Port (COM2) OK

0x000018C0-0x000018CF Intel(R) 631xESB/6321ESB Ultra ATA Storage Controller - 269E OK

0x000001F0-0x000001F7 Primary IDE Channel OK

0x000003F6-0x000003F6 Primary IDE Channel OK

0x00002080-0x0000209F Intel(R) 631xESB/6321ESB/3100 Chipset SMBus Controller - 269B OK

[IRQs]

| Resource | Device | Status |
|---|---|---|
| IRQ 9 | Microsoft ACPI-Compliant System | OK |
| IRQ 16 | Intel(R) 5000P Chipset Memory Controller Hub - 25D8 | OK |
| IRQ 16 | Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E2 - 3514 | OK |
| IRQ 16 | Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8 | OK |
| IRQ 16 | Intel(R) PRO/1000 PT Dual Port Server Adapter #3 | OK |
| IRQ 16 | Intel(R) 5000 Series Chipset PCI Express x4 Port 5 - 25E5 | OK |
| IRQ 16 | Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9 | OK |
| IRQ 16 | Intel(R) PRO/1000 PT Dual Port Server Adapter | OK |
| IRQ 16 | Intel(R) 5000 Series Chipset PCI Express x4 Port 7 - 25E7 | OK |
| IRQ 16 | Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 1 - 2690 | OK |
| IRQ 16 | Broadcom NetXtreme Gigabit Ethernet | OK |

IRQ 16 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268B OK

IRQ 16 ATI ES1000 OK

IRQ 19 Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7 OK

IRQ 19 Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500 OK

IRQ 19 Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510 OK

IRQ 19 IBM ServeRAID 8k/8k-l Controller OK

IRQ 19 Intel(R) 5000 Series Chipset PCI Express x4 Port 3 - 25E3 OK

IRQ 19 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2689 OK

IRQ 19 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268A OK

IRQ 17 Intel(R) PRO/1000 PT Dual Port Server Adapter #4 OK

IRQ 17 Intel(R) PRO/1000 PT Dual Port Server Adapter #2 OK

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 2 - 2692 OK

IRQ 17 Broadcom NetXtreme Gigabit Ethernet #2 OK

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2688 OK

IRQ 17 Intel(R) 631xESB/6321ESB/3100 Chipset USB2 Enhanced Host Controller - 268C OK

IRQ 13 Numeric data processor OK

IRQ 8 System CMOS/real time clock OK

IRQ 0 System timer OK

IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

IRQ 12 PS/2 Compatible Mouse OK

IRQ 4 Communications Port (COM1) OK

IRQ 3 Communications Port (COM2) OK

IRQ 14 Primary IDE Channel OK

IRQ 10 Intel(R) 631xESB/6321ESB/3100 Chipset SMBus Controller - 269B OK

[Memory]

Resource Device Status

0xA0000-0xBFFFF PCI bus OK

0xA0000-0xBFFFF ATI ES1000 OK

0xD4000-0xD7FFF PCI bus OK

0xD8000-0xDBFFF PCI bus OK

0xDC000-0xDFFFF PCI bus OK

0x80000000-0xFDFFFFFF PCI bus OK

0xC8100000-0xC83FFFFF Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7 OK

0xC8B00000-0xC8BFFFFF Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7 OK

0xC8B00000-0xC8BFFFFF Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500 OK

0xC8B00000-0xC8BFFFFF Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510 OK

0xC8B00000-0xC8BFFFFF IBM ServeRAID 8k/8k-l Controller OK

0xC8200000-0xC83FFFFF Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500 OK

0xC8200000-0xC83FFFFF Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510 OK

0xC8200000-0xC83FFFFF IBM ServeRAID 8k/8k-l Controller OK

0xC8400000-0xC84FFFFF Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8 OK

0xC8400000-0xC84FFFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #3 OK

0xC8420000-0xC843FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #3 OK

0xC8460000-0xC847FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #4 OK

0xC8440000-0xC845FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #4 OK

0xC8500000-0xC85FFFFF Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9 OK

0xC8500000-0xC85FFFFF Intel(R) PRO/1000 PT Dual Port Server Adapter OK

0xC8520000-0xC853FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter OK

0xC8560000-0xC857FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #2 OK

0xC8540000-0xC855FFFF Intel(R) PRO/1000 PT Dual Port Server Adapter #2 OK

0xC8600000-0xC86FFFFF Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 1 - 2690 OK

0xC8600000-0xC86FFFFF Broadcom NetXtreme Gigabit Ethernet OK

0xC8700000-0xC87FFFFF Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 2 - 2692 OK

0xC8700000-0xC87FFFFF Broadcom NetXtreme Gigabit Ethernet #2 OK

0xFDFFFC00-0xFDFFFFFF Intel(R) 631xESB/6321ESB/3100 Chipset USB2 Enhanced Host Controller - 268C OK

0xD0000000-0xD7FFFFFF ATI ES1000 OK

0xC8800000-0xC880FFFF ATI ES1000 OK

0xE0000000-0xEFFFFFFF Motherboard resources OK

0xFEE00000-0xFEE0FFFF Motherboard resources OK

0xFEC81000-0xFEC81FFF Motherboard resources OK

0xFEC81400-0xFEC823FF Motherboard resources OK

0xC8000000-0xC8000FFF Motherboard resources OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\sl_anet.acm Sipro Lab Telecom Inc. Sipro Lab Telecom Audio Codec OK C:\WINDOWS\system32\SL_ANET.ACM 3.02 84.00 KB (86,016 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msaud32.acm Microsoft Corporation Windows Media Audio Codec OK C:\WINDOWS\system32\MSAUD32.ACM 8.00.00.4487 288.00 KB (294,912 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg711.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG711.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 10.00 KB (10,240 bytes) 3/25/2003 7:00 AM

c:\windows\system32\imaadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\IMAADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msgsm32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSGSM32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg723.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG723.ACM 5.2.3790.1830 120.00 KB (122,880 bytes) 8/7/2006 1:38 PM

c:\windows\system32\tssoft32.acm DSP GROUP, INC. OK C:\WINDOWS\system32\TSSOFT32.ACM 1.01 9.50 KB (9,728 bytes) 3/25/2003 7:00 AM

c:\windows\system32\l3codeca.acm Fraunhofer Institut Integrierte Schaltungen IIS Fraunhofer IIS MPEG Layer-3 CodecOK C:\WINDOWS\system32\L3CODECA.ACM 1, 9, 0, 0305 284.00 KB (290,816 bytes) 3/25/2003 7:00 AM

[Video Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\msh261.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH261.DRV 5.2.3790.1830 184.00 KB (188,416 bytes) 8/7/2006 1:38 PM

c:\windows\system32\tsbyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\TSBYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/24/2003 8:50 PM

c:\windows\system32\msyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\MSYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 16.50 KB (16,896 bytes) 3/24/2003 8:49 PM

c:\windows\system32\msvidc32.dll Microsoft Corporation OK C:\WINDOWS\system32\MSVIDC32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 26.50 KB (27,136 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msh263.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH263.DRV 5.2.3790.1830 288.00 KB (294,912 bytes) 8/7/2006 1:38 PM

c:\windows\system32\msrle32.dllMicrosoft Corporation OK C:\WINDOWS\system32\MSRLE32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 10.50 KB (10,752 bytes) 3/25/2003 7:00 AM

c:\windows\system32\iyuv_32.dll Microsoft Corporation OK C:\WINDOWS\system32\IYUV_32.DLL 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 8/7/2006 1:38 PM

[CD-ROM]

Item Value

Drive D:

Description CD-ROM Drive

Media Loaded No

Media Type CD-ROM

Name HL-DT-ST DVD-ROM GDR8164B

Manufacturer (Standard CD-ROM drives)

Status OK

Transfer Rate Not Available

SCSI Target ID 0

PNP Device ID IDE\CDROMHL-DT-ST_DVD-ROM_GDR8164B_____0M08____\5&3B7DE513&0&0.0.0

Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 51.00 KB (52,224 bytes), 3/25/2003 7:00 AM)

[Sound Device]

Item Value

[Display]

Item Value

Name ATI ES1000

PNP Device ID PCI\VEN_1002&DEV_515E&SUBSYS_03051014&REV_02\4&2014205D&0&20F0

Adapter Type ATI ES1000 (0x515E), ATI Technologies Inc. compatible

Adapter Description ATI ES1000

Adapter RAM 16.00 MB (16,777,216 bytes)

Installed Drivers ati2dvag.dll

Driver Version 6.14.10.6583

INF File oem1.inf (ati2mtag_RN50 section)

Color Planes 1

Color Table Entries 65536

Resolution 1024 x 768 x 75 hertz

Bits/Pixel 16

Memory Address 0xD0000000-0xD7FFFFFF

I/O Port 0x00006000-0x000060FF

Memory Address 0xC8800000-0xC880FFFF

IRQ Channel IRQ 16

I/O Port 0x000003B0-0x000003BB

I/O Port 0x000003C0-0x000003DF

Memory Address 0xA0000-0xBFFFF

Driver c:\windows\system32\drivers\ati2mtag.sys (6.14.10.6583, 1.32 MB (1,379,328 bytes), 12/6/2005 9:44 PM)

[Infrared]

Item Value

[Input]

[Keyboard]

Item Value

Description Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID ACPI\PNP0303\4&2AA4AD3D&0

Number of Function Keys 12

I/O Port 0x00000060-0x00000060

I/O Port 0x00000064-0x00000064

IRQ Channel IRQ 1

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value

Hardware Type PS/2 Compatible Mouse

Number of Buttons 3

Status OK

PNP Device ID ACPI\PNP0F13\4&2AA4AD3D&0

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

IRQ Channel IRQ 12

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value

Name [00000001] RAS Async Adapter

Adapter Type Not Available

Product Type RAS Async Adapter

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 1

Service Name AsyncMac

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000002] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 2
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\rasl2tp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 66.00 KB (67,584 bytes), 3/25/2003 7:00 AM)

Name [00000003] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes
PNP Device ID ROOT\MS_PPTPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 3
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30
Driver c:\windows\system32\drivers\raspptp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 61.00 KB (62,464 bytes), 3/25/2003 7:00 AM)

Name [00000004] WAN Miniport (PPPOE)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPPOE)
Installed Yes
PNP Device ID ROOT\MS_PPPOEMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 4
Service Name RasPppoe
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 33:50:6F:45:30:30
Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 40.00 KB (40,960 bytes), 3/25/2003 7:00 AM)

Name [00000005] Direct Parallel
Adapter Type Not Available
Product Type Direct Parallel
Installed Yes
PNP Device ID ROOT\MS_PTIMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 5
Service Name Raspti
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\raspti.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 19.50 KB (19,968 bytes), 3/25/2003 7:00 AM)

Name [00000006] WAN Miniport (IP)
Adapter Type Not Available
Product Type WAN Miniport (IP)
Installed Yes
PNP Device ID ROOT\MS_NDISWANIP\0000
Last Reset 2/15/2007 11:05 AM
Index 6
Service Name NdisWan
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB (93,184 bytes), 3/25/2003 7:00 AM)

Name [00000007] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Ethernet 802.3

Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes

PNP Device ID PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_21\4&187919FE&0&00E0

Last Reset 2/15/2007 11:05 AM

Index 7

Service Name b57w2k

IP Address 192.168.40.65

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:14:5E:20:26:17

Memory Address 0xC8600000-0xC86FFFFF

IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\b57xp32.sys (10.24.0.0 built by: WinDDK, 156.50 KB (160,256 bytes), 8/7/2006 12:45 PM)

Name [00000008] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Ethernet 802.3

Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes

PNP Device ID PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_21\4&110C88BD&0&00E1

Last Reset 2/15/2007 11:05 AM

Index 8

Service Name b57w2k

IP Address 0.0.0.0

IP Subnet 0.0.0.0

Default IP Gateway Not Available

DHCP Enabled Yes

DHCP Server

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:14:5E:20:26:18

Memory Address 0xC8700000-0xC87FFFFF

IRQ Channel IRQ 17

Driver c:\windows\system32\drivers\b57xp32.sys (10.24.0.0 built by: WinDDK, 156.50 KB (160,256 bytes), 8/7/2006 12:45 PM)

Name [00000009] Intel(R) PRO/1000 PT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 PT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&11D9D41A&0&0030

Last Reset 2/15/2007 11:05 AM

Index 9

Service Name e1express

IP Address 192.168.167.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:15:17:13:63:86

Memory Address 0xC8520000-0xC853FFFF

Memory Address 0xC8500000-0xC85FFFFF

I/O Port 0x00005000-0x00005FFF

IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\e1e5132.sys (9.6.31.0 built by: WinDDK, 240.90 KB (246,680 bytes), 11/1/2006 10:39 AM)

Name [00000010] Intel(R) PRO/1000 PT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 PT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&11D9D41A&0&0130

Last Reset 2/15/2007 11:05 AM

Index 10

Service Name e1express

IP Address 10.0.1.65

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:15:17:13:63:87

Memory Address 0xC8560000-0xC857FFFF

Memory Address 0xC8540000-0xC855FFFF

I/O Port 0x00005020-0x0000503F

IRQ Channel IRQ 17

Driver c:\windows\system32\drivers\e1e5132.sys (9.6.31.0 built by: WinDDK, 240.90 KB (246,680 bytes), 11/1/2006 10:39 AM)

Name [00000011] Intel(R) PRO/1000 PT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 PT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&399D3B00&0&0020

Last Reset 2/15/2007 11:05 AM

Index 11

Service Name e1express

IP Address 192.168.165.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:15:17:13:63:7A

Memory Address 0xC8420000-0xC843FFFF

Memory Address 0xC8400000-0xC84FFFFF

I/O Port 0x00004000-0x00004FFF

IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\e1e5132.sys (9.6.31.0 built by: WinDDK, 240.90 KB (246,680 bytes), 11/1/2006 10:39 AM)

Name [00000012] Intel(R) PRO/1000 PT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 PT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&399D3B00&0&0120

Last Reset 2/15/2007 11:05 AM

Index 12

Service Name e1express

IP Address 192.168.166.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:15:17:13:63:7B

Memory Address 0xC8460000-0xC847FFFF

Memory Address 0xC8440000-0xC845FFFF

I/O Port 0x00004020-0x0000403F

IRQ Channel IRQ 17

Driver c:\windows\system32\drivers\e1e5132.sys (9.6.31.0 built by: WinDDK, 240.90 KB (246,680 bytes), 11/1/2006 10:39 AM)

[Protocol]

Item Value

Name MSAFD Tcpip [TCP/IP]

Connectionless Service No

Guarantees Delivery Yes

Guarantees Sequencing Yes

Maximum Address Size 16 bytes

Maximum Message Size 0 bytes

Message Oriented No

Minimum Address Size 16 bytes

Pseudo Stream Oriented No

Supports Broadcasting No

Supports Connect Data No

Supports Disconnect Data No

Supports Encryption No

Supports Expedited Data Yes

Supports Graceful Closing Yes

Supports Guaranteed Bandwidth No

Supports Multicasting No

Name MSAFD Tcpip [UDP/IP]

Connectionless Service Yes

Guarantees Delivery No

Guarantees Sequencing No

Maximum Address Size 16 bytes

Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes

Minimum Address Size 16 bytes

Pseudo Stream Oriented No

Supports Broadcasting Yes

Supports Connect Data No

Supports Disconnect Data No

Supports Encryption No

Supports Expedited Data No

Supports Graceful Closing No

Supports Guaranteed Bandwidth No

Supports Multicasting Yes

Name RSVP UDP Service Provider

Connectionless Service Yes

Guarantees Delivery No

Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data Yes
Supports Graceful Closing Yes
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{C3ADAAF3-F470-4C67-BF36-939550D99734}] SEQPACKET 7
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{C3ADAAF3-F470-4C67-BF36-939550D99734}] DATAGRAM 7
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{CE6D789D-D708-4CF8-A83B-40CB07D1860F}] SEQPACKET 6
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{CE6D789D-D708-4CF8-A83B-40CB07D1860F}] DATAGRAM 6
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{353FE206-6718-45C5-8007-F35869C12051}] SEQPACKET 5
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{353FE206-6718-45C5-8007-F35869C12051}] DATAGRAM 5
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4054C2E5-1692-44B4-AD9C-974BCB075979}] SEQPACKET 4
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4054C2E5-1692-44B4-AD9C-974BCB075979}] DATAGRAM 4
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{220FB7B8-ACA3-4E5F-A690-DF26F03159FA}] SEQPACKET 3
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{220FB7B8-ACA3-4E5F-A690-DF26F03159FA}] DATAGRAM 3
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{97AFF47B-14F6-4250-B94B-93CAB8B87CCF}] SEQPACKET 0
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{97AFF47B-14F6-4250-B94B-93CAB8B87CCF}] DATAGRAM 0
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{88A93A75-19C0-4C58-ADB1-C14E5B49EB57}] SEQPACKET 1
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{88A93A75-19C0-4C58-ADB1-C14E5B49EB57}] DATAGRAM 1
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{45AEBD6E-2CEE-4126-8530-4C726FC4C378}] SEQPACKET 2
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{45AEBD6E-2CEE-4126-8530-4C726FC4C378}] DATAGRAM 2
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

[WinSock]

Item Value
File c:\windows\system32\winsock.dll
Size 2.80 KB (2,864 bytes)
Version 3.10

File c:\windows\system32\wsock32.dll
Size 22.00 KB (22,528 bytes)
Version 5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item Value
Name Communications Port (COM1)
Status OK
PNP Device ID ACPI\PNP0501\1
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable

EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000003F8-0x000003FF
IRQ Channel IRQ 4
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

Name Communications Port (COM2)
Status OK
PNP Device ID ACPI\PNP0501\2
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000002F8-0x000002FF
IRQ Channel IRQ 3
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

[Parallel]

Item Value
Name LPT1
PNP Device ID ACPI\PNP0401\4
I/O Port 0x00000378-0x0000037F
I/O Port 0x00000778-0x0000077F
DMA Channel Channel 1
Driver c:\windows\system32\drivers\parport.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 79.50 KB (81,408 bytes), 3/24/2003 6:04 PM)

[Storage]

[Drives]

Item Value
Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 68.25 GB (73,287,208,960 bytes)
Free Space 59.99 GB (64,411,103,232 bytes)
Volume Name
Volume Serial Number 0020B154

Drive D:
Description CD-ROM Disc

Drive X:
Description Network Connection
Provider Name \\fsserv\ray

[Disks]

Item Value
Description Disk drive

Manufacturer (Standard disk drives)
Model Adaptec Array SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 4
SCSI Logical Unit 0
SCSI Port 1
SCSI Target ID 0
Sectors/Track 63
Size 68.25 GB (73,287,244,800 bytes)
Total Cylinders 8,910
Total Sectors 143,139,150
Total Tracks 2,272,050
Tracks/Cylinder 255
Partition Disk #0, Partition #0
Partition Size 68.25 GB (73,287,212,544 bytes)
Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
Name IBM ServeRAID 8k/8k-l Controller
Manufacturer Adaptec
Status OK
PNP Device ID PCI\VEN_9005&DEV_0286&SUBSYS_95801014&REV_02\6&AECCA84&0&00000010
Memory Address 0xC8200000-0xC83FFFFF
Memory Address 0xC8B00000-0xC8BFFFFF
I/O Port 0x00003000-0x00003FFF
IRQ Channel IRQ 19
Driver c:\windows\system32\drivers\arcsas.sys (5.1.0.9206 built by: WinDDK, 50.00 KB (51,200 bytes), 8/4/2006 2:38 PM)

[IDE]

Item Value
Name Intel(R) 631xESB/6321ESB Ultra ATA Storage Controller - 269E
Manufacturer Intel
Status OK
PNP Device ID PCI\VEN_8086&DEV_269E&SUBSYS_03321014&REV_09\3&61AAA01&0&F9
I/O Port 0x000018C0-0x000018CF
Driver c:\windows\system32\drivers\pciide.sys (5.2.3790.0 (srv03_rtm.030324-2048), 5.50 KB (5,632 bytes), 8/7/2006 12:33 PM)

Name Primary IDE Channel
Manufacturer (Standard IDE ATA/ATAPI controllers)
Status OK
PNP Device ID PCIIDE\IDECHANNEL\4&379AE00F&0&0

I/O Port 0x000001F0-0x000001F7
I/O Port 0x000003F6-0x000003F6
IRQ Channel IRQ 14
Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB (95,744 bytes), 8/7/2006 12:33 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

[USB]

Device PNP Device ID
Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2688
PCI\VEN_8086&DEV_2688&SUBSYS_03321014&REV_09\3&61AAA01&0&E8
Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2689
PCI\VEN_8086&DEV_2689&SUBSYS_03321014&REV_09\3&61AAA01&0&E9
Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268A
PCI\VEN_8086&DEV_268A&SUBSYS_03321014&REV_09\3&61AAA01&0&EA
Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268B
PCI\VEN_8086&DEV_268B&SUBSYS_03321014&REV_09\3&61AAA01&0&EB
Intel(R) 631xESB/6321ESB/3100 Chipset USB2 Enhanced Host Controller - 268C
PCI\VEN_8086&DEV_268C&SUBSYS_03321014&REV_09\3&61AAA01&0&EF

[Software Environment]

[System Drivers]

Name Description File Type Started Start Mode State Status Error Control Accept Pause Accept Stop
abiosdsk Abiosdsk Not Available Kernel Driver No Disabled Stopped OK Ignore No No

acpi Microsoft ACPI Driver
c:\windows\system32\drivers\acpi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

acpiec ACPIEC
c:\windows\system32\drivers\acpiec.sys
Kernel Driver No Disabled
Stopped OK Normal No No

adpu160m adpu160m Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

adpu320 adpu320 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

afcnt afcnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

afd AFD Networking Support Environment
c:\windows\system32\drivers\afd.sys
Kernel Driver Yes System
Running OK Normal No Yes

aha154x Aha154x Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aic78u2 aic78u2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aic78xx aic78xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aliide AliIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

arcsas Adaptec SAS RAID Storport's Miniport Driver
c:\windows\system32\drivers\arcsas.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

asyncmac RAS Asynchronous Media Driver
c:\windows\system32\drivers\asyncmac.sys
Kernel Driver No Manual
Stopped OK Normal No No

atapi Standard IDE/ESDI Hard Disk Controller
c:\windows\system32\drivers\atapi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

atdisk Atdisk Not Available Kernel Driver
No Disabled Stopped OK
Ignore No No

ati2mtag ati2mtag
c:\windows\system32\drivers\ati2mtag.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

atmarpc ATM ARP Client Protocol
c:\windows\system32\drivers\atmarpc.sys
Kernel Driver No Manual
Stopped OK Normal No No

audstub Audio Stub Driver
c:\windows\system32\drivers\audstub.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

b57w2k Broadcom NetXtreme Gigabit Ethernet
c:\windows\system32\drivers\b57xp32.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

beep Beep c:\windows\system32\drivers\beep.sys
Kernel Driver Yes System
Running OK Normal No Yes

cbidf2k cbidf2k
c:\windows\system32\drivers\cbidf2k.sys
Kernel Driver No Disabled
Stopped OK Normal No No

cd20xrnt cd20xrnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cdfs Cdfs c:\windows\system32\drivers\cdfs.sys
File System Driver Yes Disabled
Running OK Normal No Yes

cdrom CD-ROM Driver
c:\windows\system32\drivers\cdrom.sys
Kernel Driver Yes System
Running OK Normal No Yes

changer Changer Not Available Kernel Driver
No System Stopped OK
Ignore No No

clusdisk Cluster Disk Driver
c:\windows\system32\drivers\clusdisk.sys
Kernel Driver No Disabled
Stopped OK Normal No No

cmdide CmdIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqarray Cpqarray Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqarry2 cpqarry2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqcissm cpqcissm Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqfcalm cpqfcalm Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

crcdisk CRC Disk Filter Driver
c:\windows\system32\drivers\crcdisk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dac960nt dac960nt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

dellcerc dellcerc Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

dfsdriver DfsDriver c:\windows\system32\drivers\dfs.sys
File System Driver Yes Boot
Running OK Normal No Yes

disk Disk Driver
c:\windows\system32\drivers\disk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmboot dmboot
c:\windows\system32\drivers\dmboot.sys
Kernel Driver No Disabled
Stopped OK Normal No No

dmio Logical Disk Manager Driver
c:\windows\system32\drivers\dmio.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmload dmload
c:\windows\system32\drivers\dmload.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dpti2o dpti2o Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

e1express Intel(R) PRO/1000 PCI Express Network Connection Driver
c:\windows\system32\drivers\e1e5132.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fastfat Fastfat
c:\windows\system32\drivers\fastfat.sys File System Driver No Disabled Stopped OK
Normal No No

fdc Fdc c:\windows\system32\drivers\fdc.sys
Kernel Driver No System
Stopped OK Ignore No No

fips Fips c:\windows\system32\drivers\fips.sys
Kernel Driver Yes System
Running OK Normal No Yes

flpydisk Flpydisk
c:\windows\system32\drivers\flpydisk.sys
Kernel Driver No System
Stopped OK Ignore No No

fltmgr FltMgr
c:\windows\system32\drivers\fltmgr.sys File System Driver Yes Boot Running OK
Normal No Yes

ftdisk Volume Manager Driver
c:\windows\system32\drivers\ftdisk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

gpc Generic Packet Classifier
c:\windows\system32\drivers\msgpc.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

hpn hpn Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

hpt3xx hpt3xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

http HTTP c:\windows\system32\drivers\http.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

i2omgmt i2omgmt Not Available Kernel Driver
No System Stopped OK
Normal No No

i2omp i2omp Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

i8042prt i8042 Keyboard and PS/2 Mouse Port Driver
c:\windows\system32\drivers\i8042prt.sys
Kernel Driver Yes System
Running OK Normal No Yes

iirsp iirsp Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

imapi CD-Burning Filter Driver
c:\windows\system32\drivers\imapi.sys
Kernel Driver No System
Stopped OK Normal No No

intelide IntelIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

intelppm Intel Processor Driver
c:\windows\system32\drivers\intelppm.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ip6fw IPv6 Windows Firewall Driver
c:\windows\system32\drivers\ip6fw.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipfilterdriver IP Traffic Filter Driver
c:\windows\system32\drivers\ipfltdrv.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipinip IP in IP Tunnel Driver
c:\windows\system32\drivers\ipinip.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipnat IP Network Address Translator
c:\windows\system32\drivers\ipnat.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipsec IPSEC driver
c:\windows\system32\drivers\ipsec.sys
Kernel Driver Yes System

```
            Running   OK          Normal    No        Yes

ipsraidn    ipsraidn  Not Available          Kernel Driver
            No        Disabled    Stopped   OK
            Normal    No          No

irenum      IR Enumerator Service
            c:\windows\system32\drivers\irenum.sys
            Kernel Driver         No        Manual
            Stopped   OK          Normal    No        No

isapnp      PnP ISA/EISA Bus Driver
            c:\windows\system32\drivers\isapnp.sys
            Kernel Driver         Yes       Boot
            Running   OK          Critical  No        Yes

kbdclass    Keyboard Class Driver
            c:\windows\system32\drivers\kbdclass.sys
            Kernel Driver         Yes       System
            Running   OK          Normal    No        Yes

ksecdd      KSecDD
            c:\windows\system32\drivers\ksecdd.sys
            Kernel Driver         Yes       Boot
            Running   OK          Normal    No        Yes

lp6nds35    lp6nds35  Not Available          Kernel Driver
            No        Disabled    Stopped   OK
            Normal    No          No

mnmdd       mnmdd
            c:\windows\system32\drivers\mnmdd.sys
            Kernel Driver         Yes       System
            Running   OK          Ignore    No        Yes

modem       Modem
            c:\windows\system32\drivers\modem.sys
            Kernel Driver         No        Manual
            Stopped   OK          Ignore    No        No

mouclass    Mouse Class Driver
            c:\windows\system32\drivers\mouclass.sys
            Kernel Driver         Yes       System
            Running   OK          Normal    No        Yes

mountmgr    Mount Point Manager
            c:\windows\system32\drivers\mountmgr.sys
            Kernel Driver         Yes       Boot
            Running   OK          Normal    No        Yes

mraid35x    mraid35x  Not Available          Kernel Driver
            No        Disabled    Stopped   OK
            Normal    No          No

mrxdav      WebDav Client Redirector
            c:\windows\system32\drivers\mrxdav.sys    File
System Driver         No          Manual    Stopped   OK
            Normal    No          No

mrxsmb      MRXSMB
            c:\windows\system32\drivers\mrxsmb.sys    File
System Driver         Yes         System    Running   OK
            Normal    No          Yes

msfs        Msfs      c:\windows\system32\drivers\msfs.sys
            File System Driver    Yes       System
            Running   OK          Normal    No        Yes

mssmbios    Microsoft System Management BIOS Driver
            c:\windows\system32\drivers\mssmbios.sys
            Kernel Driver         Yes       Manual
            Running   OK          Normal    No        Yes

mup         Mup       c:\windows\system32\drivers\mup.sys
            File System Driver    Yes       Boot
            Running   OK          Normal    No        Yes

ndis        NDIS System Driver
            c:\windows\system32\drivers\ndis.sys
            Kernel Driver         Yes       Boot
            Running   OK          Normal    No        Yes

ndistapi    Remote Access NDIS TAPI Driver
            c:\windows\system32\drivers\ndistapi.sys
            Kernel Driver         Yes       Manual
            Running   OK          Normal    No        Yes

ndisuio     NDIS Usermode I/O Protocol
            c:\windows\system32\drivers\ndisuio.sys
            Kernel Driver         No        Manual
            Stopped   OK          Normal    No        No

ndiswan     Remote Access NDIS WAN Driver
            c:\windows\system32\drivers\ndiswan.sys
            Kernel Driver         Yes       Manual
            Running   OK          Normal    No        Yes

ndproxy     NDIS Proxy
            c:\windows\system32\drivers\ndproxy.sys
            Kernel Driver         Yes       Manual
            Running   OK          Normal    No        Yes

netbios     NetBIOS Interface
            c:\windows\system32\drivers\netbios.sys   File
System Driver         Yes         System    Running   OK
            Normal    No          Yes

netbt       NetBios over Tcpip
            c:\windows\system32\drivers\netbt.sys
            Kernel Driver         Yes       System
            Running   OK          Normal    No        Yes

nfrd960     nfrd960   Not Available          Kernel Driver
            No        Disabled    Stopped   OK
            Normal    No          No

npfs        Npfs      c:\windows\system32\drivers\npfs.sys
            File System Driver    Yes       System
            Running   OK          Normal    No        Yes

ntfs        Ntfs      c:\windows\system32\drivers\ntfs.sys
            File System Driver    Yes       Disabled
            Running   OK          Normal    No        Yes

null        Null      c:\windows\system32\drivers\null.sys
            Kernel Driver         Yes       System
            Running   OK          Normal    No        Yes

parport     Parallel port driver
            c:\windows\system32\drivers\parport.sys
            Kernel Driver         Yes       Manual
            Running   OK          Normal    No        Yes
```

partmgr Partition Manager
c:\windows\system32\drivers\partmgr.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

parvdm Parvdm
c:\windows\system32\drivers\parvdm.sys
Kernel Driver Yes Auto
Running OK Ignore No Yes

pci PCI Bus Driver
c:\windows\system32\drivers\pci.sys
Kernel Driver Yes Boot
Running OK Critical No Yes

pciide PCIIde
c:\windows\system32\drivers\pciide.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

pcmcia Pcmcia
c:\windows\system32\drivers\pcmcia.sys
Kernel Driver No Disabled
Stopped OK Normal No No

pdcomp PDCOMP Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

pdframe PDFRAME Not Available
Kernel Driver No Manual
Stopped OK Ignore No No

pdreli PDRELI Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

pdrframe PDRFRAME Not Available
Kernel Driver No Manual
Stopped OK Ignore No No

perc2 perc2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

perc2hib perc2hib Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

pptpminiport WAN Miniport (PPTP)
c:\windows\system32\drivers\raspptp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

processor Processor Driver
c:\windows\system32\drivers\processr.sys
Kernel Driver No Manual
Stopped OK Normal No No

ptilink Direct Parallel Link Driver
c:\windows\system32\drivers\ptilink.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ql1080 ql1080 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql10wnt Ql10wnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql12160 ql12160 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1240 ql1240 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1280 ql1280 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2100 ql2100 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2200 ql2200 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2300 ql2300 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

rasacd Remote Access Auto Connection Driver
c:\windows\system32\drivers\rasacd.sys
Kernel Driver Yes System
Running OK Normal No Yes

rasl2tp WAN Miniport (L2TP)
c:\windows\system32\drivers\rasl2tp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspppoe Remote Access PPPOE Driver
c:\windows\system32\drivers\raspppoe.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspti Direct Parallel
c:\windows\system32\drivers\raspti.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdbss Rdbss c:\windows\system32\drivers\rdbss.sys
File System Driver Yes System
Running OK Normal No Yes

rdpcdd RDPCDD
c:\windows\system32\drivers\rdpcdd.sys
Kernel Driver Yes System
Running OK Ignore No Yes

rdpdr Terminal Server Device Redirector Driver
c:\windows\system32\drivers\rdpdr.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdpwd RDPWD
c:\windows\system32\drivers\rdpwd.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

redbook Digital CD Audio Playback Filter Driver
c:\windows\system32\drivers\redbook.sys
Kernel Driver Yes System

| | | | | | |
|---|---|---|---|---|---|
| | Running | OK | Normal | No | Yes |
| secdrv | Secdrv | | | | |
| | c:\windows\system32\drivers\secdrv.sys | | | | |
| | Kernel Driver | | No | Disabled | |
| | Stopped | OK | Normal | No | No |
| serenum | Serenum Filter Driver | | | | |
| | c:\windows\system32\drivers\serenum.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| serial | Serial port driver | | | | |
| | c:\windows\system32\drivers\serial.sys | | | | |
| | Kernel Driver | | Yes | System | |
| | Running | OK | Ignore | No | Yes |
| sfloppy | High-Capacity Floppy Disk Drive | | | | |
| | c:\windows\system32\drivers\sfloppy.sys | | | | |
| | Kernel Driver | | No | Manual | |
| | Stopped | OK | Normal | No | No |
| simbad | Simbad | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| sparrow | Sparrow | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| srv | Srv | c:\windows\system32\drivers\srv.sys | | | |
| | File System Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| swenum | Software Bus Driver | | | | |
| | c:\windows\system32\drivers\swenum.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| symc810 | symc810 | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| symc8xx | symc8xx | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| symmpi | symmpi | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| sym_hi | sym_hi | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| sym_u3 | sym_u3 | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| tcpip | TCP/IP Protocol Driver | | | | |
| | c:\windows\system32\drivers\tcpip.sys | | | | |
| | Kernel Driver | | Yes | System | |
| | Running | OK | Normal | No | Yes |
| tdpipe | TDPIPE | | | | |
| | c:\windows\system32\drivers\tdpipe.sys | | | | |
| | Kernel Driver | | No | Manual | |
| | Stopped | OK | Ignore | No | No |
| tdtcp | TDTCP | c:\windows\system32\drivers\tdtcp.sys | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Ignore | No | Yes |
| termdd | Terminal Device Driver | | | | |
| | c:\windows\system32\drivers\termdd.sys | | | | |
| | Kernel Driver | | Yes | System | |
| | Running | OK | Normal | No | Yes |
| toside | TosIde | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| udfs | Udfs | c:\windows\system32\drivers\udfs.sys | | | |
| | File System Driver | | No | Disabled | |
| | Stopped | OK | Normal | No | No |
| ultra | ultra | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| update | Microcode Update Driver | | | | |
| | c:\windows\system32\drivers\update.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| usbehci | Microsoft USB 2.0 Enhanced Host Controller Miniport Driver | | | | |
| | c:\windows\system32\drivers\usbehci.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| usbhub | USB2 Enabled Hub | | | | |
| | c:\windows\system32\drivers\usbhub.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| usbstor | USB Mass Storage Driver | | | | |
| | c:\windows\system32\drivers\usbstor.sys | | | | |
| | Kernel Driver | | No | Manual | |
| | Stopped | OK | Normal | No | No |
| usbuhci | Microsoft USB Universal Host Controller Miniport Driver | | | | |
| | c:\windows\system32\drivers\usbuhci.sys | | | | |
| | Kernel Driver | | Yes | Manual | |
| | Running | OK | Normal | No | Yes |
| vga | vga | | | | |
| | c:\windows\system32\drivers\vgapnp.sys | | | | |
| | Kernel Driver | | No | Manual | |
| | Stopped | OK | Ignore | No | No |
| vgasave | VGA Display Controller. | | | | |
| | c:\windows\system32\drivers\vga.sys | | | | |
| | Kernel Driver | | Yes | System | |
| | Running | OK | Ignore | No | Yes |
| viaide | ViaIde | Not Available | | Kernel Driver | |
| | No | Disabled | Stopped | OK | |
| | Normal | No | No | | |
| volsnap | Storage volumes | | | | |
| | c:\windows\system32\drivers\volsnap.sys | | | | |
| | Kernel Driver | | Yes | Boot | |
| | Running | OK | Normal | No | Yes |
| wanarp | Remote Access IP ARP Driver | | | | |
| | c:\windows\system32\drivers\wanarp.sys | | | | |

Kernel Driver Yes Manual
Running OK Normal No Yes

wdica WDICA Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

wlbs Network Load Balancing
c:\windows\system32\drivers\wlbs.sys
Kernel Driver No Manual
Stopped OK Normal No No

[Signed Drivers]

Device Name Signed Device Class
Driver Version Driver Date
Manufacturer INF Name Driver Name
Device ID

Microsoft System Management BIOS Driver Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0002

Microcode Update Device Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\SYSTEM\0001

Plug and Play Software Device Enumerator Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\SYSTEM\0000

Terminal Server Mouse Driver Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\RDP_MOU\0000

Terminal Server Keyboard Driver Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\RDP_KBD\0000

Terminal Server Device Redirector Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\RDPDR\0000

Direct Parallel Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_PTIMINIPORT\0000

WAN Miniport (PPTP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_PPTPMINIPORT\0000

WAN Miniport (PPPOE) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_PPPOEMINIPORT\0000

WAN Miniport (IP) Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_L2TPMINIPORT\0000

Video Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio Drivers Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_WANARP\0000

volsnap Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_VOLSNAP\0000

VGA Display Controller. Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_VGASAVE\0000

TDTCP Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_TDTCP\0000

TCP/IP Protocol Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_TCPIP\0000

RDPWD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPWD\0000

RDPCDD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPCDD\0000

Remote Access Auto Connection Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RASACD\0000

Parvdm Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_PARVDM\0000

Partition Manager Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_PARTMGR\0000

Null Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NULL\0000

NetBios over Tcpip Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NETBT\0000

NDProxy Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available ROOT\LEGACY_NDPROXY\0000

NDIS Usermode I/O Protocol Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_NDIS\0000

mountmgr Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_MOUNTMGR\0000

mnmdd Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_MNMDD\0000

ksecdd Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_KSECDD\0000

IPSEC driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_IPSEC\0000

HTTP Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_HTTP\0000

Generic Packet Classifier Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_GPC\0000

Fips Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_FIPS\0000

dmload Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_DMLOAD\0000

dmboot Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_DMBOOT\0000

CRC Disk Filter Driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_CRCDISK\0000

Beep Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_BEEP\0000

AFD Networking Support Environment Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_AFD\0000

Generic volume Yes VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATUREE62DE62DOFFSET7E00LENGTH1110421E00

Volume Manager Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\FTDISK\0000

Logical Disk Manager Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\DMIO\0000

ACPI Fixed Feature Button Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\FIXEDBUTTON\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C0C\3&61AAA01&0

Intel(R) 631xESB/6321ESB/3100 Chipset SMBus Controller - 269B Yes SYSTEM 7.4.0.1005 5/15/2006 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_269B&SUBSYS_03321014&REV_09\3&61AAA01&0&FB

CD-ROM Drive Yes CDROM 5.2.3790.0 10/1/2002 (Standard CD-ROM drives) cdrom.inf Not Available IDE\CDROMHL-DT-ST_DVD-ROM_GDR8164B_____0M08____\5&3B7DE513&0&0.0.0

Primary IDE Channel Yes HDC 5.2.3790.0 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available PCIIDE\IDECHANNEL\4&379AE00F&0&0

Intel(R) 631xESB/6321ESB Ultra ATA Storage Controller - 269E Yes HDC 7.3.0.1010 11/18/2005 Intel esb2ide.inf Not Available PCI\VEN_8086&DEV_269E&SUBSYS_03321014&REV_09\3&61AAA01&0&F9

Communications Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0501\2

Printer Port Logical Interface Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available LPTENUM\MICROSOFTRAWPORT\6&231E718&0&LPT1

ECP Printer Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0401\4

Communications Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0501\1

Generic Bus Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A05\4&2AA4AD3D&0

PS/2 Compatible Mouse Yes MOUSE 5.2.3790.0 10/1/2002 Microsoft msmouse.inf Not Available ACPI\PNP0F13\4&2AA4AD3D&0

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard Yes KEYBOARD 5.2.3790.0 10/1/2002 (Standard keyboards) keyboard.inf Not Available ACPI\PNP0303\4&2AA4AD3D&0

System timer Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0100\4&2AA4AD3D&0

System speaker Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0800\4&2AA4AD3D&0

System CMOS/real time clock Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0B00\4&2AA4AD3D&0

Programmable interrupt controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0000\4&2AA4AD3D&0

Numeric data processor Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C04\4&2AA4AD3D&0

Direct memory access controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0200\4&2AA4AD3D&0

Motherboard resources Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C02\1F

ISAPNP Read Data Port Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ISAPNP\READDATAPORT\0

Intel(R) 631xESB/6321ESB/3100 Chipset LPC Interface Controller - 2670 Yes SYSTEM 7.4.0.1005 5/15/2006 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_2670&SUBSYS_00000000&REV_09\3&61AAA01&0&F8

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\5&24B7E66&0&10000000&12&04

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\5&24B7E66&0&10000001&12&04

Plug and Play Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\IBM029A\5&24B7E66&0&10000082&12&04

ATI ES1000 Yes DISPLAY 8.19.4.0 12/6/2005 ATI Technologies Inc. oem1.inf Not Available PCI\VEN_1002&DEV_515E&SUBSYS_03051014&REV_02\4&2014205D&0&20F0

Intel(R) 82801 PCI Bridge - 244E Yes SYSTEM 7.0.0.1011 1/10/2005 Intel dmi_pci.inf Not Available PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_D9\3&61AAA01&0&F0

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&2FB71FA3&0

Intel(R) 631xESB/6321ESB/3100 Chipset USB2 Enhanced Host Controller - 268C Yes USB 7.4.0.1005 5/15/2006 Intel esb2usb.inf Not Available PCI\VEN_8086&DEV_268C&SUBSYS_03321014&REV_09\3&61AAA01&0&EF

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&3648B3FB&0

Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268B Yes USB 7.4.0.1005 5/15/2006 Intel esb2usb.inf Not Available PCI\VEN_8086&DEV_268B&SUBSYS_03321014&REV_09\3&61AAA01&0&EB

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&13C311B0&0

Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 268A Yes USB 7.4.0.1005 5/15/2006 Intel esb2usb.inf Not Available PCI\VEN_8086&DEV_268A&SUBSYS_03321014&REV_09\3&61AAA01&0&EA

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&55CC539&0

Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2689 Yes USB 7.4.0.1005 5/15/2006 Intel esb2usb.inf Not Available PCI\VEN_8086&DEV_2689&SUBSYS_03321014&REV_09\3&61AAA01&0&E9

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&3961E10E&0

Intel(R) 631xESB/6321ESB/3100 Chipset USB Universal Host Controller - 2688 Yes USB 7.4.0.1005 5/15/2006 Intel esb2usb.inf Not Available PCI\VEN_8086&DEV_2688&SUBSYS_03321014&REV_09\3&61AAA01&0&E8

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem3.inf Not Available PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_21\4&110C88BD&0&00E1

Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 2 - 2692 Yes SYSTEM 7.4.0.1005 5/15/2006 Intel 5000xzvp.inf Not Available

PCI\VEN_8086&DEV_2692&SUBSYS_00000000&REV_09\3&61AAA01&0&E1

Broadcom NetXtreme Gigabit Ethernet No NET 10.24.0.0 12/15/2006 Broadcom oem3.inf Not Available PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_21\4&187919FE&0&00E0

Intel(R) 631xESB/6321ESB/3100 Chipset PCI Express Root Port 1 - 2690 Yes SYSTEM 7.4.0.1005 5/15/2006 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_2690&SUBSYS_00000000&REV_09\3&61AAA01&0&E0

Intel(R) 5000 Series Chipset FBD Registers - 25F6 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F6&SUBSYS_00000000&REV_92\3&61AAA01&0&B0

Intel(R) 5000 Series Chipset FBD Registers - 25F5 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F5&SUBSYS_00000000&REV_92\3&61AAA01&0&A8

Intel(R) 5000 Series Chipset Reserved Registers - 25F3 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F3&SUBSYS_00000000&REV_92\3&61AAA01&0&98

Intel(R) 5000 Series Chipset Reserved Registers - 25F1 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F1&SUBSYS_00000000&REV_92\3&61AAA01&0&88

Intel(R) 5000 Series Chipset Error Reporting Registers - 25F0 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F0&SUBSYS_00000000&REV_92\3&61AAA01&0&82

Intel(R) 5000 Series Chipset Error Reporting Registers - 25F0 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F0&SUBSYS_00000000&REV_92\3&61AAA01&0&81

Intel(R) 5000 Series Chipset Error Reporting Registers - 25F0 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F0&SUBSYS_00000000&REV_92\3&61AAA01&0&80

Intel(R) 5000 Series Chipset PCI Express x4 Port 7 - 25E7 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25E7&SUBSYS_00000000&REV_92\3&61AAA01&0&38

Intel(R) PRO/1000 PT Dual Port Server Adapter Yes NET 9.6.31.0 10/31/2006 Intel oem5.inf Not Available PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&11D9D41A&0&0130

Intel(R) PRO/1000 PT Dual Port Server Adapter Yes NET 9.6.31.0 10/31/2006 Intel oem5.inf Not Available PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&11D9D41A&0&0030

Intel(R) 5000 Series Chipset PCI Express x8 Port 6-7 - 25F9 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F9&SUBSYS_00000000&REV_92\3&61AAA01&0&30

Intel(R) 5000 Series Chipset PCI Express x4 Port 5 - 25E5 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25E5&SUBSYS_00000000&REV_92\3&61AAA01&0&28

Intel(R) PRO/1000 PT Dual Port Server Adapter Yes NET 9.6.31.0 10/31/2006 Intel oem5.inf Not Available PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&399D3B00&0&0120

Intel(R) PRO/1000 PT Dual Port Server Adapter Yes NET 9.6.31.0 10/31/2006 Intel oem5.inf Not Available PCI\VEN_8086&DEV_105E&SUBSYS_115E8086&REV_06\4&399D3B00&0&0020

Intel(R) 5000 Series Chipset PCI Express x8 Port 4-5 - 25F8 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F8&SUBSYS_00000000&REV_92\3&61AAA01&0&20

Intel(R) 5000 Series Chipset PCI Express x4 Port 3 - 25E3 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25E3&SUBSYS_00000000&REV_92\3&61AAA01&0&18

Intel(R) 6311ESB/6321ESB PCI Express to PCI-X Bridge - 350C Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_350C&SUBSYS_00000000&REV_01\4&25C5D7DF&0&0310

Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E2 - 3514 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_3514&SUBSYS_00000000&REV_01\5&CC6F5AA&0&080010

Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_ADAPTEC&PROD_ARRAY&REV_V1.0\7&2C51266F&0&400

IBM ServeRAID 8k/8k-l Controller Yes SCSIADAPTER 5.1.0.9206 4/13/2006 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_0286&SUBSYS_95801014&REV_02\6&AECCA84&0&00000010

Intel(R) 6311ESB/6321ESB PCI Express Downstream Port E1 - 3510 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_3510&SUBSYS_00000000&REV_01\5&CC6F5AA&0&000010

Intel(R) 6311ESB/6321ESB PCI Express Upstream Port - 3500 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_3500&SUBSYS_00000000&REV_01\4&25C5D7DF&0&0010

Intel(R) 5000 Series Chipset PCI Express x8 Port 2-3 - 25F7 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel 5000xzvp.inf Not Available PCI\VEN_8086&DEV_25F7&SUBSYS_00000000&REV_92\3&61AAA01&0&10

Intel(R) 5000P Chipset Memory Controller Hub - 25D8 Yes SYSTEM 7.3.1.1011 11/18/2005 Intel

5000xzvp.inf Not Available
PCI\VEN_8086&DEV_25D8&SUBSYS_00000000&REV_92\3&61AAA01&0&00

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0A03\2&DABA3FF&0

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available
ACPI\GENUINEINTEL_-_X86_FAMILY_6_MODEL_15_1

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available
ACPI\GENUINEINTEL_-_X86_FAMILY_6_MODEL_15_0

Microsoft ACPI-Compliant System Yes SYSTEM 5.2.3790.0 10/1/2002 Microsoft acpi.inf Not Available
ACPI_HAL\PNP0C08\0

ACPI Multiprocessor PC Yes COMPUTER 5.2.3790.0 10/1/2002 (Standard computers) hal.inf Not Available
ROOT\ACPI_HAL\0000

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available
HTREE\ROOT\0

[Environment Variables]

Variable Value User Name

ClusterLog C:\WINDOWS\Cluster\cluster.log <SYSTEM>

ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>

FP_NO_HOST_CHECK NO <SYSTEM>

NUMBER_OF_PROCESSORS 2 <SYSTEM>

OS Windows_NT <SYSTEM>

Path %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;c:\tools;c:\tools\util;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\binn\;C:\Program Files\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\;C:\Program Files\Intel\DMIX <SYSTEM>

PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE x86 <SYSTEM>

PROCESSOR_IDENTIFIER x86 Family 6 Model 15 Stepping 6, GenuineIntel <SYSTEM>

PROCESSOR_LEVEL 6 <SYSTEM>

PROCESSOR_REVISION 0f06 <SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>

TMP %SystemRoot%\TEMP <SYSTEM>

windir %SystemRoot% <SYSTEM>

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TEMP %USERPROFILE%\Local Settings\Temp FCLIENT65\Administrator

TMP %USERPROFILE%\Local Settings\Temp FCLIENT65\Administrator

[Print Jobs]

Document Size Owner Notify Status Time Submitted Start Time Until Time Elapsed Time
Pages Printed Job ID Priority
Parameters Driver Print Processor Host Print Queue Data Type Name

[Network Connections]

Local Name Remote Name Type
Status User Name

x: \\fsserv\rayDisk Persistent Connection
FCLIENT65\Administrator

[Running Tasks]

Name Path Process ID Priority Min Working Set Max Working Set Start Time Version Size
File Date

system idle process Not Available 0 0
Not Available Not Available Not Available Not Available Not Available Not Available Not Available

system Not Available 4 8 0
1413120 Not Available Not Available
Not Available Not Available

smss.exe Not Available 836 11
204800 1413120 2/15/2007 11:05 AM Not Available Not Available Not Available

csrss.exe Not Available 932 13 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
1048 13 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830

(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 8/7/2006 1:38 PM

services.exe c:\windows\system32\services.exe 1092 9 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 107.50 KB (110,080 bytes) 3/25/2003 7:00 AM

lsass.exe c:\windows\system32\lsass.exe 1112 9 204800 1413120 2/15/2007 11:05 AM 5.2.3790.0 (srv03_rtm.030324-2048) 13.00 KB (13,312 bytes) 3/25/2003 7:00 AM

svchost.exe c:\windows\system32\svchost.exe 1288 8 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:38 PM

svchost.exe Not Available 1372 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe Not Available 1436 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe Not Available 1480 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 1528 8 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:38 PM

msdtc.exe Not Available 420 8 Not Available Not Available 2/15/2007 11:06 AM Not Available Not Available Not Available

svchost.exe Not Available 184 8 Not Available Not Available 2/15/2007 11:06 AM Not Available Not Available Not Available

explorer.exe c:\windows\explorer.exe 1988 8 204800 1413120 2/15/2007 11:06 AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 8/7/2006 1:38 PM

svchost.exe c:\windows\system32\svchost.exe 400 8 204800 1413120 2/15/2007 11:06 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:38 PM

bmlisten.exe c:\slave\bmlisten.exe 804 8 204800 1413120 2/15/2007 11:06 AM 2, 1, 0, 2 156.00 KB (159,744 bytes) 8/7/2006 1:31 PM

wmiprvse.exe Not Available 948 8 Not Available Not Available 2/15/2007 11:07 AM Not Available Not Available Not Available

dllhost.exe c:\windows\system32\dllhost.exe 412 8 204800 1413120 2/15/2007 11:23 AM 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM

inetinfo.exe c:\windows\system32\inetsrv\inetinfo.exe 832 8 204800 1413120 2/15/2007 12:07 PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:39 PM

svchost.exe c:\windows\system32\svchost.exe 3388 8 204800 1413120 2/15/2007 12:07 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:38 PM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe 1680 8 204800 1413120 2/15/2007 3:47 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes) 8/7/2006 1:39 PM

helpsvc.exe c:\windows\pchealth\helpctr\binaries\helpsvc.exe 3340 8 204800 1413120 2/15/2007 3:47 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 8/7/2006 1:39 PM

wmiprvse.exe Not Available 2956 8 Not Available Not Available 2/15/2007 3:47 PM Not Available Not Available Not Available

regedit.exe c:\windows\regedit.exe 4068 8 204800 1413120 2/15/2007 3:47 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 144.00 KB (147,456 bytes) 3/24/2005 7:44 PM

[Loaded Modules]

| Name | Version | Size | File Date | Manufacturer | Path |
|---|---|---|---|---|---|
| winlogon | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 497.00 KB (508,928 bytes) | 8/7/2006 1:38 PM | Microsoft Corporation | c:\windows\system32\winlogon.exe |
| ntdll | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 748.50 KB (766,464 bytes) | 3/25/2003 7:00 AM | Microsoft Corporation | c:\windows\system32\ntdll.dll |
| kernel32 | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 1,014.00 KB (1,038,336 bytes) | 8/7/2006 1:38 PM | Microsoft Corporation | c:\windows\system32\kernel32.dll |
| advapi32 | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 605.50 KB (620,032 bytes) | 3/25/2003 7:00 AM | Microsoft Corporation | c:\windows\system32\advapi32.dll |
| rpcrt4 | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 627.00 KB (642,048 bytes) | 8/7/2006 1:38 PM | Microsoft Corporation | c:\windows\system32\rpcrt4.dll |
| crypt32 | 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) | 582.00 KB (595,968 bytes) | 8/7/2006 1:38 PM | Microsoft Corporation | c:\windows\system32\crypt32.dll |
| msasn1 | 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) | 56.50 KB (57,856 bytes) | 8/7/2006 1:38 PM | Microsoft Corporation | c:\windows\system32\msasn1.dll |

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 574.50 KB (588,288 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\gdi32.dll

nddeapi 5.2.3790.0 (srv03_rtm.030324-2048) 16.00 KB (16,384 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\nddeapi.dll

profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 22.50 KB (23,040 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\netapi32.dll

userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 771.00 KB (789,504 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\userenv.dll

psapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.00 KB (20,480 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\secur32.dll

setupapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.03 MB (1,079,808 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\setupapi.dll

version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.00 KB (18,432 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\winsta.dll

ws2_32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 8/7/2006 1:37 PM Microsoft Corporation c:\windows\system32\ws2_32.dll

ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 8/7/2006 1:37 PM Microsoft Corporation c:\windows\system32\ws2help.dll

msgina 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.16 MB (1,211,904 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 131.50 KB (134,656 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 313.50 KB (321,024 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\shlwapi.dll

sfc 5.2.3790.0 (srv03_rtm.030324-2048) 4.50 KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\sfc.dll

sfc_os 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 138.00 KB (141,312 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\sfc_os.dll

wintrust 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wintrust.dll

imagehlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 145.50 KB (148,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\imagehlp.dll

ole32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,245,184 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\ole32.dll

comctl32 6.0 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,051,136 bytes) 3/24/2005 8:41 PM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.common-controls_6595b64144ccf1df_6.0.3790.1830_x-ww_7ae38ccf\comctl32.dll

winscard 5.2.3790.0 (srv03_rtm.030324-2048) 98.50 KB (100,864 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\winscard.dll

wtsapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 8/7/2006 1:37 PM Microsoft Corporation c:\windows\system32\wtsapi32.dll

sxs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 743.50 KB (761,344 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\sxs.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\winmm.dll

shell32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 7.99 MB (8,379,392 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\shell32.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 174.50 KB (178,688 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wldap32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 183.98 KB (188,392 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\rsaenh.dll

ati2evxx 6.14.10.4123 46.50 KB (47,616 bytes) 12/6/2005 9:38 PM ATI Technologies Inc. c:\windows\system32\ati2evxx.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
100.00 KB (102,400 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 8/7/2006 1:42
PM Microsoft Corporation
c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
94.50 KB (96,768 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\wlnotify.dll

mpr 5.2.3790.0 (srv03_rtm.030324-2048) 56.00 KB (57,344 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 543.00 KB (556,032 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
147.00 KB (150,528 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447)
585.00 KB (599,040 bytes) 3/24/2005 8:41
PM Microsoft Corporation
c:\windows\winsxs\x86_microsoft.windows.common-controls_6595b64144ccf1df_5.82.3790.1830_x-ww_1b6f474a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
202.00 KB (206,848 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\uxtheme.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\samlib.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
319.50 KB (327,168 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\cscui.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
43.50 KB (44,544 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\ntlanman.dll

netui0 5.2.3790.0 (srv03_rtm.030324-2048) 75.50 KB (77,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui0.dll

netui1 5.2.3790.0 (srv03_rtm.030324-2048)
184.00 KB (188,416 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\netui1.dll

davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 23.50 KB (24,064 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\davclnt.dll

mprui 5.2.3790.0 (srv03_rtm.030324-2048) 49.00 KB (50,176 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mprui.dll

netui2 5.2.3790.0 (srv03_rtm.030324-2048)
309.50 KB (316,928 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\netui2.dll

comdlg32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
274.50 KB (281,088 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\comdlg32.dll

netmsg 5.2.3790.0 (srv03_rtm.030324-2048)
178.00 KB (182,272 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\netmsg.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
502.50 KB (514,560 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048)
778.00 KB (796,672 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\comres.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\ntmarta.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.76 MB (2,897,920 bytes) 8/7/2006 1:41
PM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
20.50 KB (20,992 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 221.00 KB (226,304 bytes)
8/7/2006 1:39 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50 KB (43,520 bytes) 8/4/2006 6:53 PM Microsoft Corporation
c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
471.00 KB (482,304 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll

msvcp60 6.05.2144.0 388.00 KB (397,312 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msvcp60.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
71.00 KB (72,704 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
153.50 KB (157,184 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\dnsapi.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
107.50 KB (110,080 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 8/7/2006 1:38

PM Microsoft Corporation c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 66.50 KB (68,096 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 126.50 KB (129,536 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 67.50 KB (69,120 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\eventlog.dll

lsass 5.2.3790.0 (srv03_rtm.030324-2048) 13.00 KB (13,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 803.00 KB (822,272 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\lsasrv.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 450.50 KB (461,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\samsrv.dll

cryptdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 32.00 KB (32,768 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\cryptdll.dll

msprivs 5.2.3790.0 (srv03_rtm.030324-2048) 46.50 KB (47,616 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msprivs.dll

kerberos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\kerberos.dll

msv1_0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 141.00 KB (144,384 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msv1_0.dll

iphlpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 92.50 KB (94,720 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 409.50 KB (419,328 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 222.00 KB (227,328 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 141.00 KB (144,384 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 74.00 KB (75,776 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 23.00 KB (23,552 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 213.50 KB (218,624 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\kdcsvc.dll

ntdsa 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.45 MB (1,516,032 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\ntdsa.dll

esent 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1,022.50 KB (1,047,040 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 29.50 KB (30,208 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.50 KB (256,512 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mswsock.dll

scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 186.50 KB (190,976 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\scecli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 793.50 KB (812,544 bytes) 8/7/2006 1:42 PM Microsoft Corporation c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 343.50 KB (351,744 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\hnetcfg.dll

wshtcpip 5.2.3790.0 (srv03_rtm.030324-2048) 18.00 KB (18,432 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wshtcpip.dll

ipsecsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 180.50 KB (184,832 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\ipsecsvc.dll

oakley 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 264.00 KB (270,336 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\oakley.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 35.50 KB (36,352 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\winipsec.dll

pstorsvc 5.2.3790.0 (srv03_rtm.030324-2048) 24.00 KB (24,576 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\pstorsvc.dll

psbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 84.00 KB (86,016 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\psbase.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 139.98 KB (143,336 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\dssenh.dll

wlbsctrl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wlbsctrl.dll

w3ssl 6.0.3790.0 (srv03_rtm.030324-2048) 15.00 KB (15,360 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\w3ssl.dll

strmfilt 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 84.00 KB (86,016 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\strmfilt.dll

httpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\httpapi.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 406.00 KB (415,744 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\rpcss.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 197.50 KB (202,240 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\schedsvc.dll

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 6.50 KB (6,656 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msidle.dll

audiosrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 40.50 KB (41,472 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\audiosrv.dll

wkssvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 130.00 KB (133,120 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wkssvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 32.50 KB (33,280 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wiarpc.dll

aelupsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 26.00 KB (26,624 bytes) 8/7/2006 1:42 PM Microsoft Corporation c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.50 KB (150,016 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\apphelp.dll

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.50 KB (56,832 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 227.00 KB (232,448 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\certcli.dll

atl 3.05.2283 83.00 KB (84,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\atl.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 548.00 KB (561,152 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\vssapi.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 233.00 KB (238,592 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\es.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 39.00 KB (39,936 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchsvc.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 25.50 KB (26,112 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\dmserver.dll

srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\srvsvc.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.50 KB (18,944 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\seclogon.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.50 KB (37,376 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\sens.dll

trkwks 5.2.3790.0 (srv03_rtm.030324-2048) 85.00 KB (87,040 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\trkwks.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\wbem\wmisvc.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,248,256 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\comsvcs.dll

browser 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.50 KB (78,336 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\browser.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 258.50 KB (264,704 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\netman.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 89.00 KB (91,136 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 194.00 KB (198,656 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.00 KB (149,504 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\credui.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 34.50 KB (35,328 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\rtutils.dll

netshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.73 MB (1,812,992 bytes) 8/7/2006 1:38

PM Microsoft Corporation
c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
60.00 KB (61,440 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\clusapi.dll

rasapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
239.50 KB (245,248 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\rasapi32.dll

rasman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
61.50 KB (62,976 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\rasman.dll

tapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
179.50 KB (183,808 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\tapi32.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
646.00 KB (661,504 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
41.00 KB (41,984 bytes) 8/7/2006 1:37
PM Microsoft Corporation
c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
364.50 KB (373,248 bytes) 8/7/2006 1:37
PM Microsoft Corporation
c:\windows\system32\wzcsvc.dll

wmi 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
113.50 KB (116,224 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\dhcpcsvc.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
497.50 KB (509,440 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
250.00 KB (256,000 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
93.50 KB (95,744 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
172.50 KB (176,640 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
404.00 KB (413,696 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
271.50 KB (278,016 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\wbemess.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
663.00 KB (678,912 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
7.50 KB (7,680 bytes)8/7/2006 1:38 PM
Microsoft Corporation
c:\windows\system32\rasadhlp.dll

netrap 5.2.3790.0 (srv03_rtm.030324-2048) 11.50
KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\netrap.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 8/7/2006 1:39
PM Microsoft Corporation
c:\windows\system32\wbem\ncprov.dll

ntlsapi 5.2.3790.0 (srv03_rtm.030324-2048) 8.00
KB (8,192 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\ntlsapi.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\explorer.exe

browseui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1,009.00 KB (1,033,216 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\browseui.dll

shdocvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.43 MB (1,502,720 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
496.50 KB (508,416 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\cryptui.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
377.50 KB (386,560 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\themeui.dll

msimg32 5.2.3790.0 (srv03_rtm.030324-2048) 4.50
KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\msimg32.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
96.50 KB (98,816 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\actxprxy.dll

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
673.00 KB (689,152 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
272.50 KB (279,040 bytes) 8/7/2006 1:38
PM Microsoft Corporation
c:\windows\system32\webcheck.dll

wsock32 5.2.3790.0 (srv03_rtm.030324-2048) 22.00
KB (22,528 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\wsock32.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 120.50 KB (123,392 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 31.50 KB (32,256 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 16.50 KB (16,896 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\powrprof.dll

shdoclc 6.00.3790.0 (srv03_rtm.030324-2048) 588.50 KB (602,624 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\shdoclc.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.00 KB (244,736 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 12.50 KB (12,800 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 116.00 KB (118,784 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 101.63 KB (104,072 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\rdpwsx.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes) 8/7/2006 1:31 PM IBM xSeries Server Performance c:\slave\bmlisten.exe

dllhost 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\dllhost.exe

txflog 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\txflog.dll

xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 10.50 KB (10,752 bytes) 8/7/2006 1:37 PM Microsoft Corporation c:\windows\system32\xolehlp.dll

msdtcprx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 455.50 KB (466,432 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msdtcprx.dll

mtxclu 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 77.00 KB (78,848 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mtxclu.dll

resutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 63.50 KB (65,024 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\resutils.dll

winrnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\winrnr.dll

catsrv 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\catsrv.dll

clbcatex 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 102.50 KB (104,960 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\clbcatex.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 164.00 KB (167,936 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\iisutil.dll

rpcref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 4.00 KB (4,096 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\rpcref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 138.50 KB (141,824 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 21.00 KB (21,504 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 62.50 KB (64,000 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\admwprox.dll

iiscfg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1.08 MB (1,133,056 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 229.00 KB (234,496 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msxml3.dll

svcext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\svcext.dll

security 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\security.dll

iismap 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 58.50 KB (59,904 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 211.00 KB (216,064 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\w3cache.dll

w3tp 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\w3tp.dll

lonsint 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\system32\inetsrv\lonsint.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50 KB (6,656 bytes) 8/4/2006 6:55 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 133.50 KB (136,704 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 104.50 KB (107,008 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 577.50 KB (591,360 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mlang.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 2.96 MB (3,108,864 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 156.00 KB (159,744 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 311.00 KB (318,464 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\msctf.dll

jscript 5.6.0.8827 448.00 KB (458,752 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 108.00 KB (110,592 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 454.50 KB (465,408 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 376.00 KB (385,024 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 240.00 KB (245,760 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00 KB (94,208 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\odbcint.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 3.50 KB (3,584 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\riched32.dll

riched20 5.31.23.1224 439.00 KB (449,536 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\riched20.dll

browselc 6.00.3790.0 (srv03_rtm.030324-2048) 62.00 KB (63,488 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\browselc.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 8/7/2006 1:39 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\helpsvc.exe

regedit 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 144.00 KB (147,456 bytes) 3/24/2005 7:44 PM Microsoft Corporation c:\windows\regedit.exe

aclui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 117.50 KB (120,320 bytes) 8/7/2006 1:38 PM Microsoft Corporation c:\windows\system32\aclui.dll

ulib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.00 KB (277,504 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ulib.dll

clb 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\clb.dll

[Services]

Display Name Name State Start Mode
Service Type Path Error Control
Start Name Tag ID

Application Experience Lookup Service AeLookupSvc
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Alerter Alerter Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Application Layer Gateway Service ALG
Stopped Manual Own Process

c:\windows\system32\alg.exe Normal NT AUTHORITY\LocalService 0

Application Management AppMgmt Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

ASP.NET State Service aspnet_state Stopped Manual Own Process c:\windows\microsoft.net\framework\v2.0.50727\aspnet_state.exe Normal NT AUTHORITY\NetworkService 0

Ati HotKey Poller Ati HotKey Poller Stopped Manual Own Process c:\windows\system32\ati2evxx.exe Normal LocalSystem 0

Windows Audio AudioSrv Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Background Intelligent Transfer Service BITS Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Computer Browser Browser Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Indexing Service CiSvc Stopped Disabled Share Process c:\windows\system32\cisvc.exe Normal LocalSystem 0

ClipBook ClipSrv Stopped Disabled Own Process c:\windows\system32\clipsrv.exe Normal LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_X86 clr_optimization_v2.0.50727_32 Stopped Manual Own Process c:\windows\microsoft.net\framework\v2.0.50727\mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp Running Manual Own Process c:\windows\system32\dllhost.exe /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235} Normal LocalSystem 0

Cryptographic Services CryptSvc Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch Running Auto Share Process c:\windows\system32\svchost.exe -k dcomlaunch Normal LocalSystem 0

Distributed File System Dfs Stopped Manual Own Process c:\windows\system32\dfssvc.exe Normal LocalSystem 0

DHCP Client Dhcp Stopped Manual Share Process c:\windows\system32\svchost.exe -k networkservice Normal NT AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service dmadmin Stopped Manual Share Process c:\windows\system32\dmadmin.exe /com Normal LocalSystem 0

Logical Disk Managerdmserver Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DNS Client Dnscache Running Auto Share Process c:\windows\system32\svchost.exe -k networkservice Normal NT AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped Manual Share Process c:\windows\system32\svchost.exe -k winerr Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process c:\windows\system32\services.exe Normal LocalSystem 0

COM+ Event System EventSystem Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Help and Support helpsvc Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Human Interface Device Access HidServ Stopped Disabled Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

HTTP SSLHTTPFilter Running Manual Share Process c:\windows\system32\lsass.exe Normal LocalSystem 0

IIS Admin Service IISADMIN Running Auto Share Process c:\windows\system32\inetsrv\inetinfo.exe Normal LocalSystem 0

IMAPI CD-Burning COM Service ImapiService Stopped Disabled Own Process c:\windows\system32\imapi.exe Normal LocalSystem 0

Intersite Messaging IsmServ Stopped Disabled Own Process c:\windows\system32\ismserv.exe Normal LocalSystem 0

Kerberos Key Distribution Center kdc Stopped Disabled Share Process c:\windows\system32\lsass.exe Normal LocalSystem 0

Server lanmanserver Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Workstation lanmanworkstation Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

License Logging LicenseService Stopped Disabled Own Process c:\windows\system32\llssrv.exe Normal NT AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto Share Process c:\windows\system32\svchost.exe -k localservice

```
        Normal      NT AUTHORITY\LocalService  0


Messenger Messenger Stopped     Disabled    Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

NetMeeting Remote Desktop Sharing           mnmsrvc
        Stopped     Disabled    Own Process
        c:\windows\system32\mnmsrvc.exe
        Normal      LocalSystem             0

Distributed Transaction Coordinator         MSDTC
        Running     Auto        Own Process
        c:\windows\system32\msdtc.exe  Normal      NT
AUTHORITY\NetworkService  0

Windows Installer   MSIServer   Stopped     Manual
        Share Process
        c:\windows\system32\msiexec.exe /v
        Normal      LocalSystem             0

Network DDE         NetDDE      Stopped     Disabled
        Share Process
        c:\windows\system32\netdde.exe Normal
        LocalSystem             0

Network DDE DSDM    NetDDEdsdm  Stopped
        Disabled    Share Process
        c:\windows\system32\netdde.exe Normal
        LocalSystem             0

Net Logon Netlogon  Stopped     Manual      Share Process
        c:\windows\system32\lsass.exe   Normal
        LocalSystem             0

Network Connections Netman      Running     Manual
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Network Location Awareness (NLA)            Nla
        Running     Manual      Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

File Replication    NtFrs       Stopped     Manual      Own
Process     c:\windows\system32\ntfrs.exe   Ignore
        LocalSystem             0

NT LM Security Support Provider             NtLmSsp
        Stopped     Manual      Share Process
        c:\windows\system32\lsass.exe   Normal
        LocalSystem             0

Removable Storage   NtmsSvc     Stopped     Manual
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Office Source Engine ose        Stopped     Manual      Own
Process     "c:\program files\common files\microsoft
shared\source engine\ose.exe"   Normal      LocalSystem
        0

Plug and Play       PlugPlay    Running     Auto
        Share Process
        c:\windows\system32\services.exe
        Normal      LocalSystem             0

IPSEC Services      PolicyAgent             Running     Auto
        Share Process
        c:\windows\system32\lsass.exe   Normal
        LocalSystem             0

Protected Storage   ProtectedStorage        Running     Auto
        Share Process
        c:\windows\system32\lsass.exe   Normal
        LocalSystem             0

Remote Access Auto Connection Manager   RasAuto
        Stopped     Manual      Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Remote Access Connection Manager        RasMan
        Stopped     Manual      Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Remote Desktop Help Session Manager     RDSessMgr
        Stopped     Manual      Own Process
        c:\windows\system32\sessmgr.exe
        Normal      LocalSystem             0

Routing and Remote Access   RemoteAccess
        Stopped     Disabled    Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Remote Registry     RemoteRegistry      Running     Auto
        Share Process
        c:\windows\system32\svchost.exe -k regsvc
        Normal      NT AUTHORITY\LocalService  0


Remote Procedure Call (RPC) Locator     RpcLocator
        Stopped     Manual      Own Process
        c:\windows\system32\locator.exe Normal      NT
AUTHORITY\NetworkService  0

Remote Procedure Call (RPC)  RpcSs      Running     Auto
        Share Process
        c:\windows\system32\svchost.exe -k rpcss
        Normal      NT Authority\NetworkService     0


Resultant Set of Policy Provider  RSoPProv  Stopped
        Manual      Share Process
        c:\windows\system32\rsopprov.exe
        Normal      LocalSystem             0

Special Administration Console Helper   sacsvr
        Stopped     Manual      Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Security Accounts Manager   SamSs       Running     Auto
        Share Process
        c:\windows\system32\lsass.exe   Normal
        LocalSystem             0

Smart Card          SCardSvr    Stopped     Manual
        Share Process
        c:\windows\system32\scardsvr.exe
        Ignore      NT AUTHORITY\LocalService  0


Task Scheduler      Schedule    Running     Auto
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Secondary Logon     seclogon    Running     Auto
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Ignore      LocalSystem             0

System Event Notification   SENS        Running     Auto
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0

Windows Firewall/Internet Connection Sharing (ICS)
        SharedAccess        Stopped     Disabled
        Share Process
        c:\windows\system32\svchost.exe -k netsvcs
        Normal      LocalSystem             0
```

Shell Hardware Detection ShellHWDetection
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own
Process c:\windows\system32\spoolsv.exe
Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k imgsvc
Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
Stopped Manual Own Process
c:\windows\system32\svchost.exe -k swprv
Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
Stopped Manual Own Process
c:\windows\system32\smlogsvc.exe
Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
c:\windows\system32\svchost.exe -k tapisrv
Normal LocalSystem 0

Terminal Services TermService Running
Manual Share Process
c:\windows\system32\svchost.exe -k termsvcs
Normal LocalSystem 0

Themes Themes Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Telnet TlntSvr Stopped Disabled Own Process
c:\windows\system32\tlntsvr.exe Normal NT
AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Distributed Link Tracking Client TrkWks Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Terminal Services Session Directory Tssdis
Stopped Disabled Own Process
c:\windows\system32\tssdis.exe Normal
LocalSystem 0

Windows User Mode Driver Framework UMWdf
Stopped Manual Own Process
c:\windows\system32\wdfmgr.exe
Normal NT AUTHORITY\LocalService 0

Upload Manager uploadmgr Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Uninterruptible Power Supply UPS Stopped
Manual Own Process
c:\windows\system32\ups.exe Normal NT
AUTHORITY\LocalService 0

Virtual Disk Service vds Stopped Manual Own
Process c:\windows\system32\vds.exe Normal
LocalSystem 0

Volume Shadow Copy VSS Stopped
Manual Own Process
c:\windows\system32\vssvc.exe Normal
LocalSystem 0

Windows Time W32Time Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

World Wide Web Publishing Service W3SVC
Running Auto Share Process
c:\windows\system32\svchost.exe -k iissvcs
Normal LocalSystem 0

WebClient WebClient Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

WinHTTP Web Proxy Auto-Discovery Service
WinHttpAutoProxySvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Windows Management Instrumentation winmgmt
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Portable Media Serial Number Service WmdmPmSN
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Management Instrumentation Driver Extensions
Wmi Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

WMI Performance Adapter WmiApSrv
Stopped Manual Own Process
c:\windows\system32\wbem\wmiapsrv.exe
Normal LocalSystem 0

Automatic Updates wuauserv Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

[Program Groups]

Group Name Name User Name

Accessories Default User:Accessories
Default User

Accessories\Accessibility Default
User:Accessories\Accessibility Default User

Accessories\Entertainment Default
User:Accessories\Entertainment Default User

Startup Default User:Startup Default User

Accessories All Users:Accessories All Users

Accessories\Accessibility All Users:Accessories\Accessibility All Users

Accessories\Communications All Users:Accessories\Communications All Users

Accessories\Entertainment All Users:Accessories\Entertainment All Users

Accessories\System Tools All Users:Accessories\System Tools All Users

Administrative Tools All Users:Administrative Tools All Users

Microsoft SQL Server 2005 All Users:Microsoft SQL Server 2005 All Users

Microsoft SQL Server 2005\Analysis Services All Users:Microsoft SQL Server 2005\Analysis Services All Users

Microsoft SQL Server 2005\Configuration Tools All Users:Microsoft SQL Server 2005\Configuration Tools All Users

Microsoft SQL Server 2005\Performance Tools All Users:Microsoft SQL Server 2005\Performance Tools All Users

Startup All Users:Startup All Users

Accessories NT AUTHORITY\SYSTEM:Accessories NT AUTHORITY\SYSTEM

Accessories\Accessibility NT AUTHORITY\SYSTEM:Accessories\Accessibility NT AUTHORITY\SYSTEM

Accessories\Entertainment NT AUTHORITY\SYSTEM:Accessories\Entertainment NT AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT AUTHORITY\SYSTEM

Accessories FCLIENT65\Administrator:Accessories FCLIENT65\Administrator

Accessories\Accessibility FCLIENT65\Administrator:Accessories\Accessibility FCLIENT65\Administrator

Accessories\Entertainment FCLIENT65\Administrator:Accessories\Entertainment FCLIENT65\Administrator

Administrative Tools FCLIENT65\Administrator:Administrative Tools FCLIENT65\Administrator

RightMark CPU Clock Utility FCLIENT65\Administrator:RightMark CPU Clock Utility FCLIENT65\Administrator

RightMark Memory Analyzer FCLIENT65\Administrator:RightMark Memory Analyzer FCLIENT65\Administrator

Startup FCLIENT65\Administrator:Startup FCLIENT65\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM Startup

desktop desktop.ini FCLIENT65\Administrator Startup

Shortcut to BMListen shortcut to bmlisten.lnk FCLIENT65\Administrator Startup

Shortcut to synctime shortcut to synctime.lnk FCLIENT65\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clip mplay32.exe /avi

MIDI Sequence mplay32.exe /mid

Sound Not Available

Media Clip Not Available

WordPad Document "%programfiles%\windows nt\accessories\wordpad.exe"

Windows Media Services DRM Storage object Not Available

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time Type Details

[Internet Settings]

[Internet Explorer]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Version 6.0.3790.1830

Build 63790.1830

Application Path C:\Program Files\Internet Explorer

Language English (United States)

Active Printer Not Available

Cipher Strength 128-bit

Content Advisor Disabled

IEAK Install No

[File Versions]

File Version Size Date Path Company

actxprxy.dll 6.0.3790.1830 97 KB 3/24/2005 4:55:26 PM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 98 KB 3/24/2005 4:55:28 PM C:\WINDOWS\system32 Microsoft Corporation

asctrls.ocx 6.0.3790.0 90 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browselc.dll 6.0.3790.0 62 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browseui.dll 6.0.3790.1830 1,009 KB 3/24/2005 4:56:10 PM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 149 KB 3/24/2005 4:56:32 PM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 585 KB 3/24/2005 4:57:56 PM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 205 KB 3/24/2005 5:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 355 KB 3/24/2005 5:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

iecont.dll <File Missing> Not Available Not Available Not Available Not Available

iecontlc.dll <File Missing> Not Available Not Available Not Available Not Available

iedkcs32.dll 16.0.3790.1830 324 KB 3/24/2005 5:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 248 KB 3/24/2005 5:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 61 KB 3/24/2005 5:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/24/2005 5:04:58 PM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 92 KB 3/24/2005 5:04:58 PM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 38 KB 3/24/2005 5:05:04 PM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 358 KB 3/24/2005 5:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

inetcplc.dll 6.0.3790.0 109 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inseng.dll 6.0.3790.1830 94 KB 3/24/2005 5:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 578 KB 3/24/2005 5:07:20 PM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll 2002.10.4.0 112 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 옺로 ŭ뿄 圴

mshta.exe 6.0.3790.1830 30 KB 3/24/2005 5:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 3,036 KB 3/24/2005 5:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/24/2005 5:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 455 KB 3/24/2005 5:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/24/2005 5:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 48 KB 3/24/2005 5:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msidntld.dll 6.0.3790.0 15 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msieftp.dll 6.0.3790.1830 244 KB 3/24/2005 5:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 144 KB 3/24/2005 5:07:36 PM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 523 KB 3/24/2005 5:07:38 PM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 94 KB 3/24/2005 5:08:34 PM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx 6.3.3790.1830 83 KB 3/24/2005 5:12:26 PM C:\WINDOWS\system32 Intel Corporation

sendmail.dll 6.0.3790.1830 56 KB 3/24/2005 5:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shdoclc.dll 6.0.3790.0 589 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shdocvw.dll 6.0.3790.1830 1,468 KB 3/24/2005 5:13:36 PM

C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 25 KB 3/24/2005 5:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 5:13:40 PM C:\WINDOWS\system32 Microsoft Corporation

tdc.ocx 1.3.0.3130 58 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

url.dll 6.0.3790.1830 37 KB 3/24/2005 5:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 5:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 5:26:16 PM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005 5:26:18 PM C:\WINDOWS\system32 Microsoft Corporation

[Connectivity]

Item Value

Connection Preference Never dial

LAN Settings

AutoConfigProxy wininet.dll

AutoProxyDetectMode Disabled

AutoConfigURL

Proxy Disabled

ProxyServer

ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Page Refresh Type Automatic

Temporary Internet Files Folder C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files

Total Disk Space Not Available

Available Disk Space Not Available

Maximum Cache Size Not Available

Available Cache Size Not Available

[List of Objects]

Program File Status CodeBase

No cached object information available

[Content]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Content Advisor Disabled

[Personal Certificates]

Issued To Issued By Validity Signature Algorithm

No personal certificate information available

[Other People Certificates]

Issued To Issued By Validity Signature Algorithm

No other people certificate information available

[Publishers]

Name

No publisher information available

[Security]

Zone Security Level

My Computer Custom

Local intranet Custom

Trusted sites Custom

Internet Custom

Restricted sites Custom

## Client System Information Report for x226 with 3.4GHz Processor

(Measured configuration for 2 of the 16 clients)

System Information report written at: 02/15/07 15:53:36

System Name: FCLIENT80

[System Summary]

Item Value

OS Name Microsoft(R) Windows(R) Server 2003, Standard Edition

Version 5.2.3790 Service Pack 1 Build 3790

Other OS Description Not Available

OS Manufacturer Microsoft Corporation

System Name FCLIENT80

System Manufacturer IBM

System Model IBM eServer x226-[86486AU]-

System Type X86-based PC

Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz

Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz

Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz

Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz

BIOS Version/Date IBM IBM BIOS Version 1.66-[PME166AUS-1.66]-, 4/12/2006

SMBIOS Version 2.33

Windows Directory C:\WINDOWS

System Directory C:\WINDOWS\system32

Boot Device \Device\HarddiskVolume1

Locale United States

Hardware Abstraction Layer Version = "5.2.3790.1830 (srv03_sp1_rtm.050324-1447)"

User Name FCLIENT80\Administrator

Time Zone Eastern Standard Time

Total Physical Memory 2,046.93 MB

Available Physical Memory 1.72 GB

Total Virtual Memory 3.85 GB

Available Virtual Memory 3.74 GB

Page File Space 2.00 GB

Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource Device

I/O Port 0x00000000-0x00000CF7 PCI bus

I/O Port 0x00000000-0x00000CF7 Direct memory access controller

Memory Address 0xD0300000-0xD03FFFFF
Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329

Memory Address 0xD0300000-0xD03FFFFF
Adaptec AIC-7902B - Ultra320 SCSI

I/O Port 0x00002000-0x00004FFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596

I/O Port 0x00002000-0x00004FFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329

I/O Port 0x00002000-0x00004FFF Adaptec AIC-7902B - Ultra320 SCSI

Memory Address 0xD0200000-0xD04FFFFF
Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596

Memory Address 0xD0200000-0xD04FFFFF
Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326

Memory Address 0xD0100000-0xD01FFFFF
Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595

Memory Address 0xD0100000-0xD01FFFFF
Broadcom NetXtreme Gigabit Ethernet #2

Memory Address 0xD0400000-0xD04FFFFF
Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A

Memory Address 0xD0400000-0xD04FFFFF
Intel(R) PRO/1000 MT Dual Port Server Adapter #5

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595

IRQ 16 Broadcom NetXtreme Gigabit Ethernet #2

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596

IRQ 16 Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE

Memory Address 0xA0000-0xBFFFF PCI bus

Memory Address 0xA0000-0xBFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation)

[DMA]

Resource Device Status

Channel 4 Direct memory access controller OK

Channel 2 Standard floppy disk controller OK

Channel 3 ECP Printer Port (LPT1) OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource Device Status

0x00000000-0x00000CF7 PCI bus OK

0x00000000-0x00000CF7 Direct memory access controller OK

0x00000D00-0x0000FFFF PCI bus OK

0x00002000-0x00004FFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

0x00002000-0x00004FFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 OK

0x00002000-0x00004FFF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002400-0x000024FF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002C00-0x00002CFF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002800-0x000028FF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00004000-0x00004FFF Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A OK

0x00001400-0x0000141F Intel(R) 82801EB USB Universal Host Controller - 24D2 OK

0x00001420-0x0000143F Intel(R) 82801EB USB Universal Host Controller - 24D4 OK

0x00001440-0x0000145F Intel(R) 82801EB USB Universal Host Controller - 24D7 OK

0x00001460-0x0000147F Intel(R) 82801EB USB Universal Host Controller - 24DE OK

0x00005000-0x000050FF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x000003B0-0x000003BB RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x000003C0-0x000003DF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x00000A79-0x00000A79 ISAPNP Read Data Port OK

0x00000279-0x00000279 ISAPNP Read Data Port OK

0x00000274-0x00000277 ISAPNP Read Data Port OK

0x00000010-0x0000001F Motherboard resources OK

0x00000024-0x00000025 Motherboard resources OK

0x00000028-0x00000029 Motherboard resources OK

0x0000002C-0x0000002D Motherboard resources OK

0x0000002E-0x0000002F Motherboard resources OK

0x00000030-0x00000031 Motherboard resources OK

0x00000034-0x00000035 Motherboard resources OK

0x00000038-0x00000039 Motherboard resources OK

0x0000003C-0x0000003D Motherboard resources OK

0x00000050-0x00000053 Motherboard resources OK

0x00000072-0x00000077 Motherboard resources OK

0x00000080-0x00000080 Motherboard resources OK

0x00000090-0x0000009F Motherboard resources OK

0x000000A4-0x000000A5 Motherboard resources OK

0x000000A8-0x000000A9 Motherboard resources OK

0x000000AC-0x000000AD Motherboard resources OK

0x000000B0-0x000000B5 Motherboard resources OK

0x000000B8-0x000000B9 Motherboard resources OK

0x000000BC-0x000000BD Motherboard resources OK

0x000004D0-0x000004D1 Motherboard resources OK

0x00000900-0x0000090F Motherboard resources OK

0x00001000-0x0000107F Motherboard resources OK

0x00001180-0x0000118C Motherboard resources OK

0x0000118D-0x0000118D Motherboard resources OK

0x0000118F-0x0000118F Motherboard resources OK

0x00001190-0x000011BF Motherboard resources OK

0x00000800-0x0000082F Motherboard resources OK

0x0000FE00-0x0000FE00 Motherboard resources OK

0x00000081-0x0000008F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x000000F0-0x000000FE Numeric data processor OK

0x00000020-0x00000021 Programmable interrupt controller OK

0x000000A0-0x000000A1 Programmable interrupt controller OK

0x00000070-0x00000071 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x00000040-0x00000043 System timer OK

0x0000118E-0x0000118E OK

0x000003F0-0x000003F5 Standard floppy disk controller OK

0x000003F7-0x000003F7 Standard floppy disk controller OK

0x00000378-0x0000037F ECP Printer Port (LPT1) OK

0x00000778-0x0000077F ECP Printer Port (LPT1) OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x000002F8-0x000002FF Communications Port (COM2) OK

0x00000060-0x00000060 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x00000064-0x00000064 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x000014A0-0x000014AF Intel(R) 82801EB Ultra ATA Storage Controllers OK

0x000001F0-0x000001F7 Primary IDE Channel OK

0x000003F6-0x000003F6 Primary IDE Channel OK

0x00000170-0x00000177 Secondary IDE Channel OK

0x00000376-0x00000376 Secondary IDE Channel OK

0x00001100-0x0000111F Intel(R) 82801EB SMBus Controller - 24D3 OK

[IRQs]

Resource Device Status

IRQ 9 Microsoft ACPI-Compliant System OK

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 OK

IRQ 16 Broadcom NetXtreme Gigabit Ethernet #2 OK

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

IRQ 16 Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE OK

IRQ 28 Intel(R) PRO/1000 MT Dual Port Server Adapter #7 OK

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #8 OK

IRQ 30 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 31 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 48 Intel(R) PRO/1000 MT Dual Port Server Adapter #5 OK

IRQ 49 Intel(R) PRO/1000 MT Dual Port Server Adapter #6 OK

IRQ 19 Intel(R) 82801EB USB Universal Host Controller - 24D4 OK

IRQ 18 Intel(R) 82801EB USB Universal Host Controller - 24D7 OK

IRQ 23 Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

IRQ 22 RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

IRQ 13 Numeric data processor OK

IRQ 8 System CMOS/real time clock OK

IRQ 0 System timer OK

IRQ 6 Standard floppy disk controller OK

IRQ 4 Communications Port (COM1) OK

IRQ 3 Communications Port (COM2) OK

IRQ 12 PS/2 Compatible Mouse OK

IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

IRQ 14 Primary IDE Channel OK

IRQ 15 Secondary IDE Channel OK

IRQ 10 Intel(R) 82801EB SMBus Controller - 24D3 OK

[Memory]

Resource Device Status

0xA0000-0xBFFFF PCI bus OK

0xA0000-0xBFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xD8000-0xDBFFF PCI bus OK

0xDC000-0xDFFFF PCI bus OK

0x80000000-0xFEBFFFFF PCI bus OK

0xD0100000-0xD01FFFFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 OK

0xD0100000-0xD01FFFFF Broadcom NetXtreme Gigabit Ethernet #2 OK

0xD0200000-0xD04FFFFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

0xD0200000-0xD04FFFFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 OK

0xD0300000-0xD03FFFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 OK

0xD0300000-0xD03FFFFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0320000-0xD033FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #7 OK

0xD0340000-0xD037FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #7 OK

0xD0380000-0xD039FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #8 OK

0xD0302000-0xD0303FFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0400000-0xD04FFFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A OK

0xD0400000-0xD04FFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #5 OK

0xD0440000-0xD045FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #5 OK

0xD0460000-0xD047FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #6 OK

0xD0201000-0xD0201FFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 OK

0xD0000000-0xD00003FF Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

0xD8000000-0xDFFFFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xD0500000-0xD050FFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xE0000000-0xEFFFFFFF Motherboard resources OK

0xFEE00000-0xFEE0FFFF Motherboard resources OK

0xFEC81000-0xFEC81FFF Motherboard resources OK

0xFEC81400-0xFEC823FF Motherboard resources OK

0xFEBFFC00-0xFEBFFFFF Intel(R) 82801EB Ultra ATA Storage Controllers OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\msaud32.acm Microsoft Corporation Windows Media Audio Codec OK C:\WINDOWS\system32\MSAUD32.ACM 8.00.00.4487 288.00 KB (294,912 bytes) 3/25/2003 7:00 AM

c:\windows\system32\sl_anet.acm Sipro Lab Telecom Inc. Sipro Lab Telecom Audio Codec OK C:\WINDOWS\system32\SL_ANET.ACM 3.02 84.00 KB (86,016 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg711.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG711.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 10.00 KB (10,240 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msgsm32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSGSM32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg723.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG723.ACM 5.2.3790.1830 120.00 KB (122,880 bytes) 3/6/2006 5:23 PM

c:\windows\system32\imaadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\IMAADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM

c:\windows\system32\tssoft32.acm DSP GROUP, INC. OK C:\WINDOWS\system32\TSSOFT32.ACM 1.01 9.50 KB (9,728 bytes) 3/25/2003 7:00 AM

c:\windows\system32\l3codeca.acm Fraunhofer Institut Integrierte Schaltungen IIS Fraunhofer IIS MPEG Layer-3 CodecOK C:\WINDOWS\system32\L3CODECA.ACM 1, 9, 0, 0305 284.00 KB (290,816 bytes) 3/25/2003 7:00 AM

[Video Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\msh261.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH261.DRV 5.2.3790.1830 184.00 KB (188,416 bytes) 3/6/2006 5:23 PM

c:\windows\system32\msrle32.dll Microsoft Corporation OK C:\WINDOWS\system32\MSRLE32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 10.50 KB (10,752 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\MSYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 16.50 KB (16,896 bytes) 3/24/2003 8:49 PM

c:\windows\system32\iyuv_32.dll Microsoft Corporation OK C:\WINDOWS\system32\IYUV_32.DLL 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:23 PM

c:\windows\system32\tsbyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\TSBYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/24/2003 8:50 PM

c:\windows\system32\msvidc32.dll Microsoft Corporation OK C:\WINDOWS\system32\MSVIDC32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 26.50 KB (27,136 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msh263.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH263.DRV 5.2.3790.1830 288.00 KB (294,912 bytes) 3/6/2006 5:23 PM

[CD-ROM]

Item Value

Drive D:

Description CD-ROM Drive

Media Loaded No

Media Type CD-ROM

Name HL-DT-ST CD-ROM GCR-8482B

Manufacturer (Standard CD-ROM drives)

Status OK

Transfer Rate Not Available

SCSI Target ID 0

PNP Device ID IDE\CDROMHL-DT-ST_CD-ROM_GCR-8482B_____1.06____\5&25B98AF5&0&0.0.0

Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 51.00 KB (52,224 bytes), 3/25/2003 7:00 AM)

[Sound Device]

Item Value

[Display]

Item Value

Name RADEON 7000 RADEON VE Family (Microsoft Corporation)

PNP Device ID PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0

Adapter Type Radeon 7000 (QY), ATI Technologies Inc. compatible

Adapter Description RADEON 7000 RADEON VE Family (Microsoft Corporation)

Adapter RAM 16.00 MB (16,777,216 bytes)

Installed Drivers ati2dvag.dll

Driver Version 5.1.2600.0

INF File atiixpag.inf (ati2mtag_RV100 section)

Color Planes 1

Color Table Entries 4294967296

Resolution 1024 x 768 x 75 hertz

Bits/Pixel 32

Memory Address 0xD8000000-0xDFFFFFFF

I/O Port 0x00005000-0x000050FF

Memory Address 0xD0500000-0xD050FFFF

IRQ Channel IRQ 22

I/O Port 0x000003B0-0x000003BB

I/O Port 0x000003C0-0x000003DF

Memory Address 0xA0000-0xBFFFF

Driver c:\windows\system32\drivers\ati2mtag.sys (6.13.10.6153, 439.63 KB (450,176 bytes), 3/1/2006 8:25 AM)

[Infrared]

Item Value

[Input]

[Keyboard]

Item Value

Description Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID ACPI\PNP0303\5&9583612&0

Number of Function Keys 12

I/O Port 0x00000060-0x00000060

I/O Port 0x00000064-0x00000064

IRQ Channel IRQ 1

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value

Hardware Type PS/2 Compatible Mouse

Number of Buttons 3

Status OK

PNP Device ID ACPI\PNP0F13\5&9583612&0

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

IRQ Channel IRQ 12

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value

Name [00000001] RAS Async Adapter

Adapter Type Not Available

Product Type RAS Async Adapter

Installed Yes

PNP Device ID Not Available
Last Reset 2/15/2007 11:05 AM
Index 1
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000002] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 2
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\rasl2tp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 66.00 KB (67,584 bytes), 3/25/2003 7:00 AM)

Name [00000003] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes
PNP Device ID ROOT\MS_PPTPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 3
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30
Driver c:\windows\system32\drivers\raspptp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 61.00 KB (62,464 bytes), 3/25/2003 7:00 AM)

Name [00000004] WAN Miniport (PPPOE)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPPOE)
Installed Yes
PNP Device ID ROOT\MS_PPPOEMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 4
Service Name RasPppoe
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 33:50:6F:45:30:30
Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 40.00 KB (40,960 bytes), 3/25/2003 7:00 AM)

Name [00000005] Direct Parallel
Adapter Type Not Available
Product Type Direct Parallel
Installed Yes
PNP Device ID ROOT\MS_PTIMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 5
Service Name Raspti
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\raspti.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 19.50 KB (19,968 bytes), 3/25/2003 7:00 AM)

Name [00000006] WAN Miniport (IP)
Adapter Type Not Available
Product Type WAN Miniport (IP)
Installed Yes
PNP Device ID ROOT\MS_NDISWANIP\0000
Last Reset 2/15/2007 11:05 AM
Index 6

Service Name NdisWan

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB (93,184 bytes), 3/25/2003 7:00 AM)

Name [00000007] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Not Available

Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 7

Service Name b57w2k

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000008] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Not Available

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 8

Service Name E1000

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000009] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Not Available

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 9

Service Name E1000

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000010] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Not Available

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 10

Service Name E1000

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000011] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Not Available

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID Not Available

Last Reset 2/15/2007 11:05 AM

Index 11

Service Name E1000

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000012] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Ethernet 802.3

Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes

PNP Device ID PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_11\4&4773D89&0&0010

Last Reset 2/15/2007 11:05 AM

Index 12

Service Name b57w2k

IP Address 192.168.40.80

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0D:60:16:89:B9

Memory Address 0xD0100000-0xD01FFFFF

IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\b57xp32.sys (8.48.0.0 built by: WinDDK, 139.38 KB (142,720 bytes), 10/26/2005 11:01 AM)

Name [00000013] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&2199E002&0&080218

Last Reset 2/15/2007 11:05 AM

Index 13

Service Name E1000

IP Address 192.168.180.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:35:7E:C4

Memory Address 0xD0440000-0xD045FFFF

Memory Address 0xD0400000-0xD04FFFFF

IRQ Channel IRQ 48

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000014] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&2199E002&0&090218

Last Reset 2/15/2007 11:05 AM

Index 14

Service Name E1000

IP Address 192.168.181.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:35:7E:C5

Memory Address 0xD0460000-0xD047FFFF

IRQ Channel IRQ 49

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000015] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&D4388E4&0&080018

Last Reset 2/15/2007 11:05 AM

Index 15

Service Name E1000

IP Address 192.168.182.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:36:7A:B4

Memory Address 0xD0320000-0xD033FFFF

Memory Address 0xD0340000-0xD037FFFF

IRQ Channel IRQ 28

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000016] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Ethernet 802.3
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&D4388E4&0&090018
Last Reset 2/15/2007 11:05 AM
Index 16
Service Name E1000
IP Address 10.0.1.80
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:0E:0C:36:7A:B5
Memory Address 0xD0380000-0xD039FFFF
IRQ Channel IRQ 29
Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

[Protocol]

Item Value
Name MSAFD Tcpip [TCP/IP]
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data Yes
Supports Graceful Closing Yes
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD Tcpip [UDP/IP]
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP UDP Service Provider
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data Yes
Supports Graceful Closing Yes

Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E3F3C1E2-52D5-4E5E-84D3-58D1178611B2}] SEQPACKET 11
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E3F3C1E2-52D5-4E5E-84D3-58D1178611B2}] DATAGRAM 11
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{72A1803A-F682-42E4-9D63-D571832AAA06}] SEQPACKET 10
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{72A1803A-F682-42E4-9D63-D571832AAA06}] DATAGRAM 10
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{931F256B-2856-4FBE-96D3-69C56D824E72}] SEQPACKET 9
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No

Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{931F256B-2856-4FBE-96D3-69C56D824E72}] DATAGRAM 9
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{16A8B85E-4293-419B-9F94-8797249A48DA}] SEQPACKET 8
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{16A8B85E-4293-419B-9F94-8797249A48DA}] DATAGRAM 8
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{32FD5DB8-3517-424E-BD77-14043C718FB7}] SEQPACKET 7
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{32FD5DB8-3517-424E-BD77-14043C718FB7}] DATAGRAM 7
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No

Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] SEQPACKET 6
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] DATAGRAM 6
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] SEQPACKET 5
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] DATAGRAM 5
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] SEQPACKET 4
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No

Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] DATAGRAM 4
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] SEQPACKET 3
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] DATAGRAM 3
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] SEQPACKET 0
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] DATAGRAM 0
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No

Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] SEQPACKET 1
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] DATAGRAM 1
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] SEQPACKET 2
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] DATAGRAM 2
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

[WinSock]

Item Value
File c:\windows\system32\winsock.dll
Size 2.80 KB (2,864 bytes)
Version 3.10

File c:\windows\system32\wsock32.dll
Size 22.00 KB (22,528 bytes)
Version 5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item Value
Name Communications Port (COM1)
Status OK
PNP Device ID ACPI\PNP0501\1
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000003F8-0x000003FF
IRQ Channel IRQ 4
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

Name Communications Port (COM2)
Status OK
PNP Device ID ACPI\PNP0501\2
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000002F8-0x000002FF
IRQ Channel IRQ 3
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

[Parallel]

Item Value
Name LPT1
PNP Device ID ACPI\PNP0401\5&9583612&0
I/O Port 0x00000378-0x0000037F
I/O Port 0x00000778-0x0000077F
DMA Channel Channel 3

Driver c:\windows\system32\drivers\parport.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 79.50 KB (81,408 bytes), 3/24/2003 6:04 PM)

[Storage]

[Drives]

Item Value
Drive A:
Description 3 1/2 Inch Floppy Drive

Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.90 GB (36,396,830,720 bytes)
Free Space 25.37 GB (27,239,362,560 bytes)
Volume Name
Volume Serial Number ECA3EB0F

Drive D:
Description CD-ROM Disc

[Disks]

Item Value
Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS ST336753LC FN SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 3
SCSI Target ID 2
Sectors/Track 63
Size 33.90 GB (36,396,864,000 bytes)
Total Cylinders 4,425
Total Sectors 71,087,625
Total Tracks 1,128,375
Tracks/Cylinder 255
Partition Disk #0, Partition #0
Partition Size 33.90 GB (36,396,831,744 bytes)
Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
Name Adaptec AIC-7902B - Ultra320 SCSI
Manufacturer Adaptec
Status OK
PNP Device ID PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&D4388E4&0&180018
I/O Port 0x00002400-0x000024FF
Memory Address 0xD0300000-0xD03FFFFF
I/O Port 0x00002000-0x00004FFF
IRQ Channel IRQ 30
Driver c:\windows\system32\drivers\adpu320.sys (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes), 3/1/2006 8:18 AM)

Name Adaptec AIC-7902B - Ultra320 SCSI
Manufacturer Adaptec
Status OK
PNP Device ID PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&D4388E4&0&190018
I/O Port 0x00002C00-0x00002CFF
Memory Address 0xD0302000-0xD0303FFF
I/O Port 0x00002800-0x000028FF
IRQ Channel IRQ 31
Driver c:\windows\system32\drivers\adpu320.sys (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes), 3/1/2006 8:18 AM)

[IDE]

Item Value
Name Intel(R) 82801EB Ultra ATA Storage Controllers

Manufacturer Intel
Status OK
PNP Device ID PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1014&REV_02\3&61AAA01&0&F9
I/O Port 0x000014A0-0x000014AF
Memory Address 0xFEBFFC00-0xFEBFFFFF
Driver c:\windows\system32\drivers\pciide.sys (5.2.3790.0 (srv03_rtm.030324-2048), 5.50 KB (5,632 bytes), 3/6/2006 4:43 PM)

Name Primary IDE Channel
Manufacturer (Standard IDE ATA/ATAPI controllers)
Status OK
PNP Device ID PCIIDE\IDECHANNEL\4&2FA43749&0&0

I/O Port 0x000001F0-0x000001F7

I/O Port 0x000003F6-0x000003F6

IRQ Channel IRQ 14

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB (95,744 bytes), 3/6/2006 4:43 PM)

Name Secondary IDE Channel

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&2FA43749&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

IRQ Channel IRQ 15

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB (95,744 bytes), 3/6/2006 4:43 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

Not Available ACPI\ASF0001\2&DABA3FF&0
The drivers for this device are not installed.

Not Available ACPI\IBM3737\4&369939D9&0
The drivers for this device are not installed.

[USB]

Device PNP Device ID

Intel(R) 82801EB USB Universal Host Controller - 24D2
PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E8

Intel(R) 82801EB USB Universal Host Controller - 24D4
PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E9

Intel(R) 82801EB USB Universal Host Controller - 24D7
PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EA

Intel(R) 82801EB USB Universal Host Controller - 24DE
PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EB

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD
PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EF

[Software Environment]

[System Drivers]

Name Description File Type
Started Start Mode State Status Error
Control Accept Pause Accept Stop

abiosdsk Abiosdsk Not Available Kernel Driver
No Disabled Stopped OK
Ignore No No

acpi Microsoft ACPI Driver
c:\windows\system32\drivers\acpi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

acpiec ACPIEC
c:\windows\system32\drivers\acpiec.sys
Kernel Driver No Disabled
Stopped OK Normal No No

adpu160m adpu160m Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

adpu320 adpu320
c:\windows\system32\drivers\adpu320.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

afcnt afcnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

afd AFD Networking Support Environment
c:\windows\system32\drivers\afd.sys
Kernel Driver Yes System
Running OK Normal No Yes

aha154x Aha154x Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aic78u2 aic78u2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aic78xx aic78xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

aliide AliIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

asyncmac RAS Asynchronous Media Driver
c:\windows\system32\drivers\asyncmac.sys
Kernel Driver No Manual
Stopped OK Normal No No

atapi Standard IDE/ESDI Hard Disk Controller
c:\windows\system32\drivers\atapi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

atdisk Atdisk Not Available Kernel Driver
No Disabled Stopped OK
Ignore No No

ati2mtag ati2mtag
c:\windows\system32\drivers\ati2mtag.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

atmarpc ATM ARP Client Protocol
c:\windows\system32\drivers\atmarpc.sys
Kernel Driver No Manual
Stopped OK Normal No No

audstub Audio Stub Driver
c:\windows\system32\drivers\audstub.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

b57w2k Broadcom NetXtreme Gigabit Ethernet
c:\windows\system32\drivers\b57xp32.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

beep Beep c:\windows\system32\drivers\beep.sys
Kernel Driver Yes System
Running OK Normal No Yes

cbidf2k cbidf2k
c:\windows\system32\drivers\cbidf2k.sys
Kernel Driver No Disabled
Stopped OK Normal No No

cd20xrnt cd20xrnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cdfs Cdfs c:\windows\system32\drivers\cdfs.sys
File System Driver Yes Disabled
Running OK Normal No Yes

cdrom CD-ROM Driver
c:\windows\system32\drivers\cdrom.sys
Kernel Driver Yes System
Running OK Normal No Yes

changer Changer Not Available Kernel Driver
No System Stopped OK
Ignore No No

clusdisk Cluster Disk Driver
c:\windows\system32\drivers\clusdisk.sys
Kernel Driver No Disabled
Stopped OK Normal No No

cmdide CmdIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqarray Cpqarray Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqarry2 cpqarry2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqcissm cpqcissm Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

cpqfcalm cpqfcalm Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

crcdisk CRC Disk Filter Driver
c:\windows\system32\drivers\crcdisk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dac960nt dac960nt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

dellcerc dellcerc Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

dfsdriver DfsDriver c:\windows\system32\drivers\dfs.sys
File System Driver Yes Boot
Running OK Normal No Yes

disk Disk Driver
c:\windows\system32\drivers\disk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmboot dmboot
c:\windows\system32\drivers\dmboot.sys
Kernel Driver No Disabled
Stopped OK Normal No No

dmio Logical Disk Manager Driver
c:\windows\system32\drivers\dmio.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmload dmload
c:\windows\system32\drivers\dmload.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dpti2o dpti2o Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

e1000 Intel(R) PRO/1000 Network Connection Driver
c:\windows\system32\drivers\e1000325.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fastfat Fastfat
c:\windows\system32\drivers\fastfat.sys File
System Driver No Disabled Stopped OK
Normal No No

fdc Floppy Disk Controller Driver
c:\windows\system32\drivers\fdc.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fips Fips c:\windows\system32\drivers\fips.sys
Kernel Driver Yes System
Running OK Normal No Yes

flpydisk Floppy Disk Driver
c:\windows\system32\drivers\flpydisk.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fltmgr FltMgr
c:\windows\system32\drivers\fltmgr.sys File
System Driver Yes Boot Running OK
Normal No Yes

ftdisk Volume Manager Driver
c:\windows\system32\drivers\ftdisk.sys
Kernel Driver Yes Boot

```
        Running  OK       Normal  No      Yes

gpc     Generic Packet Classifier
        c:\windows\system32\drivers\msgpc.sys
        Kernel Driver    Yes     Manual
        Running  OK       Normal  No      Yes

hpn     hpn     Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

hpt3xx  hpt3xx  Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

http    HTTP    c:\windows\system32\drivers\http.sys
        Kernel Driver    Yes     Manual
        Running  OK       Normal  No      Yes

i2omgmt i2omgmt Not Available    Kernel Driver
        No      System   Stopped  OK
        Normal  No       No

i2omp   i2omp   Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

i8042prt i8042 Keyboard and PS/2 Mouse Port Driver
        c:\windows\system32\drivers\i8042prt.sys
        Kernel Driver    Yes     System
        Running  OK       Normal  No      Yes

iirsp   iirsp   Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

imapi   CD-Burning Filter Driver
        c:\windows\system32\drivers\imapi.sys
        Kernel Driver    No      System
        Stopped  OK       Normal  No      No

intelide IntelIde
        c:\windows\system32\drivers\intelide.sys
        Kernel Driver    Yes     Boot
        Running  OK       Normal  No      Yes

intelppm Intel Processor Driver
        c:\windows\system32\drivers\intelppm.sys
        Kernel Driver    Yes     Manual
        Running  OK       Normal  No      Yes

ip6fw   IPv6 Windows Firewall Driver
        c:\windows\system32\drivers\ip6fw.sys
        Kernel Driver    No      Manual
        Stopped  OK       Normal  No      No

ipfilterdriver  IP Traffic Filter Driver
        c:\windows\system32\drivers\ipfltdrv.sys
        Kernel Driver    No      Manual
        Stopped  OK       Normal  No      No

ipinip  IP in IP Tunnel Driver
        c:\windows\system32\drivers\ipinip.sys
        Kernel Driver    No      Disabled
        Stopped  OK       Normal  No      No

ipnat   IP Network Address Translator
        c:\windows\system32\drivers\ipnat.sys
        Kernel Driver    No      Manual
        Stopped  OK       Normal  No      No

ipsec   IPSEC driver
        c:\windows\system32\drivers\ipsec.sys
        Kernel Driver    Yes     System
        Running  OK       Normal  No      Yes

ipsraidn ipsraidn Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

irenum  IR Enumerator Service
        c:\windows\system32\drivers\irenum.sys
        Kernel Driver    No      Manual
        Stopped  OK       Normal  No      No

isapnp  PnP ISA/EISA Bus Driver
        c:\windows\system32\drivers\isapnp.sys
        Kernel Driver    Yes     Boot
        Running  OK       Critical No     Yes

kbdclass Keyboard Class Driver
        c:\windows\system32\drivers\kbdclass.sys
        Kernel Driver    Yes     System
        Running  OK       Normal  No      Yes

ksecdd  KSecDD
        c:\windows\system32\drivers\ksecdd.sys
        Kernel Driver    Yes     Boot
        Running  OK       Normal  No      Yes

lp6nds35 lp6nds35 Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

mnmdd   mnmdd
        c:\windows\system32\drivers\mnmdd.sys
        Kernel Driver    Yes     System
        Running  OK       Ignore  No      Yes

modem   Modem
        c:\windows\system32\drivers\modem.sys
        Kernel Driver    No      Manual
        Stopped  OK       Ignore  No      No

mouclass Mouse Class Driver
        c:\windows\system32\drivers\mouclass.sys
        Kernel Driver    Yes     System
        Running  OK       Normal  No      Yes

mountmgr Mount Point Manager
        c:\windows\system32\drivers\mountmgr.sys
        Kernel Driver    Yes     Boot
        Running  OK       Normal  No      Yes

mraid35x mraid35x Not Available    Kernel Driver
        No      Disabled Stopped  OK
        Normal  No       No

mrxdav  WebDav Client Redirector
        c:\windows\system32\drivers\mrxdav.sys  File
System Driver    No      Manual   Stopped  OK
        Normal  No       No

mrxsmb  MRXSMB
        c:\windows\system32\drivers\mrxsmb.sys  File
System Driver    Yes     System   Running  OK
        Normal  No       Yes
```

```
msfs        Msfs        c:\windows\system32\drivers\msfs.sys
            File System Driver    Yes         System
            Running   OK          Normal      No          Yes

mssmbios    Microsoft System Management BIOS Driver
            c:\windows\system32\drivers\mssmbios.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

mup         Mup         c:\windows\system32\drivers\mup.sys
            File System Driver    Yes         Boot
            Running   OK          Normal      No          Yes

nal         Nal Service
            \??\c:\windows\system32\drivers\iqvw32.sys
            Kernel Driver         No          Manual
            Stopped   OK          Normal      No          No

ndis        NDIS System Driver
            c:\windows\system32\drivers\ndis.sys
            Kernel Driver         Yes         Boot
            Running   OK          Normal      No          Yes

ndistapi    Remote Access NDIS TAPI Driver
            c:\windows\system32\drivers\ndistapi.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

ndisuio     NDIS Usermode I/O Protocol
            c:\windows\system32\drivers\ndisuio.sys
            Kernel Driver         No          Manual
            Stopped   OK          Normal      No          No

ndiswan     Remote Access NDIS WAN Driver
            c:\windows\system32\drivers\ndiswan.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

ndproxy     NDIS Proxy
            c:\windows\system32\drivers\ndproxy.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

netbios     NetBIOS Interface
            c:\windows\system32\drivers\netbios.sys    File
System Driver         Yes         System      Running     OK
            Normal    No          Yes

netbt       NetBios over Tcpip
            c:\windows\system32\drivers\netbt.sys
            Kernel Driver         Yes         System
            Running   OK          Normal      No          Yes

nfrd960     nfrd960     Not Available         Kernel Driver
            No          Disabled  Stopped     OK
            Normal      No        No

npfs        Npfs        c:\windows\system32\drivers\npfs.sys
            File System Driver    Yes         System
            Running   OK          Normal      No          Yes

ntfs        Ntfs        c:\windows\system32\drivers\ntfs.sys
            File System Driver    Yes         Disabled
            Running   OK          Normal      No          Yes

null        Null        c:\windows\system32\drivers\null.sys
            Kernel Driver         Yes         System
            Running   OK          Normal      No          Yes

parport     Parallel port driver
            c:\windows\system32\drivers\parport.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

partmgr     Partition Manager
            c:\windows\system32\drivers\partmgr.sys
            Kernel Driver         Yes         Boot
            Running   OK          Normal      No          Yes

parvdm      Parvdm
            c:\windows\system32\drivers\parvdm.sys
            Kernel Driver         Yes         Auto
            Running   OK          Ignore      No          Yes

pci         PCI Bus Driver
            c:\windows\system32\drivers\pci.sys
            Kernel Driver         Yes         Boot
            Running   OK          Critical    No          Yes

pciide      PCIIde
            c:\windows\system32\drivers\pciide.sys
            Kernel Driver         Yes         Boot
            Running   OK          Normal      No          Yes

pcmcia      Pcmcia
            c:\windows\system32\drivers\pcmcia.sys
            Kernel Driver         No          Disabled
            Stopped   OK          Normal      No          No

pdcomp      PDCOMP      Not Available         Kernel Driver
            No          Manual    Stopped     OK
            Ignore      No        No

pdframe     PDFRAME                 Not Available
            Kernel Driver           No          Manual
            Stopped   OK            Ignore      No          No

pdreli      PDRELI      Not Available         Kernel Driver
            No          Manual    Stopped     OK
            Ignore      No        No

pdrframe    PDRFRAME                Not Available
            Kernel Driver           No          Manual
            Stopped   OK            Ignore      No          No

perc2       perc2       Not Available         Kernel Driver
            No          Disabled  Stopped     OK
            Normal      No        No

perc2hib    perc2hib    Not Available         Kernel Driver
            No          Disabled  Stopped     OK
            Normal      No        No

pptpminiport            WAN Miniport (PPTP)
            c:\windows\system32\drivers\raspptp.sys
            Kernel Driver         Yes         Manual
            Running   OK          Normal      No          Yes

processor   Processor Driver
            c:\windows\system32\drivers\processr.sys
            Kernel Driver         No          Manual
            Stopped   OK          Normal      No          No
```

ptilink Direct Parallel Link Driver
c:\windows\system32\drivers\ptilink.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ql1080 ql1080 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql10wnt Ql10wnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql12160 ql12160 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1240 ql1240 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1280 ql1280 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2100 ql2100 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2200 ql2200 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2300 ql2300 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

rasacd Remote Access Auto Connection Driver
c:\windows\system32\drivers\rasacd.sys
Kernel Driver Yes System
Running OK Normal No Yes

rasl2tp WAN Miniport (L2TP)
c:\windows\system32\drivers\rasl2tp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspppoe Remote Access PPPOE Driver
c:\windows\system32\drivers\raspppoe.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspti Direct Parallel
c:\windows\system32\drivers\raspti.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdbss Rdbss c:\windows\system32\drivers\rdbss.sys
File System Driver Yes System
Running OK Normal No Yes

rdpcdd RDPCDD
c:\windows\system32\drivers\rdpcdd.sys
Kernel Driver Yes System
Running OK Ignore No Yes

rdpdr Terminal Server Device Redirector Driver
c:\windows\system32\drivers\rdpdr.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdpwd RDPWD
c:\windows\system32\drivers\rdpwd.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

redbook Digital CD Audio Playback Filter Driver
c:\windows\system32\drivers\redbook.sys
Kernel Driver Yes System
Running OK Normal No Yes

serenum Serenum Filter Driver
c:\windows\system32\drivers\serenum.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

serial Serial port driver
c:\windows\system32\drivers\serial.sys
Kernel Driver Yes System
Running OK Ignore No Yes

sfloppy Sfloppy
c:\windows\system32\drivers\sfloppy.sys
Kernel Driver No System
Stopped OK Ignore No No

simbad Simbad Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sparrow Sparrow Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

srv Srv c:\windows\system32\drivers\srv.sys
File System Driver Yes Manual
Running OK Normal No Yes

swenum Software Bus Driver
c:\windows\system32\drivers\swenum.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

symc810 symc810 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

symc8xx symc8xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

symmpi symmpi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_hi sym_hi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_u3 sym_u3 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

tcpip TCP/IP Protocol Driver
c:\windows\system32\drivers\tcpip.sys
Kernel Driver Yes System
Running OK Normal No Yes

tdpipe TDPIPE
c:\windows\system32\drivers\tdpipe.sys
Kernel Driver No Manual

Stopped OK Ignore No No

tdtcp TDTCP c:\windows\system32\drivers\tdtcp.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

termdd Terminal Device Driver
c:\windows\system32\drivers\termdd.sys
Kernel Driver Yes System
Running OK Normal No Yes

toside TosIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

udfs Udfs c:\windows\system32\drivers\udfs.sys
File System Driver No Disabled
Stopped OK Normal No No

ultra ultra Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

update Microcode Update Driver
c:\windows\system32\drivers\update.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver
c:\windows\system32\drivers\usbehci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbhub USB2 Enabled Hub
c:\windows\system32\drivers\usbhub.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbstor USB Mass Storage Driver
c:\windows\system32\drivers\usbstor.sys
Kernel Driver No Manual
Stopped OK Normal No No

usbuhci Microsoft USB Universal Host Controller Miniport Driver
c:\windows\system32\drivers\usbuhci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

vgasave VGA Display Controller.
c:\windows\system32\drivers\vga.sys
Kernel Driver Yes System
Running OK Ignore No Yes

viaide ViaIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

volsnap Storage volumes
c:\windows\system32\drivers\volsnap.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

wanarp Remote Access IP ARP Driver
c:\windows\system32\drivers\wanarp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

wdica WDICA Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

wlbs Network Load Balancing
c:\windows\system32\drivers\wlbs.sys
Kernel Driver No Manual
Stopped OK Normal No No

[Signed Drivers]

Device Name Signed Device Class
Driver Version Driver Date
Manufacturer INF Name Driver Name
Device ID

Microsoft System Management BIOS Driver Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0002

Microcode Update Device Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\SYSTEM\0001

Plug and Play Software Device Enumerator Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
ROOT\SYSTEM\0000

Terminal Server Mouse Driver Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\RDP_MOU\0000

Terminal Server Keyboard Driver Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
ROOT\RDP_KBD\0000

Terminal Server Device Redirector Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
ROOT\RDPDR\0000

Direct Parallel Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_PTIMINIPORT\0000

WAN Miniport (PPTP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not Available ROOT\MS_PPTPMINIPORT\0000

WAN Miniport (PPPOE) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not Available ROOT\MS_PPPOEMINIPORT\0000

WAN Miniport (IP) Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not Available ROOT\MS_L2TPMINIPORT\0000

Video Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)

wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio Drivers Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_WANARP\0000

volsnap Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_VOLSNAP\0000

VGA Display Controller. Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_VGASAVE\0000

TDTCP Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_TDTCP\0000

TCP/IP Protocol Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_TCPIP\0000

RDPWD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPWD\0000

RDPCDD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPCDD\0000

Remote Access Auto Connection Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RASACD\0000

Parvdm Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_PARVDM\0000

Partition Manager Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_PARTMGR\0000

Null Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NULL\0000

NetBios over Tcpip Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NETBT\0000

NDProxy Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NDPROXY\0000

NDIS Usermode I/O Protocol Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDIS\0000

Nal Service Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NAL\0000

mountmgr Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_MOUNTMGR\0000

mnmdd Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_MNMDD\0000

ksecdd Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_KSECDD\0000

IPSEC driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_IPSEC\0000

IntelIde Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_INTELIDE\0000

HTTP Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_HTTP\0000

Generic Packet Classifier Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_GPC\0000

Fips Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_FIPS\0000

dmload Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_DMLOAD\0000

dmboot Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_DMBOOT\0000

CRC Disk Filter Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_CRCDISK\0000

Beep Not Available LEGACYDRIVER Not
Available Not Available Not Available Not

Available Not Available
ROOT\LEGACY_BEEP\0000

AFD Networking Support Environment Not Available
LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available Not Available
ROOT\LEGACY_AFD\0000

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURED2C3D2C3OFFSET7E00LENGTH8796B9400

Volume Manager Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\FTDISK\0000

Logical Disk ManagerYes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\DMIO\0000

ACPI Fixed Feature Button Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\FIXEDBUTTON\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C0C\3&61AAA01&0

Intel(R) 82801EB SMBus Controller - 24D3 Yes
SYSTEM 5.1.0.1009 3/25/2004 Intel
ich5core.inf Not Available
PCI\VEN_8086&DEV_24D3&SUBSYS_02ED1014&REV_02\3&61AAA01&0&FB

Secondary IDE Channel Yes HDC
5.2.3790.0 10/1/2002 (Standard IDE ATA/ATAPI controllers)
mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&2FA43749&0&1

CD-ROM Drive Yes CDROM 5.2.3790.0
10/1/2002 (Standard CD-ROM drives)
cdrom.inf Not Available
IDE\CDROMHL-DT-ST_CD-ROM_GCR-8482B_____1.06____\5&25B98AF5&0&0.0.0

Primary IDE Channel Yes HDC 5.2.3790.0
10/1/2002 (Standard IDE ATA/ATAPI controllers)
mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&2FA43749&0&0

Intel(R) 82801EB Ultra ATA Storage Controllers Yes
HDC 5.1.0.1009 3/25/2004 Intel
ich5ide.inf Not Available
PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1014&REV_02\3&61AAA01&0&F9

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
Yes KEYBOARD 5.2.3790.0
10/1/2002 (Standard keyboards) keyboard.inf
Not Available
ACPI\PNP0303\5&9583612&0

PS/2 Compatible Mouse Yes MOUSE
5.2.3790.0 10/1/2002 Microsoft msmouse.inf
Not Available
ACPI\PNP0F13\5&9583612&0

Communications Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\2

Communications Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\1

Printer Port Logical Interface Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
LPTENUM\MICROSOFTRAWPORT\6&2A460501&0&LPT1

ECP Printer Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) msports.inf
Not Available
ACPI\PNP0401\5&9583612&0

Floppy disk drive Yes FLOPPYDISK
5.2.3790.0 10/1/2002 (Standard floppy disk drives)
flpydisk.inf Not Available
FDC\GENERIC_FLOPPY_DRIVE\6&6A032C4&0&0

Standard floppy disk controller Yes FDC
5.2.3790.0 10/1/2002 (Standard floppy disk controllers)
fdc.inf Not Available
ACPI\PNP0700\1

Generic Bus Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A05\1

Not Available Not Available Not Available
Not Available Not Available Not Available Not Available Not Available Not Available
ACPI\IBM3737\4&369939D9&0

System timer Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\4&369939D9&0

System speaker Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0800\4&369939D9&0

System CMOS/real time clock Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0B00\4&369939D9&0

Programmable interrupt controller Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0000\4&369939D9&0

Numeric data processor Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C04\4&369939D9&0

Direct memory access controller Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0200\4&369939D9&0

Motherboard resources Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C02\1F

ISAPNP Read Data Port Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ISAPNP\READDATAPORT\0

Intel(R) 82801EB LPC Interface Controller - 24D0 Yes
SYSTEM 5.1.0.1009 3/25/2004 Intel
ich5core.inf Not Available

PCI\VEN_8086&DEV_24D0&SUBSYS_00000000&REV_02\3&61AAA01&0&F8

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\5&10D13A3F&0&10000000&06&04

RADEON 7000 RADEON VE Family (Microsoft Corporation) Yes DISPLAY 6.13.10.6153 8/8/2002 ATI Technologies Inc. atiixpag.inf Not Available PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0

Intel(R) 82801 PCI Bridge - 244E Yes SYSTEM 6.0.0.1013 4/1/2004 Intel ich6core.inf Not Available PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_C2\3&61AAA01&0&F0

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&34B50607&0

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EF

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&CAEE98E&0

Intel(R) 82801EB USB Universal Host Controller - 24DE Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EB

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&206D9F09&0

Intel(R) 82801EB USB Universal Host Controller - 24D7 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EA

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&31D97CBA&0

Intel(R) 82801EB USB Universal Host Controller - 24D4 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E9

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&39460DFB&0

Intel(R) 82801EB USB Universal Host Controller - 24D2 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E8

Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3597&SUBSYS_00000000&REV_0C\3&61AAA01&0&20

Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_0327&SUBSYS_00000000&REV_09\4&D31A1BE&0&0318

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&2199E002&0&090218

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&2199E002&0&080218

Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_032A&SUBSYS_00000000&REV_09\4&D31A1BE&0&0218

Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_0326&SUBSYS_00000000&REV_09\4&D31A1BE&0&0118

SCSI Processor Device Yes SYSTEM 5.2.3790.1830 10/1/2002 IBM scsidev.inf Not Available SCSI\PROCESSOR&VEN_IBM&PROD_02R0980A_S320__1&REV_1\6&FA66315&0&080

Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST336753LC____FN&REV_B85E\6&FA66315&0&020

Adaptec AIC-7902B - Ultra320 SCSI Yes SCSIADAPTER 3.0.0.0 8/28/2003 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&D4388E4&0&190018

Adaptec AIC-7902B - Ultra320 SCSI Yes SCSIADAPTER 3.0.0.0 8/28/2003 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&D4388E4&0&180018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&D4388E4&0&090018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&D4388E4&0&080018

Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_0329&SUBSYS_00000000&REV_09\4&D31A1BE&0&0018

Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3596&SUBSYS_00000000&REV_0C\3&61AAA01&0&18

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.48.0.0 10/31/2005 Broadcom oem3.inf Not Available PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_11\4&4773D89&0&0010

Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3595&SUBSYS_00000000&REV_0C\3&61AAA01&0&10

Intel(R) E7525 Memory Controller Hub - 359E Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_359E&SUBSYS_00000000&REV_0C\3&61AAA01&0&00

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\2&DABA3FF&0

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available ACPI\ASF0001\2&DABA3FF&0

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_4_3

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_4_2

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_4_1

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_4_0

Microsoft ACPI-Compliant System Yes SYSTEM 5.2.3790.0 10/1/2002 Microsoft acpi.inf Not Available ACPI_HAL\PNP0C08\0

ACPI Multiprocessor PC Yes COMPUTER 5.2.3790.0 10/1/2002 (Standard computers) hal.inf Not Available ROOT\ACPI_HAL\0000

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available HTREE\ROOT\0

[Environment Variables]

Variable Value User Name

ClusterLog C:\WINDOWS\Cluster\cluster.log <SYSTEM>

ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>

NUMBER_OF_PROCESSORS 4 <SYSTEM>

OS Windows_NT <SYSTEM>

Path %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;c:\tools;c:\tools\util;c:\Program Files\Intel\DMIX;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\binn\;C:\Program Files\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\ <SYSTEM>

PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE x86 <SYSTEM>

PROCESSOR_IDENTIFIER x86 Family 15 Model 4 Stepping 3, GenuineIntel <SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_REVISION 0403 <SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>

TMP %SystemRoot%\TEMP <SYSTEM>

windir %SystemRoot% <SYSTEM>

FP_NO_HOST_CHECK NO <SYSTEM>

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TEMP %USERPROFILE%\Local Settings\Temp FCLIENT80\Administrator

TMP %USERPROFILE%\Local Settings\Temp FCLIENT80\Administrator

[Print Jobs]

Document Size Owner Notify Status Time Submitted Start Time Until Time Elapsed Time Pages Printed Job ID Priority Parameters Driver Print Processor Host Print Queue Data Type Name

[Network Connections]

Local Name Remote Name Type
Status User Name

Z: \\192.168.40.1\edrive Disk Persistent
Connection

[Running Tasks]

Name Path Process ID Priority Min Working
Set Max Working Set Start Time Version Size
File Date

system idle process Not Available 0 0
Not Available Not Available Not
Available Not Available Not Available Not
Available

system Not Available 4 8 0
1413120 Not Available Not Available
Not Available Not Available

smss.exe Not Available 792 11
204800 1413120 2/15/2007 11:05 AM Not
Available Not Available Not Available

csrss.exe Not Available 880 13 Not
Available Not Available 2/15/2007 11:05 AM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
992 13 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
3/6/2006 5:23 PM

services.exe c:\windows\system32\services.exe
1036 9 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 107.50 KB (110,080 bytes)
3/25/2003 7:00 AM

lsass.exe c:\windows\system32\lsass.exe 1048 9
204800 1413120 2/15/2007 11:05 AM
5.2.3790.0 (srv03_rtm.030324-2048) 13.00
KB (13,312 bytes) 3/25/2003 7:00 AM

svchost.exe c:\windows\system32\svchost.exe
1236 8 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

svchost.exe Not Available 1360 8
Not Available Not Available
2/15/2007 11:05 AM Not Available Not
Available Not Available

svchost.exe Not Available 1416 8
Not Available Not Available
2/15/2007 11:05 AM Not Available Not
Available Not Available

svchost.exe Not Available 1460 8
Not Available Not Available
2/15/2007 11:05 AM Not Available Not
Available Not Available

svchost.exe c:\windows\system32\svchost.exe
1508 8 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

msdtc.exe Not Available 1936 8 Not
Available Not Available 2/15/2007 11:05 AM Not
Available Not Available Not Available

svchost.exe Not Available 776 8
Not Available Not Available
2/15/2007 11:05 AM Not Available Not
Available Not Available

explorer.exe c:\windows\explorer.exe 1672
8 204800 1413120 2/15/2007 11:05
AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 3/6/2006 5:24
PM

svchost.exe c:\windows\system32\svchost.exe
1864 8 204800 1413120
2/15/2007 11:05 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

bmlisten.exe c:\slave\bmlisten.exe 2008 8
204800 1413120 2/15/2007 11:05 AM 2, 1,
0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32
PM

wmiprvse.exe Not Available 3164 8
Not Available Not Available
2/15/2007 11:07 AM Not Available Not
Available Not Available

dllhost.exe c:\windows\system32\dllhost.exe 228 8
204800 1413120 2/15/2007 11:23 AM
5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM

inetinfo.exe
c:\windows\system32\inetsrv\inetinfo.exe 3364
8 204800 1413120 2/15/2007 12:07
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:26
PM

svchost.exe c:\windows\system32\svchost.exe
2552 8 204800 1413120
2/15/2007 12:07 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe
2884 8 204800 1413120
2/15/2007 3:52 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes)
3/6/2006 5:24 PM

helpsvc.exe
c:\windows\pchealth\helpctr\binaries\helpsvc.exe
2292 8 204800 1413120
2/15/2007 3:52 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes)
3/6/2006 5:24 PM

wmiprvse.exe Not Available 3256 8
Not Available Not Available
2/15/2007 3:52 PM Not Available Not
Available Not Available

regedit.exe c:\windows\regedit.exe 952 8
204800 1413120 2/15/2007 3:52 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
144.00 KB (147,456 bytes) 3/24/2005 8:44
PM

[Loaded Modules]

Name Version Size File Date Manufacturer Path

winlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winlogon.exe

ntdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 748.50 KB (766,464 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ntdll.dll

kernel32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1,014.00 KB (1,038,336 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\kernel32.dll

advapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 605.50 KB (620,032 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\advapi32.dll

rpcrt4 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 627.00 KB (642,048 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rpcrt4.dll

crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 582.00 KB (595,968 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\crypt32.dll

msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 56.50 KB (57,856 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msasn1.dll

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 574.50 KB (588,288 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\gdi32.dll

nddeapi 5.2.3790.0 (srv03_rtm.030324-2048) 16.00 KB (16,384 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\nddeapi.dll

profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 22.50 KB (23,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netapi32.dll

userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 771.00 KB (789,504 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\userenv.dll

psapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.00 KB (20,480 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\secur32.dll

setupapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.03 MB (1,079,808 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\setupapi.dll

version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.00 KB (18,432 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winsta.dll

ws2_32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ws2_32.dll

ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ws2help.dll

msgina 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.16 MB (1,211,904 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 131.50 KB (134,656 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 313.50 KB (321,024 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shlwapi.dll

sfc 5.2.3790.0 (srv03_rtm.030324-2048) 4.50 KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\sfc.dll

sfc_os 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 138.00 KB (141,312 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sfc_os.dll

wintrust 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wintrust.dll

imagehlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 145.50 KB (148,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\imagehlp.dll

ole32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,245,184 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ole32.dll

comctl32 6.0 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,051,136 bytes) 3/24/2005 8:41 PM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.common-controls_6595b64144ccf1df_6.0.3790.1830_x-ww_7ae38ccf\comctl32.dll

winscard 5.2.3790.0 (srv03_rtm.030324-2048) 98.50 KB (100,864 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\winscard.dll

wtsapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wtsapi32.dll

sxs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 743.50 KB (761,344 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sxs.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winmm.dll

shell32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 7.99 MB (8,379,392 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shell32.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 174.50 KB (178,688 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wldap32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 183.98 KB (188,392 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rsaenh.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 100.00 KB (102,400 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:28 PM Microsoft Corporation c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 94.50 KB (96,768 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wlnotify.dll

mpr 5.2.3790.0 (srv03_rtm.030324-2048) 56.00 KB (57,344 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 543.00 KB (556,032 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 147.00 KB (150,528 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447) 585.00 KB (599,040 bytes) 3/24/2005 8:41 PM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.common-controls_6595b64144ccf1df_5.82.3790.1830_x-ww_1b6f474a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 202.00 KB (206,848 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\uxtheme.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\samlib.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 319.50 KB (327,168 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cscui.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntlanman.dll

netui0 5.2.3790.0 (srv03_rtm.030324-2048) 75.50 KB (77,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui0.dll

netui1 5.2.3790.0 (srv03_rtm.030324-2048) 184.00 KB (188,416 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui1.dll

davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 23.50 KB (24,064 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\davclnt.dll

mprui 5.2.3790.0 (srv03_rtm.030324-2048) 49.00 KB (50,176 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mprui.dll

netui2 5.2.3790.0 (srv03_rtm.030324-2048) 309.50 KB (316,928 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui2.dll

comdlg32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 274.50 KB (281,088 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\comdlg32.dll

netmsg 5.2.3790.0 (srv03_rtm.030324-2048) 178.00 KB (182,272 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netmsg.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 502.50 KB (514,560 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048) 778.00 KB (796,672 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\comres.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 120.50 KB (123,392 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntmarta.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 2.76 MB (2,897,920 bytes) 3/6/2006 5:28 PM Microsoft Corporation c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.50 KB (20,992 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 221.00 KB (226,304 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50 KB (43,520 bytes) 3/1/2006 1:38 PM Microsoft

Corporation c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 471.00 KB (482,304 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\fastprox.dll

msvcp60 6.05.2144.0 388.00 KB (397,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msvcp60.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 71.00 KB (72,704 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 153.50 KB (157,184 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\dnsapi.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 107.50 KB (110,080 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.00 KB (36,864 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 327.00 KB (334,848 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 66.50 KB (68,096 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 126.50 KB (129,536 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 67.50 KB (69,120 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\eventlog.dll

lsass 5.2.3790.0 (srv03_rtm.030324-2048) 13.00 KB (13,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 803.00 KB (822,272 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\lsasrv.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 450.50 KB (461,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\samsrv.dll

cryptdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 32.00 KB (32,768 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cryptdll.dll

msprivs 5.2.3790.0 (srv03_rtm.030324-2048) 46.50 KB (47,616 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msprivs.dll

kerberos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\kerberos.dll

msv1_0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 141.00 KB (144,384 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msv1_0.dll

iphlpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 92.50 KB (94,720 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 409.50 KB (419,328 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 222.00 KB (227,328 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 141.00 KB (144,384 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 74.00 KB (75,776 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 23.00 KB (23,552 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 213.50 KB (218,624 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\kdcsvc.dll

ntdsa 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.45 MB (1,516,032 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntdsa.dll

esent 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1,022.50 KB (1,047,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 29.50 KB (30,208 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.50 KB (256,512 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mswsock.dll

scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 186.50 KB (190,976 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\scecli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 793.50 KB (812,544 bytes) 3/6/2006 5:28 PM Microsoft Corporation c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 343.50 KB (351,744 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\hnetcfg.dll

wshtcpip 5.2.3790.0 (srv03_rtm.030324-2048) 18.00 KB (18,432 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wshtcpip.dll

ipsecsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
180.50 KB (184,832 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ipsecsvc.dll

oakley 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
264.00 KB (270,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\oakley.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
35.50 KB (36,352 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winipsec.dll

pstorsvc 5.2.3790.0 (srv03_rtm.030324-2048) 24.00 KB (24,576 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\pstorsvc.dll

psbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
84.00 KB (86,016 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\psbase.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
139.98 KB (143,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\dssenh.dll

wlbsctrl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
82.00 KB (83,968 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wlbsctrl.dll

w3ssl 6.0.3790.0 (srv03_rtm.030324-2048) 15.00 KB (15,360 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\w3ssl.dll

strmfilt 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
84.00 KB (86,016 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\strmfilt.dll

httpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\httpapi.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
406.00 KB (415,744 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rpcss.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
197.50 KB (202,240 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\schedsvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.50 KB (33,280 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wiarpc.dll

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
6.50 KB (6,656 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\msidle.dll

audiosrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
40.50 KB (41,472 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\audiosrv.dll

wkssvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
130.00 KB (133,120 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\wkssvc.dll

aelupsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
26.00 KB (26,624 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.50 KB (150,016 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\apphelp.dll

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
55.50 KB (56,832 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\certcli.dll

atl 3.05.2283 83.00 KB (84,992 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\atl.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
548.00 KB (561,152 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\vssapi.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
233.00 KB (238,592 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\es.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
39.00 KB (39,936 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchsvc.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
25.50 KB (26,112 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\dmserver.dll

srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
93.50 KB (95,744 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\srvsvc.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\seclogon.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.50 KB (37,376 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\sens.dll

trkwks 5.2.3790.0 (srv03_rtm.030324-2048) 85.00 KB (87,040 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\trkwks.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
1.19 MB (1,248,256 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\comsvcs.dll

browser 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.50 KB (78,336 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browser.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 258.50 KB (264,704 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netman.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 89.00 KB (91,136 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 194.00 KB (198,656 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.00 KB (149,504 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\credui.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 34.50 KB (35,328 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rtutils.dll

netshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.73 MB (1,812,992 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 60.00 KB (61,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\clusapi.dll

rasapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.50 KB (245,248 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasapi32.dll

rasman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 61.50 KB (62,976 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasman.dll

tapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 179.50 KB (183,808 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\tapi32.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 646.00 KB (661,504 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 41.00 KB (41,984 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 364.50 KB (373,248 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsvc.dll

wmi 5.2.3790.0 (srv03_rtm.030324-2048) 6.50 KB (6,656 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 113.50 KB (116,224 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\dhcpcsvc.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.50 KB (509,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.00 KB (256,000 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 404.00 KB (413,696 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.50 KB (278,016 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemess.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 663.00 KB (678,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.50 KB (7,680 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rasadhlp.dll

netrap 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netrap.dll

xactsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 90.00 KB (92,160 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\xactsrv.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\ncprov.dll

ntlsapi 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ntlsapi.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\explorer.exe

browseui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1,009.00 KB (1,033,216 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browseui.dll

shdocvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.43 MB (1,502,720 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 496.50 KB (508,416 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\cryptui.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
377.50 KB (386,560 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\themeui.dll

msimg32 5.2.3790.0 (srv03_rtm.030324-2048) 4.50
KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\msimg32.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
96.50 KB (98,816 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\actxprxy.dll

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
673.00 KB (689,152 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
272.50 KB (279,040 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\webcheck.dll

wsock32 5.2.3790.0 (srv03_rtm.030324-2048) 22.00
KB (22,528 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\wsock32.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
16.50 KB (16,896 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\powrprof.dll

shdoclc 6.00.3790.0 (srv03_rtm.030324-2048)
588.50 KB (602,624 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\shdoclc.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
239.00 KB (244,736 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.50 KB (12,800 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
116.00 KB (118,784 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
101.63 KB (104,072 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rdpwsx.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes)
3/7/2006 12:32 PM IBM xSeries Server
Performance c:\slave\bmlisten.exe

dllhost 5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\dllhost.exe

txflog 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
96.50 KB (98,816 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\txflog.dll

xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
10.50 KB (10,752 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\xolehlp.dll

msdtcprx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
455.50 KB (466,432 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msdtcprx.dll

mtxclu 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
77.00 KB (78,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mtxclu.dll

resutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
63.50 KB (65,024 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\resutils.dll

winrnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
17.00 KB (17,408 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winrnr.dll

catsrv 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
273.00 KB (279,552 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\catsrv.dll

clbcatex 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
102.50 KB (104,960 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\clbcatex.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
164.00 KB (167,936 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisutil.dll

rpcref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
4.00 KB (4,096 bytes)3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\system32\inetsrv\rpcref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
138.50 KB (141,824 bytes) 3/6/2006 5:25
PM Microsoft Corporation
c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
21.00 KB (21,504 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
62.50 KB (64,000 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\inetsrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
47.00 KB (48,128 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\admwprox.dll

iiscfg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.08 MB (1,133,056 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
229.00 KB (234,496 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msxml3.dll

svcext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
43.50 KB (44,544 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\svcext.dll

security 5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\security.dll

iismap 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
58.50 KB (59,904 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
54.50 KB (55,808 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
211.00 KB (216,064 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:25
PM Microsoft Corporation
c:\windows\system32\inetsrv\w3cache.dll

w3tp 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\inetsrv\w3tp.dll

lonsint 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\lonsint.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 3/1/2006 1:42 PM Microsoft
Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
133.50 KB (136,704 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
577.50 KB (591,360 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mlang.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
2.96 MB (3,108,864 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msctf.dll

jscript 5.6.0.8827 448.00 KB (458,752 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
376.00 KB (385,024 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
240.00 KB (245,760 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00
KB (94,208 bytes) 3/6/2006 5:23 PM Microsoft
Corporation c:\windows\system32\odbcint.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 3.50
KB (3,584 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\riched32.dll

riched20 5.31.23.1224 439.00 KB (449,536 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\riched20.dll

browselc 6.00.3790.0 (srv03_rtm.030324-2048) 62.00
KB (63,488 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\browselc.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
745.00 KB (762,880 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpsvc.exe

regedit 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
144.00 KB (147,456 bytes) 3/24/2005 8:44
PM Microsoft Corporation
c:\windows\regedit.exe

aclui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
117.50 KB (120,320 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\aclui.dll

ulib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
271.00 KB (277,504 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\ulib.dll

clb 5.2.3790.0 (srv03_rtm.030324-2048) 11.50
KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\clb.dll

audiodev 5.2.3790.3700 (srv03_sp1_rtm.050324-1447)
470.00 KB (481,280 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\audiodev.dll

wmvcore 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
2.21 MB (2,314,240 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wmvcore.dll

wmasf 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wmasf.dll

[Services]

Display Name Name State Start Mode
Service Type Path Error Control
Start Name Tag ID

Application Experience Lookup Service AeLookupSvc
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Alerter Alerter Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Application Layer Gateway Service ALG
Stopped Manual Own Process
c:\windows\system32\alg.exe Normal NT
AUTHORITY\LocalService 0

Application Management AppMgmt Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

ASP.NET State Service aspnet_state
Stopped Manual Own Process
c:\windows\microsoft.net\framework\v2.0.50727\
aspnet_state.exe Normal NT
AUTHORITY\NetworkService 0

Windows Audio AudioSrv Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Background Intelligent Transfer Service BITS
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Computer Browser Browser Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Indexing Service CiSvc Stopped Disabled
Share Process
c:\windows\system32\cisvc.exe Normal
LocalSystem 0

ClipBook ClipSrv Stopped Disabled Own Process
c:\windows\system32\clipsrv.exe Normal
LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_X86
clr_optimization_v2.0.50727_32 Stopped
Manual Own Process
c:\windows\microsoft.net\framework\v2.0.50727\
mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp
Running Manual Own Process
c:\windows\system32\dllhost.exe
/processid:{02d4b3f1-fd88-11d1-960d-00805fc79235}
Normal LocalSystem 0

Cryptographic Services CryptSvc Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch
Running Auto Share Process
c:\windows\system32\svchost.exe -k dcomlaunch
Normal LocalSystem 0

Distributed File System Dfs Stopped
Manual Own Process
c:\windows\system32\dfssvc.exe Normal
LocalSystem 0

DHCP Client Dhcp Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k
networkservice Normal NT
AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service
dmadmin Stopped Manual Share Process
c:\windows\system32\dmadmin.exe /com
Normal LocalSystem 0

Logical Disk Managerdmserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

DNS Client Dnscache Running Auto
Share Process
c:\windows\system32\svchost.exe -k
networkservice Normal NT
AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k winerr
Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

COM+ Event System EventSystem Running Auto
Share Process

c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Help and Support helpsvc Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Human Interface Device Access HidServ Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

HTTP SSL HTTPFilter Running Manual
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

IIS Admin Service IISADMIN Running Auto
Share Process
c:\windows\system32\inetsrv\inetinfo.exe
Normal LocalSystem 0

IMAPI CD-Burning COM Service ImapiService
Stopped Disabled Own Process
c:\windows\system32\imapi.exe Normal
LocalSystem 0

Intersite Messaging IsmServ Stopped Disabled Own Process c:\windows\system32\ismserv.exe
Normal LocalSystem 0

Kerberos Key Distribution Center kdc
Stopped Disabled Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Server lanmanserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Workstation lanmanworkstation Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

License Logging LicenseService Stopped
Disabled Own Process
c:\windows\system32\llssrv.exe Normal NT AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
Stopped Disabled Own Process
c:\windows\system32\mnmsrvc.exe
Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
Running Auto Own Process
c:\windows\system32\msdtc.exe Normal NT AUTHORITY\NetworkService 1

Windows Installer MSIServer Stopped Manual
Share Process
c:\windows\system32\msiexec.exe /v
Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Network DDE DSDM NetDDEdsdm Stopped
Disabled Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Network Connections Netman Running Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Location Awareness (NLA) Nla
Running Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own Process c:\windows\system32\ntfrs.exe Ignore
LocalSystem 0

NT LM Security Support Provider NtLmSsp
Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own Process "c:\program files\common files\microsoft shared\source engine\ose.exe" Normal LocalSystem
0

Plug and Play PlugPlay Running Auto
Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

IPSEC Services PolicyAgent Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Protected Storage ProtectedStorage Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Remote Access Auto Connection Manager RasAuto
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Access Connection Manager RasMan
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
Stopped Manual Own Process
c:\windows\system32\sessmgr.exe
Normal LocalSystem 0

Routing and Remote Access RemoteAccess
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
Share Process
c:\windows\system32\svchost.exe -k regsvc

Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
Stopped Manual Own Process
c:\windows\system32\locator.exe Normal NT AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
Share Process
c:\windows\system32\svchost.exe -k rpcss
Normal NT Authority\NetworkService 0

Resultant Set of Policy Provider RSoPProv Stopped
Manual Share Process
c:\windows\system32\rsopprov.exe
Normal LocalSystem 0

Special Administration Console Helper sacsvr
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Smart Card SCardSvr Stopped Manual
Share Process
c:\windows\system32\scardsvr.exe
Ignore NT AUTHORITY\LocalService 0

Task Scheduler Schedule Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Secondary Logon seclogon Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

System Event Notification SENS Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
SharedAccess Stopped Disabled
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own Process c:\windows\system32\spoolsv.exe
Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k imgsvc
Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
Stopped Manual Own Process
c:\windows\system32\svchost.exe -k swprv
Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
Stopped Manual Own Process
c:\windows\system32\smlogsvc.exe
Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
c:\windows\system32\svchost.exe -k tapisrv
Normal LocalSystem 0

Terminal Services TermService Running
Manual Share Process
c:\windows\system32\svchost.exe -k termsvcs
Normal LocalSystem 0

Themes Themes Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Telnet TlntSvr Stopped Disabled Own Process
c:\windows\system32\tlntsvr.exe Normal NT AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Distributed Link Tracking Client TrkWks Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Terminal Services Session Directory Tssdis
Stopped Disabled Own Process
c:\windows\system32\tssdis.exe Normal
LocalSystem 0

Windows User Mode Driver Framework UMWdf
Stopped Manual Own Process
c:\windows\system32\wdfmgr.exe
Normal NT AUTHORITY\LocalService 0

Upload Manager uploadmgr Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Uninterruptible Power Supply UPS Stopped
Manual Own Process
c:\windows\system32\ups.exe Normal NT AUTHORITY\LocalService 0

Virtual Disk Service vds Stopped Manual Own Process c:\windows\system32\vds.exe Normal
LocalSystem 0

Volume Shadow Copy VSS Stopped
Manual Own Process
c:\windows\system32\vssvc.exe Normal
LocalSystem 0

Windows Time W32Time Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

World Wide Web Publishing Service W3SVC
Running Auto Share Process
c:\windows\system32\svchost.exe -k iissvcs
Normal LocalSystem 0

WebClient WebClient Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

WinHTTP Web Proxy Auto-Discovery Service
WinHttpAutoProxySvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k localservice

Normal NT AUTHORITY\LocalService 0

Windows Management Instrumentation winmgmt
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Portable Media Serial Number Service WmdmPmSN
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Management Instrumentation Driver Extensions
Wmi Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

WMI Performance Adapter WmiApSrv
Stopped Manual Own Process
c:\windows\system32\wbem\wmiapsrv.exe
Normal LocalSystem 0

Automatic Updates wuauserv Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

[Program Groups]

Group Name Name User Name

Accessories Default User:Accessories
Default User

Accessories\Accessibility Default
User:Accessories\Accessibility Default User

Accessories\Entertainment Default
User:Accessories\Entertainment Default User

Startup Default User:Startup Default User

Accessories All Users:Accessories All Users

Accessories\Accessibility All
Users:Accessories\Accessibility All Users

Accessories\Communications All
Users:Accessories\Communications All Users

Accessories\Entertainment All
Users:Accessories\Entertainment All Users

Accessories\System Tools All
Users:Accessories\System Tools All Users

Administrative Tools All Users:Administrative Tools All
Users

Microsoft SQL Server 2005 All Users:Microsoft SQL
Server 2005 All Users

Microsoft SQL Server 2005\Analysis Services All
Users:Microsoft SQL Server 2005\Analysis Services All
Users

Microsoft SQL Server 2005\Configuration Tools All
Users:Microsoft SQL Server 2005\Configuration Tools All
Users

Microsoft SQL Server 2005\Performance Tools All
Users:Microsoft SQL Server 2005\Performance Tools All
Users

Startup All Users:Startup All Users

Accessories NT
AUTHORITY\SYSTEM:Accessories NT
AUTHORITY\SYSTEM

Accessories\Accessibility NT
AUTHORITY\SYSTEM:Accessories\Accessibility NT
AUTHORITY\SYSTEM

Accessories\Entertainment NT
AUTHORITY\SYSTEM:Accessories\Entertainment NT
AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT
AUTHORITY\SYSTEM

Accessories
FCLIENT80\Administrator:Accessories
FCLIENT80\Administrator

Accessories\Accessibility
FCLIENT80\Administrator:Accessories\Accessibi
lity FCLIENT80\Administrator

Accessories\Entertainment
FCLIENT80\Administrator:Accessories\Entertain
ment FCLIENT80\Administrator

Administrative Tools
FCLIENT80\Administrator:Administrative Tools
FCLIENT80\Administrator

Startup FCLIENT80\Administrator:Startup
FCLIENT80\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM
Startup

desktop desktop.ini FCLIENT80\Administrator
Startup

Shortcut to BMListen shortcut to bmlisten.lnk
FCLIENT80\Administrator Startup

Shortcut to synctime shortcut to synctime.lnk
FCLIENT80\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clip mplay32.exe /avi

MIDI Sequence mplay32.exe /mid

Sound Not Available

Media Clip Not Available

WordPad Document "%programfiles%\windows
nt\accessories\wordpad.exe"

Windows Media Services DRM Storage object Not
Available

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time Type Details

[Internet Settings]

[Internet Explorer]

[ Following are sub-categories of this main category ]
[Summary]

Item Value
Version 6.0.3790.1830
Build 63790.1830
Application Path C:\Program Files\Internet Explorer

Language English (United States)
Active Printer Not Available

Cipher Strength 128-bit
Content Advisor Disabled
IEAK Install No

[File Versions]

File Version Size Date Path Company

actxprxy.dll 6.0.3790.1830 97 KB 3/24/2005 5:55:26 PM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 98 KB 3/24/2005 5:55:28 PM C:\WINDOWS\system32 Microsoft Corporation

asctrls.ocx 6.0.3790.0 90 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browselc.dll 6.0.3790.0 62 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browseui.dll 6.0.3790.1830 1,009 KB 3/24/2005 5:56:10 PM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 149 KB 3/24/2005 5:56:32 PM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 585 KB 3/24/2005 5:57:56 PM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 205 KB 3/24/2005 6:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 355 KB 3/24/2005 6:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

iecont.dll <File Missing> Not Available Not Available Not Available Not Available

iecontlc.dll <File Missing> Not Available Not Available Not Available Not Available

iedkcs32.dll 16.0.3790.1830 324 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 248 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 61 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 92 KB 3/24/2005 6:04:58 PM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 38 KB 3/24/2005 6:05:04 PM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 358 KB 3/24/2005 6:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

inetcplc.dll 6.0.3790.0 109 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inseng.dll 6.0.3790.1830 94 KB 3/24/2005 6:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 578 KB 3/24/2005 6:07:20 PM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll 2002.10.4.0 112 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 옺로 ŭ 圴

mshta.exe 6.0.3790.1830 30 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 3,036 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 455 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 48 KB 3/24/2005 6:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msidntld.dll 6.0.3790.0 15 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msieftp.dll 6.0.3790.1830 244 KB 3/24/2005 6:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 144 KB 3/24/2005 6:07:36 PM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 523 KB 3/24/2005 6:07:38 PM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 94 KB 3/24/2005 6:08:34 PM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx 6.3.3790.1830 83 KB 3/24/2005 6:12:26 PM C:\WINDOWS\system32 Intel Corporation

sendmail.dll 6.0.3790.1830 56 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shdoclc.dll 6.0.3790.0 589 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shdocvw.dll 6.0.3790.1830 1,468 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 25 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 6:13:40 PM C:\WINDOWS\system32 Microsoft Corporation

tdc.ocx 1.3.0.3130 58 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

url.dll 6.0.3790.1830 37 KB 3/24/2005 6:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 6:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 6:26:16 PM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005 6:26:18 PM C:\WINDOWS\system32 Microsoft Corporation

[Connectivity]

Item Value

Connection Preference Never dial

LAN Settings

AutoConfigProxy wininet.dll

AutoProxyDetectMode Disabled

AutoConfigURL

Proxy Disabled

ProxyServer

ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Page Refresh Type Automatic

Temporary Internet Files Folder C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files

Total Disk Space Not Available

Available Disk Space Not Available

Maximum Cache Size Not Available

Available Cache Size Not Available

[List of Objects]

Program File Status CodeBase

No cached object information available

[Content]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Content Advisor Disabled

[Personal Certificates]

Issued To Issued By Validity Signature Algorithm

No personal certificate information available

[Other People Certificates]

Issued To Issued By Validity Signature Algorithm

No other people certificate information available

[Publishers]

Name

No publisher information available

[Security]

| Zone | Security Level |
|---|---|
| My Computer | Custom |
| Local intranet | Custom |
| Trusted sites | Custom |
| Internet | Custom |
| Restricted sites | Custom |

## Client System Information Report for x226 with 3.2GHz Processor

(Measured configuration for 6 of the 16 clients)

System Information report written at: 02/15/07 15:25:16

System Name: FCLIENT20

[System Summary]

| Item | Value |
|---|---|
| OS Name | Microsoft(R) Windows(R) Server 2003, Standard Edition |
| Version | 5.2.3790 Service Pack 1 Build 3790 |
| Other OS Description | Not Available |
| OS Manufacturer | Microsoft Corporation |
| System Name | FCLIENT20 |
| System Manufacturer | IBM |
| System Model | IBM eServer x226-[86482BU]- |
| System Type | X86-based PC |
| Processor | x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz |
| Processor | x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz |
| Processor | x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz |
| Processor | x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz |
| BIOS Version/Date | IBM IBM BIOS Version 1.66-[PME166AUS-1.66]-, 4/12/2006 |
| SMBIOS Version | 2.33 |
| Windows Directory | C:\WINDOWS |
| System Directory | C:\WINDOWS\system32 |
| Boot Device | \Device\HarddiskVolume1 |
| Locale | United States |
| Hardware Abstraction Layer | Version = "5.2.3790.1830 (srv03_sp1_rtm.050324-1447)" |
| User Name | FCLIENT20\Administrator |
| Time Zone | Eastern Standard Time |
| Total Physical Memory | 2,046.93 MB |
| Available Physical Memory | 1.73 GB |
| Total Virtual Memory | 3.85 GB |
| Available Virtual Memory | 3.74 GB |
| Page File Space | 2.00 GB |
| Page File | C:\pagefile.sys |

[Hardware Resources]

[Conflicts/Sharing]

| Resource | Device |
|---|---|
| I/O Port 0x00000000-0x00000CF7 | PCI bus |
| I/O Port 0x00000000-0x00000CF7 | Direct memory access controller |
| Memory Address 0xD0300000-0xD03FFFFF | Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 |
| Memory Address 0xD0300000-0xD03FFFFF | Adaptec AIC-7902B - Ultra320 SCSI |
| I/O Port 0x00002000-0x00004FFF | Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 |
| I/O Port 0x00002000-0x00004FFF | Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 |
| I/O Port 0x00002000-0x00004FFF | Adaptec AIC-7902B - Ultra320 SCSI |
| Memory Address 0xD0200000-0xD04FFFFF | Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 |
| Memory Address 0xD0200000-0xD04FFFFF | Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 |
| Memory Address 0xD0100000-0xD01FFFFF | Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 |
| Memory Address 0xD0100000-0xD01FFFFF | Broadcom NetXtreme Gigabit Ethernet |
| Memory Address 0xD0400000-0xD04FFFFF | Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A |
| Memory Address 0xD0400000-0xD04FFFFF | Intel(R) PRO/1000 MT Dual Port Server Adapter #3 |

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595

IRQ 16 Broadcom NetXtreme Gigabit Ethernet

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596

IRQ 16 Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE

Memory Address 0xA0000-0xBFFFF PCI bus

Memory Address 0xA0000-0xBFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation)

[DMA]

Resource Device Status

Channel 4 Direct memory access controller OK

Channel 2 Standard floppy disk controller OK

Channel 3 ECP Printer Port (LPT1) OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource Device Status

0x00000000-0x00000CF7 PCI bus OK

0x00000000-0x00000CF7 Direct memory access controller OK

0x00000D00-0x0000FFFF PCI bus OK

0x00002000-0x00004FFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

0x00002000-0x00004FFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 OK

0x00002000-0x00004FFF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002400-0x000024FF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002C00-0x00002CFF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00002800-0x000028FF Adaptec AIC-7902B - Ultra320 SCSI OK

0x00004000-0x00004FFF Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A OK

0x00001400-0x0000141F Intel(R) 82801EB USB Universal Host Controller - 24D2 OK

0x00001420-0x0000143F Intel(R) 82801EB USB Universal Host Controller - 24D4 OK

0x00001440-0x0000145F Intel(R) 82801EB USB Universal Host Controller - 24D7 OK

0x00001460-0x0000147F Intel(R) 82801EB USB Universal Host Controller - 24DE OK

0x00005000-0x000050FF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x000003B0-0x000003BB RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x000003C0-0x000003DF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0x00000A79-0x00000A79 ISAPNP Read Data Port OK

0x00000279-0x00000279 ISAPNP Read Data Port OK

0x00000274-0x00000277 ISAPNP Read Data Port OK

0x00000010-0x0000001F Motherboard resources OK

0x00000024-0x00000025 Motherboard resources OK

0x00000028-0x00000029 Motherboard resources OK

0x0000002C-0x0000002D Motherboard resources OK

0x0000002E-0x0000002F Motherboard resources OK

0x00000030-0x00000031 Motherboard resources OK

0x00000034-0x00000035 Motherboard resources OK

0x00000038-0x00000039 Motherboard resources OK

0x0000003C-0x0000003D Motherboard resources OK

0x00000050-0x00000053 Motherboard resources OK

0x00000072-0x00000077 Motherboard resources OK

0x00000080-0x00000080 Motherboard resources OK

0x00000090-0x0000009F Motherboard resources OK

0x000000A4-0x000000A5 Motherboard resources OK

0x000000A8-0x000000A9 Motherboard resources OK

0x000000AC-0x000000AD Motherboard resources OK

0x000000B0-0x000000B5 Motherboard resources OK

0x000000B8-0x000000B9 Motherboard resources OK

0x000000BC-0x000000BD Motherboard resources OK

0x000004D0-0x000004D1 Motherboard resources OK

0x00000900-0x0000090F Motherboard resources OK

0x00001000-0x0000107F Motherboard resources OK

0x00001180-0x0000118C Motherboard resources OK

0x0000118D-0x0000118D Motherboard resources OK

0x0000118F-0x0000118F Motherboard resources OK

0x00001190-0x000011BF Motherboard resources OK

0x00000800-0x0000082F Motherboard resources OK

0x0000FE00-0x0000FE00 Motherboard resources OK

0x00000081-0x0000008F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x000000F0-0x000000FE Numeric data processor OK

0x00000020-0x00000021 Programmable interrupt controller OK

0x000000A0-0x000000A1 Programmable interrupt controller OK

0x00000070-0x00000071 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x00000040-0x00000043 System timer OK

0x0000118E-0x0000118E OK

0x000003F0-0x000003F5 Standard floppy disk controller OK

0x000003F7-0x000003F7 Standard floppy disk controller OK

0x00000378-0x0000037F ECP Printer Port (LPT1) OK

0x00000778-0x0000077F ECP Printer Port (LPT1) OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x000002F8-0x000002FF Communications Port (COM2) OK

0x00000060-0x00000060 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x00000064-0x00000064 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

0x000014A0-0x000014AF Intel(R) 82801EB Ultra ATA Storage Controllers OK

0x000001F0-0x000001F7 Primary IDE Channel OK

0x000003F6-0x000003F6 Primary IDE Channel OK

0x00000170-0x00000177 Secondary IDE Channel OK

0x00000376-0x00000376 Secondary IDE Channel OK

0x00001100-0x0000111F Intel(R) 82801EB SMBus Controller - 24D3 OK

[IRQs]

Resource Device Status

IRQ 9 Microsoft ACPI-Compliant System OK

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 OK

IRQ 16 Broadcom NetXtreme Gigabit Ethernet OK

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

IRQ 16 Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE OK

IRQ 28 Intel(R) PRO/1000 MT Dual Port Server Adapter OK

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

IRQ 30 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 31 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 48 Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

IRQ 49 Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK

IRQ 19 Intel(R) 82801EB USB Universal Host Controller - 24D4 OK

IRQ 18 Intel(R) 82801EB USB Universal Host Controller - 24D7 OK

IRQ 23 Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

IRQ 22 RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

IRQ 13 Numeric data processor OK

IRQ 8 System CMOS/real time clock OK

IRQ 0 System timer OK

IRQ 6 Standard floppy disk controller OK

IRQ 4 Communications Port (COM1) OK

IRQ 3 Communications Port (COM2) OK

IRQ 12 PS/2 Compatible Mouse OK

IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

IRQ 14 Primary IDE Channel OK

IRQ 15 Secondary IDE Channel OK

IRQ 10 Intel(R) 82801EB SMBus Controller - 24D3 OK

[Memory]

Resource Device Status

0xA0000-0xBFFFF PCI bus OK

0xA0000-0xBFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xD8000-0xDBFFF PCI bus OK

0xDC000-0xDFFFF PCI bus OK

0x80000000-0xFEBFFFFF PCI bus OK

0xD0100000-0xD01FFFFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 OK

0xD0100000-0xD01FFFFF Broadcom NetXtreme Gigabit Ethernet OK

0xD0200000-0xD04FFFFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

0xD0200000-0xD04FFFFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 OK

0xD0300000-0xD03FFFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 OK

0xD0300000-0xD03FFFFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0320000-0xD033FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter OK

0xD0340000-0xD037FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter OK

0xD0380000-0xD039FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

0xD0302000-0xD0303FFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0400000-0xD04FFFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A OK

0xD0400000-0xD04FFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xD0440000-0xD045FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xD0460000-0xD047FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK

0xD0201000-0xD0201FFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 OK

0xD0000000-0xD00003FF Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

0xD8000000-0xDFFFFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xD0500000-0xD050FFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xE0000000-0xEFFFFFFF Motherboard resources OK

0xFEE00000-0xFEE0FFFF Motherboard resources OK

0xFEC81000-0xFEC81FFF Motherboard resources OK

0xFEC81400-0xFEC823FF Motherboard resources OK

0xFEBFFC00-0xFEBFFFFF Intel(R) 82801EB Ultra ATA Storage Controllers OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\msaud32.acm Microsoft Corporation Windows Media Audio Codec OK C:\WINDOWS\system32\MSAUD32.ACM 8.00.00.4487 288.00 KB (294,912 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg711.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG711.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 10.00 KB (10,240 bytes) 3/25/2003 7:00 AM

c:\windows\system32\tssoft32.acm DSP GROUP, INC. OK C:\WINDOWS\system32\TSSOFT32.ACM 1.01 9.50 KB (9,728 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msg723.acm Microsoft Corporation OK C:\WINDOWS\system32\MSG723.ACM 5.2.3790.1830 120.00 KB (122,880 bytes) 3/6/2006 5:23 PM

c:\windows\system32\msadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msgsm32.acm Microsoft Corporation OK C:\WINDOWS\system32\MSGSM32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM

c:\windows\system32\l3codeca.acm Fraunhofer Institut Integrierte Schaltungen IIS Fraunhofer IIS MPEG Layer-3 CodecOK C:\WINDOWS\system32\L3CODECA.ACM 1, 9, 0, 0305 284.00 KB (290,816 bytes) 3/25/2003 7:00 AM

c:\windows\system32\imaadp32.acm Microsoft Corporation OK C:\WINDOWS\system32\IMAADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM

c:\windows\system32\sl_anet.acm Sipro Lab Telecom Inc. Sipro Lab Telecom Audio Codec OK C:\WINDOWS\system32\SL_ANET.ACM 3.02 84.00 KB (86,016 bytes) 3/25/2003 7:00 AM

[Video Codecs]

CODEC Manufacturer Description Status File Version Size Creation Date

c:\windows\system32\msrle32.dll Microsoft Corporation OK

C:\WINDOWS\system32\MSRLE32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 10.50 KB (10,752 bytes) 3/25/2003 7:00 AM

c:\windows\system32\tsbyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\TSBYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/24/2003 8:50 PM

c:\windows\system32\msh261.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH261.DRV 5.2.3790.1830 184.00 KB (188,416 bytes) 3/6/2006 5:23 PM

c:\windows\system32\msyuv.dll Microsoft Corporation OK C:\WINDOWS\system32\MSYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 16.50 KB (16,896 bytes) 3/24/2003 8:49 PM

c:\windows\system32\msvidc32.dll Microsoft Corporation OK C:\WINDOWS\system32\MSVIDC32.DLL 5.2.3790.0 (srv03_rtm.030324-2048) 26.50 KB (27,136 bytes) 3/25/2003 7:00 AM

c:\windows\system32\msh263.drv Microsoft Corporation OK C:\WINDOWS\system32\MSH263.DRV 5.2.3790.1830 288.00 KB (294,912 bytes) 3/6/2006 5:23 PM

c:\windows\system32\iyuv_32.dll Microsoft Corporation OK C:\WINDOWS\system32\IYUV_32.DLL 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:23 PM

[CD-ROM]

| Item | Value |
|---|---|
| Drive | Z: |
| Description | CD-ROM Drive |
| Media Loaded | No |
| Media Type | CD-ROM |
| Name | HL-DT-ST CD-ROM GCR-8482B |
| Manufacturer | (Standard CD-ROM drives) |
| Status | OK |
| Transfer Rate | Not Available |
| SCSI Target ID | 0 |
| PNP Device ID | IDE\CDROMHL-DT-ST_CD-ROM_GCR-8482B_____1.04____\5&25B98AF5&0&0.0.0 |

Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 51.00 KB (52,224 bytes), 3/25/2003 7:00 AM)

[Sound Device]

| Item | Value |
|---|---|

[Display]

| Item | Value |
|---|---|
| Name | RADEON 7000 RADEON VE Family (Microsoft Corporation) |
| PNP Device ID | PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0 |
| Adapter Type | Radeon 7000 (QY), ATI Technologies Inc. compatible |
| Adapter Description | RADEON 7000 RADEON VE Family (Microsoft Corporation) |
| Adapter RAM | 16.00 MB (16,777,216 bytes) |
| Installed Drivers | ati2dvag.dll |
| Driver Version | 5.1.2600.0 |
| INF File | atiixpag.inf (ati2mtag_RV100 section) |
| Color Planes | 1 |
| Color Table Entries | 4294967296 |
| Resolution | 1024 x 768 x 75 hertz |
| Bits/Pixel | 32 |
| Memory Address | 0xD8000000-0xDFFFFFFF |
| I/O Port | 0x00005000-0x000050FF |
| Memory Address | 0xD0500000-0xD050FFFF |
| IRQ Channel | IRQ 22 |
| I/O Port | 0x000003B0-0x000003BB |
| I/O Port | 0x000003C0-0x000003DF |
| Memory Address | 0xA0000-0xBFFFF |
| Driver | c:\windows\system32\drivers\ati2mtag.sys (6.13.10.6153, 439.63 KB (450,176 bytes), 3/1/2006 8:25 AM) |

[Infrared]

| Item | Value |
|---|---|

[Input]

[Keyboard]

| Item | Value |
|---|---|
| Description | Standard 101/102-Key or Microsoft Natural PS/2 Keyboard |
| Name | Enhanced (101- or 102-key) |
| Layout | 00000409 |
| PNP Device ID | ACPI\PNP0303\5&9583612&0 |
| Number of Function Keys | 12 |
| I/O Port | 0x00000060-0x00000060 |
| I/O Port | 0x00000064-0x00000064 |
| IRQ Channel | IRQ 1 |

Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value
Hardware Type PS/2 Compatible Mouse
Number of Buttons 3
Status OK
PNP Device ID ACPI\PNP0F13\5&9583612&0
Power Management Supported No
Double Click Threshold 6
Handedness Right Handed Operation
IRQ Channel IRQ 12
Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value
Name [00000001] RAS Async Adapter
Adapter Type Not Available
Product Type RAS Async Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 2/15/2007 11:05 AM
Index 1
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000002] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 2
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\rasl2tp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 66.00 KB (67,584 bytes), 3/25/2003 7:00 AM)

Name [00000003] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes
PNP Device ID ROOT\MS_PPTPMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 3
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30
Driver c:\windows\system32\drivers\raspptp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 61.00 KB (62,464 bytes), 3/25/2003 7:00 AM)

Name [00000004] WAN Miniport (PPPOE)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPPOE)
Installed Yes
PNP Device ID ROOT\MS_PPPOEMINIPORT\0000

Last Reset 2/15/2007 11:05 AM
Index 4
Service Name RasPppoe
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 33:50:6F:45:30:30

Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 40.00 KB (40,960 bytes), 3/25/2003 7:00 AM)

Name [00000005] Direct Parallel

Adapter Type Not Available

Product Type Direct Parallel

Installed Yes

PNP Device ID ROOT\MS_PTIMINIPORT\0000

Last Reset 2/15/2007 11:05 AM

Index 5

Service Name Raspti

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Driver c:\windows\system32\drivers\raspti.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 19.50 KB (19,968 bytes), 3/25/2003 7:00 AM)

Name [00000006] WAN Miniport (IP)

Adapter Type Not Available

Product Type WAN Miniport (IP)

Installed Yes

PNP Device ID ROOT\MS_NDISWANIP\0000

Last Reset 2/15/2007 11:05 AM

Index 6

Service Name NdisWan

IP Address Not Available

IP Subnet Not Available

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address Not Available

Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB (93,184 bytes), 3/25/2003 7:00 AM)

Name [00000007] Broadcom NetXtreme Gigabit Ethernet

Adapter Type Ethernet 802.3

Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes

PNP Device ID PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_01\4&1855300&0&0010

Last Reset 2/15/2007 11:05 AM

Index 7

Service Name b57w2k

IP Address 192.168.40.20

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0D:60:15:03:1C

Memory Address 0xD0100000-0xD01FFFFF

IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\b57xp32.sys (8.48.0.0 built by: WinDDK, 139.38 KB (142,720 bytes), 10/26/2005 11:01 AM)

Name [00000008] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&080018

Last Reset 2/15/2007 11:05 AM

Index 8

Service Name E1000

IP Address 192.168.122.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:36:79:96

Memory Address 0xD0320000-0xD033FFFF

Memory Address 0xD0340000-0xD037FFFF

IRQ Channel IRQ 28

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000009] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&090018

Last Reset 2/15/2007 11:05 AM

Index 9

Service Name E1000

IP Address 10.0.0.20

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:36:79:97

Memory Address 0xD0380000-0xD039FFFF

IRQ Channel IRQ 29

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000010] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&080218

Last Reset 2/15/2007 11:05 AM

Index 10

Service Name E1000

IP Address 192.168.120.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:35:7E:B4

Memory Address 0xD0440000-0xD045FFFF

Memory Address 0xD0400000-0xD04FFFFF

IRQ Channel IRQ 48

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000011] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3

Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter

Installed Yes

PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&090218

Last Reset 2/15/2007 11:05 AM

Index 11

Service Name E1000

IP Address 192.168.121.99

IP Subnet 255.255.255.0

Default IP Gateway Not Available

DHCP Enabled No

DHCP Server Not Available

DHCP Lease Expires Not Available

DHCP Lease Obtained Not Available

MAC Address 00:0E:0C:35:7E:B5

Memory Address 0xD0460000-0xD047FFFF

IRQ Channel IRQ 49

Driver c:\windows\system32\drivers\e1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

[Protocol]

Item Value

Name MSAFD Tcpip [TCP/IP]

Connectionless Service No

Guarantees Delivery Yes

Guarantees Sequencing Yes

Maximum Address Size 16 bytes

Maximum Message Size 0 bytes

Message Oriented No

Minimum Address Size 16 bytes

Pseudo Stream Oriented No

Supports Broadcasting No

Supports Connect Data No

Supports Disconnect Data No

Supports Encryption No

Supports Expedited Data Yes

Supports Graceful Closing Yes

Supports Guaranteed Bandwidth No

Supports Multicasting No

Name MSAFD Tcpip [UDP/IP]

Connectionless Service Yes

Guarantees Delivery No

Guarantees Sequencing No

Maximum Address Size 16 bytes

Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes

Minimum Address Size 16 bytes

Pseudo Stream Oriented No

Supports Broadcasting Yes

Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP UDP Service Provider
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 16 bytes
Maximum Message Size 63.93 KB (65,467 bytes)

Message Oriented Yes
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting Yes

Name RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 16 bytes
Maximum Message Size 0 bytes
Message Oriented No
Minimum Address Size 16 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption Yes
Supports Expedited Data Yes
Supports Graceful Closing Yes
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] SEQPACKET 6
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] DATAGRAM 6
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] SEQPACKET 5
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No

Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] DATAGRAM 5
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] SEQPACKET 4
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] DATAGRAM 4
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] SEQPACKET 3
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] DATAGRAM 3
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No

Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] SEQPACKET 0
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] DATAGRAM 0
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] SEQPACKET 1
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] DATAGRAM 1
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] SEQPACKET 2
Connectionless Service No
Guarantees Delivery Yes
Guarantees Sequencing Yes
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting No
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No

Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] DATAGRAM 2
Connectionless Service Yes
Guarantees Delivery No
Guarantees Sequencing No
Maximum Address Size 20 bytes
Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
Minimum Address Size 20 bytes
Pseudo Stream Oriented No
Supports Broadcasting Yes
Supports Connect Data No
Supports Disconnect Data No
Supports Encryption No
Supports Expedited Data No
Supports Graceful Closing No
Supports Guaranteed Bandwidth No
Supports Multicasting No

[WinSock]

Item Value
File c:\windows\system32\winsock.dll
Size 2.80 KB (2,864 bytes)
Version 3.10

File c:\windows\system32\wsock32.dll
Size 22.00 KB (22,528 bytes)
Version 5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item Value
Name Communications Port (COM1)
Status OK
PNP Device ID ACPI\PNP0501\1
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes
Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000003F8-0x000003FF
IRQ Channel IRQ 4
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

Name Communications Port (COM2)
Status OK
PNP Device ID ACPI\PNP0501\2
Maximum Input Buffer Size 0
Maximum Output Buffer Size No
Settable Baud Rate Yes
Settable Data Bits Yes
Settable Flow Control Yes
Settable Parity Yes
Settable Parity Check Yes
Settable Stop Bits Yes
Settable RLSD Yes

Supports RLSD Yes
Supports 16 Bit Mode No
Supports Special Characters No
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy No
Abort Read/Write on Error No
Binary Mode Enabled Yes
Continue XMit on XOff No
CTS Outflow Control No
Discard NULL Bytes No
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled No
Event Character 0
Parity Check Enabled No
RTS Flow Control Type Enable
XOff Character 19
XOffXMit Threshold 512
XOn Character 17
XOnXMit Threshold 2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control 0
I/O Port 0x000002F8-0x000002FF
IRQ Channel IRQ 3
Driver c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

[Parallel]

Item Value
Name LPT1
PNP Device ID ACPI\PNP0401\5&9583612&0
I/O Port 0x00000378-0x0000037F
I/O Port 0x00000778-0x0000077F
DMA Channel Channel 3
Driver c:\windows\system32\drivers\parport.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 79.50 KB (81,408 bytes), 3/24/2003 6:04 PM)

[Storage]

[Drives]

Item Value
Drive A:
Description 3 1/2 Inch Floppy Drive

Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.90 GB (36,396,830,720 bytes)
Free Space 25.27 GB (27,138,048,000 bytes)
Volume Name
Volume Serial Number ECA3EB0F

Drive Z:
Description CD-ROM Disc

[Disks]

Item Value
Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS ST336753LC FN SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 3
SCSI Target ID 1
Sectors/Track 63
Size 33.90 GB (36,396,864,000 bytes)
Total Cylinders 4,425
Total Sectors 71,087,625
Total Tracks 1,128,375
Tracks/Cylinder 255
Partition Disk #0, Partition #0
Partition Size 33.90 GB (36,396,831,744 bytes)
Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
Name Adaptec AIC-7902B - Ultra320 SCSI
Manufacturer Adaptec
Status OK
PNP Device ID PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&1EA3B137&0&180018
I/O Port 0x00002400-0x000024FF

Memory Address 0xD0300000-0xD03FFFFF

I/O Port 0x00002000-0x00004FFF

IRQ Channel IRQ 30

Driver c:\windows\system32\drivers\adpu320.sys (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes), 3/1/2006 8:18 AM)

Name Adaptec AIC-7902B - Ultra320 SCSI

Manufacturer Adaptec

Status OK

PNP Device ID PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&1EA3B137&0&190018

I/O Port 0x00002C00-0x00002CFF

Memory Address 0xD0302000-0xD0303FFF

I/O Port 0x00002800-0x000028FF

IRQ Channel IRQ 31

Driver c:\windows\system32\drivers\adpu320.sys (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes), 3/1/2006 8:18 AM)

[IDE]

Item Value

Name Intel(R) 82801EB Ultra ATA Storage Controllers

Manufacturer Intel

Status OK

PNP Device ID PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1014&REV_02\3&61AAA01&0&F9

I/O Port 0x000014A0-0x000014AF

Memory Address 0xFEBFFC00-0xFEBFFFFF

Driver c:\windows\system32\drivers\pciide.sys (5.2.3790.0 (srv03_rtm.030324-2048), 5.50 KB (5,632 bytes), 3/6/2006 4:43 PM)

Name Primary IDE Channel

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&2FA43749&0&0

I/O Port 0x000001F0-0x000001F7

I/O Port 0x000003F6-0x000003F6

IRQ Channel IRQ 14

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB (95,744 bytes), 3/6/2006 4:43 PM)

Name Secondary IDE Channel

Manufacturer (Standard IDE ATA/ATAPI controllers)

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&2FA43749&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

IRQ Channel IRQ 15

Driver c:\windows\system32\drivers\atapi.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB (95,744 bytes), 3/6/2006 4:43 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

Not Available ACPI\ASF0001\2&DABA3FF&0 The drivers for this device are not installed.

Not Available ACPI\IBM3737\4&369939D9&0 The drivers for this device are not installed.

[USB]

Device PNP Device ID

Intel(R) 82801EB USB Universal Host Controller - 24D2 PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E8

Intel(R) 82801EB USB Universal Host Controller - 24D4 PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E9

Intel(R) 82801EB USB Universal Host Controller - 24D7 PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EA

Intel(R) 82801EB USB Universal Host Controller - 24DE PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EB

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EF

[Software Environment]

[System Drivers]

Name Description File Type Started Start Mode State Status Error Control Accept Pause Accept Stop

abiosdsk Abiosdsk Not Available Kernel Driver No Disabled Stopped OK Ignore No No

acpi Microsoft ACPI Driver c:\windows\system32\drivers\acpi.sys Kernel Driver Yes Boot

```
            Running   OK        Normal    No        Yes

acpiec      ACPIEC
            c:\windows\system32\drivers\acpiec.sys
            Kernel Driver       No        Disabled
            Stopped   OK        Normal    No        No

adpu160m    adpu160m Not Available        Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

adpu320     adpu320
            c:\windows\system32\drivers\adpu320.sys
            Kernel Driver       Yes       Boot
            Running   OK        Normal    No        Yes

afcnt       afcnt     Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

afd         AFD Networking Support Environment
            c:\windows\system32\drivers\afd.sys
            Kernel Driver       Yes       System
            Running   OK        Normal    No        Yes

aha154x     Aha154x   Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

aic78u2     aic78u2   Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

aic78xx     aic78xx   Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

aliide      AliIde    Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

asyncmac    RAS Asynchronous Media Driver
            c:\windows\system32\drivers\asyncmac.sys
            Kernel Driver       No        Manual
            Stopped   OK        Normal    No        No

atapi       Standard IDE/ESDI Hard Disk Controller
            c:\windows\system32\drivers\atapi.sys
            Kernel Driver       Yes       Boot
            Running   OK        Normal    No        Yes

atdisk      Atdisk    Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Ignore    No        No

ati2mtag    ati2mtag
            c:\windows\system32\drivers\ati2mtag.sys
            Kernel Driver       Yes       Manual
            Running   OK        Ignore    No        Yes

atmarpc     ATM ARP Client Protocol
            c:\windows\system32\drivers\atmarpc.sys
            Kernel Driver       No        Manual
            Stopped   OK        Normal    No        No

audstub     Audio Stub Driver
            c:\windows\system32\drivers\audstub.sys
            Kernel Driver       Yes       Manual
            Running   OK        Normal    No        Yes

b57w2k      Broadcom NetXtreme Gigabit Ethernet
            c:\windows\system32\drivers\b57xp32.sys
            Kernel Driver       Yes       Manual
            Running   OK        Normal    No        Yes

beep        Beep      c:\windows\system32\drivers\beep.sys
            Kernel Driver       Yes       System
            Running   OK        Normal    No        Yes

cbidf2k     cbidf2k
            c:\windows\system32\drivers\cbidf2k.sys
            Kernel Driver       No        Disabled
            Stopped   OK        Normal    No        No

cd20xrnt    cd20xrnt  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

cdfs        Cdfs      c:\windows\system32\drivers\cdfs.sys
            File System Driver  Yes       Disabled
            Running   OK        Normal    No        Yes

cdrom       CD-ROM Driver
            c:\windows\system32\drivers\cdrom.sys
            Kernel Driver       Yes       System
            Running   OK        Normal    No        Yes

changer     Changer   Not Available       Kernel Driver
            No        System    Stopped   OK
            Ignore    No        No

clusdisk    Cluster Disk Driver
            c:\windows\system32\drivers\clusdisk.sys
            Kernel Driver       No        Disabled
            Stopped   OK        Normal    No        No

cmdide      CmdIde    Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

cpqarray    Cpqarray  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

cpqarry2    cpqarry2  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

cpqcissm    cpqcissm  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

cpqfcalm    cpqfcalm  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

crcdisk     CRC Disk Filter Driver
            c:\windows\system32\drivers\crcdisk.sys
            Kernel Driver       Yes       Boot
            Running   OK        Normal    No        Yes

dac960nt    dac960nt  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

dellcerc    dellcerc  Not Available       Kernel Driver
            No        Disabled  Stopped   OK
            Normal    No        No

dfsdriver   DfsDriver c:\windows\system32\drivers\dfs.sys
            File System Driver  Yes       Boot
            Running   OK        Normal    No        Yes
```

disk Disk Driver
c:\windows\system32\drivers\disk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmboot dmboot
c:\windows\system32\drivers\dmboot.sys
Kernel Driver No Disabled
Stopped OK Normal No No

dmio Logical Disk Manager Driver
c:\windows\system32\drivers\dmio.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dmload dmload
c:\windows\system32\drivers\dmload.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

dpti2o dpti2o Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

e1000 Intel(R) PRO/1000 Network Connection Driver
c:\windows\system32\drivers\e1000325.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fastfat Fastfat
c:\windows\system32\drivers\fastfat.sys File
System Driver No Disabled Stopped OK
Normal No No

fdc Floppy Disk Controller Driver
c:\windows\system32\drivers\fdc.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fips Fips c:\windows\system32\drivers\fips.sys
Kernel Driver Yes System
Running OK Normal No Yes

flpydisk Floppy Disk Driver
c:\windows\system32\drivers\flpydisk.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

fltmgr FltMgr
c:\windows\system32\drivers\fltmgr.sys File
System Driver Yes Boot Running OK
Normal No Yes

ftdisk Volume Manager Driver
c:\windows\system32\drivers\ftdisk.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

gpc Generic Packet Classifier
c:\windows\system32\drivers\msgpc.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

hpn hpn Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

hpt3xx hpt3xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

http HTTP c:\windows\system32\drivers\http.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

i2omgmt i2omgmt Not Available Kernel Driver
No System Stopped OK
Normal No No

i2omp i2omp Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

i8042prt i8042 Keyboard and PS/2 Mouse Port Driver
c:\windows\system32\drivers\i8042prt.sys
Kernel Driver Yes System
Running OK Normal No Yes

iirsp iirsp Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

imapi CD-Burning Filter Driver
c:\windows\system32\drivers\imapi.sys
Kernel Driver No System
Stopped OK Normal No No

intelide IntelIde
c:\windows\system32\drivers\intelide.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

intelppm Intel Processor Driver
c:\windows\system32\drivers\intelppm.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ip6fw IPv6 Windows Firewall Driver
c:\windows\system32\drivers\ip6fw.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipfilterdriver IP Traffic Filter Driver
c:\windows\system32\drivers\ipfltdrv.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipinip IP in IP Tunnel Driver
c:\windows\system32\drivers\ipinip.sys
Kernel Driver No Disabled
Stopped OK Normal No No

ipnat IP Network Address Translator
c:\windows\system32\drivers\ipnat.sys
Kernel Driver No Manual
Stopped OK Normal No No

ipsec IPSEC driver
c:\windows\system32\drivers\ipsec.sys
Kernel Driver Yes System
Running OK Normal No Yes

ipsraidn ipsraidn Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

irenum IR Enumerator Service
c:\windows\system32\drivers\irenum.sys
Kernel Driver No Manual
Stopped OK Normal No No

isapnp PnP ISA/EISA Bus Driver
c:\windows\system32\drivers\isapnp.sys
Kernel Driver Yes Boot
Running OK Critical No Yes

kbdclass Keyboard Class Driver
c:\windows\system32\drivers\kbdclass.sys
Kernel Driver Yes System
Running OK Normal No Yes

ksecdd KSecDD
c:\windows\system32\drivers\ksecdd.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

lp6nds35 lp6nds35 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

mnmdd mnmdd
c:\windows\system32\drivers\mnmdd.sys
Kernel Driver Yes System
Running OK Ignore No Yes

modem Modem
c:\windows\system32\drivers\modem.sys
Kernel Driver No Manual
Stopped OK Ignore No No

mouclass Mouse Class Driver
c:\windows\system32\drivers\mouclass.sys
Kernel Driver Yes System
Running OK Normal No Yes

mountmgr Mount Point Manager
c:\windows\system32\drivers\mountmgr.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

mraid35x mraid35x Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

mrxdav WebDav Client Redirector
c:\windows\system32\drivers\mrxdav.sys File
System Driver No Manual Stopped OK
Normal No No

mrxsmb MRXSMB
c:\windows\system32\drivers\mrxsmb.sys File
System Driver Yes System Running OK
Normal No Yes

msfs Msfs c:\windows\system32\drivers\msfs.sys
File System Driver Yes System
Running OK Normal No Yes

mssmbios Microsoft System Management BIOS Driver
c:\windows\system32\drivers\mssmbios.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

mup Mup c:\windows\system32\drivers\mup.sys
File System Driver Yes Boot
Running OK Normal No Yes

nal Nal Service
\??\c:\windows\system32\drivers\iqvw32.sys
Kernel Driver No Manual
Stopped OK Normal No No

ndis NDIS System Driver
c:\windows\system32\drivers\ndis.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

ndistapi Remote Access NDIS TAPI Driver
c:\windows\system32\drivers\ndistapi.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ndisuio NDIS Usermode I/O Protocol
c:\windows\system32\drivers\ndisuio.sys
Kernel Driver No Manual
Stopped OK Normal No No

ndiswan Remote Access NDIS WAN Driver
c:\windows\system32\drivers\ndiswan.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ndproxy NDIS Proxy
c:\windows\system32\drivers\ndproxy.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

netbios NetBIOS Interface
c:\windows\system32\drivers\netbios.sys File
System Driver Yes System Running OK
Normal No Yes

netbt NetBios over Tcpip
c:\windows\system32\drivers\netbt.sys
Kernel Driver Yes System
Running OK Normal No Yes

nfrd960 nfrd960 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

npfs Npfs c:\windows\system32\drivers\npfs.sys
File System Driver Yes System
Running OK Normal No Yes

ntfs Ntfs c:\windows\system32\drivers\ntfs.sys
File System Driver Yes Disabled
Running OK Normal No Yes

null Null c:\windows\system32\drivers\null.sys
Kernel Driver Yes System
Running OK Normal No Yes

parport Parallel port driver
c:\windows\system32\drivers\parport.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

partmgr Partition Manager
c:\windows\system32\drivers\partmgr.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

parvdm Parvdm
c:\windows\system32\drivers\parvdm.sys
Kernel Driver Yes Auto
Running OK Ignore No Yes

pci PCI Bus Driver
c:\windows\system32\drivers\pci.sys
Kernel Driver Yes Boot
Running OK Critical No Yes

pciide PCIIde
c:\windows\system32\drivers\pciide.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

pcmcia Pcmcia
c:\windows\system32\drivers\pcmcia.sys
Kernel Driver No Disabled
Stopped OK Normal No No

pdcomp PDCOMP Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

pdframe PDFRAME Not Available
Kernel Driver No Manual
Stopped OK Ignore No No

pdreli PDRELI Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

pdrframe PDRFRAME Not Available
Kernel Driver No Manual
Stopped OK Ignore No No

perc2 perc2 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

perc2hib perc2hib Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

pptpminiport WAN Miniport (PPTP)
c:\windows\system32\drivers\raspptp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

processor Processor Driver
c:\windows\system32\drivers\processr.sys
Kernel Driver No Manual
Stopped OK Normal No No

ptilink Direct Parallel Link Driver
c:\windows\system32\drivers\ptilink.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

ql1080 ql1080 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql10wnt Ql10wnt Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql12160 ql12160 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1240 ql1240 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql1280 ql1280 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2100 ql2100 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2200 ql2200 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

ql2300 ql2300 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

rasacd Remote Access Auto Connection Driver
c:\windows\system32\drivers\rasacd.sys
Kernel Driver Yes System
Running OK Normal No Yes

rasl2tp WAN Miniport (L2TP)
c:\windows\system32\drivers\rasl2tp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspppoe Remote Access PPPOE Driver
c:\windows\system32\drivers\raspppoe.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

raspti Direct Parallel
c:\windows\system32\drivers\raspti.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdbss Rdbss c:\windows\system32\drivers\rdbss.sys
File System Driver Yes System
Running OK Normal No Yes

rdpcdd RDPCDD
c:\windows\system32\drivers\rdpcdd.sys
Kernel Driver Yes System
Running OK Ignore No Yes

rdpdr Terminal Server Device Redirector Driver
c:\windows\system32\drivers\rdpdr.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

rdpwd RDPWD
c:\windows\system32\drivers\rdpwd.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

redbook Digital CD Audio Playback Filter Driver
c:\windows\system32\drivers\redbook.sys
Kernel Driver Yes System

Running OK Normal No Yes

serenum Serenum Filter Driver
c:\windows\system32\drivers\serenum.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

serial Serial port driver
c:\windows\system32\drivers\serial.sys
Kernel Driver Yes System
Running OK Ignore No Yes

sfloppy Sfloppy
c:\windows\system32\drivers\sfloppy.sys
Kernel Driver No System
Stopped OK Ignore No No

simbad Simbad Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sparrow Sparrow Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

srv Srv c:\windows\system32\drivers\srv.sys
File System Driver Yes Manual
Running OK Normal No Yes

swenum Software Bus Driver
c:\windows\system32\drivers\swenum.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

symc810 symc810 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

symc8xx symc8xx Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

symmpi symmpi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_hi sym_hi Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

sym_u3 sym_u3 Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

tcpip TCP/IP Protocol Driver
c:\windows\system32\drivers\tcpip.sys
Kernel Driver Yes System
Running OK Normal No Yes

tdpipe TDPIPE
c:\windows\system32\drivers\tdpipe.sys
Kernel Driver No Manual
Stopped OK Ignore No No

tdtcp TDTCP c:\windows\system32\drivers\tdtcp.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

termdd Terminal Device Driver
c:\windows\system32\drivers\termdd.sys
Kernel Driver Yes System
Running OK Normal No Yes

toside TosIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

udfs Udfs c:\windows\system32\drivers\udfs.sys
File System Driver No Disabled
Stopped OK Normal No No

ultra ultra Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

update Microcode Update Driver
c:\windows\system32\drivers\update.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver
c:\windows\system32\drivers\usbehci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbhub USB2 Enabled Hub
c:\windows\system32\drivers\usbhub.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

usbstor USB Mass Storage Driver
c:\windows\system32\drivers\usbstor.sys
Kernel Driver No Manual
Stopped OK Normal No No

usbuhci Microsoft USB Universal Host Controller Miniport Driver
c:\windows\system32\drivers\usbuhci.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

vgasave VGA Display Controller.
c:\windows\system32\drivers\vga.sys
Kernel Driver Yes System
Running OK Ignore No Yes

viaide ViaIde Not Available Kernel Driver
No Disabled Stopped OK
Normal No No

volsnap Storage volumes
c:\windows\system32\drivers\volsnap.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

wanarp Remote Access IP ARP Driver
c:\windows\system32\drivers\wanarp.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

wdica WDICA Not Available Kernel Driver
No Manual Stopped OK
Ignore No No

wlbs Network Load Balancing
c:\windows\system32\drivers\wlbs.sys
Kernel Driver No Manual

Stopped OK Normal No No

[Signed Drivers]

Device Name Signed Device Class
Driver Version Driver Date
Manufacturer INF Name Driver Name
Device ID

Microsoft System Management BIOS Driver Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0002

Microcode Update Device Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\SYSTEM\0001

Plug and Play Software Device Enumerator Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\SYSTEM\0000

Terminal Server Mouse Driver Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\RDP_MOU\0000

Terminal Server Keyboard Driver Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\RDP_KBD\0000

Terminal Server Device Redirector Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ROOT\RDPDR\0000

Direct Parallel Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_PTIMINIPORT\0000

WAN Miniport (PPTP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_PPTPMINIPORT\0000

WAN Miniport (PPPOE) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_PPPOEMINIPORT\0000

WAN Miniport (IP) Yes NET 5.2.3790.0
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) Yes NET
5.2.3790.0 10/1/2002 Microsoft netrasa.inf Not
Available ROOT\MS_L2TPMINIPORT\0000

Video Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices Yes MEDIA
5.2.3790.0 10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio Drivers Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs Yes MEDIA 5.2.3790.0
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_WANARP\0000

volsnap Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_VOLSNAP\0000

VGA Display Controller. Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_VGASAVE\0000

TDTCP Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_TDTCP\0000

TCP/IP Protocol Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_TCPIP\0000

RDPWD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPWD\0000

RDPCDD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_RDPCDD\0000

Remote Access Auto Connection Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RASACD\0000

Parvdm Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_PARVDM\0000

Partition Manager Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_PARTMGR\0000

Null Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NULL\0000

NetBios over Tcpip Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NETBT\0000

NDProxy Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_NDPROXY\0000

NDIS Usermode I/O Protocol Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver Not Available
LEGACYDRIVER Not Available Not

Available Not Available Not Available Not Available ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_NDIS\0000

Nal Service Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_NAL\0000

mountmgr Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_MOUNTMGR\0000

mnmdd Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_MNMDD\0000

ksecdd Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_KSECDD\0000

IPSEC driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_IPSEC\0000

IntelIde Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_INTELIDE\0000

HTTP Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_HTTP\0000

Generic Packet Classifier Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_GPC\0000

Fips Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_FIPS\0000

dmload Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_DMLOAD\0000

dmboot Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_DMBOOT\0000

CRC Disk Filter Driver Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_CRCDISK\0000

Beep Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_BEEP\0000

AFD Networking Support Environment Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available ROOT\LEGACY_AFD\0000

Generic volume Yes VOLUME 5.2.3790.1830 10/1/2002 Microsoft volume.inf Not Available STORAGE\VOLUME\1&30A96598&0&SIGNATURED212D212OFFSET7E00LENGTH8796B9400

Volume Manager Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\FTDISK\0000

Logical Disk Manager Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ROOT\DMIO\0000

ACPI Fixed Feature Button Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\FIXEDBUTTON\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C0C\3&61AAA01&0

Intel(R) 82801EB SMBus Controller - 24D3 Yes SYSTEM 5.1.0.1009 3/25/2004 Intel ich5core.inf Not Available PCI\VEN_8086&DEV_24D3&SUBSYS_02ED1014&REV_02\3&61AAA01&0&FB

Secondary IDE Channel Yes HDC 5.2.3790.0 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available PCIIDE\IDECHANNEL\4&2FA43749&0&1

CD-ROM Drive Yes CDROM 5.2.3790.0 10/1/2002 (Standard CD-ROM drives) cdrom.inf Not Available IDE\CDROMHL-DT-ST_CD-ROM_GCR-8482B_____1.04____\5&25B98AF5&0&0.0.0

Primary IDE Channel Yes HDC 5.2.3790.0 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available PCIIDE\IDECHANNEL\4&2FA43749&0&0

Intel(R) 82801EB Ultra ATA Storage Controllers Yes HDC 5.1.0.1009 3/25/2004 Intel ich5ide.inf Not Available PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1014&REV_02\3&61AAA01&0&F9

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard Yes KEYBOARD 5.2.3790.0 10/1/2002 (Standard keyboards) keyboard.inf Not Available ACPI\PNP0303\5&9583612&0

PS/2 Compatible Mouse Yes MOUSE 5.2.3790.0 10/1/2002 Microsoft msmouse.inf Not Available ACPI\PNP0F13\5&9583612&0

Communications Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0501\2

Communications Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0501\1

Printer Port Logical Interface Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available LPTENUM\MICROSOFTRAWPORT\6&2A460501&0&LPT1

ECP Printer Port Yes PORTS 5.2.3790.0 10/1/2002 (Standard port types) msports.inf Not Available ACPI\PNP0401\5&9583612&0

Floppy disk drive Yes FLOPPYDISK 5.2.3790.0 10/1/2002 (Standard floppy disk drives) flpydisk.inf Not Available FDC\GENERIC_FLOPPY_DRIVE\6&6A032C4&0&0

Standard floppy disk controller Yes FDC 5.2.3790.0 10/1/2002 (Standard floppy disk controllers) fdc.inf Not Available ACPI\PNP0700\1

Generic Bus Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A05\1

Not Available Not Available Not Available Not Available Not Available Not Available Not Available ACPI\IBM3737\4&369939D9&0

System timer Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0100\4&369939D9&0

System speaker Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0800\4&369939D9&0

System CMOS/real time clock Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0B00\4&369939D9&0

Programmable interrupt controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0000\4&369939D9&0

Numeric data processor Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C04\4&369939D9&0

Direct memory access controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0200\4&369939D9&0

Motherboard resources Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0C02\1F

ISAPNP Read Data Port Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ISAPNP\READDATAPORT\0

Intel(R) 82801EB LPC Interface Controller - 24D0 Yes SYSTEM 5.1.0.1009 3/25/2004 Intel ich5core.inf Not Available PCI\VEN_8086&DEV_24D0&SUBSYS_00000000&REV_02\3&61AAA01&0&F8

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\5&10D13A3F&0&10000000&06&04

RADEON 7000 RADEON VE Family (Microsoft Corporation) Yes DISPLAY 6.13.10.6153 8/8/2002 ATI Technologies Inc. atiixpag.inf Not Available PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0

Intel(R) 82801 PCI Bridge - 244E Yes SYSTEM 6.0.0.1013 4/1/2004 Intel ich6core.inf Not Available PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_C2\3&61AAA01&0&F0

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&34B50607&0

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EF

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&CAEE98E&0

Intel(R) 82801EB USB Universal Host Controller - 24DE Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EB

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&206D9F09&0

Intel(R) 82801EB USB Universal Host Controller - 24D7 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EA

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&31D97CBA&0

Intel(R) 82801EB USB Universal Host Controller - 24D4 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E9

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&39460DFB&0

Intel(R) 82801EB USB Universal Host Controller - 24D2 Yes USB 5.1.0.1009 4/1/2004 Intel ich5usb.inf Not Available PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1014&REV_02\3&61AAA01&0&E8

Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3597&SUBSYS_00000000&REV_0A\3&61AAA01&0&20

Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available

PCI\VEN_8086&DEV_0327&SUBSYS_00000000&REV_09\4&75520AF&0&0318

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&090218

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&080218

Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_032A&SUBSYS_00000000&REV_09\4&75520AF&0&0218

Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_0326&SUBSYS_00000000&REV_09\4&75520AF&0&0118

SCSI Processor Device Yes SYSTEM 5.2.3790.0 10/1/2002 IBM scsidev.inf Not Available SCSI\PROCESSOR&VEN_IBM&PROD_02R0980A_S320__1&REV_1\6&1E796AF&0&080

Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST336753LC____FN&REV_B85B\6&1E796AF&0&010

Adaptec AIC-7902B - Ultra320 SCSI Yes SCSIADAPTER 3.0.0.0 8/28/2003 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&1EA3B137&0&190018

Adaptec AIC-7902B - Ultra320 SCSI Yes SCSIADAPTER 3.0.0.0 8/28/2003 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_801D&SUBSYS_02CC1014&REV_10\5&1EA3B137&0&180018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&090018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.6.17.0 1/6/2006 Intel oem2.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&080018

Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_0329&SUBSYS_00000000&REV_09\4&75520AF&0&0018

Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3596&SUBSYS_00000000&REV_0A\3&61AAA01&0&18

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.48.0.0 10/31/2005 Broadcom oem3.inf Not Available PCI\VEN_14E4&DEV_1659&SUBSYS_02C61014&REV_01\4&1855300&0&0010

Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_3595&SUBSYS_00000000&REV_0A\3&61AAA01&0&10

Intel(R) E7525 Memory Controller Hub - 359E Yes SYSTEM 6.0.1.1001 4/29/2004 Intel e7520.inf Not Available PCI\VEN_8086&DEV_359E&SUBSYS_00000000&REV_0A\3&61AAA01&0&00

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\2&DABA3FF&0

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available ACPI\ASF0001\2&DABA3FF&0

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3_3

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3_2

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3_1

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3_0

Microsoft ACPI-Compliant System Yes SYSTEM 5.2.3790.0 10/1/2002 Microsoft acpi.inf Not Available ACPI_HAL\PNP0C08\0

ACPI Multiprocessor PC Yes COMPUTER 5.2.3790.0 10/1/2002 (Standard computers) hal.inf Not Available ROOT\ACPI_HAL\0000

Not Available Not Available Not Available Not Available Not Available Not Available Not Available Not Available HTREE\ROOT\0

[Environment Variables]

Variable Value User Name

ClusterLog C:\WINDOWS\Cluster\cluster.log <SYSTEM>

ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>

NUMBER_OF_PROCESSORS 4 <SYSTEM>

OS Windows_NT <SYSTEM>

Path
%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;c:\tools;c:\tools\util;c:\Program Files\Intel\DMIX;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\binn\;C:\Program Files\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\ <SYSTEM>

PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE x86 <SYSTEM>

PROCESSOR_IDENTIFIER x86 Family 15 Model 3 Stepping 4, GenuineIntel <SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_REVISION 0304 <SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>

TMP %SystemRoot%\TEMP <SYSTEM>

windir %SystemRoot% <SYSTEM>

FP_NO_HOST_CHECK NO <SYSTEM>

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE

TEMP %USERPROFILE%\Local Settings\Temp FCLIENT20\Administrator

TMP %USERPROFILE%\Local Settings\Temp FCLIENT20\Administrator

[Print Jobs]

Document Size Owner Notify Status Time Submitted Start Time Until Time Elapsed Time
Pages Printed Job ID Priority
Parameters Driver Print Processor Host Print Queue Data Type Name

[Network Connections]

Local Name Remote Name Type
Status User Name

[Running Tasks]

Name Path Process ID Priority Min Working Set Max Working Set Start Time Version Size File Date

system idle process Not Available 0 0 Not Available Not Available Not Available Not Available Not Available

system Not Available 4 8 0 1413120 Not Available Not Available Not Available Not Available

smss.exe Not Available 816 11 204800 1413120 2/15/2007 11:05 AM Not Available Not Available Not Available

csrss.exe Not Available 928 13 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe 1032 13 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 3/6/2006 5:23 PM

services.exe c:\windows\system32\services.exe 1076 9 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 107.50 KB (110,080 bytes) 3/25/2003 7:00 AM

lsass.exe c:\windows\system32\lsass.exe 1088 9 204800 1413120 2/15/2007 11:05 AM 5.2.3790.0 (srv03_rtm.030324-2048) 13.00 KB (13,312 bytes) 3/25/2003 7:00 AM

svchost.exe c:\windows\system32\svchost.exe 1312 8 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM

svchost.exe Not Available 1404 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe Not Available 1460 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe Not Available 1504 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 1552 8 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM

explorer.exe c:\windows\explorer.exe 1852 8 204800 1413120 2/15/2007 11:05 AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 3/6/2006 5:24 PM

bmlisten.exe c:\slave\bmlisten.exe 1920 8 204800 1413120 2/15/2007 11:05 AM 2, 1, 0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32 PM

msdtc.exe Not Available 220 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe Not Available 740 8 Not Available Not Available 2/15/2007 11:05 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 1964 8 204800 1413120 2/15/2007 11:05 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM

wmiprvse.exe Not Available 616 8 Not Available Not Available 2/15/2007 11:07 AM Not Available Not Available Not Available

dllhost.exe c:\windows\system32\dllhost.exe 200 8 204800 1413120 2/15/2007 11:23 AM 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM

inetinfo.exe c:\windows\system32\inetsrv\inetinfo.exe 2148 8 204800 1413120 2/15/2007 12:05 PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:26 PM

svchost.exe c:\windows\system32\svchost.exe 3052 8 204800 1413120 2/15/2007 12:05 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe 3124 8 204800 1413120 2/15/2007 3:23 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes) 3/6/2006 5:24 PM

wmiprvse.exe Not Available 344 8 Not Available Not Available 2/15/2007 3:23 PM Not Available Not Available Not Available

helpsvc.exe c:\windows\pchealth\helpctr\binaries\helpsvc.exe 3272 8 204800 1413120 2/15/2007 3:23 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 3/6/2006 5:24 PM

regedit.exe c:\windows\regedit.exe 3544 8 204800 1413120 2/15/2007 3:24 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 144.00 KB (147,456 bytes) 3/24/2005 8:44 PM

[Loaded Modules]

Name Version Size File Date Manufacturer Path

winlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winlogon.exe

ntdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 748.50 KB (766,464 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ntdll.dll

kernel32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1,014.00 KB (1,038,336 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\kernel32.dll

advapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 605.50 KB (620,032 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\advapi32.dll

rpcrt4 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 627.00 KB (642,048 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rpcrt4.dll

crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 582.00 KB (595,968 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\crypt32.dll

msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 56.50 KB (57,856 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msasn1.dll

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 574.50 KB (588,288 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\gdi32.dll

nddeapi 5.2.3790.0 (srv03_rtm.030324-2048) 16.00 KB (16,384 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\nddeapi.dll

profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 22.50 KB (23,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netapi32.dll

userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 771.00 KB (789,504 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\userenv.dll

psapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.00 KB (20,480 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\secur32.dll

setupapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.03 MB (1,079,808 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\setupapi.dll

version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.00 KB (18,432 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
54.50 KB (55,808 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winsta.dll

ws2_32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
82.00 KB (83,968 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ws2_32.dll

ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.50 KB (19,968 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ws2help.dll

msgina 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.16 MB (1,211,904 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
131.50 KB (134,656 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
313.50 KB (321,024 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\shlwapi.dll

sfc 5.2.3790.0 (srv03_rtm.030324-2048) 4.50
KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\sfc.dll

sfc_os 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
138.00 KB (141,312 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\sfc_os.dll

wintrust 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
162.00 KB (165,888 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wintrust.dll

imagehlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
145.50 KB (148,992 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\imagehlp.dll

ole32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.19 MB (1,245,184 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ole32.dll

comctl32 6.0 (srv03_sp1_rtm.050324-1447) 1.00
MB (1,051,136 bytes) 3/24/2005 8:41 PM Microsoft
Corporation
c:\windows\winsxs\x86_microsoft.windows.com
mon-controls_6595b64144ccf1df_6.0.3790.1830_x-
ww_7ae38ccf\comctl32.dll

sxs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
743.50 KB (761,344 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\sxs.dll

winscard 5.2.3790.0 (srv03_rtm.030324-2048) 98.50
KB (100,864 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\winscard.dll

wtsapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wtsapi32.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
172.50 KB (176,640 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winmm.dll

shell32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
7.99 MB (8,379,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\shell32.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
174.50 KB (178,688 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wldap32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
183.98 KB (188,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rsaenh.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
100.00 KB (102,400 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
94.50 KB (96,768 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wlnotify.dll

mpr 5.2.3790.0 (srv03_rtm.030324-2048) 56.00
KB (57,344 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 543.00 KB (556,032 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
147.00 KB (150,528 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447)
585.00 KB (599,040 bytes) 3/24/2005 8:41
PM Microsoft Corporation
c:\windows\winsxs\x86_microsoft.windows.com
mon-controls_6595b64144ccf1df_5.82.3790.1830_x-
ww_1b6f474a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
202.00 KB (206,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\uxtheme.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\samlib.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
319.50 KB (327,168 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cscui.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntmarta.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
502.50 KB (514,560 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048)
778.00 KB (796,672 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\comres.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.76 MB (2,897,920 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
20.50 KB (20,992 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 221.00 KB (226,304 bytes)
3/6/2006 5:24 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50
KB (43,520 bytes) 3/1/2006 1:38 PM Microsoft
Corporation
c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
471.00 KB (482,304 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll

msvcp60 6.05.2144.0 388.00 KB (397,312 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msvcp60.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
71.00 KB (72,704 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
153.50 KB (157,184 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\dnsapi.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
107.50 KB (110,080 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
66.50 KB (68,096 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
126.50 KB (129,536 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\eventlog.dll

lsass 5.2.3790.0 (srv03_rtm.030324-2048) 13.00
KB (13,312 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
803.00 KB (822,272 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\lsasrv.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
450.50 KB (461,312 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\samsrv.dll

cryptdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.00 KB (32,768 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cryptdll.dll

msprivs 5.2.3790.0 (srv03_rtm.030324-2048) 46.50
KB (47,616 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\msprivs.dll

kerberos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
340.50 KB (348,672 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\kerberos.dll

msv1_0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msv1_0.dll

iphlpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
92.50 KB (94,720 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
409.50 KB (419,328 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
222.00 KB (227,328 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
74.00 KB (75,776 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
23.00 KB (23,552 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
213.50 KB (218,624 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\kdcsvc.dll

ntdsa 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.45 MB (1,516,032 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntdsa.dll

esent 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1,022.50 KB (1,047,040 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
29.50 KB (30,208 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
250.50 KB (256,512 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\mswsock.dll

scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
186.50 KB (190,976 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\scecli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
793.50 KB (812,544 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
343.50 KB (351,744 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\hnetcfg.dll

wshtcpip 5.2.3790.0 (srv03_rtm.030324-2048) 18.00 KB (18,432 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wshtcpip.dll

ipsecsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
180.50 KB (184,832 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ipsecsvc.dll

oakley 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
264.00 KB (270,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\oakley.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
35.50 KB (36,352 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winipsec.dll

pstorsvc 5.2.3790.0 (srv03_rtm.030324-2048) 24.00 KB (24,576 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\pstorsvc.dll

psbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
84.00 KB (86,016 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\psbase.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
139.98 KB (143,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\dssenh.dll

wlbsctrl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
82.00 KB (83,968 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wlbsctrl.dll

w3ssl 6.0.3790.0 (srv03_rtm.030324-2048) 15.00 KB (15,360 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\w3ssl.dll

strmfilt 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
84.00 KB (86,016 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\strmfilt.dll

httpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\httpapi.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
406.00 KB (415,744 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rpcss.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
197.50 KB (202,240 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\schedsvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.50 KB (33,280 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wiarpc.dll

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
6.50 KB (6,656 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\msidle.dll

audiosrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
40.50 KB (41,472 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\audiosrv.dll

wkssvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
130.00 KB (133,120 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\wkssvc.dll

aelupsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
26.00 KB (26,624 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.50 KB (150,016 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\apphelp.dll

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
55.50 KB (56,832 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\certcli.dll

atl 3.05.2283 83.00 KB (84,992 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\atl.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
548.00 KB (561,152 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\vssapi.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
233.00 KB (238,592 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\es.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
39.00 KB (39,936 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchsvc.dll

srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
93.50 KB (95,744 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\srvsvc.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
25.50 KB (26,112 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\dmserver.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 3/6/2006 5:23

PM Microsoft Corporation c:\windows\system32\seclogon.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.50 KB (37,376 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sens.dll

trkwks 5.2.3790.0 (srv03_rtm.030324-2048) 85.00 KB (87,040 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\trkwks.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmisvc.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,248,256 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\comsvcs.dll

browser 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.50 KB (78,336 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browser.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 258.50 KB (264,704 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netman.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 89.00 KB (91,136 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 194.00 KB (198,656 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.00 KB (149,504 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\credui.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 34.50 KB (35,328 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rtutils.dll

netshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.73 MB (1,812,992 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 60.00 KB (61,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\clusapi.dll

rasapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.50 KB (245,248 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasapi32.dll

rasman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 61.50 KB (62,976 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasman.dll

tapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 179.50 KB (183,808 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\tapi32.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 646.00 KB (661,504 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 41.00 KB (41,984 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 364.50 KB (373,248 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsvc.dll

wmi 5.2.3790.0 (srv03_rtm.030324-2048) 6.50 KB (6,656 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 113.50 KB (116,224 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\dhcpcsvc.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.50 KB (509,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.00 KB (256,000 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 404.00 KB (413,696 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.50 KB (278,016 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemess.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 663.00 KB (678,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.50 KB (7,680 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rasadhlp.dll

netrap 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netrap.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\ncprov.dll

ntlsapi 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ntlsapi.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\explorer.exe

browseui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1,009.00 KB (1,033,216 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browseui.dll

shdocvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.43 MB (1,502,720 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 496.50 KB (508,416 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cryptui.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 377.50 KB (386,560 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\themeui.dll

msimg32 5.2.3790.0 (srv03_rtm.030324-2048) 4.50 KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msimg32.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\actxprxy.dll

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 673.00 KB (689,152 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 272.50 KB (279,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\webcheck.dll

wsock32 5.2.3790.0 (srv03_rtm.030324-2048) 22.00 KB (22,528 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wsock32.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 120.50 KB (123,392 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 31.50 KB (32,256 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 16.50 KB (16,896 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\powrprof.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntlanman.dll

netui0 5.2.3790.0 (srv03_rtm.030324-2048) 75.50 KB (77,312 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui0.dll

netui1 5.2.3790.0 (srv03_rtm.030324-2048) 184.00 KB (188,416 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netui1.dll

davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 23.50 KB (24,064 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\davclnt.dll

shdoclc 6.00.3790.0 (srv03_rtm.030324-2048) 588.50 KB (602,624 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\shdoclc.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32 PM IBM xSeries Server Performance c:\slave\bmlisten.exe

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.00 KB (244,736 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 12.50 KB (12,800 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 116.00 KB (118,784 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 101.63 KB (104,072 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rdpwsx.dll

dllhost 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\dllhost.exe

txflog 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\txflog.dll

xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 10.50 KB (10,752 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\xolehlp.dll

msdtcprx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 455.50 KB (466,432 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msdtcprx.dll

mtxclu 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 77.00 KB (78,848 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mtxclu.dll

resutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 63.50 KB (65,024 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\resutils.dll

winrnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winrnr.dll

catsrv 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
273.00 KB (279,552 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\catsrv.dll

clbcatex 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
102.50 KB (104,960 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\clbcatex.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
164.00 KB (167,936 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisutil.dll

rpcref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
4.00 KB (4,096 bytes) 3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\system32\inetsrv\rpcref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
138.50 KB (141,824 bytes) 3/6/2006 5:25
PM Microsoft Corporation
c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
21.00 KB (21,504 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
62.50 KB (64,000 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\inetsrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
47.00 KB (48,128 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\admwprox.dll

iiscfg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.08 MB (1,133,056 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
229.00 KB (234,496 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msxml3.dll

svcext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
43.50 KB (44,544 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\svcext.dll

security 5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\security.dll

iismap 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
58.50 KB (59,904 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
54.50 KB (55,808 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
211.00 KB (216,064 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:25
PM Microsoft Corporation
c:\windows\system32\inetsrv\w3cache.dll

w3tp 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 3/6/2006 5:27
PM Microsoft Corporation
c:\windows\system32\inetsrv\w3tp.dll

lonsint 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 3/6/2006 5:26
PM Microsoft Corporation
c:\windows\system32\inetsrv\lonsint.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 3/1/2006 1:42 PM Microsoft
Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
133.50 KB (136,704 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
577.50 KB (591,360 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mlang.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
2.96 MB (3,108,864 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msctf.dll

jscript 5.6.0.8827 448.00 KB (458,752 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 376.00 KB (385,024 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 240.00 KB (245,760 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\odbc32.dll

comdlg32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 274.50 KB (281,088 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\comdlg32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00 KB (94,208 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\odbcint.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 3.50 KB (3,584 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\riched32.dll

riched20 5.31.23.1224 439.00 KB (449,536 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\riched20.dll

browselc 6.00.3790.0 (srv03_rtm.030324-2048) 62.00 KB (63,488 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\browselc.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\helpsvc.exe

regedit 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 144.00 KB (147,456 bytes) 3/24/2005 8:44 PM Microsoft Corporation c:\windows\regedit.exe

aclui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 117.50 KB (120,320 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\aclui.dll

ulib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.00 KB (277,504 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ulib.dll

clb 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\clb.dll

[Services]

Display Name Name State Start Mode Service Type Path Error Control Start Name Tag ID

Application Experience Lookup Service AeLookupSvc Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Alerter Alerter Stopped Disabled Share Process c:\windows\system32\svchost.exe -k localservice Normal NT AUTHORITY\LocalService 0

Application Layer Gateway Service ALG Stopped Manual Own Process c:\windows\system32\alg.exe Normal NT AUTHORITY\LocalService 0

Application Management AppMgmt Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

ASP.NET State Service aspnet_state Stopped Manual Own Process c:\windows\microsoft.net\framework\v2.0.50727\aspnet_state.exe Normal NT AUTHORITY\NetworkService 0

Windows Audio AudioSrv Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Background Intelligent Transfer Service BITS Stopped Manual Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Computer Browser Browser Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Indexing Service CiSvc Stopped Disabled Share Process c:\windows\system32\cisvc.exe Normal LocalSystem 0

ClipBook ClipSrv Stopped Disabled Own Process c:\windows\system32\clipsrv.exe Normal LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_X86 clr_optimization_v2.0.50727_32 Stopped Manual Own Process c:\windows\microsoft.net\framework\v2.0.50727\mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp Running Manual Own Process c:\windows\system32\dllhost.exe /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235} Normal LocalSystem 0

Cryptographic Services CryptSvc Running Auto Share Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch Running Auto Share Process c:\windows\system32\svchost.exe -k dcomlaunch Normal LocalSystem 0

Distributed File System Dfs Stopped Manual Own Process c:\windows\system32\dfssvc.exe Normal LocalSystem 0

DHCP Client Dhcp Stopped Manual Share Process c:\windows\system32\svchost.exe -k networkservice Normal NT AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service
dmadmin Stopped Manual Share Process
c:\windows\system32\dmadmin.exe /com
Normal LocalSystem 0

Logical Disk Managerdmserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

DNS Client Dnscache Running Auto
Share Process
c:\windows\system32\svchost.exe -k
networkservice Normal NT
AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k winerr
Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

COM+ Event System EventSystem Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Help and Support helpsvc Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Human Interface Device Access HidServ Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

HTTP SSLHTTPFilter Running Manual
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

IIS Admin Service IISADMIN Running Auto
Share Process
c:\windows\system32\inetsrv\inetinfo.exe
Normal LocalSystem 0

IMAPI CD-Burning COM Service ImapiService
Stopped Disabled Own Process
c:\windows\system32\imapi.exe Normal
LocalSystem 0

Intersite Messaging IsmServ Stopped Disabled Own
Process c:\windows\system32\ismserv.exe
Normal LocalSystem 0

Kerberos Key Distribution Center kdc
Stopped Disabled Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Server lanmanserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Workstation lanmanworkstation Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

License Logging LicenseService Stopped
Disabled Own Process
c:\windows\system32\llssrv.exe Normal NT
AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
Stopped Disabled Own Process
c:\windows\system32\mnmsrvc.exe
Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
Running Auto Own Process
c:\windows\system32\msdtc.exe Normal NT
AUTHORITY\NetworkService 1

Windows Installer MSIServer Stopped Manual
Share Process
c:\windows\system32\msiexec.exe /v
Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Network DDE DSDM NetDDEdsdm Stopped
Disabled Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Network Connections Netman Running Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Location Awareness (NLA) Nla
Running Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own
Process c:\windows\system32\ntfrs.exe Ignore
LocalSystem 0

NT LM Security Support Provider NtLmSsp
Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own
Process "c:\program files\common files\microsoft
shared\source engine\ose.exe" Normal LocalSystem
0

Plug and Play PlugPlay Running Auto
Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

IPSEC Services PolicyAgent Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Protected Storage ProtectedStorage Running Auto
Share Process

c:\windows\system32\lsass.exe Normal
LocalSystem 0

Remote Access Auto Connection Manager RasAuto
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Access Connection Manager RasMan
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
Stopped Manual Own Process
c:\windows\system32\sessmgr.exe
Normal LocalSystem 0

Routing and Remote Access RemoteAccess
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
Share Process
c:\windows\system32\svchost.exe -k regsvc
Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
Stopped Manual Own Process
c:\windows\system32\locator.exe Normal NT
AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
Share Process
c:\windows\system32\svchost.exe -k rpcss
Normal NT Authority\NetworkService 0

Resultant Set of Policy Provider RSoPProv Stopped
Manual Share Process
c:\windows\system32\rsopprov.exe
Normal LocalSystem 0

Special Administration Console Helper sacsvr
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Smart Card SCardSvr Stopped Manual
Share Process
c:\windows\system32\scardsvr.exe
Ignore NT AUTHORITY\LocalService 0

Task Scheduler Schedule Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Secondary Logon seclogon Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

System Event Notification SENS Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
SharedAccess Stopped Disabled
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own
Process c:\windows\system32\spoolsv.exe
Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k imgsvc
Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
Stopped Manual Own Process
c:\windows\system32\svchost.exe -k swprv
Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
Stopped Manual Own Process
c:\windows\system32\smlogsvc.exe
Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
c:\windows\system32\svchost.exe -k tapisrv
Normal LocalSystem 0

Terminal Services TermService Running
Manual Share Process
c:\windows\system32\svchost.exe -k termsvcs
Normal LocalSystem 0

Themes Themes Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Telnet TlntSvr Stopped Disabled Own Process
c:\windows\system32\tlntsvr.exe Normal NT
AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Distributed Link Tracking Client TrkWks Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Terminal Services Session Directory Tssdis
Stopped Disabled Own Process
c:\windows\system32\tssdis.exe Normal
LocalSystem 0

Windows User Mode Driver Framework UMWdf
Stopped Manual Own Process
c:\windows\system32\wdfmgr.exe
Normal NT AUTHORITY\LocalService 0

Upload Manager uploadmgr Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Uninterruptible Power Supply UPS Stopped
Manual Own Process
c:\windows\system32\ups.exe Normal NT
AUTHORITY\LocalService 0

Virtual Disk Service vds Stopped Manual Own
Process c:\windows\system32\vds.exe Normal
LocalSystem 0

Volume Shadow Copy VSS Stopped
Manual Own Process
c:\windows\system32\vssvc.exe Normal
LocalSystem 0

Windows Time W32Time Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

World Wide Web Publishing Service W3SVC
Running Auto Share Process
c:\windows\system32\svchost.exe -k iissvcs
Normal LocalSystem 0

WebClient WebClient Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

WinHTTP Web Proxy Auto-Discovery Service
WinHttpAutoProxySvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Windows Management Instrumentation winmgmt
Running Auto Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

Portable Media Serial Number Service WmdmPmSN
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Windows Management Instrumentation Driver Extensions
Wmi Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

WMI Performance Adapter WmiApSrv
Stopped Manual Own Process
c:\windows\system32\wbem\wmiapsrv.exe
Normal LocalSystem 0

Automatic Updates wuauserv Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

[Program Groups]

Group Name Name User Name

Accessories Default User:Accessories
Default User

Accessories\Accessibility Default
User:Accessories\Accessibility Default User

Accessories\Entertainment Default
User:Accessories\Entertainment Default User

Startup Default User:Startup Default User

Accessories All Users:Accessories All Users

Accessories\Accessibility All
Users:Accessories\Accessibility All Users

Accessories\Communications All
Users:Accessories\Communications All Users

Accessories\Entertainment All
Users:Accessories\Entertainment All Users

Accessories\System Tools All
Users:Accessories\System Tools All Users

Administrative Tools All Users:Administrative Tools All
Users

Microsoft SQL Server 2005 All Users:Microsoft SQL
Server 2005 All Users

Microsoft SQL Server 2005\Analysis Services All
Users:Microsoft SQL Server 2005\Analysis Services All
Users

Microsoft SQL Server 2005\Configuration Tools All
Users:Microsoft SQL Server 2005\Configuration Tools All
Users

Microsoft SQL Server 2005\Performance Tools All
Users:Microsoft SQL Server 2005\Performance Tools All
Users

Startup All Users:Startup All Users

Accessories NT
AUTHORITY\SYSTEM:Accessories NT
AUTHORITY\SYSTEM

Accessories\Accessibility NT
AUTHORITY\SYSTEM:Accessories\Accessibility NT
AUTHORITY\SYSTEM

Accessories\Entertainment NT
AUTHORITY\SYSTEM:Accessories\Entertainment NT
AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT
AUTHORITY\SYSTEM

Accessories
FCLIENT20\Administrator:Accessories
FCLIENT20\Administrator

Accessories\Accessibility
FCLIENT20\Administrator:Accessories\Accessibi
lity FCLIENT20\Administrator

Accessories\Entertainment
FCLIENT20\Administrator:Accessories\Entertain
ment FCLIENT20\Administrator

Administrative Tools
FCLIENT20\Administrator:Administrative Tools
FCLIENT20\Administrator

Startup FCLIENT20\Administrator:Startup
FCLIENT20\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM
Startup

desktop desktop.ini FCLIENT20\Administrator
Startup

Shortcut to BMListen shortcut to bmlisten.lnk
FCLIENT20\Administrator Startup

Shortcut to synctime shortcut to synctime.lnk FCLIENT20\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clip mplay32.exe /avi

MIDI Sequence mplay32.exe /mid

Sound Not Available

Media Clip Not Available

WordPad Document "%programfiles%\windows nt\accessories\wordpad.exe"

Windows Media Services DRM Storage object Not Available

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time Type Details

[Internet Settings]

[Internet Explorer]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Version 6.0.3790.1830

Build 63790.1830

Application Path C:\Program Files\Internet Explorer

Language English (United States)

Active Printer Not Available

Cipher Strength 128-bit

Content Advisor Disabled

IEAK Install No

[File Versions]

File Version Size Date Path Company

actxprxy.dll 6.0.3790.1830 97 KB 3/24/2005 5:55:26 PM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 98 KB 3/24/2005 5:55:28 PM C:\WINDOWS\system32 Microsoft Corporation

asctrls.ocx 6.0.3790.0 90 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browselc.dll 6.0.3790.0 62 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

browseui.dll 6.0.3790.1830 1,009 KB 3/24/2005 5:56:10 PM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 149 KB 3/24/2005 5:56:32 PM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 585 KB 3/24/2005 5:57:56 PM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 205 KB 3/24/2005 6:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 355 KB 3/24/2005 6:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

iecont.dll <File Missing> Not Available Not Available Not Available Not Available Not Available

iecontlc.dll <File Missing> Not Available Not Available Not Available Not Available Not Available

iedkcs32.dll 16.0.3790.1830 324 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 248 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 61 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/24/2005 6:04:58 PM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 92 KB 3/24/2005 6:04:58 PM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 38 KB 3/24/2005 6:05:04 PM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 358 KB 3/24/2005 6:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

inetcplc.dll 6.0.3790.0 109 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

inseng.dll 6.0.3790.1830 94 KB 3/24/2005 6:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 578 KB 3/24/2005 6:07:20 PM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll 2002.10.4.0 112 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 옺토 ŭ 坳

mshta.exe 6.0.3790.1830 30 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 3,036 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 455 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/24/2005 6:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 48 KB 3/24/2005 6:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msidntld.dll 6.0.3790.0 15 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

msieftp.dll 6.0.3790.1830 244 KB 3/24/2005 6:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 144 KB 3/24/2005 6:07:36 PM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 523 KB 3/24/2005 6:07:38 PM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 94 KB 3/24/2005 6:08:34 PM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx 6.3.3790.1830 83 KB 3/24/2005 6:12:26 PM C:\WINDOWS\system32 Intel Corporation

sendmail.dll 6.0.3790.1830 56 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shdoclc.dll 6.0.3790.0 589 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

shdocvw.dll 6.0.3790.1830 1,468 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 25 KB 3/24/2005 6:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 6:13:40 PM C:\WINDOWS\system32 Microsoft Corporation

tdc.ocx 1.3.0.3130 58 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 Microsoft Corporation

url.dll 6.0.3790.1830 37 KB 3/24/2005 6:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 6:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 6:26:16 PM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005 6:26:18 PM C:\WINDOWS\system32 Microsoft Corporation

[Connectivity]

Item Value

Connection Preference Never dial

LAN Settings

AutoConfigProxy wininet.dll

AutoProxyDetectMode Disabled

AutoConfigURL

Proxy Disabled

ProxyServer

ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]

[Summary]

Item Value

Page Refresh Type Automatic

Temporary Internet Files Folder C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files

Total Disk Space Not Available

Available Disk Space Not Available

Maximum Cache Size Not Available

Available Cache Size Not Available

[List of Objects]

Program File Status CodeBase

No cached object information available

[Content]

[ Following are sub-categories of this main category ]
[Summary]

Item Value
Content Advisor Disabled

[Personal Certificates]

Issued To Issued By Validity Signature Algorithm
No personal certificate information available

[Other People Certificates]

Issued To Issued By Validity Signature Algorithm
No other people certificate information available

[Publishers]

Name
No publisher information available

[Security]

Zone Security Level
My Computer Custom
Local intranet Custom
Trusted sites Custom
Internet Custom
Restricted sites Custom

## Client Configuration Parameters

The registry file for the x3500 client is representative of the registry files for all other clients.

Client Configuration Parameters

COM+ Settings

TPCC.AllTxns:
Activation:
Enable Object Pooling selected
Minimum Pool Size: 67
Maximum Pool Size: 67
Creating Timeout: 300,000
Enable Object Construction
Enable Just in Time Activation
Concurrency:
Concurrency Required

TPCC Application Registry Parameters

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\TPCC]
"Path"="C:\\Inetpub\\wwwroot\\"
"NumberOfDeliveryThreads"=dword:0000000e
"MaxConnections"=dword:0000abe0
"MaxPendingDeliveries"=dword:00001130
"DB_Protocol"="ODBC"
"TxnMonitor"="COM"
"DbServer"="ibmserv4"
"DbName"="tpcc"
"DbUser"="sa"
"DbPassword"=""
"COM_SinglePool"="YES"
"CallNoDuplicatesNewOrder"=dword:00000001

Microsoft Internet Information Service Registry Parameters

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Parameters]
"ListenBackLog"=dword:00000019
"PoolThreadLimit"=dword:00001ff8
"MaxPoolThreads"=dword:00000ffc
"ThreadTimeout"=dword:00015180

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Performance]
"Library"="infoctrs.dll"
"Open"="OpenINFOPerformanceData"
"Close"="CloseINFOPerformanceData"
"Collect"="CollectINFOPerformanceData"
"PerfIniFile"="infoctrs.ini"
"Last Counter"=dword:000009a6
"Last Help"=dword:000009a7
"First Counter"=dword:00000966
"First Help"=dword:00000967
"Object List"="2406"
"Library Validation Code"=hex:00,81,94,fc,3d,ba,c6,01,00,20,00,00,00,00,00,00
"WbemAdapFileSignature"=hex:4c,c3,d3,e7,44,ca,56,e0,f3,e8,a0,14,52,26,fb,0f

"WbemAdapFileTime"=hex:d0,66,76,fb,3d,ba,c6,01

"WbemAdapFileSize"=dword:00002000

"WbemAdapStatus"=dword:00000000

"2003"=hex(b):50,4e,ec,08,f3,46,c7,01

World Wide Web Service Registry Parameters

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC]

"Type"=dword:00000020

"Start"=dword:00000002

"ErrorControl"=dword:00000001

"ImagePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,00,\

74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,73,\

00,76,00,63,00,68,00,6f,00,73,00,74,00,2e,00,65,00,78,00,65,00,20,00,2d,00,\

6b,00,20,00,69,00,69,00,73,00,73,00,76,00,63,00,73,00,00,00

"DisplayName"="World Wide Web Publishing Service"

"DependOnService"=hex(7):52,00,50,00,43,00,53,00,53,00,00,00,48,00,54,00,54,00,\

50,00,46,00,69,00,6c,00,74,00,65,00,72,00,00,00,49,00,49,00,53,00,41,00,44,\

00,4d,00,49,00,4e,00,00,00,00,00

"DependOnGroup"=hex(7):00,00

"ObjectName"="LocalSystem"

"Description"="Provides Web connectivity and administration through the Internet Information Services Manager"

"FailureActions"=hex:80,51,01,00,01,00,00,00,00,00,00,00,00,03,00,00,00,53,00,65,\

00,01,00,00,00,01,00,00,00,01,00,00,00,01,00,00,00,01,00,00,00,01,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters]

"MajorVersion"=dword:00000006

"MinorVersion"=dword:00000000

"InstallPath"="C:\\WINDOWS\\system32\\inetsrv"

"AccessDeniedMessage"="Error: Access is Denied."

"ServiceDll"=hex(2):43,00,3a,00,5c,00,57,00,49,00,4e,00,44,00,4f,00,57,00,53,\

00,5c,00,73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,69,00,6e,00,\

65,00,74,00,73,00,72,00,76,00,5c,00,69,00,69,00,73,00,77,00,33,00,61,00,64,\

00,6d,00,2e,00,64,00,6c,00,6c,00,00,00

"AcceptExOutstanding"=dword:00000028

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch\AdvancedDataFactory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch\RDSServer.DataFactory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Performance]

"Library"="C:\\WINDOWS\\system32\\inetsrv\\w3ctrs.dll"

"Open"="OpenW3PerformanceData"

"Close"="CloseW3PerformanceData"

"Collect"="CollectW3PerformanceData"

"PerfIniFile"="w3ctrs.ini"

"Last Counter"=dword:00000a9e

"Last Help"=dword:00000a9f

"First Counter"=dword:000009a8

"First Help"=dword:000009a9

"Object List"="2472 2646"

"Library Validation Code"=hex:00,db,f6,fe,3d,ba,c6,01,00,5e,00,00,00,00,00,00

"WbemAdapFileSignature"=hex:39,e3,6c,2c,b4,be,59,f5,17,7c,c4,d5,2f,dc,f7,1a

"WbemAdapFileTime"=hex:90,a2,bd,fe,3d,ba,c6,01

"WbemAdapFileSize"=dword:00005e00

"WbemAdapStatus"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Security]

"Security"=hex:01,00,14,80,90,00,00,00,9c,00,00,00,14,00,00,00,30,00,00,00,02,\

00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,00,01,00,00,\

00,00,02,00,60,00,04,00,00,00,00,00,14,00,fd,01,02,00,01,01,00,00,00,00,00,\

05,12,00,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,00,00,05,20,00,00,00,\

20,02,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,00,05,0b,00,00,00,00,\

00,18,00,fd,01,02,00,01,02,00,00,00,00,00,05,20,00,00,00,23,02,00,00,01,01,\

00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Enum]

"0"="Root\\LEGACY_W3SVC\\0000"

"Count"=dword:00000001

"NextInstance"=dword:00000001

# RTE Input Parameters

IBM BenchMaster benchmark profile. DO NOT CHANGE THE SPACING IN THIS FILE!

96 ** Number of segments (all must be defined directly below)

| SEGMENT | | MACHINE | | LOG | |
|---|---|---|---|---|---|
| DIRECTORY | | DB | WEBSERVER | | DB |
| SERVER PREFIX | STARTWH GROUP1 | | ENDWH GROUP2 | #USERS | SP |
| 1A | frte10 ibmserv4 client10 | c:\rtelogs 1 node0 | tpcc 435 | fclient10a 4350 | n/a |
| 1B | frte10 ibmserv4 client10 | c:\rtelogs 436 node0 | tpcc 870 | fclient10b 4350 | n/a |
| 1C | frte10 ibmserv4 client10 | c:\rtelogs 871 node0 | tpcc 1305 | fclient10c 4350 | n/a |
| 1D | frte10 ibmserv4 client10 | c:\rtelogs 1306 node0 | tpcc 1740 | fclient10a 4350 | n/a |
| 1E | frte10 ibmserv4 client10 | c:\rtelogs 1741 node0 | tpcc 2175 | fclient10b 4350 | n/a |
| 1F | frte10 ibmserv4 client10 | c:\rtelogs 2176 node0 | tpcc 2611 | fclient10c 4360 | n/a |
| 2A | frte15 ibmserv4 client15 | c:\rtelogs 2612 node0 | tpcc 3014 | fclient15a 4030 | n/a |
| 2B | frte15 ibmserv4 client15 | c:\rtelogs 3015 node0 | tpcc 3417 | fclient15b 4030 | n/a |
| 2C | frte15 ibmserv4 client15 | c:\rtelogs 3418 node0 | tpcc 3820 | fclient15c 4030 | n/a |
| 2D | frte15 ibmserv4 client15 | c:\rtelogs 3821 node0 | tpcc 4223 | fclient15a 4030 | n/a |
| 2E | frte15 ibmserv4 client15 | c:\rtelogs 4224 node0 | tpcc 4626 | fclient15b 4030 | n/a |
| 2F | frte15 ibmserv4 client15 | c:\rtelogs 4627 node0 | tpcc 5027 | fclient15c 4010 | n/a |

| | | | | | |
|---|---|---|---|---|---|
| 3A | frte20 | c:\rtelogs | tpcc | fclient20a | |
| | ibmserv4 | 5028 | 5464 | 4370 | n/a |
| | client20 | node0 | | | |
| 3B | frte20 | c:\rtelogs | tpcc | fclient20b | |
| | ibmserv4 | 5465 | 5901 | 4370 | n/a |
| | client20 | node0 | | | |
| 3C | frte20 | c:\rtelogs | tpcc | fclient20c | |
| | ibmserv4 | 5902 | 6338 | 4370 | n/a |
| | client20 | node0 | | | |
| 3D | frte20 | c:\rtelogs | tpcc | fclient20a | |
| | ibmserv4 | 6339 | 6775 | 4370 | n/a |
| | client20 | node0 | | | |
| 3E | frte20 | c:\rtelogs | tpcc | fclient20b | |
| | ibmserv4 | 6776 | 7212 | 4370 | n/a |
| | client20 | node0 | | | |
| 3F | frte20 | c:\rtelogs | tpcc | fclient20c | |
| | ibmserv4 | 7213 | 7651 | 4390 | n/a |
| | client20 | node0 | | | |
| 4A | frte25 | c:\rtelogs | tpcc | fclient25a | |
| | ibmserv4 | 7652 | 8084 | 4330 | n/a |
| | client25 | node0 | | | |
| 4B | frte25 | c:\rtelogs | tpcc | fclient25b | |
| | ibmserv4 | 8085 | 8517 | 4330 | n/a |
| | client25 | node0 | | | |
| 4C | frte25 | c:\rtelogs | tpcc | fclient25c | |
| | ibmserv4 | 8518 | 8950 | 4330 | n/a |
| | client25 | node0 | | | |
| 4D | frte25 | c:\rtelogs | tpcc | fclient25a | |
| | ibmserv4 | 8951 | 9383 | 4330 | n/a |
| | client25 | node0 | | | |
| 4E | frte25 | c:\rtelogs | tpcc | fclient25b | |
| | ibmserv4 | 9384 | 9816 | 4330 | n/a |
| | client25 | node0 | | | |
| 4F | frte25 | c:\rtelogs | tpcc | fclient25c | |
| | ibmserv4 | 9817 | 10249 | 4330 | n/a |
| | client25 | node0 | | | |
| 5A | frte30 | c:\rtelogs | tpcc | fclient30a | |
| | ibmserv4 | 10250 | 10618 | 3690 | n/a |
| | client30 | node0 | | | |
| 5B | frte30 | c:\rtelogs | tpcc | fclient30b | |
| | ibmserv4 | 10619 | 10987 | 3690 | n/a |
| | client30 | node0 | | | |
| 5C | frte30 | c:\rtelogs | tpcc | fclient30c | |
| | ibmserv4 | 10988 | 11356 | 3690 | n/a |
| | client30 | node0 | | | |
| 5D | frte30 | c:\rtelogs | tpcc | fclient30a | |
| | ibmserv4 | 11357 | 11725 | 3690 | n/a |
| | client30 | node0 | | | |
| 5E | frte30 | c:\rtelogs | tpcc | fclient30b | |
| | ibmserv4 | 11726 | 12094 | 3690 | n/a |
| | client30 | node0 | | | |
| 5F | frte30 | c:\rtelogs | tpcc | fclient30c | |
| | ibmserv4 | 12095 | 12460 | 3660 | n/a |
| | client30 | node0 | | | |
| 6A | frte35 | c:\rtelogs | tpcc | fclient35a | |
| | ibmserv4 | 12461 | 12895 | 4350 | n/a |
| | client35 | node0 | | | |
| 6B | frte35 | c:\rtelogs | tpcc | fclient35b | |
| | ibmserv4 | 12896 | 13330 | 4350 | n/a |
| | client35 | node0 | | | |
| 6C | frte35 | c:\rtelogs | tpcc | fclient35c | |
| | ibmserv4 | 13331 | 13765 | 4350 | n/a |
| | client35 | node0 | | | |
| 6D | frte35 | c:\rtelogs | tpcc | fclient35a | |
| | ibmserv4 | 13766 | 14200 | 4350 | n/a |
| | client35 | node0 | | | |
| 6E | frte35 | c:\rtelogs | tpcc | fclient35b | |
| | ibmserv4 | 14201 | 14635 | 4350 | n/a |
| | client35 | node0 | | | |
| 6F | frte35 | c:\rtelogs | tpcc | fclient35c | |
| | ibmserv4 | 14636 | 15071 | 4360 | n/a |
| | client35 | node0 | | | |
| 7A | frte40 | c:\rtelogs | tpcc | fclient40a | |
| | ibmserv4 | 15072 | 15508 | 4370 | n/a |
| | client40 | node0 | | | |
| 7B | frte40 | c:\rtelogs | tpcc | fclient40b | |
| | ibmserv4 | 15509 | 15945 | 4370 | n/a |
| | client40 | node0 | | | |
| 7C | frte40 | c:\rtelogs | tpcc | fclient40c | |
| | ibmserv4 | 15946 | 16382 | 4370 | n/a |
| | client40 | node0 | | | |
| 7D | frte40 | c:\rtelogs | tpcc | fclient40a | |
| | ibmserv4 | 16383 | 16819 | 4370 | n/a |
| | client40 | node0 | | | |
| 7E | frte40 | c:\rtelogs | tpcc | fclient40b | |
| | ibmserv4 | 16820 | 17256 | 4370 | n/a |
| | client40 | node0 | | | |
| 7F | frte40 | c:\rtelogs | tpcc | fclient40c | |
| | ibmserv4 | 17257 | 17692 | 4360 | n/a |
| | client40 | node0 | | | |
| 8A | frte45 | c:\rtelogs | tpcc | fclient45a | |
| | ibmserv4 | 17693 | 18129 | 4370 | n/a |
| | client45 | node0 | | | |
| 8B | frte45 | c:\rtelogs | tpcc | fclient45b | |
| | ibmserv4 | 18130 | 18566 | 4370 | n/a |
| | client45 | node0 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8C | frte45 | c:\rtelogs | tpcc | fclient45c | | |
| | ibmserv4 | 18567 | 19003 | 4370 | n/a | |
| | client45 | node0 | | | | |
| 8D | frte45 | c:\rtelogs | tpcc | fclient45a | | |
| | ibmserv4 | 19004 | 19440 | 4370 | n/a | |
| | client45 | node0 | | | | |
| 8E | frte45 | c:\rtelogs | tpcc | fclient45b | | |
| | ibmserv4 | 19441 | 19877 | 4370 | n/a | |
| | client45 | node0 | | | | |
| 8F | frte45 | c:\rtelogs | tpcc | fclient45c | | |
| | ibmserv4 | 19878 | 20313 | 4360 | n/a | |
| | client45 | node0 | | | | |
| 9A | frte50 | c:\rtelogs | tpcc | fclient50a | | |
| | ibmserv4 | 20314 | 20747 | 4340 | n/a | |
| | client50 | node1 | | | | |
| 9B | frte50 | c:\rtelogs | tpcc | fclient50b | | |
| | ibmserv4 | 20748 | 21181 | 4340 | n/a | |
| | client50 | node1 | | | | |
| 9C | frte50 | c:\rtelogs | tpcc | fclient50c | | |
| | ibmserv4 | 21182 | 21615 | 4340 | n/a | |
| | client50 | node1 | | | | |
| 9D | frte50 | c:\rtelogs | tpcc | fclient50a | | |
| | ibmserv4 | 21616 | 22049 | 4340 | n/a | |
| | client50 | node1 | | | | |
| 9E | frte50 | c:\rtelogs | tpcc | fclient50b | | |
| | ibmserv4 | 22050 | 22483 | 4340 | n/a | |
| | client50 | node1 | | | | |
| 9F | frte50 | c:\rtelogs | tpcc | fclient50c | | |
| | ibmserv4 | 22484 | 22914 | 4310 | n/a | |
| | client50 | node1 | | | | |
| 10A | frte55 | c:\rtelogs | tpcc | fclient55a | | |
| | ibmserv4 | 22915 | 23344 | 4300 | n/a | |
| | client55 | node1 | | | | |
| 10B | frte55 | c:\rtelogs | tpcc | fclient55b | | |
| | ibmserv4 | 23345 | 23774 | 4300 | n/a | |
| | client55 | node1 | | | | |
| 10C | frte55 | c:\rtelogs | tpcc | fclient55c | | |
| | ibmserv4 | 23775 | 24204 | 4300 | n/a | |
| | client55 | node1 | | | | |
| 10D | frte55 | c:\rtelogs | tpcc | fclient55a | | |
| | ibmserv4 | 24205 | 24634 | 4300 | n/a | |
| | client55 | node1 | | | | |
| 10E | frte55 | c:\rtelogs | tpcc | fclient55b | | |
| | ibmserv4 | 24635 | 25064 | 4300 | n/a | |
| | client55 | node1 | | | | |
| 10F | frte55 | c:\rtelogs | tpcc | fclient55c | | |
| | ibmserv4 | 25065 | 25495 | 4310 | n/a | |
| | client55 | node1 | | | | |
| 11A | frte60 | c:\rtelogs | tpcc | fclient60a | | |
| | ibmserv4 | 25496 | 25927 | 4320 | n/a | |
| | client60 | node1 | | | | |
| 11B | frte60 | c:\rtelogs | tpcc | fclient60b | | |
| | ibmserv4 | 25928 | 26359 | 4320 | n/a | |
| | client60 | node1 | | | | |
| 11C | frte60 | c:\rtelogs | tpcc | fclient60c | | |
| | ibmserv4 | 26360 | 26791 | 4320 | n/a | |
| | client60 | node1 | | | | |
| 11D | frte60 | c:\rtelogs | tpcc | fclient60a | | |
| | ibmserv4 | 26792 | 27223 | 4320 | n/a | |
| | client60 | node1 | | | | |
| 11E | frte60 | c:\rtelogs | tpcc | fclient60b | | |
| | ibmserv4 | 27224 | 27655 | 4320 | n/a | |
| | client60 | node1 | | | | |
| 11F | frte60 | c:\rtelogs | tpcc | fclient60c | | |
| | ibmserv4 | 27656 | 28086 | 4310 | n/a | |
| | client60 | node1 | | | | |
| 12A | frte65 | c:\rtelogs | tpcc | fclient65a | | |
| | ibmserv4 | 28087 | 28516 | 4300 | n/a | |
| | client65 | node1 | | | | |
| 12B | frte65 | c:\rtelogs | tpcc | fclient65b | | |
| | ibmserv4 | 28517 | 28946 | 4300 | n/a | |
| | client65 | node1 | | | | |
| 12C | frte65 | c:\rtelogs | tpcc | fclient65c | | |
| | ibmserv4 | 28947 | 29376 | 4300 | n/a | |
| | client65 | node1 | | | | |
| 12D | frte65 | c:\rtelogs | tpcc | fclient65a | | |
| | ibmserv4 | 29377 | 29806 | 4300 | n/a | |
| | client65 | node1 | | | | |
| 12E | frte65 | c:\rtelogs | tpcc | fclient65b | | |
| | ibmserv4 | 29807 | 30236 | 4300 | n/a | |
| | client65 | node1 | | | | |
| 12F | frte65 | c:\rtelogs | tpcc | fclient65c | | |
| | ibmserv4 | 30237 | 30664 | 4280 | n/a | |
| | client65 | node1 | | | | |
| 13A | frte70 | c:\rtelogs | tpcc | fclient70a | | |
| | ibmserv4 | 30665 | 31031 | 3670 | n/a | |
| | client70 | node1 | | | | |
| 13B | frte70 | c:\rtelogs | tpcc | fclient70b | | |
| | ibmserv4 | 31032 | 31398 | 3670 | n/a | |
| | client70 | node1 | | | | |
| 13C | frte70 | c:\rtelogs | tpcc | fclient70c | | |
| | ibmserv4 | 31399 | 31765 | 3670 | n/a | |
| | client70 | node1 | | | | |
| 13D | frte70 | c:\rtelogs | tpcc | fclient70a | | |
| | ibmserv4 | 31766 | 32132 | 3670 | n/a | |
| | client70 | node1 | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 13E | frte70 | c:\rtelogs | tpcc | fclient70b | |
| | ibmserv4 | 32133 | 32499 | 3670 | n/a |
| | client70 | node1 | | | |
| 13F | frte70 | c:\rtelogs | tpcc | fclient70c | |
| | ibmserv4 | 32500 | 32865 | 3660 | n/a |
| | client70 | node1 | | | |
| 14A | frte75 | c:\rtelogs | tpcc | fclient75a | |
| | ibmserv4 | 32866 | 33295 | 4300 | n/a |
| | client75 | node1 | | | |
| 14B | frte75 | c:\rtelogs | tpcc | fclient75b | |
| | ibmserv4 | 33296 | 33725 | 4300 | n/a |
| | client75 | node1 | | | |
| 14C | frte75 | c:\rtelogs | tpcc | fclient75c | |
| | ibmserv4 | 33726 | 34155 | 4300 | n/a |
| | client75 | node1 | | | |
| 14D | frte75 | c:\rtelogs | tpcc | fclient75a | |
| | ibmserv4 | 34156 | 34585 | 4300 | n/a |
| | client75 | node1 | | | |
| 14E | frte75 | c:\rtelogs | tpcc | fclient75b | |
| | ibmserv4 | 34586 | 35015 | 4300 | n/a |
| | client75 | node1 | | | |
| 14F | frte75 | c:\rtelogs | tpcc | fclient75c | |
| | ibmserv4 | 35016 | 35446 | 4310 | n/a |
| | client75 | node1 | | | |
| 15A | frte80 | c:\rtelogs | tpcc | fclient80a | |
| | ibmserv4 | 35447 | 35874 | 4280 | n/a |
| | client80 | node1 | | | |
| 15B | frte80 | c:\rtelogs | tpcc | fclient80b | |
| | ibmserv4 | 35875 | 36302 | 4280 | n/a |
| | client80 | node1 | | | |
| 15C | frte80 | c:\rtelogs | tpcc | fclient80c | |
| | ibmserv4 | 36303 | 36730 | 4280 | n/a |
| | client80 | node1 | | | |
| 15D | frte80 | c:\rtelogs | tpcc | fclient80a | |
| | ibmserv4 | 36731 | 37158 | 4280 | n/a |
| | client80 | node1 | | | |
| 15E | frte80 | c:\rtelogs | tpcc | fclient80b | |
| | ibmserv4 | 37159 | 37586 | 4280 | n/a |
| | client80 | node1 | | | |
| 15F | frte80 | c:\rtelogs | tpcc | fclient80c | |
| | ibmserv4 | 37587 | 38014 | 4280 | n/a |
| | client80 | node1 | | | |
| 16A | frte85 | c:\rtelogs | tpcc | fclient85a | |
| | ibmserv4 | 38015 | 38438 | 4240 | n/a |
| | client85 | node1 | | | |
| 16B | frte85 | c:\rtelogs | tpcc | fclient85b | |
| | ibmserv4 | 38439 | 38862 | 4240 | n/a |
| | client85 | node1 | | | |
| 16C | frte85 | c:\rtelogs | tpcc | fclient85c | |
| | ibmserv4 | 38863 | 39286 | 4240 | n/a |
| | client85 | node1 | | | |
| 16D | frte85 | c:\rtelogs | tpcc | fclient85a | |
| | ibmserv4 | 39287 | 39710 | 4240 | n/a |
| | client85 | node1 | | | |
| 16E | frte85 | c:\rtelogs | tpcc | fclient85b | |
| | ibmserv4 | 39711 | 40134 | 4240 | n/a |
| | client85 | node1 | | | |
| 16F | frte85 | c:\rtelogs | tpcc | fclient85c | |
| | ibmserv4 | 40135 | 40560 | 4260 | n/a |
| | client85 | node1 | | | |

2000 ** Connect rate - rate users log in to the database (users per minute)

220 ** Run rate- rate users ramp in (users per minute)

0 ** Ramp-in type (0 = linear, 1 = 5 step descending rate)

0 ** Web Client type (ignored for 2-tier; 0 = Microsoft's, 1 = IBM pSeries)

40560 ** Total number of warehouses

0 ** Run type (0 = 3-tier, 1 = 2-tier)

2 ** 2-tier run options (BITFIELD: 1=use tpcc_neworder_new; 2=fetch transaction results)

123 ** C_LOAD (0-255) - NURAND "C" value that WAS used for customer last name generation during database LOAD, usually 123 for SQL Server

208 ** C_RUN (0-255) - NURAND "C" value to be used for customer last name generation when running. abs(C_LOAD - C_RUN) must be 65 to 119, inclusive, but not 96 or 112.

208 ** C_C_ID (0-1023) - NURAND "C" value to be used for customer ID generation when running

208 ** C_OL_I_ID (0-8191) - NURAND "C" value to be used for orderline item ID generation when running

sa ** Database user name

** Database password

TOTAL NEWORD PAYMENT DELI STCKLVL ORDSTAT

0 44950 43020 4010 4010 4010 ** Transaction mix percentages (must add to 100,000)

0 12030 12030 5030 5030 10030 ** 3-tier think times (milliseconds)

0 0 0 0 0 0 ** 2-tier think times (milliseconds)

0 18000 3000 2000 2000 2000 ** 3-tier key times (milliseconds)

0 0 0 0 0 0 ** 2-tier key times (milliseconds)

0 5000 5000 5000 20000 5000 ** 90th percentile values (milliseconds)

0 100 100 100 100 100 ** Browser painting menu delay (milliseconds)

0 100 100 100 100 100 ** Browser painting response time delay (milliseconds)

2000 ** 90th percentile value for menu transactions (milliseconds)

# Appendix D: 60-Day Space

| Note : Numbers are in KBytes unless otherwise specified | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Warehouses** | 40560 | **tpmC** | 510822 | **tpmC/W** | 12.59 | |
| | | | | | | |
| | | | | | | |
| **Table** | **Rows** | **Data** | **Index** | **5% Space** | **8H Space** | **Total Space** |
| | | | | | | |
| Warehouse | 40,800 | 4,352 | 392 | 237.20 | | 4,981.20 |
| District | 408,000 | 45,336 | 600 | 2,296.80 | | 48,232.80 |
| Item | 100,000 | 9,416 | 528 | 497.20 | | 10,441.20 |
| New-order | 367,200,000 | 6,542,544 | 16,672 | | 3,264,000 | 9,823,216.00 |
| History | 1,224,000,000 | 71,474,456 | 267,224 | | 14,371,462.14 | 86,113,142.14 |
| Orders | 1,224,000,000 | 39,967,352 | 19,496,312 | | 11,911,901.09 | 71,375,565.09 |
| Customer | 1,224,000,000 | 890,181,824 | 55,541,688 | 47,286,175.60 | | 993,009,687.60 |
| Order-line | 12,239,955,097 | 802,620,008 | 1,890,584 | | 161,161,454.76 | 965,672,046.76 |
| Stock | 4,080,000,000 | 1,305,600,000 | 2,753,264 | 65,417,663.20 | | 1,373,770,927.20 |
| | | | | | | |
| **Totals** | | 3,116,445,288 | 79,967,264 | 112,706,870.00 | 190,708,817.98 | 3,499,828,239.98 |
| | | | | | | |
| **Segment** | **LogDev Cnt.** | **Seg. Size** | **Needed** | **Overhead** | | **Not Needed** |
| | | | | | | |
| misc | 64 | 1,310,720,000 | 1,133,047,625 | 11,330,476 | | 166,341,898.56 |
| big | 64 | 2,424,832,000 | 2,366,780,615 | 23,667,806 | | 34,383,579.05 |
| master,msdb,model | 1 | 13,312 | 13,312 | | | - |
| tpcc_root | 1 | 8,192 | 8,192 | | | - |
| tempdb | 1 | 8,704 | 8,704 | | | - |
| | | | | | | |
| **Totals** | | 3,735,582,208.00 | 3,499,858,447.98 | 34,998,282.40 | | 200,725,477.62 |
| | | | | | | |
| | | | | | | |
| **Dynamic space** | 914,061,816.00 | Sum of Data for Order, Order-Line and History | | | | |
| **Static space** | 2,430,055,888.40 | Data + Index + 5% Space + Overhead - Dynamic space | | | | |
| **Free space** | 190,739,025.98 | Total Seg. Size - Dynamic Space - Static Space - Not Needed | | | | |
| | | | | | | |
| **Daily growth** | 183,107,013.71 | Dynamic space/(Wc * 62.5)* tpmC | | | | |
| **Daily spread** | (83,921,494.59) | Free space - 1.5 * Daily growth (zero if negative) | | | | |
| **60 day (KB)** | 13,416,476,711.29 | Static space + 60* (daily growth + daily spread) | | | | |
| | | | | | | |
| **60 day (GB)** | 12,794.95 | 60-day space in GB (excludes OS, Paging and RDBMS logs) | | | | |
| | | | | | | |
| **Available (GB)** | 52,374.34 | The total storage configured and available for the database, minus logs, in a RAID-0 configuration | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| **Log File Storage Requirement:** | | | | | | |
| **Log size (MB)** | 1,585,000.00 | Total size of log file | | | | |
| **% Log Used** | 33.0858 | % of log file used during entire run | | | | |
| **Total N-O Txn** | 83,947,936 | Total count of new order transactions during entire run | | | | |
| **Log per N-O txn** | 6.40 | KB of log storage used per New Order transaction | | | | |
| **8 Hour Log (GB)** | 1,495.79 | 8-hour log storage required | | | | |
| **Log configured (GB)** | 1,640.78 | | | | | |
| | | | | | | |
| **Disk Capacity** | **MB** | **GB** | | | | |
| 36GB-10K RPM | 34,716 | 33.90 | | | | |
| 36GB-15K RPM | 34,204 | 33.40 | | | | |
| 73.4GB-15K RPM | 69,898 | 68.26 | | | | |
| 146GB-15K RPM | 140,014 | 136.73 | | | | |
| | | | | | | |
| | | | **Disks Priced** | | | |
| **Space Usage** | **GB Needed** | | | | **GB Priced** | **GB Usable** |
| 60-Day (RAID-0) | 12,794.95 | | 1,568 | 36GB-15K RPM | 52,374.34 | 52,374.34 |
| | | | | | Total DB | 52,374.34 |
| | | | | | | |
| 8hr Log (RAID-10) | 1,495.79 | | 24 | 146GB-15K RPM | 3,281.57 | 1,640.78 |
| | | | | | Total Log | 1,640.78 |
| | | | | | | |
| OS, SQL Server | 8.00 | | 1 | 36GB-10K RPM | 33.90 | 33.90 |
| Total Space | 14,298.74 | | 1593 | | 55,689.81 | 54,049.02 |

# Appendix E: Third-Party Price Quotes

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
http://www.microsoft.com/

**Microsoft**

February 23, 2007

IBM Corporation
Chris King
3079 Cornwallis Road
Durham, NC 27709

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-C benchmark testing.

All pricing shown is in US Dollars ($).

| Part Number | Description | Unit Price | Quantity | Price |
|---|---|---|---|---|
| 810-03134 | **SQL Server 2005 Enterprise Edition**<br>*Per Processor License*<br>*Discount Schedule: Open Program - Level C*<br>*Unit Price reflects a 6% discount from the retail unit price of $24,999.* | $23,432 | 8 | $187,456 |
| P72-00981 | **Windows Server 2003, Enterprise x64 Edition**<br>*Server License Only - No CALs*<br>*Discount Schedule: Open Program - No Level*<br>*Unit Price reflects a 41% discount from the retail unit price of $3,999.* | $2,334 | 1 | $2,334 |
| P73-00295 | **Windows Server 2003, Standard x86 Edition**<br>*Server License Only - No CALs*<br>*Discount Schedule: Open Program - No Level*<br>*Unit Price reflects a 28% discount from the retail unit price of $999.* | $719 | 16 | $11,504 |
| 254-00170 | **Microsoft Visual C++ .Net Standard 2003**<br>*Full License*<br>*No Discounts Applied* | $109 | 1 | $109 |
| N/A | **Microsoft Problem Resolution Services**<br>*Professional Support*<br>*(1 Incident)* | $245 | 1 | $245 |

All products are currently orderable through Microsoft's normal distribution channels. A list of Microsoft's resellers can be found at http://www.microsoft.com/products/info/render.aspx?view=22&type=mnp&content=22/licensing>/b>

Defect support is included in the purchase price. Additional support is available from Microsoft PSS on an incident by incident basis at $245 per call.

This quote is valid for the next 90 days.

If we can be of any further assistance, please contact Jamie Reding at
(425) 703-0510 or jamiere@microsoft.com.

Reference ID: PCchki07022300006117.
Please include this Reference ID in any correspondence regarding this price quote.

RESOURCES
· My Purchases
· Order Status
· My Company
· My Solutions
· My Account
· Account Team
· New Accounts
· Rebates
· Special Events
· CDW Outlet
· Technical Support
· Request Catalog
· eNewsletters
· Research Center

PRINTABLE VERSION

# SHOPPING CART

Your Saved Carts | Save This Cart | Edit Saved Carts | Send To An Associate

Continue to Checkout

| Quantity | Product | CDW | Availability | Price | Ext. Price |
|---|---|---|---|---|---|
| 1 | Adaptec Serial Attached SCSI RAID 4800SAS - storage controller (RAID) - SAT | 985466 | 1-3 days | $789.99 | $789.99 |
| Click ⊖ to remove an item from your cart | | | | Sub-Total | $789.99 |

Update | Clear Cart | Continue to Checkout

**Continue Shopping** | **Go to CDW.com Homepage**

Related Top Sellers For: **Adaptec Serial Attached SCSI RAID 4800SAS - storage controller (RAID) - SAT**

Accessories

Adaptec Snapshot Backup Key license

**$179.99**

**Shipping Calc:**

Enter a postal code to quickly estimate shipping cost.

**QuickCart:**

Enter a **CDW part number** to quickly add it to your cart.

Product ID
CDW Part: XXXXXX
Mfg. Part: XXXXXXXXX
UNSPSC: XXXXXXXX

Home > Text Search Terms: NETGEAR JGS524 10/100/1000Mbps Gigabit Ethernet Sw

## PRODUCT LIST

Search within these results Go Sort By Best Match Search

View Detailed

1-6 of 6 results Page 1 of 1 Results per page: 20 Go to page: Page: 1

| Product Description | Price |
|---|---|
| View Pic<br>**NETGEAR JGS524 10/100/1000Mbps Gigabit Ethernet Switch - Retail**<br>**Buffer Memory:** 2Mb<br>**Dimensions:** 13.0" x 8.2" x 1.7"<br>**LEDs:** Unit: power Per network port: Link, Activity, Speed<br>**MAC Address Table:** 8000<br>**Ports:** 24 x RJ45<br>**Power:** 100~240V; 50-60Hz; plug is localized to country of sale<br>**Standards:** IEEE 802.3i 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Flow Control<br>**Temperature:** 0ºC to 40ºC (32ºF to 104ºF)<br>**VLAN Support:** No<br>**Weight:** 5.3 lbs.<br>**Model #:** JGS524NA<br>**Item #:** N82E16833122058<br>**Return Policy:** Limited 30-Day Return Policy<br>In Stock<br>**Free 3 Business Day Shipping**<br>[24 Reviews]<br>Move To Wish List | **$245.99**<br>ADD TO CART |
| View Pic<br>**NETGEAR GS108 10/100/1000Mbps Gigabit Ethernet Desktop Switch - Retail**<br>**Buffer Memory:** 12 Kb per port<br>**Dimensions:** 6.2" x 4.1" x 1.1"<br>**Jumbo Frames:** 9000 bytes<br>**LEDs:** System power per port: Link, speed and activity<br>**MAC Address Table:** 4000<br>**Ports:** 8 x RJ45<br>**Power:** 12 W max and 12V @1.0A DC input<br>**Standards:** IEEE 802.3i 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3z 1000BASE-T Gigabit Ethernet IEEE 802.3x Full-duplex Flow Control IEEE 801.p priority tags<br>**Switching Method:** Store and Forward<br>**VLAN Support:** No<br>**Model #:** GS108NA<br>**Item #:** N82E16833122111<br>**Return Policy:** Limited 30-Day Return Policy<br>In Stock<br>**$15.00 Mail-In Rebate**<br>**Free 3 Business Day Shipping** | **$69.99**<br>(**$54.99** after |

BELKIN

# BELKIN A3L791-10-BLK 10 ft. Cat 5E Black RJ45 CAT5e Patch Cable - Retail

Image Viewer

**$2.49**

**3 Business Day Shipping $4.99**
(Not available in HI, AK and PR)

Out Of Stock (ETA: 2/27/2007)

AUTO-NOTIFY
ADD TO WISH LIST
EMAIL THIS PAGE
PRINT THIS PAGE
PRICE ALERT

## Special Offers

No Payments for 6 Months on purchases of $500 or more with your Newegg.com Preferred Account!
Click here for important disclosures

No Payments for 90 Days On purchases over $250 with Bill Me Later®!
Click here for important disclosures

MANUFACTURER INFO | RETURNS & REBATES

## Manufacturer Warranty

Beyond any applicable Newegg return policy, this item is warranted independently by the product's Manufacturer. Below is a summary provided for convenience only and may not be accurate or current. Click here for full details.

## Manufacturer Contact Info

- Manufacturer Product Page
- Website: http://www.belkin.com/index.asp
- Support Phone Number: 800-223-5546 X 2263
- Support Email:http://www.belkin.com/support/emailsupport.asp?pge=con
- Support Website
- View other products from Belkin

CUSTOMER REVIEWS | SPECIFICATIONS

| | |
|---|---|
| **Model** | |
| Brand | BELKIN |
| Model | A3L791-10-BLK |
| **Spec** | |
| Cat | 5E |
| Length | 10 ft. |
| Color | Black |
| **Features** | |
| Features | Exceeds the perfor 5e.<br>Perfect in conjunct networks.<br>50-micron gold pla and clear transmis<br>This product is gua PowerSum tested |