TPC Benchmark™ C
Full Disclosure Report
for

IBM® @server™ xSeries® 460

using

Microsoft® SQL Server 2005

Enterprise x64 Edition (SP1)

and

Microsoft Windows® Server 2003

Datacenter x64 Edition

TPC-C Version 5.5

Submitted for Review
November 22, 2005

by

IBM Corporation and Network Appliance™, Inc.

First Edition - November 2005

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 2005. 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, xSeries, eServer, the eServer logo, 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. NetApp is a registered trademark, and Network Appliance, Data ONTAP and RAID-DP are trademarks of Network Appliance, Inc., in the U.S. and other countries. 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 and Network Appliance, Inc., conducted the TPC Benchmark™ C on the IBM® eServer xSeries 460 configured as a client/server system with attached NetApp® FAS3050 Fibre Channel storage systems. This report documents the full disclosure information required by the TPC Benchmark C Standard Specification, Revision 5.5, including the methodology used to achieve the reported results. All testing fully complied with this revision level.

The software used on the xSeries 460 system includes Microsoft® Windows® Server 2003 Datacenter x64 Edition operating system and Microsoft SQL Server 2005 Enterprise x64 Edition (SP1).

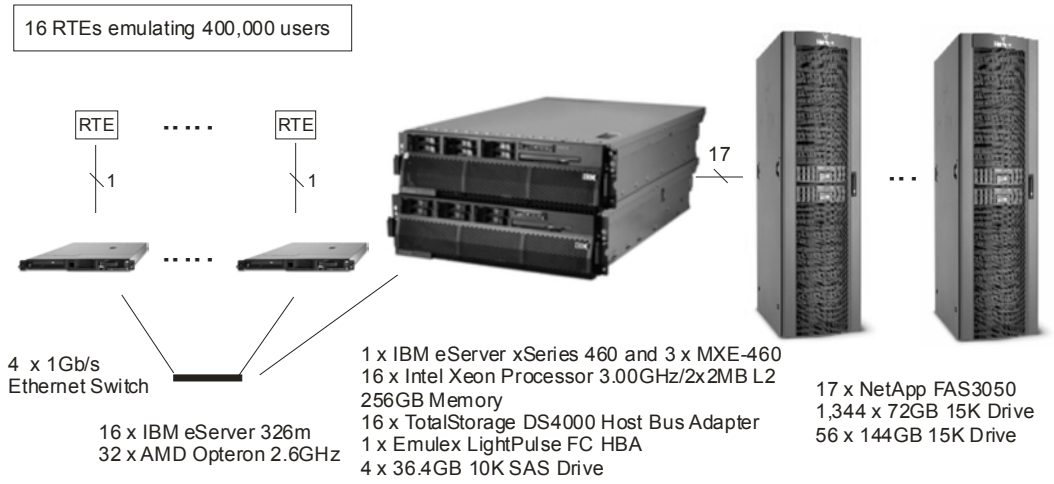
Two standard metrics, transactions per minute-C (tpmC) and price per tpmC ($/tpmC), are reported as required by the TPC Benchmark C Standard Specification.

The benchmark results are summarized in the following table.

Hardware	Software	Total System Cost	tpmC	$/tpmC	Total Solution Availability Date
IBM eServer xSeries 460	Microsoft SQL Server 2005 Enterprise x64 Edition (SP1) Microsoft Windows Server 2003 Datacenter x64 Edition	$3,138,060 USD	492,307	$6.37 USD	May 20, 2006

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

IBM Corporation and Network Appliance, Inc.	IBM® eServer™ xSeries® 460 Microsoft® SQL Server 2005 (SP1)			TPC-C Rev. 5.5 Report Date 11/22/05
Total System Cost	TPC-C Throughput	Price/Performance		Availability Date
$3,138,060 USD	**492,307 tpmC**	**$6.37 USD /tpmC**		**May 20, 2006**
Database Server Processors/Cores/ Threads	Database Manager	Operating System	Other Software	Number Of Users
16/32/64 Intel® Xeon® Processor 7040 3.00GHz	**Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)**	**Microsoft Windows Server 2003 Datacenter x64 Edition**	**Microsoft Visual C++ Standard Edition Microsoft COM+**	**400,000**



System Component	Qty	Server	Qty	Each of 16 Clients
Processors/Cores/ Threads	16/32/64	Intel Xeon Processor 7040 3.00GHz	2/2/2	AMD Opteron 2.6GHz
Cache		2x2MB L2		1MB L2 Cache
Memory	32	8 (2x4GB) PC2-3200	4	512MB PC-3200
Disk Controllers	17 16 1	NetApp® FAS3050 IBM TotalStorage DS4000 HBA Emulex LightPulse HBA		
Disk Drives	4 1,344 56	36.4GB 10K SAS Drive NetApp 72GB 15K Drive NetApp 144GB 15K Drive	1	36.4GB 15K U320
Total Storage		96820.31GB		

IBM Corporation and Network Appliance, Inc.	IBM® eServer™ xSeries® 460 Microsoft® SQL Server 2005 (SP1)	TPC-C Rev. 5.5 Report Date 11/22/05

Description	Part Number	Third Party Brand	Pricing	Unit Price	Quantity	Extended Price	3-Yr. Maint. Price
Server Hardware							
xSeries 460 with 4 x Intel Xeon Processor 7040 3.00GHz/2x2MB L2	8872-6EU*	IBM	1	50,779	1	50,779	
Intel Xeon Processor 7040 3.00GHz/2x2MB L2	25R8942	IBM	1	5,999	12	71,988	
MXE-460 (0 Processors, 0 Memory, 2 Memory Cards)	8874-2EU*	IBM	1	16,569	3	49,707	
2.3M Scalability Cable	13M7414	IBM	1	299	6	1,794	
8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIMM	30R5145	IBM	1	15,499	32	495,968	
Active Memory 4-Slot Memory Expansion Card	13M7409	IBM	1	499	4	1,996	
xSeries 460 Scalability Enablement/Memory Adapter	40K2450	IBM	1	849	4	3,396	
IBM 36.4GB 10K 2.5 inch SAS Drive	26K5654	IBM	1	419	4	1,676	
IBM TotalStorage DS4000 Host Bus Adapter	24P0960	IBM	1	1,485	16	23,760	
Emulex LightPulse Fibre Channel Host Bus Adapter (2 spares)	LP9002L-F2	Emulex	4	1,195	3	3,585	
ServicePac for 3-Year 24x7x4 Support (x460 and MXE-460)	96P2688	IBM	1	3,390	4		13,560
					Subtotal	704,649	13,560
Server Storage							
FAS3050HA, SAN, IB, Data ONTAP	FAS3050HAS-IB-SYS	NetApp	2	37,550	16	600,800	
SW,DataONTAP,3XXX-GEN AVAIL2	SW-ONTAP-3XXX-GA2	NetApp	2	0	17	0	
DS14mk2,AC PSU,14x72GB 15K Drives,-C	X60015A-C	NetApp	2	22,790	96	2,187,840	
ESH2 Module,-C	X5511A-C	NetApp	2	1,950	200	390,000	
FC HBA for Disk, OP (2), Rev B, -C	X2050B-C	NetApp	2	4,500	18	81,000	
Cluster 4X IB cable, Copper, 5M	X1941A-C	NetApp	2	97	16	1,552	
FC SFP to SFP Patch Cable,0.5M,-C	X6530-C	NetApp	2	0	132	0	
5M Optical Cable, LC/LC Ends	X6518A-C	NetApp	2	150	102	15,300	
Power Cable, North America	X800E-C	NetApp	2	0	234	0	
System Lift Handle, Detachable	X505-C	NetApp	2	0	17	0	
Optical SFP, FC, -C	X6529-C	NetApp	2	0	68	0	
FAS3050, Data ONTAP,-C	FAS3050-BASE-C	NetApp	2	62,475	1	62,475	
DS14mk2,AC PSU,14x144GB 15K Drives,-C	X70015-C	NetApp	2	40,990	4	163,960	
iSCSI Software, T5-C	SW-T5-ISCSI-C	NetApp	2	0	1	0	
FCP Software, T5-C	SW-T5-FCP-C	NetApp	2	25,000	1	25,000	
NEMA 30A PDU Upgrade, single PDU	X8712	NetApp	2	850	2	1,700	
APC SMART UPS 3000VA RM 2U (2 spares)	SUA3000RM2U	APC	5	1,037	3	3,111	
4hr Parts Replace and SW Subscription-FAS3050C	CS-S-SSP-4R	NetApp	2	62,209	8		497,671
4hr Parts Replace and SW Subscription-FAS3050	CS-S-SSP-4R	NetApp	2	45,306	1		45,306
				List Subtotal		3,532,738	542,976
HW (except UPS) and SW discounts (55%) based on total dollar volume				**HW/SW Discount**		1,941,295	
Service discount (20%) based on total dollar volume				**Service Discount**			108,595
					Subtotal	1,591,443	434,381
Server Software							
Microsoft SQL Server 2005 Enterprise x64 Edition	810-03134	Microsoft	3	23,432	16	374,912	
Microsoft Problem Resolution Services		Microsoft	3	245	1		245
Microsoft Windows Server 2003 Datacenter x64 Edition *	Included with x460	Microsoft	1	0	0	0	
Software Update Subscription for Datacenter x64 Edition	4818-HAX	IBM	1	2,239	4		8,956
3 Year Remote Technical Support for xSeries and Datacenter	41C6022	IBM	1	$13,755	1		13,755
					Subtotal	374,912	22,956
Client Hardware							
eServer 326m Model 252 2.6 GHz/1MB, 1GB, SCSI H/S open bay	7969-81U	IBM	1	2,149	16	34,384	
AMD Opteron Processor Model 252 2.6GHz/1MB	13N0703	IBM	1	1,499	16	23,984	
1GB (2x512MB) PC-3200 DDR ECC SDRAM RDIMM	73P3233	IBM	1	549	16	8,784	
36.4GB 15K Ultra320 SCSI Drive	90P1380	IBM	1	299	16	4,784	
NetXtreme 1000T Dual-Port Ethernet Adapter	73P4201	Intel	1	249	32	7,968	
ServicePac for 3-Year 24x7x4 Support (e326)	96P2250	IBM	1	419	16		6,704
					Subtotal	79,904	6,704
Client Software							
Microsoft Windows Server 2003 Standard Edition	P73-00295	Microsoft	3	719	16	11,504	
Microsoft Visual C++ Standard Edition	254-00170	Microsoft	3	109	1	109	
					Subtotal	11,613	
Network Components							
USB-to-PS2 Converter (2 spares)	35700		7	8	18	144	
Ethernet Cable 20 Ft. (10% spares)	CC5E-B14B		6	4	27	108	
Netgear 8-Port Switch	GS-108		6	80	7	560	
AutoView 424 2-Users Switch w/o Receiver / 24 Systems (2 spares)	AV424-AM		1	1,715	3	5,145	
E54 15" (13.8" Viewable) Color Monitor	633147N	IBM	1	139	1	139	
IBM USB Keyboard Enhanced Performance Keyboard	73P2620	IBM	1	35	1	35	
IBM USB Optical Wheel Mouse	06P4069	IBM	1	14	1	14	
ServicePac for 3-Year 24x7x4 Support (Monitor)	30L9183	IBM	1	90	1		90
					Subtotal	6,145	90
Compsat Technology Discounts (See Quote to View Line Items)						104,596	3,701
					Total	2,768,666	477,691
Pricing: 1- Compsat Technology (*Datacenter included); 2 - NetApp; 3 - Microsoft; 4 - CDW.com;				**Three-Year Cost of Ownership USD:**			$3,138,060
5 - ePlus; 6 - newegg.com; 7 - www.cablestogo.com					**tpmC:**		492,307
Audited by Bradley J. Askins, InfoSizing, Inc.					**$ USD/tpmC:**		$6.37

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 and Network Appliance, Inc.	IBM® eServer™ xSeries® 460 Microsoft® SQL Server 2005 (SP1)	TPC-C Rev. 5.5 Report Date 11/22/05

Numerical Quantities Summary

MQTh, Computed Maximum Qualified Throughput: 492,307 tpmC

Response Times (in seconds)	90th Percentile	Average	Maximum
New Order	1.50	0.57	8.09
Payment	1.46	0.55	8.11
Delivery	1.02	0.33	3.33
Stock Level	1.72	0.77	5.06
Order Status	1.48	0.57	6.52
Delivery (Deferred)	0.16	0.12	5.11
Menu	1.00	0.33	3.98
Response Time Delay Added for Emulated Components: 0.1 Seconds			

Transaction Mix (in percent of total transactions	Percent
New Order	44.95
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 / 12.04	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 / 10.04	2.02 / 100. 31

Test Duration	
Ramp-up Time	85 minutes 41 seconds
Measurement Interval	120 minutes
Number of Checkpoints	4
Checkpoint Interval	30 minutes
Number of transactions (all types) completed in measurement interval	136,699,824

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 21
- Partitions/Replications Mapping 21

60-Day Space Requirement 21
Clause 5 – Performance Metrics and Response Time Related Items 22
Measured tpmC 22
Response Times 22
Keying/Think Times 22
Response Time Frequency Distribution Curves 23
Performance Curve for Response Time vs. Throughput 25
New Order Think Time Distribution 26
Steady State Methodology 27
Work Performed During Steady State 27
Measurement Interval 27
Transaction Mix 27
Percentage of Total Mix 27
Checkpoints 28
Clause 6 – SUT, Driver and Communication Related Items 29
Description of RTE 29
Emulated Components 29
Benchmarked and Targeted System Configuration Diagrams 29
Network Configuration 29
Network Bandwidth 29
Operator Intervention 30
Clause 7 – Pricing Related Items 31
Hardware and Software Components 31
Availability Date 31
Measured tpmC 31
Country-Specific Pricing 31
System Pricing 32
Clause 9 – Audit Related Items 33
Auditor 33
Availability of the Full Disclosure Report 33
Attestation Letter 33
Appendix A – Client Server Code 35
Web Client Source Code 35
Stored Procedures 160

Appendix B: Database Design Scripts 173

Database Build..... 173

Load Source Code 184

Appendix C: Tunable Parameters 234

Microsoft SQL Server 2005 Configuration Parameters 234

Microsoft Windows Server 2003 Datacenter x64 Edition 235

FAS3050 Disk Controller Configuration Parameters..... 306

Microsoft Windows Server 2003..... 315

RTE Input Parameters 407

Appendix D: 60-Day Space 411

Appendix E: Third-Party Price Quotes..... 412

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 5.5.

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 and Network Appliance, Inc.

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

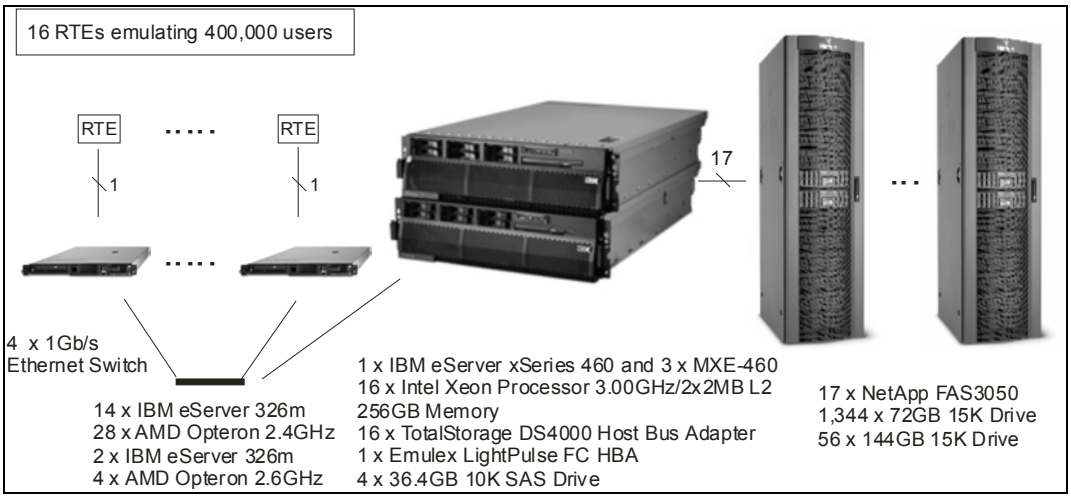
Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences.

The configuration diagrams for the tested and priced systems are provided on the following pages.

The Remote Terminal Emulator (RTE) used for these TPC Benchmark C tests is an IBM proprietary RTE. Under Version 5.5, 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 benchmarked configuration used 16 IBM eServer 326m systems as the clients, which executed the terminal I/O and submitted transactions to COM+ servers, which are also running on the clients. Fourteen of the clients were each configured with two 2.4GHz AMD Opteron processors and one 36.4GB 10K drive that held the OS, and two clients were each configured with two 2.6GHz processors and one 36.4GB 15K drive that held the OS (priced configuration). These COM+ servers forwarded the transaction requests to the server, and returned the results to the RTE. Microsoft SQL Server 2005 Enterprise x64 Edition (SP1) is the DBMS executing on the server.

Measured Configuration



The measured configuration consisted of 14 e326m clients each with two 2.4GHz AMD Opteron processors and one 36.4GB 10K drive that held the OS, and two e326m clients each with two 2.6GHz AMD Opteron processors and one 36.4GB 15K drive that held the OS. However, 16 e326m clients each with two 2.6GHz processors and one 36.4GB 15K drive were priced. Based on the specifications of these systems and on additional performance data collected on these systems and submitted to the auditor, the auditor determined that this substitution does not have a material effect on the reported performance.

The measured configuration also included three Intel dual-port Ethernet adapters in the database server. The adapters were not used during benchmarking and were not priced.

All other components, including the Fibre Channel disk subsystem, 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 IBM PC desktop computer systems. All processing of the input/output screens was handled by the eServer 326m 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 xSeries 460 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%
Remote warehouse payment transactions	15%
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	44.95%
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 of section 3.1.1. 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 bat 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 the bat 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)*

Five Durability tests were conducted:

1. Loss of 72GB Data Disk Drive
2. Loss of 144GB Log Disk Drive
3. Loss of System
4. Loss of NetApp FAS3050 NVRAM
5. Loss of NetApp FAS3050 Data Controller

Loss of Log Disk, Loss of Data Disk, and Loss of System (Instantaneous Interruption and Loss of Memory)

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 gving SUM1.
2. This test was executed on a full scale benchmark run with 400,000 users.
3. The test continued to run for 5 minutes after all users were connected to the server.
4. One 72GB disk from one of the data shelves was removed. Since the data disks were protected by RAID-DP™ with 2 hot spares configured, Microsoft SQL Server 2005 continued to process transactions without interruption.
5. The test continued to run for another 5 minutes.
6. One 144GB disk from one of the log shelves was removed. Since the log disks were protected by RAID-DP with 2 hot spares configured, Microsoft SQL Server 2005 continued to process transactions without interruption.
7. The test continued to run for another 5 minutes.
8. The server under test was powered off, which removed power from the system and the memory.
9. The server was powered on again.
10. Microsoft SQL Server 2005 was allowed to recover.
11. Step 1 was repeated to obtain the current count of the total number of orders giving SUM2.
12. It was verified that the sum of D_NEXT_O_ID after the database recovered was greater than or equal to the sum of D_NEXT_O_ID before the run, plus all new order transactions completed during the run minus any rollback transactions.
13. Consistency condition 3 was verified.

Loss of NVRAM in NetApp FAS3050 Controller Test

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 gving SUM1.

2. This test was executed on a 15% scale benchmark run with 60,000 users.
3. The test continued to run for 5 minutes after all users were connected to the server.
4. The battery connected to the NVRAM was failed, through a switch, which disabled the data path through the NetApp FAS3050 controller that uses NVRAM battery backup.
5. The test continued to run for another 5 minutes without error.
6. The run was stopped.
7. Microsoft SQL Server 2005 was shutdown.
8. Step 1 was repeated to obtain the current count of the total number of orders giving SUM2.
9. It was verified that the sum of D_NEXT_O_ID after the database recovered was equal to the sum of D_NEXT_O_ID before the run, plus all new order transactions completed during the run minus any rollback transactions.
10. Consistency condition 3 was verified.

Loss of NetApp FAS3050 Data Controller Test

The following steps were successfully performed to pass the loss of data controller 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 60,000 users submitting transactions.
4. A NetApp FAS3050 controller connected to data disk drives, which contained a portion of each of the tables in the TPC-C database, was powered off causing Microsoft SQL Server 2005 to report errors accessing that device.
5. The NetApp FAS3050 controller was disassembled and its NVRAM component was removed from the controller for 5 minutes to simulate motherboard failure and swap.
6. The run was aborted and Microsoft SQL Server 2005 was stopped.
7. The NetApp FAS3050 controller was reassembled, reinserted into the testbed configuration and recovered.
8. The database was recovered and restored from the backup dump devices. Afterward, the transaction log was rolled forward to the database.
9. Step 2 was repeated to obtain the current count of the total number of orders giving SUM2.
10. It was verified that the sum of D_NEXT _O_ID after the database is recovered is equal to the sum of D_NEXT_O_ID before the run, plus all new order transactions completed during the run minus any rollback transactions.
11. Consistency condition 3 was verified.

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 40,400 warehouses and the audited run used 40,000 warehouses. A total of 400 warehouses was deleted.

Table 4-1. Initial Cardinality of Tables

Table Name	Rows
Warehouse	40,400
District	404,000
Item	100,000
New Order	363,600,000
History	1,212,000,000
Orders	1,212,000,000
Customer	1,212,000,000
Order Line	12,119,962,596
Stock	4,040,000,000
Inactive Warehouses	400

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 handled by one FAS3050 storage controller attached to fifty-six 144GB 15K RPM disks protected by RAID-DP. Eight of these drives were overhead or hot spares resulting in 48 drives used for log data.

The log controller was attached to the database server via one Fibre Channel adapter. The log disks were configured as one log volume with one LUN.

The database tables were handled by 16 FAS3050 storage controllers each attached to eighty-four 72GB 15K RPM disks protected by RAID-DP. Ten of these drives were overhead or hot spares resulting in 74 drives used for data storage on each controller.

For the database tables, there is a total of 1,344 15K RPM disk drives. Each physical disk has a capacity of 72GB. A total of 16 Fibre Channel storage adapters and 16 NetApp FAS3050 storage controllers connect these 1,344 disks (i.e., 84 disks each) to the SUT.

The data disks were configured as 16 data volumes, with 2 LUNS created on each data volume.

Table 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

Storage System	Drives	LUNs	Size	Use
1 – ntapfiler1	74 - 72GB FAS3050 Storage system	C:\f1_fg1_m1 C:\f1_fg2_cs1	85GB 150GB	Miscellaneous Customer and Stock
2 – ntapfiler2	74 - 72GB FAS3050 Storage system	C:\f2_fg1_m2 C:\f2_fg2_cs2	85GB 150GB	Miscellaneous Customer and Stock
3 – ntapfiler3	74 - 72GB FAS3050 Storage system	C:\f3_fg1_m3 C:\f3_fg2_cs3	85GB 150GB	Miscellaneous Customer and Stock
4 – ntapfiler4	74 - 72GB FAS3050 Storage system	C:\f4_fg1_m4 C:\f4_fg2_cs4 T:	85GB 150GB 200MB	Miscellaneous Customer and Stock Root.mdf
5 – ntapfiler5	74 - 72GB FAS3050 Storage system	C:\f5_fg1_m5 C:\f5_fg2_cs5	85GB 150GB	Miscellaneous Customer and Stock
6 – ntapfiler6	74 - 72GB FAS3050 Storage system	C:\f6_fg1_m6 C:\f6_fg2_cs6	85GB 150GB	Miscellaneous Customer and Stock
7 – ntapfiler7	74 - 72GB FAS3050 Storage system	C:\f7_fg1_m7 C:\f7_fg2_cs7	85GB 150GB	Miscellaneous Customer and Stock
8 – ntapfiler8	74 - 72GB FAS3050 Storage system	C:\f8_fg1_m8 C:\f8_fg2_cs8	85GB 150GB	Miscellaneous Customer and Stock
9 – ntapfiler9	74 - 72GB FAS3050 Storage system	C:\f9_fg1_m9 C:\f9_fg2_cs9	85GB 150GB	Miscellaneous Customer and Stock
10 – ntapfiler10	74 - 72GB FAS3050 Storage system	C:\f10_fg1_m10 C:\f10_fg2_cs10	85GB 150GB	Miscellaneous Customer and Stock
11 – ntapfiler11	74 - 72GB FAS3050 Storage system	C:\f11_fg1_m11 C:\f11_fg2_cs11	85GB 150GB	Miscellaneous Customer and Stock
12 – ntapfiler12	74 - 72GB FAS3050 Storage system	C:\f12_fg1_m12 C:\f12_fg2_cs12	85GB 150GB	Miscellaneous Customer and Stock
13 – ntapfiler13	74 - 72GB FAS3050 Storage system	C:\f13_fg1_m13 C:\f13_fg2_cs13	85GB 150GB	Miscellaneous Customer and Stock
14 – ntapfiler14	74 - 72GB FAS3050 Storage system	C:\f14_fg1_m14 C:\f14_fg2_cs14	85GB 150GB	Miscellaneous Customer and Stock
15 – ntapfiler15	74 - 72GB FAS3050 Storage system	C:\f15_fg1_m15 C:\f15_fg2_cs15	85GB 150GB	Miscellaneous Customer and Stock
16 – ntapfiler16	74 - 72GB FAS3050 Storage system	C:\f16_fg1_m16 C:\f16_fg2_cs16	85GB 150GB	Miscellaneous Customer and Stock
17 – ntaplogs	48 - 144GB FAS3050 Storage system	L:	1550GB	Log

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 x64 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: 492,307 tpmC
Price per tpmC: $6.37 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	0.57	8.09	1.50
Payment	0.55	8.11	1.46
Delivery	0.33	3.33	1.02
Stock Level	0.77	5.06	1.72
Order Status	0.57	6.52	1.48
Delivery (Deferred)	0.12	5.11	0.16
Menu	0.33	3.98	1.00

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 / 12.04	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 / 10.04	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

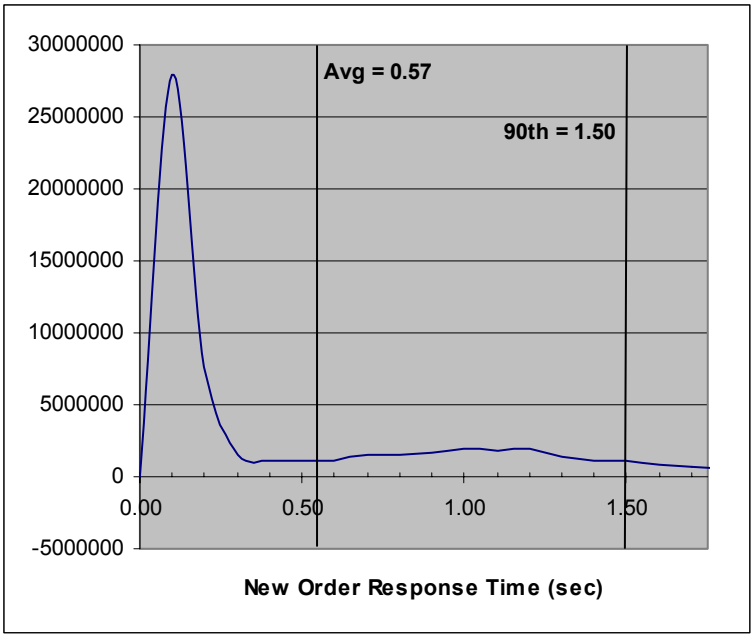


Figure 5-2. Payment Transaction - Response Time Frequency Distribution

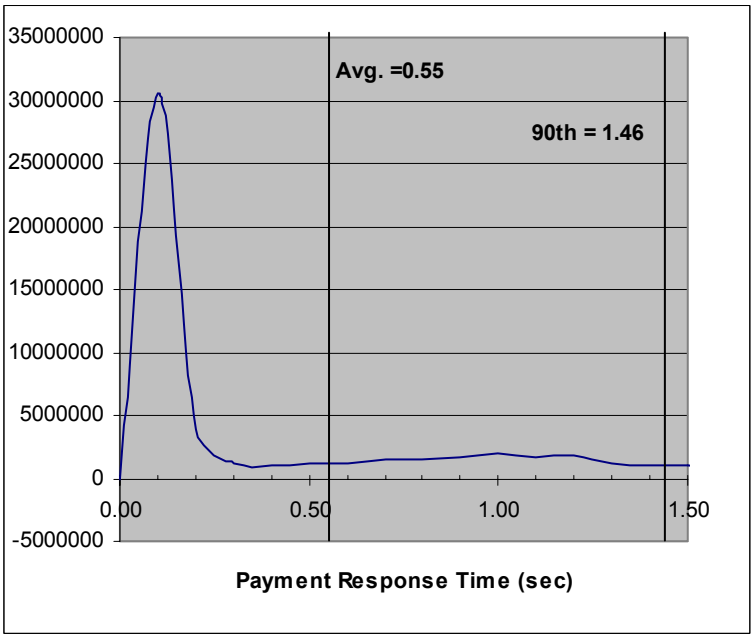


Figure 5-3. Order-Status Transaction - Response Time Frequency Distribution

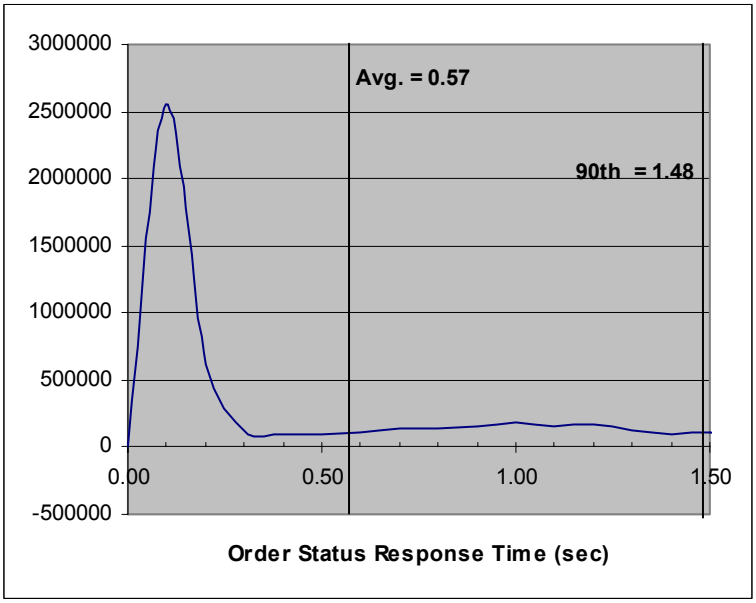


Figure 5-4. Delivery Transaction - Response Time Frequency Distribution

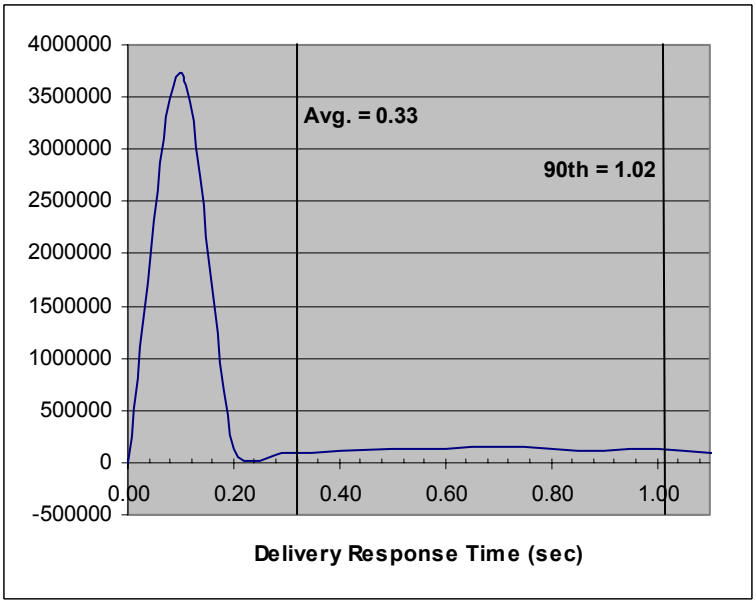
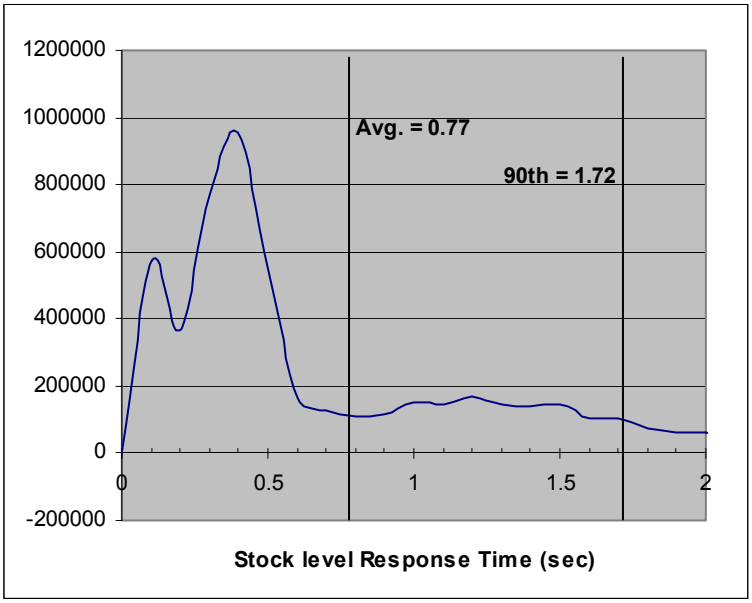


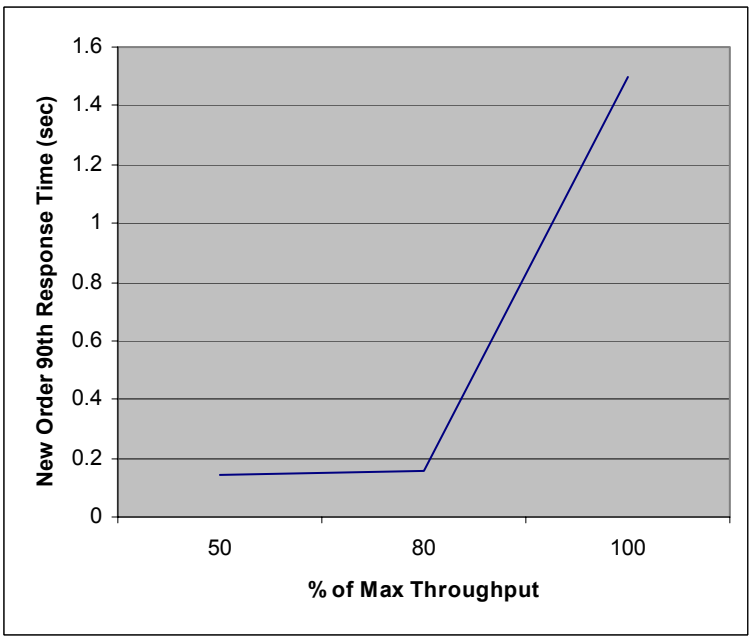
Figure 5-5. Stock-Level Transaction - Response Time Frequency Distribution



Performance Curve for Response Time vs. Throughput

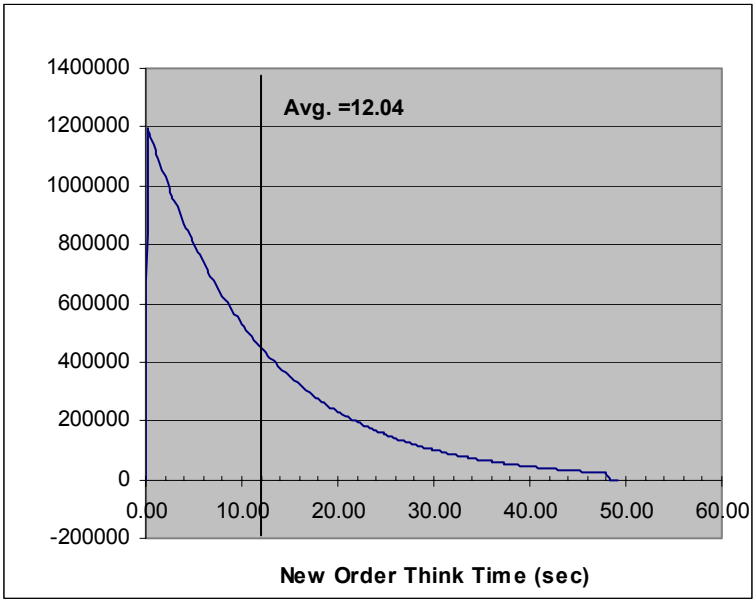
The performance curve for response time vs. throughput (see Clause 5.6.2) must be reported for the New-Order transaction.

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



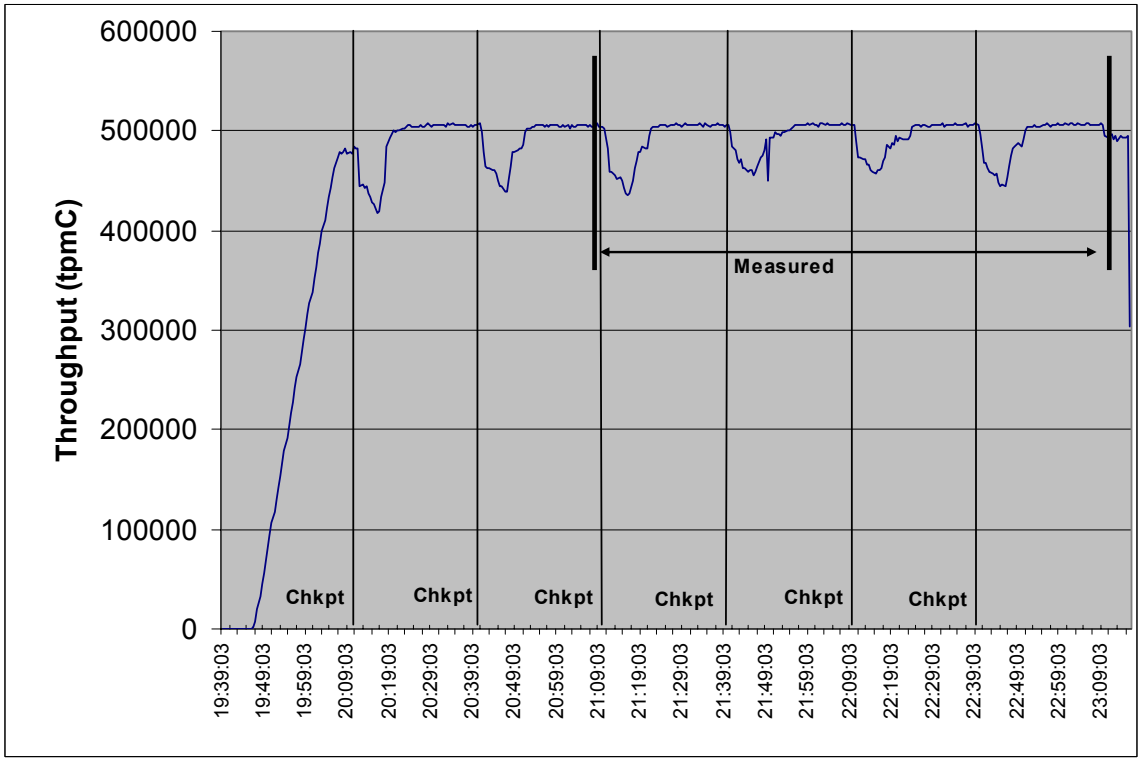
New Order Think Time Distribution

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%
Remote warehouse payment transactions	15%
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	44.95%
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 checkpoint. 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 52 seconds after the start of the measurement interval. The checkpoint interval was 30 minutes. Each checkpoint lasted for 29 minutes 15 seconds. The four longest checkpoints in the measured interval are shown in Table 5-4.

Table 5-4. Transaction Statistics and Transaction Mix

Checkpoint	Start Time	Duration
1	21:10:40	29 minutes 15 seconds
2	21:40:26	29 minutes 15 seconds
3	22:10:10	29 minutes 15 seconds
4	22:39:56	29 minutes 15 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 for these TPC Benchmark C tests is an IBM proprietary RTE. 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 May 20, 2006.

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: 492,307 tpmC
- Price per tpmC: $6.37 USD per tpmC
- Three-year cost of ownership: $3,138,060 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 Datacenter x64 Edition
- 16 Microsoft Windows Server 2003 Standard Edition
- 16 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 Bradley J. Askins 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

Benchmark Sponsor:

Celia Schreiber
Manager, xSeries Performance
IBM Systems and Technology Group
3039 Cornwallis Road
Research Triangle Park, NC 27709

Daniel C. Morgan
Sr. Manager, Database Performance
Network Appliance, Inc.
7301 Kit Creek Road
Research Triangle Park, NC 27709

November 21, 2005

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

Platform:	**IBM @server xSeries 460 c/s**
Operating system:	**Microsoft Windows Server 2003 Datacenter x64 Edition**
Database Manager:	**Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)**
Transaction Manager:	**Microsoft COM+**

The results were:

CPU's Speed	Memory	Disks	NewOrder 90% Response Time	**tpmC**
Server: IBM @server xSeries 460				
16 x Xeon Processor 7040 (3.00GHz)	256 GB Main (2x2MB L2 Cache per processor)	1344 x 72 GB (ext.) 4 x 36.4 GB (int.) 56 x 144 GB (ext.)	1.50 Seconds	**492,307**
Clients: Sixteen (16) IBM @server 326m (Specification for each)				
2 x AMD Opteron (2.6 GHz)	2 GB Main (1 MB L2 Cache per processor)	1 x 36.4 GB	n/a	n/a

In my opinion, these performance results were produced in compliance with the TPC's requirements for the benchmark. The following verification items were given special attention:

- The database records were the proper size

- The database was properly scaled and populated
- The required ACID properties were met
- The transactions were correctly implemented
- Input data was generated according to the specified percentages
- The transaction cycle times included the required keying and think times
- The reported response times were correctly measured.
- All 90% response times were under the specified maximums
- At least 90% of all delivery transactions met the 80 Second completion time limit
- The reported measurement interval was 120 minutes (7200 seconds)
- The reported measurement interval was representative of steady state conditions
- Four checkpoints were taken during the reported 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 fourteen e326 client systems each with two 2.4 GHz AMD Opteron processors and one 36.4GB 10K drive that were substituted by fourteen e326 client systems each with two 2.6 GHz AMD Opteron processors and one 36.4GB 15K drive in the priced system. Based on the specifications of these systems and on additional performance data collected on these systems, it is my opinion that this upgrade does not have a material effect on the reported performance.

.

Respectfully Yours,

François Raab, President

Bradley J. Askins, Auditor

1373 North Franklin Street • Colorado Springs, CO 80903-2527 • Office: 719/473-7555 • Fax: 719/473-7554

Appendix A – Client Server Code

Web Client Source Code

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 <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;
		}
}
```

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;
	}
}
```

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_DBLIB		1021
#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, 351
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,43,100,33,10
   CONTROL
"COM",IDC_TM_MTS,"Button",BS_AUTORADIOBUTTO
N |
               WS_TABSTOP,43,113,32,10
   CONTROL
"TUXEDO",IDC_TM_TUXEDO,"Button",BS_AUTORADI
OBUTTON |
               WS_TABSTOP,106,100,46,10
   CONTROL
"ENCINA",IDC_TM_ENCINA,"Button",BS_AUTORADIO
BUTTON |
               WS_DISABLED |
WS_TABSTOP,106,113,43,10
   EDITTEXT
ED_DB_SERVER,131,152,67,12,ES_AUTOHSCROLL
   EDITTEXT
ED_DB_USER_ID,131,165,67,12,ES_AUTOHSCROLL
   EDITTEXT
ED_DB_PASSWORD,131,178,67,12,ES_AUTOHSCROLL
   EDITTEXT
ED_DB_NAME,131,191,67,12,ES_AUTOHSCROLL
   CONTROL
"DBLIB",IDC_DBLIB,"Button",BS_AUTORADIOBUTTO
N | WS_GROUP |
               WS_TABSTOP,45,219,39,12
   CONTROL
"ODBC",IDC_ODBC,"Button",BS_AUTORADIOBUTTON
| WS_TABSTOP,
               91,219,39,12
   EDITTEXT
ED_IIS_MAX_THEAD_POOL_LIMIT,164,263,34,12,ES_R
IGHT |
               ES_NUMBER,WS_EX_RTLREADING
   EDITTEXT
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,164,277,
34,12,ES_RIGHT |
               ES_NUMBER,WS_EX_RTLREADING
   EDITTEXT
ED_IIS_THREAD_TIMEOUT,164,291,34,12,ES_RIGHT |
ES_NUMBER,
               WS_EX_RTLREADING
   EDITTEXT
ED_IIS_LISTEN_BACKLOG,164,305,34,12,ES_RIGHT |
ES_NUMBER,
               WS_EX_RTLREADING
   DEFPUSHBUTTON   "OK",IDOK,53,331,50,14
   PUSHBUTTON      "Cancel",IDCANCEL,119,331,50,14
   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,36,263,115,12
   LTEXT          "Web Service Backlog Queue
Size:",IDC_STATIC,36,277,115,
               12
   LTEXT          "IIS Thread Timeout
(seconds):",IDC_STATIC,36,291,115,12
   LTEXT          "IIS Listen
Backlog:",IDC_STATIC,36,307,115,10
   GROUPBOX       "Database
Interface",IDC_STATIC,35,208,163,27,WS_GROUP
   LTEXT          "Installation
directory:",IDC_STATIC,35,29,71,10
   GROUPBOX       "Transaction
Monitor",IDC_STATIC,33,90,165,37
   LTEXT          "Server Name:",IDC_STATIC,35,155,56,8
   LTEXT          "User ID:",IDC_STATIC,35,168,60,8
   LTEXT          "User
Password:",IDC_STATIC,35,181,83,8
   LTEXT          "Database
Name:",IDC_STATIC,35,194,54,8
   GROUPBOX       "SQL Server Connection
Properties",IDC_STATIC,22,139,187,
```

```
            102
   GROUPBOX        "Web Client
Properties",IDC_STATIC,22,15,187,118
   GROUPBOX        "IIS
Settings",IDC_STATIC,22,247,187,79
   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, 345
   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"

/////////////////////////////////////////////////////////////////////////////
//
// DBLIB_DLL
//

IDR_DBLIB_DLL          DBLIB_DLL
"..\\..\\db_dblib_dll\\bin\\Release\\tpcc_dblib.dll"

/////////////////////////////////////////////////////////////////////////////
//
// ODBC_DLL
//

IDR_ODBC_DLL           ODBC_DLL
"..\\..\\db_odbc_dll\\bin\\Release\\tpcc_odbc.dll"

/////////////////////////////////////////////////////////////////////////////
//
// TUXEDO_APP
//

IDR_TUXEDO_APP         TUXEDO_APP
"..\\..\\tuxapp\\bin\\tuxapp.exe"

/////////////////////////////////////////////////////////////////////////////
//
// TUXEDO_DLL
//

IDR_TUXEDO_DLL         TUXEDO_DLL
"..\\..\\tm_tuxedo_dll\\bin\\tpcc_tuxedo.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"

/////////////////////////////////////////////////////////////////////////////
//
// MSVCRT70
//

IDR_MSVCRT701          MSVCRT70
"C:\\WINDOWS\\system32\\msvcr70.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
 *
 *
 *
 *		All Rights Reserved
 *
 *
 *		PURPOSE:		Header for registry related
code.
 *
 *  Change history:
 *
 */

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_dblib_dll\src\tpcc_dblib.h"          //
DBLIB implementation of TPC-C txns
#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 "..\..\tm_tuxedo_dll\src\tpcc_tux.h"           //
interface to Tuxedo libraries
#include "..\..\tm_encina_dll\src\tpcc_enc.h"           //
interface to Encina libraries

#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_DBLIB            *pCTPCC_DBLIB_new;
TYPE_CTPCC_ODBC
        *pCTPCC_ODBC_new;
TYPE_CTPCC_TUXEDO           *pCTPCC_TUXEDO_new;
TYPE_CTPCC_ENCINA   *pCTPCC_ENCINA_new;
TYPE_CTPCC_ENCINA   *pCTPCC_ENCINA_post_init;
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();

                                // load DLL for
txn monitor
                                if
(Reg.eTxnMon == TUXEDO)
                                {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_tuxedo.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_TUXEDO_new =
(TYPE_CTPCC_TUXEDO*)
GetProcAddress(hLibInstanceTm,"CTPCC_TUXEDO_new"
);
                                        if
(pCTPCC_TUXEDO_new == NULL)

        throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                                }
                                else if
(Reg.eTxnMon == ENCINA)
                                {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_encina.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_ENCINA_new =
(TYPE_CTPCC_ENCINA*)
GetProcAddress(hLibInstanceTm,"CTPCC_ENCINA_new");

        pCTPCC_ENCINA_post_init =
(TYPE_CTPCC_ENCINA*)
GetProcAddress(hLibInstanceTm,"CTPCC_ENCINA_post_i
nit");
                                        if
(pCTPCC_ENCINA_new == NULL)

        throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                                }
                                else 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 == DBLIB)
                                        {

            strcpy( szDllName, Reg.szPath );

            strcat( szDllName, "tpcc_dblib.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_DBLIB_new =
(TYPE_CTPCC_DBLIB*)
GetProcAddress(hLibInstanceDb,"CTPCC_DBLIB_new");

            if (pCTPCC_DBLIB_new == NULL)

                        throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                                        }
                                        else
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() );


                                        }
                                }

                                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);

        // TODO: why do we need this here instead of in
the DLL attach?
        if (Reg.eTxnMon == ENCINA)
                pCTPCC_ENCINA_post_init();

        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				iCmd, FormId,
TermId, iSyncId;
	char		szBuffer[4096];

	int				lpbSize;
	static char	szHeader[] = "200 Ok";
	DWORD		dwSize = 6;
	// initial value is strlen(szHeader)
	char		szHeader1[4096];


#ifdef ICECAP
	StartCAP();
#endif

	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;
		}
		catch (...)
		{
				ErrorForm( pECB,
ERR_TYPE_WEBDLL, 0, TermId, iSyncId, "Error:
Unhandled exception in Web Client.", szBuffer );
		}

#ifdef ICECAP
		StopCAP();
#endif


		lpbSize = strlen(szBuffer);
		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;
}


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);
                                        }

                                        pTxn =
pCTPCC_ODBC_new( Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword,

		szMyComputerName, Reg.szDbName,
                                                        Reg.szSPPrefix,
Reg.bCallNoDuplicatesNewOrder );

                                        if (Reg.dwConnectDelay >
0)
                                        {
                                                        // Synchronize
connect (for VIA)
                                                        //
		LeaveCriticalSection(&hConnectCriticalSection);
                                                        }
                        }
                        else
                        {
                                        if (Reg.eDB_Protocol ==
DBLIB)
                                                        pTxn =
pCTPCC_DBLIB_new( Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, szMyComputerName, Reg.szDbName );
                        }
                        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 == TUXEDO)

            Term.pClientData[iNewTerm].pTxn =
pCTPCC_TUXEDO_new();
                        else if (Reg.eTxnMon == ENCINA)

            Term.pClientData[iNewTerm].pTxn =
pCTPCC_ENCINA_new();
                        else 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 );
                        else if (Reg.eDB_Protocol == DBLIB)

            Term.pClientData[iNewTerm].pTxn =
pCTPCC_DBLIB_new( szServer, szUser, szPassword,
szMyComputerName, szDatabase );
            }
            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> <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> </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> </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);
```

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
(DBLIB)\0"
         VALUE "CompanyName", "Microsoft\0"
         VALUE "FileDescription", "TPC-C HTML DLL
Server (DBLIB)\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 "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);
```

```
		memcpy(m_pTxn, (void *)vTxn_out.parray-
>pvData,vTxn_out.parray->rgsabound[0].cElements);
		SafeArrayDestroy(vTxn_out.parray);

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn-
>ErrorType, m_pTxn->error );
		if (FAILED(hr))
			throw new CCOMERR( hr );
}

void CTPCC_COM::Payment()
{
		VARIANT	vTxn_out;

		HRESULT hr = m_pPayment->Payment(m_vTxn,
&vTxn_out);

		memcpy(m_pTxn, (void *)vTxn_out.parray-
>pvData,vTxn_out.parray->rgsabound[0].cElements);
		SafeArrayDestroy(vTxn_out.parray);

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn-
>ErrorType, m_pTxn->error );
		if (FAILED(hr))
			throw new CCOMERR( hr );
}

void CTPCC_COM::StockLevel()
{
		VARIANT	vTxn_out;

		HRESULT hr = m_pStockLevel-
>StockLevel(m_vTxn, &vTxn_out);

		memcpy(m_pTxn, (void *)vTxn_out.parray-
>pvData,vTxn_out.parray->rgsabound[0].cElements);
		SafeArrayDestroy(vTxn_out.parray);

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn-
>ErrorType, m_pTxn->error );
		if (FAILED(hr))
			throw new CCOMERR( hr );
}

void CTPCC_COM::OrderStatus()
{
		VARIANT	vTxn_out;

		HRESULT hr = m_pOrderStatus-
>OrderStatus(m_vTxn, &vTxn_out);

		memcpy(m_pTxn, (void *)vTxn_out.parray-
>pvData,vTxn_out.parray->rgsabound[0].cElements);
		SafeArrayDestroy(vTxn_out.parray);

		if ( m_pTxn->ErrorType != ERR_SUCCESS )
			throw new CCOMERR( m_pTxn-
>ErrorType, m_pTxn->error );
		if (FAILED(hr))
			throw new CCOMERR( hr );
}
```

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
Tuxedo 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 "..\..\db_dblib_dll\src\tpcc_dblib.h"          //
DBLIB implementation of TPC-C txns
#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_DBLIB        *pCTPCC_DBLIB_new;
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 ==
DBLIB)
                        {

        strcpy( szDllName, Reg.szPath );

        strcat( szDllName, "tpcc_dblib.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_DBLIB_new =
(TYPE_CTPCC_DBLIB*)
GetProcAddress(hLibInstanceDb,"CTPCC_DBLIB_new");
                                if
(pCTPCC_DBLIB_new == NULL)

        throw new
CCOMPONENT_ERR( ERR_GETPROCADDR_FAILED,
szDllName, GetLastError() );
                        }
                        else 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);
		}

		if (m_pTxn)
		{
			delete m_pTxn;
		}

		if (Reg.dwConnectDelay > 0)
		{

		LeaveCriticalSection(&hConnectCriticalSection);
		}
}

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);
			}

			if (Reg.eDB_Protocol == ODBC)
				m_pTxn =
pCTPCC_ODBC_new(		Reg.szDbServer,
Reg.szDbUser, Reg.szDbPassword,


		szMyComputerName, Reg.szDbName,
```

```
		Reg.szSPPrefix,
Reg.bCallNoDuplicatesNewOrder );
			else if (Reg.eDB_Protocol == DBLIB)
				m_pTxn =
pCTPCC_DBLIB_new( Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, szMyComputerName, Reg.szDbName );

			if (Reg.dwConnectDelay > 0)
			{

		LeaveCriticalSection(&hConnectCriticalSection);
			}
		}
		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;
		try
		{
			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

			VariantInit(txn_out);
			txn_out->vt = VT_SAFEARRAY;
			txn_out->parray =
SafeArrayCreateVector(VT_UI1,

			txn_in.parray->rgsabound->cElements,

			txn_in.parray->rgsabound-
>cElements);
			pData = (COM_DATA*) txn_out-
>parray->pvData;

			memcpy( &pData->u.NewOrder,
pNewOrder, sizeof(NEW_ORDER_DATA));
			pData->retval = ERR_SUCCESS;
			pData->error = 0;
			return S_OK;
		}
		catch (CBaseErr *e)
		{
			// check for lost database connection; if
yes, component is toast
			if ( ((e->ErrorType() ==
ERR_TYPE_DBLIB) && (e->ErrorNum() == 10005)) ||
				((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
				m_bCanBePooled =
FALSE;

			pData->retval = e->ErrorType();
			pData->error = e->ErrorNum();
			delete e;
			return E_FAIL;
		}
		catch (...)
		{

		WriteMessageToEventLog(TEXT("Unhandled
exception."));
			pData->retval = ERR_TYPE_LOGIC;
			pData->error = 0;
			m_bCanBePooled = FALSE;
			return E_FAIL;
		}
}

HRESULT CTPCC_Common::Payment(VARIANT txn_in,
VARIANT* txn_out)
{
		PPAYMENT_DATA pPayment;
		COM_DATA		*pData;
		try
		{
			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

			VariantInit(txn_out);
			txn_out->vt = VT_SAFEARRAY;
			txn_out->parray =
SafeArrayCreateVector( VT_UI1,

			txn_in.parray->rgsabound->cElements,

			txn_in.parray->rgsabound-
>cElements);
			pData = (COM_DATA*) txn_out-
>parray->pvData;

			memcpy( &pData->u.Payment,
pPayment, sizeof(PAYMENT_DATA));

			pData->retval = ERR_SUCCESS;
			pData->error = 0;
			return S_OK;
		}
```

```
		catch (CBaseErr *e)
		{
			// check for lost database connection; if
yes, component is toast
			if ( ((e->ErrorType() ==
ERR_TYPE_DBLIB) && (e->ErrorNum() == 10005)) ||
				((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
				m_bCanBePooled =
FALSE;

			pData->retval = e->ErrorType();
			pData->error = e->ErrorNum();
			delete e;
			return E_FAIL;
		}
		catch (...)
		{

		WriteMessageToEventLog(TEXT("Unhandled
exception."));
			pData->retval = ERR_TYPE_LOGIC;
			pData->error = 0;
			m_bCanBePooled = FALSE;
			return E_FAIL;
		}
}

HRESULT CTPCC_Common::StockLevel(VARIANT
txn_in, VARIANT* txn_out)
{
		PSTOCK_LEVEL_DATA		pStockLevel;
		COM_DATA
		*pData;

		try
		{
			pData =
(COM_DATA*)txn_in.parray->pvData;
			pStockLevel = m_pTxn-
>BuffAddr_StockLevel();

			memcpy(pStockLevel, &pData-
>u.StockLevel, sizeof(STOCK_LEVEL_DATA));

			m_pTxn->StockLevel();

			VariantInit(txn_out);
			txn_out->vt = VT_SAFEARRAY;
			txn_out->parray =
SafeArrayCreateVector( VT_UI1,

			txn_in.parray->rgsabound->cElements,

			txn_in.parray->rgsabound-
>cElements);
			pData = (COM_DATA*)txn_out-
>parray->pvData;

			memcpy( &pData->u.StockLevel,
pStockLevel, sizeof(STOCK_LEVEL_DATA));

			pData->retval = ERR_SUCCESS;
			pData->error = 0;
			return S_OK;
		}
		catch (CBaseErr *e)
		{
			// check for lost database connection; if
yes, component is toast
```

```
			if ( ((e->ErrorType() ==
ERR_TYPE_DBLIB) && (e->ErrorNum() == 10005)) ||
				((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
				m_bCanBePooled =
FALSE;

			pData->retval = e->ErrorType();
			pData->error = e->ErrorNum();
			delete e;
			return E_FAIL;
		}
		catch (...)
		{

		WriteMessageToEventLog(TEXT("Unhandled
exception."));
			pData->retval = ERR_TYPE_LOGIC;
			pData->error = 0;
			m_bCanBePooled = FALSE;
			return E_FAIL;
		}
}

HRESULT CTPCC_Common::OrderStatus(VARIANT
txn_in, VARIANT* txn_out)
{
		PORDER_STATUS_DATA		pOrderStatus;
		COM_DATA
		*pData;
		try
		{
			pData =
(COM_DATA*)txn_in.parray->pvData;
			pOrderStatus = m_pTxn-
>BuffAddr_OrderStatus();

			memcpy(pOrderStatus, &pData-
>u.OrderStatus, sizeof(ORDER_STATUS_DATA));

			m_pTxn->OrderStatus();

			VariantInit(txn_out);
			txn_out->vt = VT_SAFEARRAY;
			txn_out->parray =
SafeArrayCreateVector( VT_UI1,

			txn_in.parray->rgsabound->cElements,

			txn_in.parray->rgsabound-
>cElements);
			pData = (COM_DATA*)txn_out-
>parray->pvData;

			memcpy( &pData->u.OrderStatus,
pOrderStatus, sizeof(ORDER_STATUS_DATA));

			pData->retval = ERR_SUCCESS;
			pData->error = 0;
			return S_OK;
		}
		catch (CBaseErr *e)
		{
			// check for lost database connection; if
yes, component is toast
			if ( ((e->ErrorType() ==
ERR_TYPE_DBLIB) && (e->ErrorNum() == 10005)) ||
				((e->ErrorType() ==
ERR_TYPE_ODBC) && (e->ErrorNum() == 10054)) )
```

```
                                m_bCanBePooled =
FALSE;

                        pData->retval = e->ErrorType();
                        pData->error = e->ErrorNum();
                        delete e;
                        return E_FAIL;
            }
            catch (...)
            {

            WriteMessageToEventLog(TEXT("Unhandled
exception.")));
                        pData->retval = ERR_TYPE_LOGIC;
                        pData->error = 0;
                        m_bCanBePooled = FALSE;
                        return E_FAIL;
            }
}
```

tpcc_com_all.def

```
; tpcc_com_all.def : Declares the module parameters.

LIBRARY      "tpcc_com_all.dll"

EXPORTS
            DllCanUnloadNow     @1 PRIVATE
            DllGetClassObject   @2 PRIVATE
            DllRegisterServer   @3 PRIVATE
            DllUnregisterServer    @4 PRIVATE
```

tpcc_com_all.h

```
#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* this ALWAYS GENERATED file contains the definitions
for the interfaces */


 /* File created by MIDL compiler version 6.00.0347 */
/* at Fri Apr 15 14:48:53 2005
 */
/* Compiler settings for .\src\tpcc_com_all.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(  )


/* 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 __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

```
#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* 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 6.00.0347 */
/* at Fri Apr 15 14:48:53 2005
 */
/* Compiler settings for .\src\tpcc_com_all.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)

#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)*/


#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* 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 6.00.0347 */
/* at Fri Apr 15 14:48:53 2005
 */
/* 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)

#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
```

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"

DESCRIPTION  'Proxy/Stub DLL'

EXPORTS
        DllGetClassObject       @1      PRIVATE
        DllCanUnloadNow         @2      PRIVATE
        GetProxyDllInfo         @3      PRIVATE
        DllRegisterServer               @4
        PRIVATE
        DllUnregisterServer             @5
        PRIVATE
```

tpcc_com_ps.h

```
#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* this ALWAYS GENERATED file contains the definitions
for the interfaces */


 /* File created by MIDL compiler version 6.00.0347 */
/* at Fri Apr 15 14:48:43 2005
 */
/* 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(  )


/* 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

```
#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* 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 6.00.0347 */
/* at Fri Apr 15 14:48:43 2005
 */
/* 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)

#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)*/


#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* 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 6.00.0347 */
/* at Fri Apr 15 14:48:43 2005
 */
/* 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)

#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

```
#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* this ALWAYS GENERATED file contains the proxy stub
code */


 /* File created by MIDL compiler version 6.00.0347 */
/* at Fri Apr 15 14:48:43 2005
 */
/* 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)
#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( 0xffffffff ),             /* 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( 0xfffffff2 ),        /* 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( 0xffffffff ),    /* 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( 0xffffff6e ),    /* 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( 0xffffffd4 ),           /* 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( 0xffffff50 ),           /* 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( 0xffffffe0 ),           /* 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( 0xffffff40 ),           /* 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( 0xffffffe0 ),           /* 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( 0xffffffd4 ),          /* 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( 0xffffffd8 ),          /* Offset= -40
(608) */
/* 650 */   0x36,                /* FC_POINTER */
                                0x5b,                   /*
FC_END */
/* 652 */
                                0x12, 0x0, /* FC_UP */
/* 654 */   NdrFcShort( 0xffffffe4 ),          /* 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( 0xffffffd4 ),          /* 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( 0xffffffd4 ),           /* 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( 0xfffffff1 ),
            /* 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( 0xffffffe8 ),           /* Offset= -24
(708) */
/* 734 */   0x5c,                   /* FC_PAD */
                                    0x5b,                   /*
FC_END */
/* 736 */
                                    0x11, 0x0, /* FC_RP */
/* 738 */   NdrFcShort( 0xffffff0c ),           /* 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( 0xffffffe8 ),           /* 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( 0xffffffe8 ),           /* 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( 0xffffffe8 ),           /* 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( 0xffffffe8 ),           /* 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( 0xffffffee ),           /* Offset= -18
(860) */
/* 880 */   0x5c,                /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 882 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 884 */   NdrFcShort( 0x28 ),  /* 40 */
/* 886 */   NdrFcShort( 0xffffffee ),           /* 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( 0xfffffdf8 ),           /* Offset= -520
(376) */
/* 898 */   0x5c,                /* FC_PAD */
```

```
                                0x5b,                   /*
FC_END */
/* 900 */
                                0x12, 0x0, /* FC_UP */
/* 902 */   NdrFcShort( 0xfffffef6 ),           /* 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( 0xfffffd8c ),           /* Offset= -628
(302) */
/* 932 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 934 */   NdrFcShort( 0xfffffd8e ),           /* Offset= -626
(308) */
/* 936 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 938 */   NdrFcShort( 0xfffffda2 ),           /* Offset= -606
(332) */
/* 940 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 942 */   NdrFcShort( 0xfffffdb0 ),           /* Offset= -592
(350) */
/* 944 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 946 */   NdrFcShort( 0xfffffdbe ),           /* 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( 0xfffffff4 ),           /* 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( 0xfffffc28 ),           /* 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( 0xfffffc18 ),           /* Offset= -1000
(2) */
/* 1004 */
                                0x11, 0x4, /* FC_RP
[alloced_on_stack] */
/* 1006 */  NdrFcShort( 0x6 ),      /* Offset= 6 (1012) */
/* 1008 */
                                0x13, 0x0, /* FC_OP */
```

```
/* 1010 */  NdrFcShort( 0xffffffdc ),           /* Offset= -36
(974) */
/* 1012 */  0xb4,                       /* FC_USER_MARSHAL
*/
                                        0x83,                       /*
131 */
/* 1014 */  NdrFcShort( 0x0 ),      /* 0 */
/* 1016 */  NdrFcShort( 0x10 ),     /* 16 */
/* 1018 */  NdrFcShort( 0x0 ),      /* 0 */
/* 1020 */  NdrFcShort( 0xfffffff4 ),           /* 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,
   0x600015b, /* MIDL Version 6.0.347 */
   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 */
};


#endif /* !defined(_M_IA64) && !defined(_M_AMD64)*/


#pragma warning( disable: 4049 )  /* more than 64k source
lines */

/* this ALWAYS GENERATED file contains the proxy stub
code */


 /* File created by MIDL compiler version 6.00.0347 */
/* at Fri Apr 15 14:48:43 2005
 */
/* 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)
#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( 0xffffffff ),           /* 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( 0xfffffff0 ),           /* 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( 0xffffffff ),           /* 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( 0xffffff74 ),           /* 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( 0xffffffdc ),          /* 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( 0xffffff58 ),          /* 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( 0xffffffdc ),          /* 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( 0xffffff44 ),          /* 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( 0xffffffdc ),          /* 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( 0xffffffdc ),          /* 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( 0xffffffd6 ),          /* Offset= -42
(600) */
/* 644 */   0x36,                 /* FC_POINTER */
                                  0x5b,               /*
FC_END */
/* 646 */
                                  0x12, 0x0, /* FC_UP */
/* 648 */   NdrFcShort( 0xffffffe2 ),          /* 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( 0xffffffda ),          /* 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( 0xffffffdc ),          /* 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( 0xfffffff1 ),
            /* 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( 0xffffffe7 ),
            /* Offset= -25 (694) */
                                  0x5b,               /*
FC_END */
/* 722 */
                                  0x11, 0x0, /* FC_RP */
/* 724 */   NdrFcShort( 0xffffff12 ),          /* 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( 0xffffffe6 ),        /* 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( 0xffffffe6 ),        /* 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( 0xffffffe6 ),        /* 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( 0xffffffe6 ),        /* 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( 0xffffffec ),           /* Offset= -20
(838) */
/* 860 */   0x5c,                 /* FC_PAD */
                                0x5b,                   /*
FC_END */
/* 862 */
                                0x1a,                   /*
FC_BOGUS_STRUCT */
                                0x3,                    /* 3
*/
/* 864 */   NdrFcShort( 0x38 ),   /* 56 */
/* 866 */   NdrFcShort( 0xffffffec ),           /* 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( 0xfffffe0f ),
            /* Offset= -497 (380) */
                                0x5b,                   /*
FC_END */
/* 880 */
                                0x12, 0x0, /* FC_UP */
/* 882 */   NdrFcShort( 0xffffff04 ),           /* 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( 0xfffffda2 ),           /* Offset= -606
(304) */
/* 912 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 914 */   NdrFcShort( 0xfffffda4 ),           /* Offset= -604
(310) */
/* 916 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 918 */   NdrFcShort( 0xfffffdba ),           /* Offset= -582
(336) */
/* 920 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 922 */   NdrFcShort( 0xfffffdc8 ),           /* Offset= -568
(354) */
/* 924 */
                                0x12, 0x10,             /*
FC_UP [pointer_deref] */
/* 926 */   NdrFcShort( 0xfffffdd6 ),           /* 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( 0xfffffff4 ),           /* 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( 0xffffffc3c ),          /* 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( 0xffffffc2c ),          /* Offset= -980
(2) */
/* 984 */
                                0x11, 0x4, /* FC_RP
[alloced_on_stack] */
/* 986 */   NdrFcShort( 0x6 ),   /* Offset= 6 (992) */
/* 988 */
                                0x13, 0x0, /* FC_OP */
/* 990 */   NdrFcShort( 0xffffffdc ),           /* Offset= -36
(954) */
/* 992 */   0xb4,                /* FC_USER_MARSHAL
*/
                                0x83,                   /*
131 */
/* 994 */   NdrFcShort( 0x0 ),   /* 0 */
/* 996 */   NdrFcShort( 0x18 ),  /* 24 */
/* 998 */   NdrFcShort( 0x0 ),   /* 0 */
/* 1000 */  NdrFcShort( 0xffffffff4 ),          /* 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,
   0x600015b, /* MIDL Version 6.0.347 */
   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 */
};


#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 = 10;                         // how many
retries on deadlock

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."
                                },
                { 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(bCallNoDuplicatesNewOrd
er)
{
		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 )
{
		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_bDeadLock = FALSE;

		szTmp[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;

			// 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
                        //
0123456789012345678901234567890123456789
                                    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

									//
012345678901234567890123456789
		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

                                                                //
0123456789012345678901234567890123
                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 ( 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);
}

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_szPaymentComma
nd[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_INVAL
ID_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_RETRIE
D_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 ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )

		ThrowError(CODBCERR::eSetStmtAttr);

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

		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, m_szOrderStatusCommand,
SQL_NTS);
                                if ( ((rc ==
SQL_SUCCESS_WITH_INFO) && (m_RowsFetched != 0))
|| (rc == SQL_ERROR) )

            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_WITH_INFO) && (m_RowsFetched != 0))
|| (rc == SQL_ERROR) )

            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 )

            ThrowError(CODBCERR::eMoreResults);

                                            if ( (rc =
SQLFetch(m_hstmt)) == SQL_ERROR)

            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_szDeliveryComma
nd[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_RETRIE
D_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."
		};

		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 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. 4.63         --
--      Copyright Microsoft, 2005               --
--                                              --
--      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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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 tpce
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_delivery' )
   DROP PROCEDURE tpcc_neworder
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_neworder
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_payment' )
   DROP PROCEDURE tpcc_neworder
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_stocklevel' )
   DROP PROCEDURE tpcc_neworder
GO
IF EXISTS ( SELECT name FROM sysobjects WHERE
name = 'tpcc_version' )
   DROP PROCEDURE tpcc_neworder
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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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. 4.63            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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 ((@commit_flag = 1) AND (@@rowcount = 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. 4.63             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          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. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
-----------------------------------------------------------------

DECLARE @startdate              DATETIME,
                @enddate        DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',

            CONVERT(VARCHAR(30),@startdate, 21)

DUMP DATABASE tpcc TO tpccback1, tpccback2,
tpccback3, tpccback4, tpccback5, tpccback6 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
```

backupdev.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   BACKUPDEV.SQL                                        --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
-----------------------------------------------------------------

USE master
GO

-----------------------
-- create backup devices
-----------------------
EXEC sp_addumpdevice
'disk','tpccback1','F:\tpccback1.dmp'
GO
EXEC sp_addumpdevice
'disk','tpccback2','G:\tpccback2.dmp'
GO
EXEC sp_addumpdevice
'disk','tpccback3','H:\tpccback3.dmp'
GO
EXEC sp_addumpdevice 'disk','tpccback4','I:\tpccback4.dmp'
GO
EXEC sp_addumpdevice 'disk','tpccback5','J:\tpccback5.dmp'
GO
EXEC sp_addumpdevice
'disk','tpccback6','K:\tpccback6.dmp'
GO
```

creatdb.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   CREATEDB.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
-----------------------------------------------------------------

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            =
'T:\MSSQL_tpcc_root.mdf',
            SIZE                = 8MB,
            FILEGROWTH          = 0),
FILEGROUP           MSSQL_misc_fg
(           NAME                = MSSQL_misc1,
            FILENAME            = 'c:\mp\m1\',
            SIZE                = 81000MB,
            FILEGROWTH          = 0),
(           NAME                = MSSQL_misc2,
            FILENAME            = 'c:\mp\m2\',
            SIZE                = 81000MB,
            FILEGROWTH          = 0),
(           NAME                = MSSQL_misc3,
            FILENAME            = 'c:\mp\m3\',
            SIZE                = 81000MB,
            FILEGROWTH          = 0),
```

```
(       NAME            = MSSQL_misc4,
        FILENAME        = 'c:\mp\m4\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc5,
        FILENAME        = 'c:\mp\m5\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc6,
        FILENAME        = 'c:\mp\m6\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc7,
        FILENAME        = 'c:\mp\m7\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc8,
        FILENAME        = 'c:\mp\m8\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc9,
        FILENAME        = 'c:\mp\m9\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc10,
        FILENAME        = 'c:\mp\m10\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc11,
        FILENAME        = 'c:\mp\m11\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc12,
        FILENAME        = 'c:\mp\m12\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc13,
        FILENAME        = 'c:\mp\m13\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc14,
        FILENAME        = 'c:\mp\m14\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc15,
        FILENAME        = 'c:\mp\m15\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_misc16,
        FILENAME        = 'c:\mp\m16\',
        SIZE            = 81000MB,
        FILEGROWTH      = 0),
FILEGROUP       MSSQL_cs_fg
(       NAME            = MSSQL_cs1,
        FILENAME        = 'c:\mp\c1\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs2,
        FILENAME        = 'c:\mp\c2\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs3,
        FILENAME        = 'c:\mp\c3\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs4,
        FILENAME        = 'c:\mp\c4\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs5,
        FILENAME        = 'c:\mp\c5\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs6,
        FILENAME        = 'c:\mp\c6\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs7,
        FILENAME        = 'c:\mp\c7\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs8,
        FILENAME        = 'c:\mp\c8\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs9,
        FILENAME        = 'c:\mp\c9\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs10,
        FILENAME        = 'c:\mp\c10\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs11,
        FILENAME        = 'c:\mp\c11\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs12,
        FILENAME        = 'c:\mp\c12\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs13,
        FILENAME        = 'c:\mp\c13\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs14,
        FILENAME        = 'c:\mp\c14\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs15,
        FILENAME        = 'c:\mp\c15\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0),
(       NAME            = MSSQL_cs16,
        FILENAME        = 'c:\mp\c16\',
        SIZE            = 147000MB,
        FILEGROWTH      = 0)
LOG ON
(       NAME            = MSSQL_tpcc_log,
        FILENAME        = 'L:',
        SIZE            = 1520000MB,
        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
```

dbop1.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   DBOPT1.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

dbop2.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   DBOPT2.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

delwh.sql

```
use tpcc
go
delete from warehouse where w_id > 40000
go
select count(*) from warehouse
go
select * from warehouse where w_id > 40000
go
print ' '
select convert(char(30), getdate(),9)
print ' '
go
```

idxcuscl.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   IDXCUSCL.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
--        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
```

idxcusnc.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   IDXCUSNC.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
--        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
```

idxdiscl.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   IDXDISCL.SQL                                         --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
--        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
```

idxhiscl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXHISCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxitmcl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXITMCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxnodcl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXNODCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxodlcl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXODLCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxordcl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXORDCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxordnc.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXORDNC.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxstkcl.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXSTKCL.SQL                                       --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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
```

idxwarcl.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   IDXWARCL.SQL                                         --
--          Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--          Copyright Microsoft, 2005                            --
--                                                               --
--          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. 4.63              --
--          Copyright Microsoft, 2005                            --
--                                                               --
-----------------------------------------------------------------
USE master
GO

-----------------------------------------------------------------
-- remove any existing database and backup files
-----------------------------------------------------------------
EXEC sp_dbremove tpcc, dropdev
GO

EXEC sp_dropdevice 'tpccback1'
EXEC sp_dropdevice 'tpccback2'
EXEC sp_dropdevice 'tpccback3'
EXEC sp_dropdevice 'tpccback4'
EXEC sp_dropdevice 'tpccback5'
EXEC sp_dropdevice 'tpccback6'
GO
```

restore.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   RESTORE.SQL                                          --
--          Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--          Copyright Microsoft, 2005                            --
--                                                               --
-----------------------------------------------------------------

DECLARE @startdate              DATETIME,
        @enddate          DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',

                CONVERT(VARCHAR(30),@startdate, 21)

LOAD DATABASE tpcc FROM tpccback1, tpccback2,
tpccback3, tpccback4, tpccback5, tpccback6 WITH stats = 1

SELECT  @enddate = GETDATE()
SELECT  'End date: ',
        CONVERT(VARCHAR(30),@enddate, 21)
SELECT  'Elapsed time (in seconds): ',
        DATEDIFF(second, @startdate, @enddate)
GO
```

runsqlcfg.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   RUNSQLCFG.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.63              --
--          Copyright Microsoft, 2005                            --
--                                                               --
--          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
```

sqlshutdown.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   SQLSHUTDOWN.SQL                                      --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
--        Checkpoints tpcc database and issues a shutdown        -
-
--                                                               --
-----------------------------------------------------------------
USE tpcc
GO

CHECKPOINT
GO

SHUTDOWN
GO
```

tables.sql

```
-----------------------------------------------------------------
--                                                               --
--  File:   TABLES.SQL                                           --
--        Microsoft TPC-C Benchmark Kit Ver. 4.63                --
--        Copyright Microsoft, 2005                              --
--                                                               --
--        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.sql

```
-----------------------------------------------------------------
--                                                             --
--  File:   VerifyTPCCLoad.SQL                                 --
--          Microsoft TPC-C Benchmark Kit Ver. 4.63            --
--          Copyright Microsoft, 2005                          --
--                                                             --
-----------------------------------------------------------------
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   '---------------------------'
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  'Orders 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  'New Order 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. 4.63              --
--        Copyright Microsoft, 2005                            --
--                                                             --
--        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);
}
```

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;
}
```

restore.vbs

```
'-----------------------------------------------------------------------
--------------
'---  FILE:      RESTORE.VBS
'---            Microsoft TPC-C Kit Ver. 4.63
'---            Copyright Microsoft, 2001, 2002, 2005
'---            All Rights Reserved
'---
'---  PURPOSE:    This module executes a database restore
'---
'-----------------------------------------------------------------------
--------------
'-----------------------------------------------------
'--- set the kit verison variable for later display
'-----------------------------------------------------
Kit_Version = "  4.63"
'--------------------------------------
'--- 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("%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 & "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
"*************************************************
****************************"
```

runsqlcfg.vbs

```
'-----------------------------------------------------------------------
---------------
'---  FILE:      RESTORE.VBS
'---            Microsoft TPC-C Kit Ver. 4.63
'---            Copyright Microsoft, 2001, 2002, 2005
'---            All Rights Reserved
'---
'---  PURPOSE:    This module executes a database restore
'---
'-----------------------------------------------------------------------
---------------
'-----------------------------------------------------
'--- set the kit verison variable for later display
'-----------------------------------------------------
Kit_Version = "  4.63"
'---------------------------------------
'--- 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
"***************************************************
****************************"
```

setup.vbs

```
'-----------------------------------------------------------------------
---------------
'---  FILE:      SETUP.VBS
'---            Microsoft TPC-C Kit Ver. 4.63
'---            Copyright Microsoft, 2001, 2002, 2005, 2004,
2005
'---            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 = "  4.63"
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("%PROC
ESSOR_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_AR
CHITECTURE%")
If Platform = "IA64" And Proc_Architecture = "x86" Then
        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
"
        wScript.Echo
"!!                                                          !!"
        wScript.Echo "!! You are attempting to run this SETUP
in the 32-bit (WOW) emulation !!"
        wScript.Echo "!! mode on an ia64 system.  Please restart
the SETUP in a native      !!"
        wScript.Echo "!! 64-bit
environment.                                          !!"
        wScript.Echo
"!!                                                          !!"
        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
"
        wScript.Quit
End If
'---------------------------------------------------
'--- before we go any further, make sure that
'--- we are running Windows Scripting Host 5.6
'--- or higher
'---------------------------------------------------
If wScript.Version < 5.6 Then
        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
"
        wScript.Echo
"!!                                                          !!"
        wScript.Echo "!! You do not have the proper version of
the Windows Scripting Host   !!"
        wScript.Echo "!! installed.  Please install the latest
Windows Scripting Host from  !!"
        wScript.Echo "!! ..\tools\wsh\scripten.exe and restart
setup.                   !!"
        wScript.Echo
"!!                                                          !!"
        wScript.Echo
"!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
"
        wScript.Quit
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
*"
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\MSSQLServer\CurrentVersion\CurrentVersion"
'    If CheckRegKey(strRegKey) = True Then
'        SQLServerVersionRegKey =
WshShell.RegRead(strRegKey)
'    End If
   '--- SQL Server 2005 Default Instance
'    strRegKey =
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\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\SOFTWARE\Microsoft\MSSQLServer\CurrentVersion\CurrentVersion")
   'End If
   '--- SQL Server 2005 Named Instance
'    strRegKey =
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft 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.Echo
"!!                                                                    !!"
'    wScript.Echo "!! The Microsoft TPC-C Benchmark Kit
Version" & Kit_Version & " is for use with    !!"
'    wScript.Echo "!! SQL Server 2005 only.  If you require
SQL Server 2000 then you     !!"
'    wScript.Echo "!! must use the Microsoft TPC-C
Benchmark Kit Version" & SQL2K_Kit_Version &
" .         !!"
'    wScript.Echo
"!!                                                                    !!"
'    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\SOFTWA
RE\Microsoft\MSSQLServer\Client\SharedMemoryOn")
                    If SharedMemoryRegKey = 1 Then
                        WshShell.RegWrite
"HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSS
QLServer\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 = ""
            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
    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\MSS
QLServer\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("%COMPUTERNAME%")
            '--- 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("%COMPUTERNAME%")
                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
'-----------------------------------------
```

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;
}
```

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;
}
```

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();
```

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_deli
very_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;
}
```

Appendix C: Tunable Parameters

Microsoft SQL Server 2005 Configuration Parameters

```
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11>
--  File:     VERSION.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.22
--            Copyright Microsoft, 2001
--  Purpose:  Returns SQL Server version string


print " "
select convert(char(30), getdate(),9)
print " "

 ------------------------------
 Nov 18 2005 11:58:16:937AM

(1 row affected)

1> 2> 3>
select @@version


 ------------------------------------------------------------------------
-----
                ------------------------------------------------------------
-----------
                ------------------------------------------------------------
-----------
                ------------------------------------------------------------
-----------
                ---------
 Microsoft SQL Server 2005 - 9.00.1399.06 (X64)
                Oct 24 2005 14:36:32 2005.090
                .1399.00 built by v-jamhu
                Copyright (c) 1988-2005 Microsoft Corporati
                on
                Enterprise Edition (64-bit) on Windows NT 5.2
(Build 3790: Service
                Pack 1)


(1 row affected)
1> 2>
1> 2> 3> 4> 5> 6> 7> 8> 9> 10>
--  File:     CONFIG.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.22
--            Copyright Microsoft, 2001
--  Purpose:  Collects SQL Server configuration parameters


print " "
select convert(char(30), getdate(),9)
print " "

 ------------------------------
 Nov 18 2005 11:58:17:090AM

(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> reconfigure with override
1> 2> 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
-1          -1
 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           1
1
 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
0           0
 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
251000      251000
 max text repl size (B)                      0  2147483647
65536       65536
```

```
 max worker threads                    128      32767        1200
1200
 media retention                         0        365           0
0
 min memory per query (KB)                512  2147483647
1024        1024
 min server memory (MB)                   0  2147483647
0           0
 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
20          20
 remote proc trans                       0          1           0
0
 remote query timeout (s)                0  2147483647
600         600
 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 Datacenter x64 Edition

Changes to the SUT

Changes made to the default installation Windows Server 2003 x64 SP1 Enterprise Edition on the SUT

Control Panel - System - Advanced - Performance Options - Visual Effects - Adjust for best performance

gpedit.msc - Computer Configuration - Windows Settings - Security Settings - Local Policies - User Rights Assignments - policy 'Lock pages in memory' added group 'Administrators'

Microsoft SQL Server Startup Parameters

C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\sqlservr -c -x -T661 -T827 -T834 -T3502 -T8710 -T8011 -T8012 -T8018 -T8019 -T8193 -T8744 -T3428

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

-T827 - Display latch promotions in errorlog

-T834 - Use Large Pages

-T3502 - Display checkpoint information in errorlog

-T8710 – Disable HP spools

-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

-T8193 - Enable Large pages support

-T8744 - Disable pre-fetch

-T3428 - Allows for faster recovery of database

Windows Server registry parameters

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration]

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node0]

"CPUMask"=hex:00,00,00,00,00,00,00,0f

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node1]

"CPUMask"=hex:00,00,00,00,00,00,00,f0

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node10]

"CPUMask"=hex:00,00,0f,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node11]

"CPUMask"=hex:00,00,f0,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node12]

"CPUMask"=hex:00,0f,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node13]

"CPUMask"=hex:00,f0,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node14]

"CPUMask"=hex:0f,00,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node15]

"CPUMask"=hex:f0,00,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node2]

"CPUMask"=hex:00,00,00,00,00,00,0f,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node3]

"CPUMask"=hex:00,00,00,00,00,00,f0,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node4]

"CPUMask"=hex:00,00,00,00,00,0f,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node5]

"CPUMask"=hex:00,00,00,00,00,f0,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node6]

"CPUMask"=hex:00,00,00,00,0f,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node7]

"CPUMask"=hex:00,00,00,00,f0,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node8]

"CPUMask"=hex:00,00,00,0f,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\90\NodeConfiguration\Node9]

"CPUMask"=hex:00,00,00,f0,00,00,00,00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IPAll]

"TcpPort"="1433,2001[1],2002[2],2003[4],2004[8],2005[16],2006[32],2007[64],2008[128],2009[256],2010[512],2011[1024],2012[2048],2013[4096],2014[8192],2015[16384],2016[32768]"

"TcpDynamicPorts"=""

"DisplayName"="Any IP Address"

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management]

"ClearPageFileAtShutdown"=dword:00000000

"DisablePagingExecutive"=dword:00000000

"LargeSystemCache"=dword:00000001

"NonPagedPoolQuota"=dword:00000000

"NonPagedPoolSize"=dword:00000000

"PagedPoolQuota"=dword:00000000

"PagedPoolSize"=dword:00000000

"SecondLevelDataCache"=dword:00000000

"SystemPages"=dword:00000000

"PagingFiles"=hex(7):63,00,3a,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

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\I/O System]

"CountOperations"=dword:00000000

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Disk]

"DependOnGroup"=hex(7):53,00,43,00,53,00,49,00,20,00,6d,00,69,00,6e,00,69,00,\

70,00,6f,00,72,00,74,00,00,00,00,00

"ErrorControl"=dword:00000001

"Group"="SCSI Class"

"Start"=dword:00000000

"Tag"=dword:00000002

"Type"=dword:00000001

"DisplayName"="Disk Driver"

"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,00,64,00,69,00,73,00,6b,00,2e,00,73,\

00,79,00,73,00,00,00

"AutoRunAlwaysDisable"=hex(7):42,00,72,00,6f,00,74,00,68,00,65,00,72,00,20,00,\

52,00,65,00,6d,00,6f,00,76,00,61,00,62,00,6c,00,65,00,44,00,69,00,73,00,6b,\

00,28,00,55,00,29,00,00,00,00,00

"TimeOutValue"=dword:00000078

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\Device]

"CreateInitiatorLU"=dword:00000001

"DriverParameters"="UseSameNN=1;buschange=0"

"BusType"=dword:00000006

"MaximumSGList"=dword:0000003c

"NumberOfRequests"=dword:000000ff

Windows Registry Editor Version 5.00

[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

The following list describes the services that were disabled on the SUT

Name Description Status Startup Type Log On As

.NET Runtime Optimization Service v2.0.50727_x64
Microsoft .NET Framework NGEN
Manual Local System

.NET Runtime Optimization Service v2.0.50727_X86
Microsoft .NET Framework NGEN
Manual Local System

Application Layer Gateway Service Provides support for 3rd party protocol plug-ins for Internet Connection Sharing and the Windows Firewall
Manual Local Service

Application Management Processes installation, removal, and enumeration requests for Active Directory IntelliMirror group policy programs. If the service is disabled, users will be unable to install, remove, or enumerate any IntelliMirror programs. If this service is disabled, any services that explicitly depend on it will fail to start.
Manual Local System

ASP.NET State Service Provides support for out-of-process session states for ASP.NET. If this service is stopped, out-of-process requests will not be processed. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Network Service

Background Intelligent Transfer Service Transfers data between clients and servers in the background. If BITS is disabled, features such as Windows Update will not work correctly. Manual Local System

COM+ System Application Manages the configuration and tracking of Component Object Model (COM)+-based components. If the service is stopped, most COM+-based components will not function properly. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Distributed File System Integrates disparate file shares into a single, logical namespace and manages these logical volumes distributed across a local or wide area network. If this service is stopped, users will be unable to access file shares. If this service is disabled, any services that explicitly depend on it will fail to start.
Manual Local System

Distributed Link Tracking Client Enables client programs to track linked files that are moved within an NTFS volume, to another NTFS volume on the same computer, or to an NTFS volume on another computer. If this service is stopped, the links on this computer will not be maintained or tracked. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

File Replication Allows files to be automatically copied and maintained simultaneously on multiple servers. If this service is stopped, file replication will not occur and servers will not synchronize. If this service is disabled, any services that explicitly depend on it will fail to start.
Manual Local System

HTTP SSLThis service implements the secure hypertext transfer protocol (HTTPS) for the HTTP service, using the

Secure Socket Layer (SSL). If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

IAS Jet Database Access Configures Internet Authentication Service (IAS). If this service is stopped, remote network access that requires user authentication will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Logical Disk Manager Administrative Service Configures hard disk drives and volumes. The service only runs for configuration processes and then stops. Manual Local System

Microsoft Software Shadow Copy Provider Manages software-based volume shadow copies taken by the Volume Shadow Copy service. If this service is stopped, software-based volume shadow copies cannot be managed. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Net Logon Maintains a secure channel between this computer and the domain controller for authenticating users and services. If this service is stopped, the computer may not authenticate users and services and the domain controller cannot register DNS records. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Network Provisioning Service Manages XML configuration files on a domain basis for automatic network provisioning. Manual Local System

Office Source Engine Saves installation files used for updates and repairs and is required for the downloading of Setup updates and Watson error reports. Manual Local System

Portable Media Serial Number Service Retrieves the serial number of any portable media player connected to this computer. If this service is stopped, protected content might not be down loaded to the device. Manual Local System

Remote Access Auto Connection Manager Creates a connection to a remote network whenever a program references a remote DNS or NetBIOS name or address. Manual Local System

Remote Desktop Help Session Manager Manages and controls Remote Assistance. If this service is stopped, Remote Assistance will be unavailable. Before stopping this service, see the Dependencies tab of the Properties dialog box. Manual Local System

Remote Procedure Call (RPC) Locator Enables remote procedure call (RPC) clients using the RpcNs* family of APIs to locate RPC servers. If this service is stopped or disabled, RPC clients using RpcNs* APIs may be unable to locate servers or fail to start. RpcNs* APIs are not used internally in Windows. Manual Network Service

Removable Storage Manages and catalogs removable media and operates automated removable media devices. If this service is stopped, programs that are dependent on Removable Storage, such as Backup and Remote Storage, will operate more slowly. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Resultant Set of Policy Provider Enables a user to connect to a remote computer, access the Windows Management Instrumentation database for that computer, and either verify the current Group Policy settings made for the computer or check settings before they are applied. If this service is stopped, remote verification will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Smart Card Manages access to smart cards read by this computer. If this service is stopped, this computer will be unable to read smart cards. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local Service

Special Administration Console Helper Allows administrators to remotely access a command prompt using Emergency Management Services. Manual Local System

SQL Server (MSSQLSERVER) Provides storage, processing and controlled access of data and rapid transaction processing. Manual Local System

SQL Server Agent (MSSQLSERVER) Executes jobs, monitors SQL Server, and fires alerts, and allows automation of some administrative tasks. Manual Local System

SQL Server VSS Writer Provides the interface to backup/restore Microsoft SQL server through the Windows VSS infrastructure. Manual Local System

Uninterruptible Power Supply Manages an uninterruptible power supply (UPS) connected to the computer. Manual Local Service

Virtual Disk Service Provides software volume and hardware volume management service. Manual Local System

Volume Shadow Copy Manages and implements Volume Shadow Copies used for backup and other purposes. If this service is stopped, shadow copies will be unavailable for backup and the backup may fail. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Windows Installer Adds, modifies, and removes applications provided as a Windows Installer (*.msi) package. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Windows Management Instrumentation Driver Extensions Monitors all drivers and event trace providers that are configured to publish Windows Management Instrumentation (WMI) or event trace information. If this service is disabled, any services that explicitly depend on it will fail to start. Manual Local System

Windows User Mode Driver Framework Enables Windows user mode drivers. Manual Local Service

WinHTTP Web Proxy Auto-Discovery Service Implements the Web Proxy Auto-Discovery (WPAD) protocol for Windows HTTP Services (WinHTTP). WPAD is a protocol to enable an HTTP client to automatically discover a proxy configuration. If this service is stopped or disabled, the WPAD protocol will be executed within the HTTP client's process instead of an external service process; there would be no loss of functionality as a result. Manual Local Service

WMI Performance Adapter Provides performance library information from Windows Management Instrumentation (WMI) providers to clients on the network. This service only runs when Performance Data Helper is activated. Manual Local System

Alerter Notifies selected users and computers of administrative alerts. If the service is stopped, programs that

use administrative alerts will not receive them. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local Service

Application Experience Lookup Service Processes application compatibility lookup requests for applications as they are launched. Disabled Local System

Automatic Updates Enables the download and installation of Windows updates. If this service is disabled, this computer will not be able to use the Automatic Updates feature or the Windows Update Web site. Disabled Local System

ClipBook Enables ClipBook Viewer to store information and share it with remote computers. If the service is stopped, ClipBook Viewer will not be able to share information with remote computers. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Computer Browser Maintains an updated list of computers on the network and supplies this list to computers designated as browsers. If this service is stopped, this list will not be updated or maintained. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Distributed Link Tracking Server Enables the Distributed Link Tracking Client service within the same domain to provide more reliable and efficient maintenance of links within the domain. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Emulex HBAnyware Discovery Performs discovery of local and remote HBAs Disabled Local System

Error Reporting Service Collects, stores, and reports unexpected application crashes to Microsoft. If this service is stopped, then Error Reporting will occur only for kernel faults and some types of user mode faults. If this service is disabled, any services that explicitly depend on it will not start. Disabled Local System

Human Interface Device Access Enables generic input access to Human Interface Devices (HID), which activates and maintains the use of predefined hot buttons on keyboards, remote controls, and other multimedia devices. If this service is stopped, hot buttons controlled by this service will no longer function. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

IBM Active PCI Alert Service Disabled Local System

IMAPI CD-Burning COM Service Manages CD recording using Image Mastering Applications Programming Interface (IMAPI). If this service is stopped, this computer will be unable to record CDs. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Indexing Service Indexes contents and properties of files on local and remote computers; provides rapid access to files through flexible querying language. Disabled Local System

Intersite Messaging Enables messages to be exchanged between computers running Windows Server sites. If this service is stopped, messages will not be exchanged, nor will site routing information be calculated for other services. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

IPSEC Services Provides end-to-end security between clients and servers on TCP/IP networks. If this service is stopped, TCP/IP security between clients and servers on the network will be impaired. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Kerberos Key Distribution Center On domain controllers this service enables users to log on to the network using the Kerberos authentication protocol. If this service is stopped on a domain controller, users will be unable to log on to the network. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

License Logging Monitors and records client access licensing for portions of the operating system (such as IIS, Terminal Server and File/Print) as well as products that aren't a part of the OS, like SQL and Exchange Server. If this service is stopped, licensing will be enforced, but will not be monitored. Disabled Network Service

Messenger Transmits net send and Alerter service messages between clients and servers. This service is not related to Windows Messenger. If this service is stopped, Alerter messages will not be transmitted. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

NetMeeting Remote Desktop Sharing Enables an authorized user to access this computer remotely by using NetMeeting over a corporate intranet. If this service is stopped, remote desktop sharing will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Network DDE Provides network transport and security for Dynamic Data Exchange (DDE) for programs running on the same computer or on different computers. If this service is stopped, DDE transport and security will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Network DDE DSDM Manages Dynamic Data Exchange (DDE) network shares. If this service is stopped, DDE network shares will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Network Location Awareness (NLA) Collects and stores network configuration and location information, and notifies applications when this information changes. Disabled Local System

Print Spooler Manages all local and network print queues and controls all printing jobs. If this service is stopped, printing on the local machine will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Protected Storage Protects storage of sensitive information, such as private keys, and prevents access by unauthorized services, processes, or users. If this service is stopped, protected storage will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Routing and Remote Access Offers routing services to businesses in local area and wide area network environments. Disabled Local System

Server Supports file, print, and named-pipe sharing over the network for this computer. If this service is stopped, these functions will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

SQL Server Active Directory Helper Enables integration with Active Directories. Disabled Network Service

SQL Server Browser Provides SQL Server connection information to client computers. Disabled Local Service

Telnet Enables a remote user to log on to this computer and run programs, and supports various TCP/IP Telnet clients, including UNIX-based and Windows-based computers. If this service is stopped, remote user access to programs might be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local Service

Terminal Services Session Directory Enables a user connection request to be routed to the appropriate terminal server in a cluster. If this service is stopped, connection requests will be routed to the first available server. Disabled Local System

Themes Provides user experience theme management. Disabled Local System

WebClient Enables Windows-based programs to create, access, and modify Internet-based files. If this service is stopped, these functions will not be available. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local Service

Windows Audio Manages audio devices for Windows-based programs. If this service is stopped, audio devices and effects will not function properly. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Windows Firewall/Internet Connection Sharing (ICS) Provides network address translation, addressing, name resolution and/or intrusion prevention services for a home or small office network. Disabled Local System

Windows Image Acquisition (WIA) Provides image acquisition services for scanners and cameras. Disabled Local Service

Wireless Configuration Enables automatic configuration for IEEE 802.11 adapters. If this service is stopped, automatic configuration will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Disabled Local System

Performance Logs and Alerts Collects performance data from local or remote computers based on preconfigured schedule parameters, then writes the data to a log or triggers an alert. If this service is stopped, performance information will not be collected. If this service is disabled, any services that explicitly depend on it will fail to start. Automatic Network Service

Help and Support Enables Help and Support Center to run on this computer. If this service is stopped, Help and Support Center will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Started Manual Local System

Network Connections Manages objects in the Network and Dial-Up Connections folder, in which you can view both local area network and remote connections. If this service is disabled, you will not be able to view local area network and remote connections and any services that explicitly depend on it will fail to start. Started Manual Local System

NT LM Security Support Provider Provides security to remote procedure call (RPC) programs that use transports other than named pipes. Started Manual Local System

Remote Access Connection Manager Creates a network connection. Started Manual Local System

Telephony Provides Telephony API (TAPI) support for clients using programs that control telephony devices and IP-based voice connections. If this service is stopped, the function of all dependent programs will be impaired. If this service is disabled, any services that explicitly depend on it will fail to start. Started Manual Local System

Terminal Services Allows users to connect interactively to a remote computer. Remote Desktop, Fast User Switching, Remote Assistance, and Terminal Server depend on this service - stopping or disabling this service may make your computer unreliable. To prevent remote use of this computer, clear the checkboxes on the Remote tab of the System properties control panel item. Started Manual Local System

COM+ Event System Supports System Event Notification Service (SENS), which provides automatic distribution of events to subscribing Component Object Model (COM) components. If the service is stopped, SENS will close and will not be able to provide logon and logoff notifications. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

Cryptographic Services Provides three management services: Catalog Database Service, which confirms the signatures of Windows files; Protected Root Service, which adds and removes Trusted Root Certification Authority certificates from this computer; and Key Service, which helps enroll this computer for certificates. If this service is stopped, these management services will not function properly. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

DCOM Server Process Launcher Provides launch functionality for DCOM services.Started Automatic Local System

DHCP Client Registers and updates IP addresses and DNS records for this computer. If this service is stopped, this computer will not receive dynamic IP addresses and DNS updates. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Network Service

Distributed Transaction Coordinator Coordinates transactions that span multiple resource managers, such as databases, message queues, and file systems. If this service is stopped, these transactions will not occur. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Network Service

DNS Client Resolves and caches Domain Name System (DNS) names for this computer. If this service is stopped, this computer will not be able to resolve DNS names and locate Active Directory domain controllers. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Network Service

Emulex HBAnyware Remote Management Started Automatic Local System

Emulex HBAnyware SvcMgr Manage HBAnyware services during adapter changes Started Automatic Local System

Event Log Enables event log messages issued by Windows-based programs and components to be viewed in Event Viewer. This service cannot be stopped. Started Automatic Local System

Logical Disk ManagerDetects and monitors new hard disk drives and sends disk volume information to Logical Disk Manager Administrative Service for configuration. If this

service is stopped, dynamic disk status and configuration information may become out of date. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

Plug and Play Enables a computer to recognize and adapt to hardware changes with little or no user input. Stopping or disabling this service will result in system instability. Started Automatic Local System

Remote Procedure Call (RPC) Serves as the endpoint mapper and COM Service Control Manager. If this service is stopped or disabled, programs using COM or Remote Procedure Call (RPC) services will not function properly. Started Automatic Network Service

Remote Registry Enables remote users to modify registry settings on this computer. If this service is stopped, the registry can be modified only by users on this computer. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local Service

Secondary Logon Enables starting processes under alternate credentials. If this service is stopped, this type of logon access will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

Security Accounts Manager The startup of this service signals other services that the Security Accounts Manager (SAM) is ready to accept requests. Disabling this service will prevent other services in the system from being notified when the SAM is ready, which may in turn cause those services to fail to start correctly. This service should not be disabled. Started Automatic Local System

Shell Hardware Detection Provides notifications for AutoPlay hardware events. Started Automatic Local System

SQL Server FullText Search (MSSQLSERVER) Quickly creates full-text indexes on content and properties of structured and semi-structured data to allow fast linguistic searches on this data. Started Automatic Local System

System Event Notification Monitors system events and notifies subscribers to COM+ Event System of these events. If this service is stopped, COM+ Event System subscribers will not receive system event notifications. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

Task Scheduler Enables a user to configure and schedule automated tasks on this computer. If this service is stopped, these tasks will not be run at their scheduled times. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

TCP/IP NetBIOS Helper Provides support for the NetBIOS over TCP/IP (NetBT) service and NetBIOS name resolution for clients on the network, therefore enabling users to share files, print, and log on to the network. If this service is stopped, these functions might be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local Service

Windows Management Instrumentation Provides a common interface and object model to access management information about operating system, devices, applications and services. If this service is stopped, most Windows-based software will not function properly. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

Windows Time Maintains date and time synchronization on all clients and servers in the network. If this service is stopped, date and time synchronization will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local Service

Workstation Creates and maintains client network connections to remote servers. If this service is stopped, these connections will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start. Started Automatic Local System

SUT System Information Report

System Information report written at: 11/18/05 13:44:29

System Name: DCX460

[System Summary]

Item Value

OS Name Microsoft(R) Windows(R) Server 2003 Datacenter x64 Edition

Version 5.2.3790 Service Pack 1 Build 3790

Other OS Description Not Available

OS Manufacturer Microsoft Corporation

System Name DCX460

System Manufacturer IBM

System Model eserver xSeries 460-[88722RZ]-

System Type x64-based PC

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

Processor EM64T Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz

BIOS Version/Date IBM -[ZUE142AUS-1.07]-, 9/22/2005

SMBIOS Version 2.3

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 Not Available

Time Zone Eastern Standard Time

Total Physical Memory 261,118.70 MB

Available Physical Memory 244.61 GB

Total Virtual Memory 251.53 GB

Available Virtual Memory 246.62 GB

Page File Space 2.00 GB

Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource Device

I/O Port 0x00008A00-0x00008BFF PCI bus

I/O Port 0x00008A00-0x00008BFF QLogic Fibre Channel Adapter

Memory Address 0xEF800000-0xEF8FFFFF PCI bus

Memory Address 0xEF800000-0xEF8FFFFF Adaptec AIC-9410w SAS Controller

Memory Address 0xEED00000-0xEEDFFFFF PCI bus

Memory Address 0xEED00000-0xEEDFFFFF Adaptec AIC-9410w SAS Controller

Memory Address 0xEEC00000-0xEECFFFFF PCI bus

Memory Address 0xEEC00000-0xEECFFFFF NEC PCI to USB Open Host Controller

I/O Port 0x00000000-0x00001FFF PCI bus

I/O Port 0x00000000-0x00001FFF Direct memory access controller

Memory Address 0xF0000000-0xF7FFFFFF PCI bus

Memory Address 0xF0000000-0xF7FFFFFF Standard VGA Graphics Adapter

I/O Port 0x00008600-0x000087FF PCI bus

I/O Port 0x00008600-0x000087FF QLogic Fibre Channel Adapter

I/O Port 0x00004400-0x000045FF PCI bus

I/O Port 0x00004400-0x000045FF Adaptec AIC-9410w SAS Controller

I/O Port 0x00002E00-0x00002FFF PCI bus

I/O Port 0x00002E00-0x00002FFF QLogic Fibre Channel Adapter

Memory Address 0xF9000000-0xF90FFFFF PCI bus

Memory Address 0xF9000000-0xF90FFFFF Emulex LightPulse LP9002, Storport Miniport Driver

Memory Address 0xF8400000-0xF84FFFFF PCI bus

Memory Address 0xF8400000-0xF84FFFFF Adaptec AIC-9410w SAS Controller

IRQ 20 NEC PCI to USB Open Host Controller

IRQ 20 NEC PCI to USB Open Host Controller

IRQ 20 Standard Enhanced PCI to USB Host Controller

I/O Port 0x00006C00-0x00006DFF PCI bus

I/O Port 0x00006C00-0x00006DFF QLogic Fibre Channel Adapter

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 0xEBD00000-0xEBDFFFFF PCI bus

Memory Address 0xEBD00000-0xEBDFFFFF Adaptec AIC-9410w SAS Controller

I/O Port 0x00006400-0x000065FF PCI bus

I/O Port 0x00006400-0x000065FF QLogic Fibre Channel Adapter

I/O Port 0x00004E00-0x00004FFF PCI bus

I/O Port 0x00004E00-0x00004FFF QLogic Fibre Channel Adapter

I/O Port 0x00008C00-0x00008DFF PCI bus

I/O Port 0x00008C00-0x00008DFF QLogic Fibre Channel Adapter

IRQ 164 NEC PCI to USB Open Host Controller

IRQ 164 NEC PCI to USB Open Host Controller

IRQ 164 Standard Enhanced PCI to USB Host Controller

I/O Port 0x00004600-0x000047FF PCI bus

I/O Port 0x00004600-0x000047FF QLogic Fibre Channel Adapter

I/O Port 0x00008400-0x000085FF PCI bus

I/O Port 0x00008400-0x000085FF QLogic Fibre Channel Adapter

I/O Port 0x00002C00-0x00002DFF PCI bus

I/O Port 0x00002C00-0x00002DFF Emulex LightPulse LP9002, Storport Miniport Driver

I/O Port 0x00006A00-0x00006BFF PCI bus

I/O Port 0x00006A00-0x00006BFF QLogic Fibre Channel Adapter

I/O Port 0x00002800-0x000029FF PCI bus

I/O Port 0x00002800-0x000029FF QLogic Fibre Channel Adapter

Memory Address 0xEBC00000-0xEBCFFFFF PCI bus

Memory Address 0xEBC00000-0xEBCFFFFF NEC PCI to USB Open Host Controller

I/O Port 0x00006600-0x000067FF PCI bus

I/O Port 0x00006600-0x000067FF QLogic Fibre Channel Adapter

Memory Address 0xED500000-0xED5FFFFF PCI bus

Memory Address 0xED500000-0xED5FFFFF Adaptec AIC-9410w SAS Controller

Memory Address 0xED400000-0xED4FFFFF PCI bus

Memory Address 0xED400000-0xED4FFFFF NEC PCI to USB Open Host Controller

I/O Port 0x00006200-0x000063FF PCI bus

I/O Port 0x00006200-0x000063FF Adaptec AIC-9410w SAS Controller

I/O Port 0x00004C00-0x00004DFF PCI bus

I/O Port 0x00004C00-0x00004DFF QLogic Fibre Channel Adapter

I/O Port 0x00004800-0x000049FF PCI bus

I/O Port 0x00004800-0x000049FF QLogic Fibre Channel Adapter

Memory Address 0xA0000-0xBFFFF PCI bus

Memory Address 0xA0000-0xBFFFF Standard VGA Graphics Adapter

IRQ 236 NEC PCI to USB Open Host Controller

IRQ 236 NEC PCI to USB Open Host Controller

IRQ 236 Standard Enhanced PCI to USB Host Controller

Memory Address 0xF8C00000-0xF8CFFFFF PCI bus

Memory Address 0xF8C00000-0xF8CFFFFF Standard VGA Graphics Adapter

I/O Port 0x00008200-0x000083FF PCI bus

I/O Port 0x00008200-0x000083FF Adaptec AIC-9410w SAS Controller

IRQ 92 NEC PCI to USB Open Host Controller

IRQ 92 NEC PCI to USB Open Host Controller

IRQ 92 Standard Enhanced PCI to USB Host Controller

I/O Port 0x00004000-0x000041FF PCI bus

I/O Port 0x00004000-0x000041FF QLogic Fibre Channel Adapter

Memory Address 0xEC800000-0xEC8FFFFF PCI bus

Memory Address 0xEC800000-0xEC8FFFFF Adaptec AIC-9410w SAS Controller

Memory Address 0xEE000000-0xEE0FFFFF PCI bus

Memory Address 0xEE000000-0xEE0FFFFF Adaptec AIC-9410w SAS Controller

[DMA]

Resource Device Status

Channel 4 Direct memory access controller OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource Device Status

0x00000000-0x00001FFF PCI bus OK

0x00000000-0x00001FFF Direct memory access controller OK

0x00001800-0x000018FF Standard VGA Graphics Adapter OK

0x000003B0-0x000003BB Standard VGA Graphics Adapter OK

0x000003C0-0x000003DF Standard VGA Graphics Adapter 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

0x00002A00-0x00002BFF PCI bus OK

0x00002A00-0x00002BFF QLogic Fibre Channel Adapter OK

0x00002C00-0x00002DFF PCI bus OK

0x00002C00-0x00002DFF Emulex LightPulse LP9002, Storport Miniport Driver OK

0x00003000-0x00003FFF PCI bus OK

0x00002E00-0x00002FFF PCI bus OK

0x00002E00-0x00002FFF QLogic Fibre Channel Adapter OK

0x00004000-0x000041FF PCI bus OK

0x00004000-0x000041FF QLogic Fibre Channel Adapter OK

0x00004200-0x000043FF PCI bus OK

0x00004400-0x000045FF PCI bus OK

0x00004400-0x000045FF Adaptec AIC-9410w SAS Controller OK

0x00004600-0x000047FF PCI bus OK

0x00004600-0x000047FF QLogic Fibre Channel Adapter OK

0x00004800-0x000049FF PCI bus OK

0x00004800-0x000049FF QLogic Fibre Channel Adapter OK

0x00004A00-0x00004BFF PCI bus OK

0x00004A40-0x00004A7F Intel(R) PRO/1000 MT Dual Port Server Adapter #12 OK

0x00005000-0x00005FFF PCI bus OK

0x00004C00-0x00004DFF PCI bus OK

0x00004C00-0x00004DFF QLogic Fibre Channel Adapter OK

0x00004E00-0x00004FFF PCI bus OK

0x00004E00-0x00004FFF QLogic Fibre Channel Adapter OK

0x00006000-0x000061FF PCI bus OK

0x00006200-0x000063FF PCI bus OK

0x00006200-0x000063FF Adaptec AIC-9410w SAS Controller OK

0x00006400-0x000065FF PCI bus OK

0x00006400-0x000065FF QLogic Fibre Channel Adapter OK

0x00006600-0x000067FF PCI bus OK

0x00006600-0x000067FF QLogic Fibre Channel Adapter OK

0x00006800-0x000069FF PCI bus OK

0x00007000-0x00007FFF PCI bus OK

0x00006A00-0x00006BFF PCI bus OK

0x00006A00-0x00006BFF QLogic Fibre Channel Adapter OK

0x00006C00-0x00006DFF PCI bus OK

0x00006C00-0x00006DFF QLogic Fibre Channel Adapter OK

0x00008000-0x000081FF PCI bus OK

0x00008200-0x000083FF PCI bus OK

0x00008200-0x000083FF Adaptec AIC-9410w SAS Controller OK

0x00008400-0x000085FF PCI bus OK

0x00008400-0x000085FF QLogic Fibre Channel Adapter OK

0x00008600-0x000087FF PCI bus OK

0x00008600-0x000087FF QLogic Fibre Channel Adapter OK

0x00008800-0x000089FF PCI bus OK

0x00009000-0x00009FFF PCI bus OK

0x00008A00-0x00008BFF PCI bus OK

0x00008A00-0x00008BFF QLogic Fibre Channel Adapter OK

0x00008C00-0x00008DFF PCI bus OK

0x00008C00-0x00008DFF QLogic Fibre Channel Adapter OK

[IRQs]

Resource Device Status

IRQ 9 Microsoft ACPI-Compliant System OK

IRQ 20 NEC PCI to USB Open Host Controller OK

IRQ 20 NEC PCI to USB Open Host Controller OK

IRQ 20 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 12 PS/2 Compatible Mouse 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 24 Broadcom NetXtreme Gigabit Ethernet #2 OK

IRQ 28 Broadcom NetXtreme Gigabit Ethernet OK

IRQ 25 Adaptec AIC-9410w SAS Controller OK

IRQ 18 QLogic Fibre Channel Adapter OK

IRQ 19 QLogic Fibre Channel Adapter OK

IRQ 52 Emulex LightPulse LP9002, Storport Miniport Driver OK

IRQ 54 QLogic Fibre Channel Adapter OK

IRQ 55 QLogic Fibre Channel Adapter OK

IRQ 92 NEC PCI to USB Open Host Controller OK

IRQ 92 NEC PCI to USB Open Host Controller OK

IRQ 92 Standard Enhanced PCI to USB Host Controller OK

IRQ 96 Broadcom NetXtreme Gigabit Ethernet #5 OK

IRQ 100 Broadcom NetXtreme Gigabit Ethernet #6 OK

IRQ 97 Adaptec AIC-9410w SAS Controller OK

IRQ 90 QLogic Fibre Channel Adapter OK

IRQ 91 QLogic Fibre Channel Adapter OK

IRQ 128 Intel(R) PRO/1000 MT Dual Port Server Adapter #12 OK

IRQ 126 QLogic Fibre Channel Adapter OK

IRQ 127 QLogic Fibre Channel Adapter OK

IRQ 164 NEC PCI to USB Open Host Controller OK

IRQ 164 NEC PCI to USB Open Host Controller OK

IRQ 164 Standard Enhanced PCI to USB Host Controller OK

IRQ 168 Broadcom NetXtreme Gigabit Ethernet #7 OK

IRQ 172 Broadcom NetXtreme Gigabit Ethernet #8 OK

IRQ 169 Adaptec AIC-9410w SAS Controller OK

IRQ 162 QLogic Fibre Channel Adapter OK

IRQ 163 QLogic Fibre Channel Adapter OK

IRQ 198 QLogic Fibre Channel Adapter OK

IRQ 199 QLogic Fibre Channel Adapter OK

IRQ 236 NEC PCI to USB Open Host Controller OK

IRQ 236 NEC PCI to USB Open Host Controller OK

IRQ 236 Standard Enhanced PCI to USB Host Controller OK

IRQ 240 Broadcom NetXtreme Gigabit Ethernet #3 OK

IRQ 244 Broadcom NetXtreme Gigabit Ethernet #4 OK

IRQ 241 Adaptec AIC-9410w SAS Controller OK

IRQ 234 QLogic Fibre Channel Adapter OK

IRQ 235 QLogic Fibre Channel Adapter OK

IRQ 270 QLogic Fibre Channel Adapter OK

IRQ 271 QLogic Fibre Channel Adapter OK

[Memory]

Resource Device Status

0xA0000-0xBFFFF PCI bus OK

0xA0000-0xBFFFF Standard VGA Graphics Adapter OK

0xF0000000-0xF7FFFFFF PCI bus OK

0xF0000000-0xF7FFFFFF Standard VGA Graphics Adapter OK

0xF8C00000-0xF8CFFFFF PCI bus OK

0xF8C00000-0xF8CFFFFF Standard VGA Graphics Adapter OK

0xF8C10000-0xF8C10FFF NEC PCI to USB Open Host Controller OK

0xF8C11000-0xF8C11FFF NEC PCI to USB Open Host Controller OK

0xF8C12000-0xF8C120FF Standard Enhanced PCI to USB Host Controller OK

0x0400-0x04FF System board OK

0x100000-0x7FFFFFFF Memory Module OK

0xF8400000-0xF84FFFFF PCI bus OK

0xF8400000-0xF84FFFFF Adaptec AIC-9410w SAS Controller OK

0xF8D00000-0xF8DFFFFF PCI bus OK

0xF8DC0000-0xF8DCFFFF Broadcom NetXtreme Gigabit Ethernet #2 OK

0xF8DD0000-0xF8DDFFFF Broadcom NetXtreme Gigabit Ethernet OK

0xF8D80000-0xF8DBFFFF Adaptec AIC-9410w SAS Controller OK

0xF8E00000-0xF8EFFFFF PCI bus OK

0xF8E20000-0xF8E20FFF QLogic Fibre Channel Adapter OK

0xF8F00000-0xF8FFFFFF PCI bus OK

0xF8F20000-0xF8F20FFF QLogic Fibre Channel Adapter OK

0xF9000000-0xF90FFFFF PCI bus OK

0xF9000000-0xF90FFFFF Emulex LightPulse LP9002, Storport Miniport Driver OK

0xF9001000-0xF90010FF Emulex LightPulse LP9002, Storport Miniport Driver OK

0xF8000000-0xF83FFFFF PCI bus OK

0xF8800000-0xF8BFFFFF PCI bus OK

0xF9100000-0xF91FFFFF PCI bus OK

0xF9120000-0xF9120FFF QLogic Fibre Channel Adapter OK

0xF9200000-0xF92FFFFF PCI bus OK

0xF9220000-0xF9220FFF QLogic Fibre Channel Adapter OK

0xEEC00000-0xEECFFFFF PCI bus OK

0xEEC00000-0xEECFFFFF NEC PCI to USB Open Host Controller OK

0xEEC01000-0xEEC01FFF NEC PCI to USB Open Host Controller OK

0xEEC02000-0xEEC020FF Standard Enhanced PCI to USB Host Controller OK

0xEED00000-0xEEDFFFFF PCI bus OK

0xEED00000-0xEEDFFFFF Adaptec AIC-9410w SAS Controller OK

0xEF800000-0xEF8FFFFF PCI bus OK

0xEF800000-0xEF8FFFFF Adaptec AIC-9410w SAS Controller OK

0xEED40000-0xEED4FFFF Broadcom NetXtreme Gigabit Ethernet #5 OK

0xEED50000-0xEED5FFFF Broadcom NetXtreme Gigabit Ethernet #6 OK

0xEEE00000-0xEEEFFFFF PCI bus OK

0xEEE20000-0xEEE20FFF QLogic Fibre Channel Adapter OK

0xEEF00000-0xEEFFFFFF PCI bus OK

0xEEF20000-0xEEF20FFF QLogic Fibre Channel Adapter OK

0xEF000000-0xEF0FFFFF PCI bus OK

0xEF0A0000-0xEF0BFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #12 OK

0xEE800000-0xEEBFFFFF PCI bus OK

0xEF400000-0xEF7FFFFF PCI bus OK

0xEF100000-0xEF1FFFFF PCI bus OK

0xEF120000-0xEF120FFF QLogic Fibre Channel Adapter OK

0xEF200000-0xEF2FFFFF PCI bus OK

0xEF220000-0xEF220FFF QLogic Fibre Channel Adapter OK

0xED400000-0xED4FFFFF PCI bus OK

0xED400000-0xED4FFFFF NEC PCI to USB Open Host Controller OK

0xED401000-0xED401FFF NEC PCI to USB Open Host Controller OK

0xED402000-0xED4020FF Standard Enhanced PCI to USB Host Controller OK

0xED500000-0xED5FFFFF PCI bus OK

0xED500000-0xED5FFFFF Adaptec AIC-9410w SAS Controller OK

0xEE000000-0xEE0FFFFF PCI bus OK

0xEE000000-0xEE0FFFFF Adaptec AIC-9410w SAS Controller OK

0xED540000-0xED54FFFF Broadcom NetXtreme Gigabit Ethernet #7 OK

0xED550000-0xED55FFFF Broadcom NetXtreme Gigabit Ethernet #8 OK

0xED600000-0xED6FFFFF PCI bus OK

0xED620000-0xED620FFF QLogic Fibre Channel Adapter OK

0xED700000-0xED7FFFFF PCI bus OK

0xED720000-0xED720FFF QLogic Fibre Channel Adapter OK

0xED800000-0xED8FFFFF PCI bus OK

0xED000000-0xED3FFFFF PCI bus OK

0xEDC00000-0xEDFFFFFF PCI bus OK

0xED900000-0xED9FFFFF PCI bus OK

0xED920000-0xED920FFF QLogic Fibre Channel Adapter OK

0xEDA00000-0xEDAFFFFF PCI bus OK

0xEDA20000-0xEDA20FFF QLogic Fibre Channel Adapter OK

0xEBC00000-0xEBCFFFFF PCI bus OK

0xEBC00000-0xEBCFFFFF NEC PCI to USB Open Host Controller OK

0xEBC01000-0xEBC01FFF NEC PCI to USB Open Host Controller OK

0xEBC02000-0xEBC020FF Standard Enhanced PCI to USB Host Controller OK

0xEBD00000-0xEBDFFFFF PCI bus OK

0xEBD00000-0xEBDFFFFF Adaptec AIC-9410w SAS Controller OK

0xEC800000-0xEC8FFFFF PCI bus OK

0xEC800000-0xEC8FFFFF Adaptec AIC-9410w SAS Controller OK

0xEBD40000-0xEBD4FFFF Broadcom NetXtreme Gigabit Ethernet #3 OK

0xEBD50000-0xEBD5FFFF Broadcom NetXtreme Gigabit Ethernet #4 OK

0xEBE00000-0xEBEFFFFF PCI bus OK

0xEBE20000-0xEBE20FFF QLogic Fibre Channel Adapter OK

0xEBF00000-0xEBFFFFFF PCI bus OK

0xEBF20000-0xEBF20FFF QLogic Fibre Channel Adapter OK

0xEC000000-0xEC0FFFFF PCI bus OK

0xEB800000-0xEBBFFFFF PCI bus OK

0xEC400000-0xEC7FFFFF PCI bus OK

0xEC100000-0xEC1FFFFF PCI bus OK

0xEC120000-0xEC120FFF QLogic Fibre Channel Adapter OK

0xEC200000-0xEC2FFFFF PCI bus OK

0xEC220000-0xEC220FFF QLogic Fibre Channel Adapter OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

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\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\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\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\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\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

c:\windows\system32\msrle32.dllMicrosoft 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\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\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\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

[CD-ROM]

Item Value

Drive N:

Description CD-ROM Drive

Media Loaded Yes

Media Type CD-ROM

Name HL-DT-ST DVD-ROM GDR8082N

Manufacturer (Standard CD-ROM drives)

Status OK

Transfer Rate 2961.70 kbytes/sec

SCSI Target ID 0

PNP Device ID IDE\CDROMHL-DT-ST_DVD-ROM_GDR8082N_____0L03____\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 Standard VGA Graphics Adapter

PNP Device ID PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\3&267A616A&0&08

Adapter Type ATI RADEON VE, (Standard display types) compatible

Adapter Description Standard VGA Graphics Adapter

Adapter RAM 16.00 MB (16,777,216 bytes)

Installed Drivers vga.dll,framebuf.dll,vga256,vga64k

Driver Version 5.2.3790.1830

INF File display.inf (vga section)

Color Planes 1

Color Table Entries 4294967296

Resolution 1280 x 1024 x 1 hertz

Bits/Pixel 32

Memory Address 0xF0000000-0xF7FFFFFF

I/O Port 0x00001800-0x000018FF

Memory Address 0xF8C00000-0xF8CFFFFF

I/O Port 0x000003B0-0x000003BB

I/O Port 0x000003C0-0x000003DF

Memory Address 0xA0000-0xBFFFF

Driver c:\windows\system32\drivers\vgapnp.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 33.00 KB (33,792 bytes), 9/27/2005 5:18 PM)

[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&151B38D0&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&151B38D0&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 USB Human Interface Device

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID USB\VID_04B3&PID_4001&MI_00\6&151B38D0&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 USB Human Interface Device

Name Enhanced (101- or 102-key)

Layout 00000409

PNP Device ID USB\VID_04B3&PID_4001&MI_00\6&151B38D0&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&151B38D0&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&151B38D0&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 USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B3&PID_4001&MI_01\6&151B38D0&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 USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B3&PID_4001&MI_01\6&151B38D0&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_02E71014&REV_10\3&13C0B0C5&0&09

Last Reset 11/18/2005 1:15 PM

Index 1

Service Name b57nd

IP Address 100.100.100.8

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:60:98:0C:73

Memory Address 0xF8DD0000-0xF8DDFFFF

IRQ Channel IRQ 28

Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

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_02E71014&REV_10\3&13C0B0C5&0&08

Last Reset 11/18/2005 1:15 PM

Index 2
Service Name b57nd
IP Address 100.100.100.7
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:60:98:0C:72
Memory Address 0xF8DC0000-0xF8DCFFFF
IRQ Channel IRQ 24
Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

Name [00000003] RAS Async Adapter
Adapter Type Not Available
Product Type RAS Async Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 11/18/2005 1:15 PM
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 11/18/2005 1:15 PM
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 11/18/2005 1:15 PM
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 11/18/2005 1:15 PM
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 11/18/2005 1:15 PM

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 11/18/2005 1:15 PM
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 Ethernet 802.3
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1CB4C27&0&08
Last Reset 11/18/2005 1:15 PM
Index 9
Service Name b57nd
IP Address 100.100.100.1
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 00:0D:60:98:12:BA
Memory Address 0xEBD40000-0xEBD4FFFF
IRQ Channel IRQ 240
Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

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&1CB4C27&0&09
Last Reset 11/18/2005 1:15 PM
Index 10
Service Name b57nd
IP Address 100.100.100.2
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:60:98:12:BB
Memory Address 0xEBD50000-0xEBD5FFFF
IRQ Channel IRQ 244
Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

Name [00000011] 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&08
Last Reset 11/18/2005 1:15 PM
Index 11
Service Name b57nd
IP Address 100.100.100.5
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:60:98:11:B6
Memory Address 0xEED40000-0xEED4FFFF

IRQ Channel IRQ 96

Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

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_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&09

Last Reset 11/18/2005 1:15 PM

Index 12

Service Name b57nd

IP Address 100.100.100.155

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:60:98:11:B7

Memory Address 0xEED50000-0xEED5FFFF

IRQ Channel IRQ 100

Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

Name [00000013] 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&2DD7680E&0&08

Last Reset 11/18/2005 1:15 PM

Index 13

Service Name b57nd

IP Address 100.100.100.3

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:60:98:0B:CA

Memory Address 0xED540000-0xED54FFFF

IRQ Channel IRQ 168

Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

Name [00000014] 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&2DD7680E&0&09

Last Reset 11/18/2005 1:15 PM

Index 14

Service Name b57nd

IP Address 100.100.100.4

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:60:98:0B:CB

Memory Address 0xED550000-0xED55FFFF

IRQ Channel IRQ 172

Driver c:\windows\system32\drivers\b57amd64.sys (8.39.1.0 built by: WinDDK, 212.50 KB (217,600 bytes), 9/27/2005 4:53 PM)

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 11/18/2005 1:15 PM

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 11/18/2005 1:15 PM
Index 16
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 [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 11/18/2005 1:15 PM
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 11/18/2005 1:15 PM
Index 18
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 [00000019] 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 11/18/2005 1:15 PM
Index 19
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 [00000020] 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 11/18/2005 1:15 PM
Index 20
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 [00000021] 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 11/18/2005 1:15 PM
Index 21
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 [00000022] 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 11/18/2005 1:15 PM
Index 22
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 [00000023] 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 11/18/2005 1:15 PM
Index 23
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 [00000024] 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 11/18/2005 1:15 PM
Index 24
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 [00000025] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&19E45801&0&08
Last Reset 11/18/2005 1:15 PM
Index 25
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
Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 AM)

Name [00000026] 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\3&19E45801&0&09
Last Reset 11/18/2005 1:15 PM
Index 26
Service Name E1000
IP Address 10.61.175.100
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:84:CF:27

Memory Address 0xEF0A0000-0xEF0BFFFF

I/O Port 0x00004A40-0x00004A7F

IRQ Channel IRQ 128

Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 AM)

Name [00000027] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&08

Last Reset 11/18/2005 1:15 PM

Index 27

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

Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 AM)

Name [00000028] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&09

Last Reset 11/18/2005 1:15 PM

Index 28

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

Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 AM)

Name [00000029] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&A55A9E1&0&08

Last Reset 11/18/2005 1:15 PM

Index 29

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

Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 AM)

Name [00000030] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&A55A9E1&0&09

Last Reset 11/18/2005 1:15 PM

Index 30

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

Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by: WinDDK, 227.50 KB (232,960 bytes), 9/29/2005 3:43 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

[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 33.90 GB (36,396,830,720 bytes)
Free Space 23.57 GB (25,309,159,424 bytes)
Volume Name
Volume Serial Number 003DA2DE

Drive L:
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 N:
Description CD-ROM Disc

Drive O:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.89 GB (36,388,605,952 bytes)
Free Space 28.15 GB (30,226,153,472 bytes)
Volume Name
Volume Serial Number 90D5B575

Drive P:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 19.53 GB (20,974,428,160 bytes)
Free Space 9.56 GB (10,266,943,488 bytes)
Volume Name
Volume Serial Number C481978E

Drive Q:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 48.83 GB (52,427,931,648 bytes)
Free Space 38.08 GB (40,886,513,664 bytes)
Volume Name
Volume Serial Number 0C346362

Drive R:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 68.36 GB (73,402,363,904 bytes)
Free Space 68.29 GB (73,329,434,624 bytes)
Volume Name
Volume Serial Number FC997B90

Drive T:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 196.07 MB (205,599,232 bytes)
Free Space 185.60 MB (194,611,712 bytes)
Volume Name T_drive
Volume Serial Number 709B99DA

Drive X:
Description Network Connection
Provider Name \\10.61.175.58\sqlserver

Drive Y:
Description Network Connection
Provider Name \\greenday\downloads

[Disks]

Item Value
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 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 #1, Partition #0
Partition Size 33.89 GB (36,388,606,464 bytes)
Partition Starting Offset 32,256 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 0
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 33.90 GB (36,396,831,744 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS ST973401SS 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 68.36 GB (73,402,398,720 bytes)
Total Cylinders 8,924
Total Sectors 143,364,060
Total Tracks 2,275,620
Tracks/Cylinder 255
Partition Disk #2, Partition #0
Partition Size 19.53 GB (20,974,431,744 bytes)
Partition Starting Offset 32,256 bytes
Partition Disk #2, Partition #1
Partition Size 48.83 GB (52,427,934,720 bytes)
Partition Starting Offset 20,974,464,000 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS ST973401SS F 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 5
SCSI Target ID 0
Sectors/Track 63
Size 68.36 GB (73,402,398,720 bytes)
Total Cylinders 8,924
Total Sectors 143,364,060
Total Tracks 2,275,620
Tracks/Cylinder 255
Partition Disk #3, Partition #0
Partition Size 68.36 GB (73,402,366,464 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 10
SCSI Port 21
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #34, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 11
SCSI Port 21
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #35, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes

Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 4
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #14, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #15, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 26
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #8, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 27
SCSI Port 8
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #9, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 32
SCSI Port 14
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #20, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 33
SCSI Port 14
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #21, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #10, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 9
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #11, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 18
SCSI Port 16
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #24, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 19
SCSI Port 16
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920

Tracks/Cylinder 255
Partition Disk #25, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 14
SCSI Port 15
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #22, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 15
SCSI Port 15
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #23, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 12
SCSI Port 19
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #30, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 13
SCSI Port 19
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #31, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 24
SCSI Port 22

SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #36, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 25
SCSI Port 22
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #37, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 28
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #12, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 29
SCSI Port 10
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #13, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 30
SCSI Port 12
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #16, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes

Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 31
SCSI Port 12
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #17, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 20
SCSI Port 18
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #28, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 21
SCSI Port 18
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #29, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN 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 6
SCSI Target ID 0
Sectors/Track 63
Size 1.51 TB (1,664,533,463,040 bytes)
Total Cylinders 202,368
Total Sectors 3,251,041,920
Total Tracks 51,603,840
Tracks/Cylinder 255
Partition Disk #4, Partition #0
Partition Size 1.51 TB (1,664,196,194,304 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 203.95 MB (213,857,280 bytes)
Total Cylinders 26
Total Sectors 417,690
Total Tracks 6,630
Tracks/Cylinder 255
Partition Disk #5, Partition #0
Partition Size 196.08 MB (205,599,744 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 8
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #6, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 9
SCSI Port 7
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #7, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 22
SCSI Port 20
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #32, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 23
SCSI Port 20
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #33, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 16
SCSI Port 17
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370

Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #26, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 17
SCSI Port 17
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #27, Partition #0
Partition Size 150.01 GB (161,067,400,704 bytes)

Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 13
SCSI Target ID 0
Sectors/Track 63
Size 85.01 GB (91,284,157,440 bytes)
Total Cylinders 11,098
Total Sectors 178,289,370
Total Tracks 2,829,990
Tracks/Cylinder 255
Partition Disk #18, Partition #0
Partition Size 85.00 GB (91,267,674,624 bytes)
Partition Starting Offset 32,256 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model NETAPP LUN SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 13
SCSI Target ID 0
Sectors/Track 63
Size 150.02 GB (161,083,883,520 bytes)
Total Cylinders 19,584
Total Sectors 314,616,960
Total Tracks 4,993,920
Tracks/Cylinder 255
Partition Disk #19, Partition #0
Partition Size 150.01 GB (161,067,400,704 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 0xF8D80000-0xF8DBFFFF
Memory Address 0xF8400000-0xF84FFFFF
I/O Port 0x00002000-0x000027FF
IRQ Channel IRQ 25
Driver c:\windows\system32\drivers\adp94xx.sys (1.0.318.627 built by: WinDDK, 465.00 KB (476,160 bytes), 9/27/2005 4:33 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&77E0

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&1070020&0&08
I/O Port 0x00002800-0x000029FF
Memory Address 0xF8E20000-0xF8E20FFF
IRQ Channel IRQ 18

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&29E81982&0&08

I/O Port 0x00002A00-0x00002BFF

Memory Address 0xF8F20000-0xF8F20FFF

IRQ Channel IRQ 19

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name Emulex LightPulse LP9002, Storport Miniport Driver

Manufacturer Emulex

Status OK

PNP Device ID PCI\VEN_10DF&DEV_F900&SUBSYS_F90010DF&REV_01\3&172E68DD&0&08

Memory Address 0xF9000000-0xF90FFFFF

Memory Address 0xF9001000-0xF90010FF

I/O Port 0x00002C00-0x00002DFF

IRQ Channel IRQ 52

Driver c:\windows\system32\drivers\elxstor.sys (7-1.11A0 5/6/2005 WS2K3 64 bit x64 built by: WinDDK, 346.00 KB (354,304 bytes), 10/5/2005 4:18 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&E44F86D&0&08

I/O Port 0x00002E00-0x00002FFF

Memory Address 0xF9120000-0xF9120FFF

IRQ Channel IRQ 54

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&20FEA912&0&08

I/O Port 0x00004000-0x000041FF

Memory Address 0xF9220000-0xF9220FFF

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), 3/25/2005 7:00 AM)

Name Adaptec AIC-9410w SAS Controller

Manufacturer Adaptec

Status OK

PNP Device ID PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&1D521019&0&10

Memory Address 0xEED00000-0xEEDFFFFF

Memory Address 0xEF800000-0xEF8FFFFF

I/O Port 0x00004400-0x000045FF

IRQ Channel IRQ 97

Driver c:\windows\system32\drivers\adp94xx.sys (1.0.318.627 built by: WinDDK, 465.00 KB (476,160 bytes), 9/27/2005 4:33 PM)

Name Adaptec Processor Device (Pseudo)

Manufacturer Adaptec

Status OK

PNP Device ID SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&37BC741F&0&77E0

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&300BC0BE&0&08

I/O Port 0x00004600-0x000047FF

Memory Address 0xEEE20000-0xEEE20FFF

IRQ Channel IRQ 90

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&72AA75C&0&08

I/O Port 0x00004800-0x000049FF

Memory Address 0xEEF20000-0xEEF20FFF

IRQ Channel IRQ 91

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&3BCEF44&0&08

I/O Port 0x00004C00-0x00004DFF

Memory Address 0xEF120000-0xEF120FFF

IRQ Channel IRQ 126

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&36B90202&0&08

I/O Port 0x00004E00-0x00004FFF

Memory Address 0xEF220000-0xEF220FFF

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), 3/25/2005 7:00 AM)

Name Adaptec AIC-9410w SAS Controller

Manufacturer Adaptec

Status OK

PNP Device ID
PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&2DD7680E&0&10

Memory Address 0xED500000-0xED5FFFFF

Memory Address 0xEE000000-0xEE0FFFFF

I/O Port 0x00006200-0x000063FF

IRQ Channel IRQ 169

Driver c:\windows\system32\drivers\adp94xx.sys (1.0.318.627 built by: WinDDK, 465.00 KB (476,160 bytes), 9/27/2005 4:33 PM)

Name Adaptec Processor Device (Pseudo)

Manufacturer Adaptec

Status OK

PNP Device ID
SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&244D55B3&0&77E0

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&1B1DB769&0&08

I/O Port 0x00006400-0x000065FF

Memory Address 0xED620000-0xED620FFF

IRQ Channel IRQ 162

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&86406C4&0&08

I/O Port 0x00006600-0x000067FF

Memory Address 0xED720000-0xED720FFF

IRQ Channel IRQ 163

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&2FC90B2B&0&08

I/O Port 0x00006A00-0x00006BFF

Memory Address 0xED920000-0xED920FFF

IRQ Channel IRQ 198

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&6E7F1C9&0&08

I/O Port 0x00006C00-0x00006DFF

Memory Address 0xEDA20000-0xEDA20FFF

IRQ Channel IRQ 199

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name Adaptec AIC-9410w SAS Controller

Manufacturer Adaptec

Status OK

PNP Device ID
PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&1CB4C27&0&10

Memory Address 0xEBD00000-0xEBDFFFFF

Memory Address 0xEC800000-0xEC8FFFFF

I/O Port 0x00008200-0x000083FF

IRQ Channel IRQ 241

Driver c:\windows\system32\drivers\adp94xx.sys (1.0.318.627 built by: WinDDK, 465.00 KB (476,160 bytes), 9/27/2005 4:33 PM)

Name Adaptec Processor Device (Pseudo)

Manufacturer Adaptec

Status OK

PNP Device ID SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&21D186A1&0&77E0

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&2AAC6589&0&08

I/O Port 0x00008400-0x000085FF

Memory Address 0xEBE20000-0xEBE20FFF

IRQ Channel IRQ 234

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&17F2B4E4&0&08

I/O Port 0x00008600-0x000087FF

Memory Address 0xEBF20000-0xEBF20FFF

IRQ Channel IRQ 235

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&1B606CFC&0&08

I/O Port 0x00008A00-0x00008BFF

Memory Address 0xEC120000-0xEC120FFF

IRQ Channel IRQ 270

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&8A6BC57&0&08

I/O Port 0x00008C00-0x00008DFF

Memory Address 0xEC220000-0xEC220FFF

IRQ Channel IRQ 271

Driver c:\windows\system32\drivers\ql2300.sys (9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes), 3/25/2005 7:00 AM)

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), 11/18/2005 12:59 PM)

[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

Intel(R) PRO/1000 MT Dual Port Server Adapter #11
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&19E45801&0&08 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #15
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&A55A9E1&0&08 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #16
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&A55A9E1&0&09 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #13
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&08This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #14
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&09This 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

NEC PCI to USB Open Host Controller
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&4F64EAC&0&18

NEC PCI to USB Open Host Controller
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&4F64EAC&0&19

Standard Enhanced PCI to USB Host Controller
PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&4F64EAC&0&1A

NEC PCI to USB Open Host Controller
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&38AAA51F&0&18

NEC PCI to USB Open Host Controller
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&38AAA51F&0&19

Standard Enhanced PCI to USB Host Controller
PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&38AAA51F&0&1A

[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

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
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
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        Yes         Auto
          Running   OK         Normal      No         Yes

cdad10ba  CdaD10BA
          c:\windows\system32\drivers\cdad10ba.sys
          Kernel Driver        Yes         Auto
          Running   OK         Normal      No         Yes

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 Device Driver
          c:\windows\system32\drivers\e1g5132e.sys
          Kernel Driver        Yes         Manual
          Running   OK         Normal      No         Yes

elxadjct  elxadjct
          c:\windows\system32\drivers\elxadjct.sys
          Kernel Driver        Yes         Boot
          Running   OK         Normal      No         Yes

elxstor   elxstor
          c:\windows\system32\drivers\elxstor.sys
          Kernel Driver        Yes         Boot
          Running   OK         Normal      No         Yes

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

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

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 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

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 (x64
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    Yes      Auto
        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 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

srv     Srv      c:\windows\system32\drivers\srv.sys
        File System Driver  No    Manual
        Stopped  OK       Normal   No       No

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

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

vga vga
c:\windows\system32\drivers\vgapnp.sys
Kernel Driver Yes Manual
Running OK Ignore No Yes

vgasave VGA Display Controller.
c:\windows\system32\drivers\vga.sys
Kernel Driver No System
Stopped OK Ignore No No

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 DriverYes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0002

Microcode Update Device Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ROOT\SYSTEM\0001

Plug and Play Software Device Enumerator Yes
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 oem5.inf Not Available
ROOT\SCSIADAPTER\0000

Terminal Server Mouse Driver Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ROOT\RDP_MOU\0000

Terminal Server Keyboard Driver Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\RDP_KBD\0000

Terminal Server Device Redirector Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\RDPDR\0000

Direct Parallel Yes NET 5.2.3790.1830
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_PTIMINIPORT\0000

WAN Miniport (PPTP) Yes NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_PPTPMINIPORT\0000

WAN Miniport (PPPOE) Yes NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_PPPOEMINIPORT\0000

WAN Miniport (IP) Yes NET 5.2.3790.1830
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) Yes NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_L2TPMINIPORT\0000

Video Codecs Yes MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices Yes MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices Yes MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio DriversYes MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs Yes 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

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

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

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

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
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
ROOT\LEGACY_BEEP\0000

AFD Not Available LEGACYDRIVER 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&SIGNA
TUREB884065OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884064OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884061OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884060OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406DOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406COFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884069OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884068OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREAEA6AEA6OFFSET7E00LENGTH878EE1200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884055OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884054OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88405AOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884058OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884046OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884045OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884043OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884042OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TURE5108A6FAOFFSET7E00LENGTH11171F3A00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884041OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884040OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884044OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88405BOFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406BOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406AOFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88405EOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88405COFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TURE5108A6FBOFFSET4E22CEC00LENGTHC34F2CC0
0

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TURE5108A6FBOFFSET7E00LENGTH4E22C6E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406FOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88406EOFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884063OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884062OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884078OFFSET7E00LENGTH18379D2B000

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884067OFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884066OFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88407BOFFSET7E00LENGTH25805D7E00

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB88407AOFFSET7E00LENGTH153FFA3200

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREB884079OFFSET7E00LENGTHC413400

Generic volume Yes VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREE60BE60BOFFSET7E00LENGTH8796B9400

Volume Manager Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\FTDISK\0000

Logical Disk ManagerYes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\DMIO\0000

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&186ED35A&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&186ED35A&0&001B

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&186ED35A&0&001A

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&8A6BC57&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&8A6BC57&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\37

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&2B050B9&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&2B050B9&0&001D

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&2B050B9&0&001C

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&1B606CFC&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&1B606CFC&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\36

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&2E1A1DA1&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\35

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.1.8.0 10/1/2002 Intel
nete1g3e.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&09

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.1.8.0 10/1/2002 Intel
nete1g3e.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&539043F&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&539043F&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\34

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&31E6B732&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&31E6B732&0&001F

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&31E6B732&0&001E

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&17F2B4E4&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&17F2B4E4&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\33

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&18F259E0&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&18F259E0&0&0021

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&18F259E0&0&0020

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&2AAC6589&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&2AAC6589&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\32

Adaptec Processor Device (Pseudo) No
SCSIADAPTER 1.0.318.627
5/16/2005 Adaptec oem0.inf Not Available
SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&21D186A1&0&77E0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST936701SS&REV_B516\4&21D186A1&0&020

Adaptec AIC-9410w SAS Controller No
SCSIADAPTER 1.0.318.627
5/16/2005 Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&1CB4C27&0&10

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1CB4C27&0&09

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1CB4C27&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&1CB4C27&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\31

Serverworks Champion CSB6 - SouthBridge 6 LPC Yes
SYSTEM 5.2.3790.1830 10/1/2002
ServerWorks (RCC) machine.inf Not Available
PCI\VEN_1166&DEV_0227&SUBSYS_00000000&REV_00\3&38AAA51F&0&7B

ServerWorks Champion CSB6 - SouthBridge 6 Yes
SYSTEM 5.2.3790.1830 10/1/2002
ServerWorks (RCC) machine.inf Not Available
PCI\VEN_1166&DEV_0203&SUBSYS_00000000&REV_A0\3&38AAA51F&0&78

USB Root Hub Yes USB 5.2.3790.1830
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB20\4&1E67275F&0

Standard Enhanced PCI to USB Host Controller Yes
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&38AAA51F&0&1A

HID-compliant device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available
HID\VID_04B3&PID_4001&MI_02\7&7B75B8&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_02\6&2025206D&0&0002

HID-compliant mouse Yes MOUSE 5.2.3790.1830
10/1/2002 Microsoft msmouse.inf Not Available
HID\VID_04B3&PID_4001&MI_01\7&2452B37A&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_01\6&2025206D&0&0001

HID Keyboard Device Yes KEYBOARD
5.2.3790.1830 10/1/2002 (Standard keyboards) keyboard.inf Not Available
HID\VID_04B3&PID_4001&MI_00\7&C8F2735&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_00\6&2025206D&0&0000

USB Composite Device Yes USB
5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usb.inf Not Available
USB\VID_04B3&PID_4001\000D6046D487

USB Root Hub Yes USB 5.2.3790.1830
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&732D90&0

NEC PCI to USB Open Host Controller Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&38AAA51F&0&19

USB Root Hub Yes USB 5.2.3790.1830
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&295446F2&0

NEC PCI to USB Open Host Controller Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&38AAA51F&0&18

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&38AAA51F&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\30

Memory Module Yes MEMORY
5.2.3790.1830 10/1/2002 Microsoft
memory.inf Not Available
ACPI\PNP0C80\6

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\63

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\62

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\61

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\60

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\59

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\58

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\57

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\56

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\55

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\54

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\53

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\52

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\51

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\50

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\49

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\48

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&24F1C8EF&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&24F1C8EF&0&0013

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&24F1C8EF&0&0012

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&6E7F1C9&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&6E7F1C9&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\27

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&363A9400&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&363A9400&0&0015

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&363A9400&0&0014

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&2FC90B2B&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&2FC90B2B&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\26

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&1D0F5A86&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\25

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.1.8.0 10/1/2002 Intel
nete1g3e.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\3&A55A9E1&0&09

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.1.8.0 10/1/2002 Intel
nete1g3e.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\3&A55A9E1&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&A55A9E1&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\24

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&89DF59C&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&89DF59C&0&0017

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&89DF59C&0&0016

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&86406C4&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available

PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&86406C4&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\23

Qlogic processor device Yes SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&29229577&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&29229577&0&0019

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&29229577&0&0018

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem9.inf Not Available PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&1B1DB769&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&1B1DB769&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\22

Adaptec Processor Device (Pseudo) No SCSIADAPTER 1.0.318.627 5/16/2005 Adaptec oem0.inf Not Available SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&244D55B3&0&77E0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST973401SS____F&REV_B512\4&244D55B3&0&000

Adaptec AIC-9410w SAS Controller No SCSIADAPTER 1.0.318.627 5/16/2005 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&2DD7680E&0&10

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&2DD7680E&0&09

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&2DD7680E&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&2DD7680E&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\21

Serverworks Champion CSB6 - SouthBridge 6 LPC Yes SYSTEM 5.2.3790.1830 10/1/2002 ServerWorks (RCC) machine.inf Not Available PCI\VEN_1166&DEV_0227&SUBSYS_00000000&REV_00\3&4F64EAC&0&7B

ServerWorks Champion CSB6 - SouthBridge 6 Yes SYSTEM 5.2.3790.1830 10/1/2002 ServerWorks (RCC) machine.inf Not Available PCI\VEN_1166&DEV_0203&SUBSYS_00000000&REV_A0\3&4F64EAC&0&78

USB Root Hub Yes USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB20\4&376D2274&0

Standard Enhanced PCI to USB Host Controller Yes 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&4F64EAC&0&1A

HID-compliant device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available HID\VID_04B3&PID_4001&MI_02\7&22C4E383&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_02\6&2445F9FC&0&0002

HID-compliant mouse Yes MOUSE 5.2.3790.1830 10/1/2002 Microsoft msmouse.inf Not Available HID\VID_04B3&PID_4001&MI_01\7&3A886FC8&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_01\6&2445F9FC&0&0001

HID Keyboard Device Yes KEYBOARD 5.2.3790.1830 10/1/2002 (Standard keyboards) keyboard.inf Not Available HID\VID_04B3&PID_4001&MI_00\7&16B13206&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_00\6&2445F9FC&0&0000

USB Composite Device Yes USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usb.inf Not Available USB\VID_04B3&PID_4001\000D6046D539

USB Root Hub Yes USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&25FD519B&0

NEC PCI to USB Open Host Controller Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&4F64EAC&0&19

USB Root Hub Yes USB 5.2.3790.1830
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&38B70240&0

NEC PCI to USB Open Host Controller Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&4F64EAC&0&18

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&4F64EAC&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\20

Memory Module Yes MEMORY
5.2.3790.1830 10/1/2002 Microsoft
memory.inf Not Available
ACPI\PNP0C80\4

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\47

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\46

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\45

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\44

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\43

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\42

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\41

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\40

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\39

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\38

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\37

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\36

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\35

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\34

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\33

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\32

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&105B12CB&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&105B12CB&0&00B

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&105B12CB&0&00A

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&36B90202&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available

PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&36B90202&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\17

Qlogic processor device Yes SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&272317AA&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&272317AA&0&00D

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&272317AA&0&00C

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem9.inf Not Available PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&3BCEF44&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&3BCEF44&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\16

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&2C9E08A6&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\15

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.1.8.0 10/1/2002 Intel nete1g3e.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&19E45801&0&09

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 8.1.8.0 10/1/2002 Intel nete1g3e.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\3&19E45801&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&19E45801&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\14

Qlogic processor device Yes SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&A64063C&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&A64063C&0&0011

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&A64063C&0&0010

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem9.inf Not Available PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&72AA75C&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&72AA75C&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\13

Qlogic processor device Yes SYSTEM 5.2.3790.1830 10/1/2002 QLOGIC scsidev.inf Not Available SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&266D7871&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&266D7871&0&00F

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&266D7871&0&00E

QLogic Fibre Channel Adapter No SCSIADAPTER 9.1.0.12 9/21/2005 QLogic oem9.inf Not Available PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&300BC0BE&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&300BC0BE&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\12

Adaptec Processor Device (Pseudo) No SCSIADAPTER 1.0.318.627 5/16/2005 Adaptec oem0.inf Not Available SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&37BC741F&0&77E0

Disk drive Yes DISKDRIVE 5.2.3790.1830 10/1/2002 (Standard disk drives) disk.inf Not

Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST973401SS&REV_B516\4&37BC741F&0&000

Adaptec AIC-9410w SAS Controller No SCSIADAPTER 1.0.318.627 5/16/2005 Adaptec oem0.inf Not Available PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&1D521019&0&10

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&09

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&08

PCI standard host CPU bridge Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&1D521019&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\11

Serverworks Champion CSB6 - SouthBridge 6 LPC Yes 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 Yes 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 Yes 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 Yes 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 Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available HID\VID_04B3&PID_4001&MI_02\7&18AEB7B7&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_02\6&3359CAD7&0&0002

HID-compliant mouse Yes MOUSE 5.2.3790.1830 10/1/2002 Microsoft msmouse.inf Not Available HID\VID_04B3&PID_4001&MI_01\7&EB2B72&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_01\6&3359CAD7&0&0001

HID Keyboard Device Yes KEYBOARD 5.2.3790.1830 10/1/2002 (Standard keyboards) keyboard.inf Not Available HID\VID_04B3&PID_4001&MI_00\7&286D38B7&0&0000

USB Human Interface Device Yes HIDCLASS 5.2.3790.1830 10/1/2002 (Standard system devices) input.inf Not Available USB\VID_04B3&PID_4001&MI_00\6&3359CAD7&0&0000

USB Composite Device Yes USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usb.inf Not Available USB\VID_04B3&PID_4001\000D6046DA75

USB Root Hub Yes USB 5.2.3790.1830 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\4&14A79F01&0

NEC PCI to USB Open Host Controller Yes 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 Yes 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 Yes 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 Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&A985F74&0&00

PCI bus Yes SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\10

Memory Module Yes MEMORY 5.2.3790.1830 10/1/2002 Microsoft memory.inf Not Available ACPI\PNP0C80\2

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\31

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\30

Intel Processor Yes PROCESSOR 5.2.3790.1830 10/1/2002 Intel cpu.inf Not Available

ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\29

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\28

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\27

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\26

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\25

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\24

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\23

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\22

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\21

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\20

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\19

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\18

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\17

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\16

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&E923D&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&E923D&0&003

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&E923D&0&002

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&20FEA912&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&20FEA912&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\7

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_\4&1142B090&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&1142B090&0&005

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&RE
V_0.2\4&1142B090&0&004

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010010
77&REV_02\3&E44F86D&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&E44F86D&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\6

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&474B838&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\5

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&36D341AF&1A&000

Emulex LightPulse HBA - Storport Miniport Driver Yes
SCSIADAPTER 7.1.11.0 5/6/2005
Emulex oem6.inf Not Available
PCI\VEN_10DF&DEV_F900&SUBSYS_F90010DF&REV_01\3&172E68DD&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&172E68DD&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\4

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&232FAFE&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&232FAFE&0&007

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&232FAFE&0&006

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&29E81982&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&29E81982&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\3

Qlogic processor device Yes SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_\4&3B4E3515&0&07F0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&3B4E3515&0&009

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&3B4E3515&0&008

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available
SCSI\DISK&VEN_NETAPP&PROD_LUN&REV_0.2\4&3B4E3515&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_01001077&REV_02\3&1070020&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&1070020&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\2

Adaptec Processor Device (Pseudo) No
SCSIADAPTER 1.0.318.627
5/16/2005 Adaptec oem0.inf Not Available
SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\4&4963A81&0&77E0

Disk drive Yes DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not Available SCSI\DISK&VEN_IBM-ESXS&PROD_ST936701SS&REV_B516\4&4963A81&0&020

Adaptec AIC-9410w SAS Controller No
SCSIADAPTER 1.0.318.627
5/16/2005 Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_041E&SUBSYS_02E71014&REV_08\3&13C0B0C5&0&10

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&13C0B0C5&0&09

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.39.1.0 7/21/2005 Broadcom oem2.inf Not Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&13C0B0C5&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&13C0B0C5&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\1

Memory Module Yes MEMORY
5.2.3790.1830 10/1/2002 Microsoft
memory.inf Not Available
ACPI\PNP0C80\0

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-_EM64T_FAMILY_15_MODEL_4\15

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\14

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\13

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\12

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\11

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\10

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_9

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_8

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_7

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_6

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_5

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_4

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_3

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_2

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_1

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4_0

ACPI Fixed Feature Button Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\FIXEDBUTTON\2&DABA3FF&0

System board Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C01\1

IBM Active PCI Device Yes SYSTEM
5.2.1.0 8/30/2005 IBM Corporation
oem1.inf Not Available
ACPI\IBM37D4\2&DABA3FF&0

Motherboard resources Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0C02\3

Numeric data processor Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0C04\4&13245C1&0

System speaker Yes 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 Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0B00\4&13245C1&0

System timer Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\4&13245C1&0

Direct memory access controller Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0200\4&13245C1&0

Advanced programmable interrupt controller Yes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available
ACPI\PNP0003\4&13245C1&0

Communications Port Yes PORTS 5.2.3790.1830
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\2

Communications Port Yes PORTS 5.2.3790.1830
10/1/2002 (Standard port types) msports.inf
Not Available ACPI\PNP0501\1

PS/2 Compatible Mouse Yes 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
Yes 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 Yes
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 Yes 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 Yes CDROM 5.2.3790.1830
10/1/2002 (Standard CD-ROM drives)
cdrom.inf Not Available
IDE\CDROMHL-DT-ST_DVD-
ROM_GDR8082N_____0L03____\5&A8D2D2
2&0&0.0.0

Primary IDE Channel Yes 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 Yes HDC
5.2.3790.1830 10/1/2002 (Standard IDE
ATA/ATAPI controllers) mshdc.inf Not Available
PCI\VEN_1166&DEV_0213&SUBSYS_021211
66&REV_A0\3&267A616A&0&79

ServerWorks Champion CSB6 - SouthBridge 6 Yes
SYSTEM 5.2.3790.1830 10/1/2002
ServerWorks (RCC) machine.inf Not
Available
PCI\VEN_1166&DEV_0203&SUBSYS_000000
00&REV_A0\3&267A616A&0&78

USB Root Hub Yes 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 Yes
USB 5.2.3790.1830 10/1/2002
(Standard USB Host Controller) usbport.inf Not
Available
PCI\VEN_1033&DEV_00E0&SUBSYS_00E010
33&REV_04\3&267A616A&0&1A

HID-compliant device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard
system devices) input.inf Not Available
HID\VID_04B3&PID_4001&MI_02\7&270277C
7&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard
system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_02\6&151B38
D0&0&0002

HID-compliant mouse Yes MOUSE 5.2.3790.1830
10/1/2002 Microsoft msmouse.inf Not
Available
HID\VID_04B3&PID_4001&MI_01\7&32B3A0
5&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard
system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_01\6&151B38
D0&0&0001

HID Keyboard Device Yes KEYBOARD
5.2.3790.1830 10/1/2002 (Standard
keyboards) keyboard.inf Not Available
HID\VID_04B3&PID_4001&MI_00\7&20AC03
BD&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.1830 10/1/2002 (Standard
system devices) input.inf Not Available
USB\VID_04B3&PID_4001&MI_00\6&151B38
D0&0&0000

USB Composite Device Yes USB
5.2.3790.1830 10/1/2002 (Standard USB
Host Controller) usb.inf Not Available
USB\VID_04B3&PID_4001\000D6046DB77

USB Root Hub Yes 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 Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_003510
33&REV_43\3&267A616A&0&19

USB Root Hub Yes 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 Yes USB
5.2.3790.1830 10/1/2002 NEC
usbport.inf Not Available
PCI\VEN_1033&DEV_0035&SUBSYS_003510
33&REV_43\3&267A616A&0&18

Plug and Play Monitor Yes MONITOR
5.2.3790.1830 10/1/2002 (Standard
monitor types) monitor.inf Not Available
DISPLAY\DELA00B\4&36FA8DD8&0&123456
78&00&01

Standard VGA Graphics Adapter Yes DISPLAY
5.2.3790.1830 10/1/2002 (Standard
display types) display.inf Not Available
PCI\VEN_1002&DEV_5159&SUBSYS_02C810
14&REV_00\3&267A616A&0&08

PCI standard host CPU bridge Yes SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&267A616A&0&00

PCI bus Yes SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\0

Microsoft ACPI-Compliant System Yes
SYSTEM 5.2.3790.1830 10/1/2002
Microsoft acpi.inf Not Available
ACPI_HAL\PNP0C08\0

ACPI Multiprocessor x64-based PC Yes
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

ComSpec %SystemRoot%\system32\cmd.exe
<SYSTEM>

Path
%SystemRoot%\system32;%SystemRoot%;%Sys
temRoot%\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\ <SYSTEM>

windir %SystemRoot% <SYSTEM>

FP_NO_HOST_CHECK NO <SYSTEM>

OS Windows_NT <SYSTEM>

PROCESSOR_ARCHITECTURE AMD64
<SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_IDENTIFIER EM64T Family 15 Model 4
Stepping 8, GenuineIntel <SYSTEM>

PROCESSOR_REVISION 0408 <SYSTEM>

NUMBER_OF_PROCESSORS 64 <SYSTEM>

ClusterLogC:\WINDOWS\Cluster\cluster.log
<SYSTEM>

PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.
WSF;.WSH <SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>

TMP %SystemRoot%\TEMP <SYSTEM>

lib C:\Program Files\SQLXML 4.0\bin\
<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
DCX460\Administrator

TMP %USERPROFILE%\Local Settings\Temp
DCX460\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: \\10.61.175.58\sqlserver Disk
Persistent Connection DCX460\administrator

Y: \\greenday\downloads Disk Persistent
Connection DCX460\Administrator

Z: \\10.61.175.58\sqlserver 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 556 11
204800 1413120 11/18/2005 1:18 PM Not
Available Not Available Not Available

csrss.exe Not Available 652 13 Not
Available Not Available 11/18/2005 1:18 PM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
944 13 204800 1413120
11/18/2005 1:18 PM 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
416 9 204800 1413120
11/18/2005 1:18 PM 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 488 9
204800 1413120 11/18/2005 1:18 PM
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
244 8 204800 1413120
11/18/2005 1:18 PM 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 728 8
Not Available Not Available

11/18/2005 1:18 PM Not Available Not
Available Not Available

svchost.exe Not Available 768 8
Not Available Not Available
11/18/2005 1:18 PM Not Available Not
Available Not Available

svchost.exe Not Available 1384 8
Not Available Not Available
11/18/2005 1:18 PM Not Available Not
Available Not Available

svchost.exe c:\windows\system32\svchost.exe
1448 8 204800 1413120
11/18/2005 1:18 PM 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 996 8 Not
Available Not Available 11/18/2005 1:19 PM Not
Available Not Available Not Available

rmserver.exe c:\program files
(x86)\hbanyware\rmserver.exe 1300 8
204800 1413120 11/18/2005 1:19 PM X
312.00 KB (319,488 bytes) 7/28/2005 2:16
PM

hbahsmgr.exe c:\program files
(x86)\hbanyware\hbahsmgr.exe 1412 8
204800 1413120 11/18/2005 1:19 PM X
84.00 KB (86,016 bytes) 7/28/2005 2:17
PM

svchost.exe Not Available 1612 8
Not Available Not Available
11/18/2005 1:19 PM Not Available Not
Available Not Available

msftesql.exe c:\program files\microsoft sql
server\mssql.1\mssql\binn\msftesql.exe 1844 8
204800 1413120 11/18/2005 1:19 PM
12.0.5626.1 152.20 KB (155,856 bytes)
8/26/2005 8:17 PM

svchost.exe c:\windows\system32\svchost.exe
1976 8 204800 1413120
11/18/2005 1:19 PM 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 1416 8
Not Available Not Available
11/18/2005 1:20 PM Not Available Not
Available Not Available

csrss.exe Not Available 1664 13 Not
Available Not Available 11/18/2005 1:21 PM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
1364 13 204800 1413120
11/18/2005 1:21 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 901.00 KB (922,624 bytes)
3/25/2005 7:00 AM

rdpclip.exec:\windows\system32\rdpclip.exe1980 8
204800 1413120 11/18/2005 1:21 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
99.00 KB (101,376 bytes) 9/28/2005 12:26
AM

explorer.exe c:\windows\explorer.exe 1784
8 204800 1413120 11/18/2005 1:21
PM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,364,480 bytes) 3/25/2005 7:00
AM

svchost.exe c:\windows\system32\svchost.exe
972 8 204800 1413120
11/18/2005 1:21 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM

taskmgr.exe c:\windows\system32\taskmgr.exe
2464 13 204800 1413120
11/18/2005 1:22 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 231.00 KB (236,544 bytes)
3/25/2005 7:00 AM

logon.scr Not Available 1820 4 Not
Available Not Available 11/18/2005 1:29 PM Not
Available Not Available Not Available

helpctr.exec:\windows\pchealth\helpctr\binaries\helpctr.exe
2276 8 204800 1413120
11/18/2005 1:40 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.30 MB (1,363,456 bytes)
9/28/2005 12:28 AM

wmiprvse.exe Not Available 2712 8
Not Available Not Available
11/18/2005 1:40 PM Not Available Not
Available Not Available

helpsvc.exe
c:\windows\pchealth\helpctr\binaries\helpsvc.exe
2496 8 204800 1413120
11/18/2005 1:40 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.52 MB (1,591,296 bytes)
9/28/2005 12:28 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) 9/27/2005 4:41 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

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

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

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) 9/27/2005 4:41
PM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.windows.co
mmon-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

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

sceclí 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\sceclí.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 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
29.00 KB (29,696 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wshtcpip.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

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

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
865.00 KB (885,760 bytes) 9/28/2005 12:26
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

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

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
308.50 KB (315,904 bytes) 9/28/2005 12:28
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

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
114.00 KB (116,736 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
372.00 KB (380,928 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\certcli.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

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

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

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
2.06 MB (2,156,544 bytes) 9/28/2005 12:26
AM Microsoft Corporation
c:\windows\system32\comsvcs.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 9/28/2005 12:25
AM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.24 MB (1,299,968 bytes) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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) 9/28/2005 12:25
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

netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.29 MB (1,354,240 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netcfgx.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
52.50 KB (53,760 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\winipsec.dll

rasmans 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
279.50 KB (286,208 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasmans.dll

rastapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
83.50 KB (85,504 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rastapi.dll

rasppp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
297.00 KB (304,128 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rasppp.dll

ntlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
11.00 KB (11,264 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ntlsapi.dll

raschap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\raschap.dll

rastls 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
236.50 KB (242,176 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\rastls.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

ipbootp 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\ipbootp.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

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
76.00 KB (77,824 bytes) 9/28/2005 12:29
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchsvc.dll

rmserver X 312.00 KB (319,488 bytes)
7/28/2005 2:16 PM Emulex Corporation
c:\program files (x86)\hbanyware\rmserver.exe

wow64 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
245.00 KB (250,880 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wow64.dll

wow64win 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
280.00 KB (286,720 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wow64win.dll

wow64cpu 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wow64cpu.dll

hbahsmgr X 84.00 KB (86,016 bytes)
7/28/2005 2:17 PM Emulex Corporation
c:\program files (x86)\hbanyware\hbahsmgr.exe

msftesql 12.0.5626.1 152.20 KB (155,856 bytes)
8/26/2005 8:17 PM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\msftesql.exe

msfte 12.0.5626.1 3.63 MB (3,803,344 bytes)
8/26/2005 8:17 PM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\msfte.dll

dbghelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.22 MB (1,274,368 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dbghelp.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
354.50 KB (363,008 bytes) 9/28/2005 12:26
AM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
27.50 KB (28,160 bytes) 9/28/2005 12:26
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) 9/28/2005 12:26
AM Microsoft Corporation
c:\windows\system32\rdpwsx.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

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

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

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
31.00 KB (31,744 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msacm32.drv

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

imaadp32 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\imaadp32.acm

msadp32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
23.50 KB (24,064 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msadp32.acm

msg711 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
13.50 KB (13,824 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msg711.acm

msgsm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
34.50 KB (35,328 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\msgsm32.acm

tssoft32 1.01 13.50 KB (13,824 bytes)
3/25/2005 7:00 AM DSP GROUP, INC.
c:\windows\system32\tssoft32.acm

tsd32 1.03 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM DSP GROUP, INC.
c:\windows\system32\tsd32.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

mprui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mprui.dll

netui2 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
542.00 KB (555,008 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netui2.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

netmsg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
179.00 KB (183,296 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netmsg.dll

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
99.00 KB (101,376 bytes) 9/28/2005 12:26
AM Microsoft Corporation
c:\windows\system32\rdpclip.exe

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

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

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

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

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

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

msi 3.1.4000.1830 4.27 MB (4,476,416 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\msi.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

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

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

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

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

shimgvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
618.50 KB (633,344 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\shimgvw.dll

gdiplus 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.74 MB (2,876,416 bytes) 9/27/2005 4:41
PM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.windows.gdiplus_6595b64144ccf1df_1.0.3790.1830_x-ww_56cdf238\gdiplus.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

mscms 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
150.50 KB (154,112 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mscms.dll

tapisrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
394.50 KB (403,968 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\tapisrv.dll

unimdm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
302.50 KB (309,760 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\unimdm.tsp

uniplat 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\uniplat.dll

kmddsp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
56.50 KB (57,856 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\kmddsp.tsp

ndptsp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
76.00 KB (77,824 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ndptsp.tsp

ipconf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
22.50 KB (23,040 bytes) 3/25/2005 7:00

AM Microsoft Corporation
c:\windows\system32\ipconf.tsp

h323 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
424.00 KB (434,176 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\h323.tsp

hidphone 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
48.00 KB (49,152 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\hidphone.tsp

hid 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
33.00 KB (33,792 bytes) 3/24/2005 12:18
PM Microsoft Corporation
c:\windows\system32\hid.dll

taskmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
231.00 KB (236,544 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\taskmgr.exe

utildll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
37.00 KB (37,888 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\utildll.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,363,456 bytes) 9/28/2005 12:28
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)9/28/2005 12:28 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) 9/28/2005 12:29
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.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

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) 9/28/2005 12:29
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

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) 9/28/2005 12:25
AM Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.52 MB (1,591,296 bytes) 9/28/2005 12:28
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

Application Experience Lookup Service AeLookupSvc
Stopped Disabled 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\v2.0.5072
7\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 Disabled
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\v2.0.5072
7\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 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 Running Auto
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

Emulex HBAnyware Emulex HBAnyware Running Auto
Own Process "c:\program files
(x86)\hbanyware\rmserver.exe" Normal LocalSystem
0

Emulex HBAnyware Discovery Emulex HBAnyware
Discovery Stopped Disabled Own Process
"c:\program files
(x86)\hbanyware\hbadiscsrvr.exe" Normal
LocalSystem 0

Emulex HBAnyware SvcMgr Emulex HBAnyware
SvcMgr Running Auto Own Process
"c:\program files (x86)\hbanyware\hbahsmgr.exe"
Normal LocalSystem 0

Error Reporting Service ERSvc Stopped
Disabled 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 SSLHTTPFilter 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 Stopped
Disabled Own Process
c:\windows\system32\ibmhpasv.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 Stopped Disabled
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 Running Auto 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

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
Stopped Disabled 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
Running 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
Disabled Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Protected Storage ProtectedStorage Stopped
Disabled 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
Running 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 Disabled 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 NT AUTHORITY\LocalService 0

SQL Server Agent (MSSQLSERVER)
SQLSERVERAGENT Stopped
Manual Own Process "c:\program
files\microsoft sql server\mssql.1\mssql\binn\sqlagent90.exe"
-i mssqlserver Normal LocalSystem 0

SQL Server VSS Writer SQLWriterStopped
Manual 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 Running 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 Stopped
Manual 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 Running Auto
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 Disabled
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Disabled 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

Emulex All Users:Emulex All Users

Intel(R) Processor ID Utility All Users:Intel(R)
Processor ID Utility All Users

Microsoft SQL Server 2005 CTP All Users:Microsoft SQL
Server 2005 CTP All Users

Microsoft SQL Server 2005 CTP\Analysis Services All
Users:Microsoft SQL Server 2005 CTP\Analysis Services
All Users

Microsoft SQL Server 2005 CTP\Configuration Tools All
Users:Microsoft SQL Server 2005 CTP\Configuration Tools
All Users

Microsoft SQL Server 2005 CTP\Documentation and
Tutorials All Users:Microsoft SQL Server 2005
CTP\Documentation and Tutorials All Users

Microsoft SQL Server 2005 CTP\Documentation and
Tutorials\Tutorials All Users:Microsoft SQL Server 2005
CTP\Documentation and Tutorials\Tutorials All Users

Microsoft SQL Server 2005 CTP\Performance Tools All
Users:Microsoft SQL Server 2005 CTP\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

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 DCX460\Administrator:Accessories
DCX460\Administrator

Accessories\Accessibility
DCX460\Administrator:Accessories\Accessibility
DCX460\Administrator

Accessories\Entertainment
DCX460\Administrator:Accessories\Entertainmen
t DCX460\Administrator

Administrative Tools
DCX460\Administrator:Administrative Tools
DCX460\Administrator

Startup DCX460\Administrator:Startup
DCX460\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM
Startup

desktop desktop.ini DCX460\Administrator
Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

Shortcut to synctime c:\batfiles\synctime.bat 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"

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

FAS3050 Disk Controller Configuration Parameters

Data ONTAP™ Parameters

options raid.reconstruct.perf_impact low
options raid.media_scrub.enable off
options disk.shm.log_sense.enable
options disk.shm.read_defect_data.enable

snap sched dbvol 0 0 0
snap sched logvol 0 0 0

Data ONTAP Version: NetApp Release 7.1RC3D3: Wed Oct 26 15:52:49 PDT 2005

System Configuration File for Controller 1

Following is the system configuration file for Controller 1. The files for Controllers 2-16 are identical to this file.

```
Fri Nov 18 11:25:42 EST 2005
sysconfig -av output
        NetApp Release 7.1RC3D3: Wed Oct 26 15:52:49
PDT 2005
        System ID: 0101171319 (ntapfiler1)
        System Serial Number: 1055831 (ntapfiler1)
        System Rev: B0
        slot 0: System Board 2796 MHz (NetApp System
Board X B1)
        Model Name:     FAS3050
        Part Number:    110-00047
        Revision:       B1
        Serial Number:  0316064
        Firmware release:  CFE 2.0.0
        Agent FW version   15
        LCD FW version     0.0
        Processors:     4
        Memory Size:    3072 MB
         slot 0: Dual 10/100/1000 Ethernet Controller VI
                e0a MAC Address:
00:a0:98:02:e7:a2 (auto-1000t-fd-up)
                e0b MAC Address:
00:a0:98:02:e7:a3 (auto-unknown-cfg_down)
                e0c MAC Address:
00:a0:98:02:e7:a0 (auto-unknown-cfg_down)
                e0d MAC Address:
00:a0:98:02:e7:a1 (auto-unknown-cfg_down)
        Device Type:    Rev 3
         slot 0: FC Host Adapter 0a (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <UP>)
                Firmware rev:       3.3.10
                Host Loop Id:       7       FC
Node Name:      5:00a:098200:0061ca
                Cacheline size:     16      FC
Packet size:    2048
                SRAM parity:        Yes
        External GBIC:  No
                Link Data Rate:     2 Gbit
        16: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        18: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        19: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        21: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        20: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        17: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        22: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        23: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        25: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        26: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        29: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        27: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        28: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        24: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        32: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        34: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        35: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        37: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        36: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        33: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        38: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        39: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        41: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        42: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        45: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        43: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        44: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        40: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        48: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        50: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        51: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        53: NETAPP  X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
```

```
        52: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        49: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        54: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        55: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        57: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        58: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        61: NETAPP   X273_S15K3073F15 NA00
68.0GB (140395088 520B/sect)
        59: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        60: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        56: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
                Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 3: ESH2  Firmware rev. ESH A:
14  ESH B: 14
         slot 0: FC Host Adapter 0b (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <UP>)
                Firmware rev:       3.3.10
                Host Loop Id:       7           FC
Node Name:      5:00a:098300:0061ca
                Cacheline size:     16          FC
Packet size:    2048
                SRAM parity:        Yes
        External GBIC:      No
                Link Data Rate:     2 Gbit
        29: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        28: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        27: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        25: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        26: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        23: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        22: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        21: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        20: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        16: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        19: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        18: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        17: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        24: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        52: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        44: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        43: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        41: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        42: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        39: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        38: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        37: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        36: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        32: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        35: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        34: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        33: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        40: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        61: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        60: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        59: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        57: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        58: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        55: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        54: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        53: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        45: NETAPP   X273_S15K3073F15 NA00
68.0GB (140395088 520B/sect)
        48: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        51: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        50: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        49: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
        56: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
                Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 3: ESH2  Firmware rev. ESH A:
14  ESH B: 14
    slot 0: Fibre Channel Target Host Adapter 0c
        (Dual-channel, QLogic 2322 (2362) rev. 3, 64-bit,
<ONLINE>)
        Firmware rev:   3.3.10
        Host Port Addr: 0000da
        Cacheline size: 8
        SRAM parity:    Yes
        FC Nodename:    50:0a:09:80:86:37:c0:77
(500a09808637c077)
        FC Portname:    50:0a:09:81:86:37:c0:77
(500a09818637c077)
        Connection:     Loop, No Fabric
         slot 0: FC Host Adapter 0d (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <OFFLINE (hard)>)
```

```
                    Firmware rev:          3.3.10
                    Host Loop Id:          0          FC
Node Name:          5:00a:098100:0061ca
                    Cacheline size:        16         FC
Packet size:        2048
                    SRAM parity:           Yes
          External GBIC:        No
                    Link Data Rate:        1 Gbit
          slot 0: SCSI Host Adapter 0e (Adaptec AIC7892,
<ONLINE>)
                    HW Version 0.0
                    Ultra160 SCSI, Low Voltage
Differential
          slot 0: NetApp ATA/IDE Adapter 0f (0x000001f0)
          0f.0          SanDisk  SDCFB-256-911B   2.15
245MB 512B/sect (019304G0705W5344)
          slot 1: NVRAM (NetApp NVRAM V)
          Revision:         F1
          Serial Number:    508023
          Memory Size:      512 MB
          Battery Status:   OK (4104 mV)
          Charger Status:   OFF
          Running Firmware:  5 (2.0.0)
          Cluster Interconnect Port 1:  disconnected
          Cluster Interconnect Port 2:  disconnected
          slot 2: FC Host Adapter 2a (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                    Firmware rev:          3.3.142
                    Host Loop Id:          7          FC
Node Name:          2:000:00e08b:1f117e
                    Cacheline size:        16         FC
Packet size:        2048
                    SRAM parity:           Yes
          External GBIC:        No
                    Link Data Rate:        2 Gbit
          29: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          28: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          27: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          25: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          26: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          23: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          22: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          21: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          20: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          16: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          19: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          18: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          17: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          24: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          52: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          44: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          43: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          41: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          42: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          39: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          38: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          37: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          36: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          32: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          35: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          34: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          33: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          40: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          61: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          60: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          59: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          57: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          58: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          55: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          54: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          53: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          45: NETAPP   X273_S15K3073F15 NA00
68.0GB (140395088 520B/sect)
          48: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          51: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          50: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          49: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          56: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
                    Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                    Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                    Shelf 3: ESH2  Firmware rev. ESH A:
14  ESH B: 14
          slot 2: FC Host Adapter 2b (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                    Firmware rev:          3.3.142
                    Host Loop Id:          7          FC
Node Name:          2:001:00e08b:3f117e
                    Cacheline size:        16         FC
Packet size:        2048
                    SRAM parity:           Yes
          External GBIC:        No
                    Link Data Rate:        2 Gbit
          16: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
          18: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
```

```
            19: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            21: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            20: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            17: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            22: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            23: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            25: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            26: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            29: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            27: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            28: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            24: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            32: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            34: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            35: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            37: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            36: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            33: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            38: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            39: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            41: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            42: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            45: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            43: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            44: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            40: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            48: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            50: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            51: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            53: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            52: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            49: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            54: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            55: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            57: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            58: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            61: NETAPP   X273_S15K3073F15 NA00
68.0GB (140395088 520B/sect)
            59: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            60: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
            56: NETAPP   X273_S15K4073F15 NA00
68.0GB (140395088 520B/sect)
                        Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                        Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                        Shelf 3: ESH2  Firmware rev. ESH A:
14  ESH B: 14
            slot 3: FC Host Adapter 3a (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <OFFLINE
(hard)>)
                        Firmware rev:           3.3.142
                        Host Loop Id:           0           FC
Node Name:              2:000:00e08b:1fce3e
                        Cacheline size:         16          FC
Packet size:            2048
                        SRAM parity:            Yes
            External GBIC:          No
                        Link Data Rate:         1 Gbit
            slot 3: FC Host Adapter 3b (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <OFFLINE
(hard)>)
                        Firmware rev:           3.3.142
                        Host Loop Id:           0           FC
Node Name:              2:001:00e08b:3fce3e
                        Cacheline size:         16          FC
Packet size:            2048
                        SRAM parity:            Yes
            External GBIC:          No
                        Link Data Rate:         1 Gbit
            slot 4: FC Host Adapter 4a (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <OFFLINE
(hard)>)
                        Firmware rev:           3.3.142
                        Host Loop Id:           0           FC
Node Name:              2:000:00e08b:1f537e
                        Cacheline size:         16          FC
Packet size:            2048
                        SRAM parity:            Yes
            External GBIC:          No
                        Link Data Rate:         1 Gbit
            slot 4: FC Host Adapter 4b (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <OFFLINE
(hard)>)
                        Firmware rev:           3.3.142
                        Host Loop Id:           0           FC
Node Name:              2:001:00e08b:3f537e
                        Cacheline size:         16          FC
Packet size:            2048
                        SRAM parity:            Yes
            External GBIC:          No
                        Link Data Rate:         1 Gbit
sysconfig -r output
Volume dbvol (online, raid_dp) (block checksums)
  Plex /dbvol/plex0 (online, normal, active)
    RAID group /dbvol/plex0/rg0 (normal)

      RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
     ---------------         ------------- ---- ---- ---- ----- -------------
-    -------------
```

```
    dparity          2a.32      2a   2   0   FC:A   -  FCAL
15000 68000/139264000   68552/140395088
    parity  2b.32      2b   2   0   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.48      2a   3   0   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.48      0a   3   0   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.17      2a   1   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.17      0a   1   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.33      2a   2   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.33      0a   2   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.49      2a   3   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.49      0a   3   1   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.18      2a   1   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.18      0a   1   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.34      2a   2   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.34      0a   2   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.50      2a   3   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.50      0a   3   2   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.19      2a   1   3   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.19      0a   1   3   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.35      2a   2   3   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.35      2b   2   3   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.51      2a   3   3   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.51      2b   3   3   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.20      2a   1   4   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.20      0a   1   4   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.36      2a   2   4   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.36      0a   2   4   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.52      2a   3   4   FC:A   -  FCAL 15000
68000/139264000   68552/140395088

  RAID group /dbvol/plex0/rg1 (normal)

    RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
    ---------------    ------------- ---- ---- ---- ----- -------------
-   --------------
    dparity          2b.52      2b   3   4   FC:B   -  FCAL
15000 68000/139264000   68552/140395088
    parity  2a.21      2a   1   5   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.21      0a   1   5   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.53      2a   3   5   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.37      2b   2   5   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.37      2a   2   5   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.53      2b   3   5   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.22      2a   1   6   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.22      2b   1   6   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.54      2a   3   6   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.38      2b   2   6   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.38      2a   2   6   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.54      2b   3   6   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.23      2a   1   7   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.23      0a   1   7   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.55      2a   3   7   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.39      0a   2   7   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.39      2a   2   7   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.55      2b   3   7   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.24      2a   1   8   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.24      0a   1   8   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.56      2a   3   8   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.40      0a   2   8   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.40      2a   2   8   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.56      2b   3   8   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.25      2a   1   9   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.25      2b   1   9   FC:B   -  FCAL 15000
68000/139264000   68552/140395088

  RAID group /dbvol/plex0/rg2 (normal)

    RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
    ---------------    ------------- ---- ---- ---- ----- -------------
-   --------------
    dparity          2a.57      2a   3   9   FC:A   -  FCAL
15000 68000/139264000   68552/140395088
    parity  0a.41      0a   2   9   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.26      2a   1  10   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    0a.26      0a   1  10   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.41      2a   2   9   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.57      2b   3   9   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data    2a.58      2a   3  10   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data    2b.42      2b   2  10   FC:B   -  FCAL 15000
68000/139264000   68552/140395088
```

```
    data     2a.27       2a   1   11  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.27       2b   1   11  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.45       2a   2   13  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.58       2b   3   10  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.59       2a   3   11  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.43       2b   2   11  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.28       2a   1   12  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.28       2b   1   12  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.43       2a   2   11  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     0a.59       0a   3   11  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.60       2a   3   12  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.44       2b   2   12  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.29       2a   1   13  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     0a.29       0a   1   13  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.44       2a   2   12  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2b.60       2b   3   12  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.61       2a   3   13  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     0a.45       0a   2   13  FC:A   -  FCAL 15000
68000/139264000   68552/140395088

Volume vol0 (online, raid4) (block checksums)
  Plex /vol0/plex0 (online, normal, active)
    RAID group /vol0/plex0/rg0 (normal)

    RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
    ---------------         ------------- ---- ---- ---- ----- -------------
-   --------------
    parity  0a.16       0a   1   0   FC:A   -  FCAL 15000
68000/139264000   68552/140395088
    data     2a.16       2a   1   0   FC:A   -  FCAL 15000
68000/139264000   68552/140395088


Spare disks

RAID Disk                Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
---------     ------         ------------- ---- ---- ---- ----- -------------
-   --------------
Spare disks for block or zoned checksum traditional volumes
or aggregates
spare       2a.42       2a   2   10  FC:A   -  FCAL 15000
68000/139264000   68552/140395088
spare       2b.61       2b   3   13  FC:B   -  FCAL 15000
68000/139264000   68552/140395088
```

ntaplogs

```
Fri Nov 18 11:25:39 EST 2005
sysconfig -av output
            NetApp Release 7.1RC3D3: Wed Oct 26 15:52:49
PDT 2005
            System ID: 0101171028 (ntaplogs)
            System Serial Number: 1055794 (ntaplogs)
            System Rev: B0
            slot 0: System Board 2796 MHz (NetApp System
Board X A0)
            Model Name:        FAS3050
            Part Number:       110-00047
            Revision:          A0
            Serial Number:     0315293
            Firmware release:   CFE 2.0.0
            Agent FW version    15
            LCD FW version      0.0
            Processors:        4
            Memory Size:       3072 MB
            slot 0: Dual 10/100/1000 Ethernet Controller VI
                        e0a MAC Address:
00:a0:98:02:de:06 (auto-1000t-fd-up)
                        e0b MAC Address:
00:a0:98:02:de:07 (auto-unknown-cfg_down)
                        e0c MAC Address:
00:a0:98:02:de:04 (auto-unknown-cfg_down)
                        e0d MAC Address:
00:a0:98:02:de:05 (auto-unknown-cfg_down)
            Device Type:       Rev 3
            slot 0: FC Host Adapter 0a (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <OFFLINE (hard)>)
                        Firmware rev:          3.3.10
                        Host Loop Id:          0              FC
Node Name:              5:00a:098200:005f8c
                        Cacheline size:        16             FC
Packet size:            2048
                        SRAM parity:           Yes
            External GBIC:         No
                        Link Data Rate:        1 Gbit
            slot 0: FC Host Adapter 0b (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <OFFLINE (hard)>)
                        Firmware rev:          3.3.10
                        Host Loop Id:          0              FC
Node Name:              5:00a:098300:005f8c
                        Cacheline size:        16             FC
Packet size:            2048
                        SRAM parity:           Yes
            External GBIC:         No
                        Link Data Rate:        1 Gbit
      slot 0: Fibre Channel Target Host Adapter 0c
            (Dual-channel, QLogic 2322 (2362) rev. 3, 64-bit,
<ONLINE>)
            Firmware rev:   3.3.10
            Host Port Addr: 010100
            Cacheline size: 8
            SRAM parity:    Yes
            FC Nodename:    50:0a:09:80:86:07:bf:54
(500a09808607bf54)
            FC Portname:    50:0a:09:81:86:07:bf:54
(500a09818607bf54)
            Connection:     PTP, Fabric
            slot 0: FC Host Adapter 0d (Dual-channel,
QLogic 2322 rev. 3, 64-bit, L-port, <OFFLINE (hard)>)
                        Firmware rev:          3.3.10
                        Host Loop Id:          0              FC
Node Name:              5:00a:098100:005f8c
                        Cacheline size:        16             FC
Packet size:            2048
                        SRAM parity:           Yes
            External GBIC:         No
                        Link Data Rate:        1 Gbit
            slot 0: SCSI Host Adapter 0e (Adaptec AIC7892,
<ONLINE>)
```

```
                    HW Version 0.0
                    Ultra160 SCSI, Low Voltage
Differential
          slot 0: NetApp ATA/IDE Adapter 0f (0x000001f0)
          0f.0          SanDisk  SDCFB-256-911B   2.15
245MB 512B/sect (111811E1205C0716)
           slot 1: NVRAM (NetApp NVRAM V)
          Revision:        F0
          Serial Number:     507732
          Memory Size:       512 MB
          Battery Status:    OK (4086 mV)
          Charger Status:    OFF
          Running Firmware:   5 (2.0.0)
          Cluster Interconnect Port 1:  disconnected
          Cluster Interconnect Port 2:  disconnected
           slot 3: FC Host Adapter 3a (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                    Firmware rev:        3.3.142
                    Host Loop Id:        7          FC
Node Name:          2:000:00e08b:1f4e3d
                    Cacheline size:      16         FC
Packet size:        2048
                    SRAM parity:         Yes
           External GBIC:       No
                    Link Data Rate:      2 Gbit
          16: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          18: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          19: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          21: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          20: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          17: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          22: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          23: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          25: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          26: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          29: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          27: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          28: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          24: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          32: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          34: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          35: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          37: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          36: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          33: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          38: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          39: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          41: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          42: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          45: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          43: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          44: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          40: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
                    Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                    Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
           slot 3: FC Host Adapter 3b (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                    Firmware rev:        3.3.142
                    Host Loop Id:        7          FC
Node Name:          2:001:00e08b:3f4e3d
                    Cacheline size:      16         FC
Packet size:        2048
                    SRAM parity:         Yes
           External GBIC:       No
                    Link Data Rate:      2 Gbit
          29: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          28: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          27: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          25: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          26: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          23: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          22: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          21: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          20: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          16: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          19: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          18: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          17: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          24: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          45: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          44: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          43: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          41: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          42: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          39: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          38: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
          37: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
```

```
        36: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        32: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        35: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        34: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        33: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        40: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
                Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
         slot 4: FC Host Adapter 4a (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                Firmware rev:       3.3.142
                Host Loop Id:       7           FC
Node Name:      2:000:00e08b:1fd33d
                Cacheline size:     16          FC
Packet size:    2048
                SRAM parity:        Yes
         External GBIC:     No
                Link Data Rate:     2 Gbit
        29: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        28: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        27: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        25: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        26: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        23: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        22: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        21: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        20: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        16: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        19: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        18: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        17: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        24: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        45: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        44: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        43: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        41: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        42: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        39: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        38: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        37: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
```

```
        36: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        32: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        35: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        34: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        33: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        40: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
                Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
         slot 4: FC Host Adapter 4b (Dual-channel,
QLogic 2312 (2342) rev. 2, 64-bit, L-port, <UP>)
                Firmware rev:       3.3.142
                Host Loop Id:       7           FC
Node Name:      2:001:00e08b:3fd33d
                Cacheline size:     16          FC
Packet size:    2048
                SRAM parity:        Yes
         External GBIC:     No
                Link Data Rate:     2 Gbit
        16: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        18: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        19: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        21: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        20: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        17: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        22: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        23: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        25: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        26: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        29: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        27: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        28: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        24: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        32: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        34: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        35: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        37: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        36: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        33: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        38: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
        39: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
```

```
            41: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
            42: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
            45: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
            43: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
            44: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
            40: NETAPP   X275_S15K4146F15 NA00
136.0GB (280790184 520B/sect)
                        Shelf 1: ESH2  Firmware rev. ESH A:
14  ESH B: 14
                        Shelf 2: ESH2  Firmware rev. ESH A:
14  ESH B: 14
sysconfig -r output
Volume vol0 (online, raid4) (block checksums)
  Plex /vol0/plex0 (online, normal, active)
    RAID group /vol0/plex0/rg0 (normal)

     RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
     ---------------         ------------- ---- ---- ---- ----- -------------
-    --------------
     parity  4b.16       4b   1   0   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.16       3b   1   0   FC:B   -  FCAL 15000
136000/278528000  137104/280790184

Volume logvol (online, raid_dp) (block checksums)
  Plex /logvol/plex0 (online, normal, active)
    RAID group /logvol/plex0/rg0 (normal)

     RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
     ---------------         ------------- ---- ---- ---- ----- -------------
-    --------------
     dparity             3b.32       3b   2   0   FC:B   -  FCAL
15000 136000/278528000  137104/280790184
     parity  3a.32       3a   2   0   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.17       3b   1   1   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.17       4b   1   1   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.33       4a   2   1   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.33       3a   2   1   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.18       4a   1   2   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.18       4b   1   2   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.34       4a   2   2   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.34       3a   2   2   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.19       4a   1   3   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.19       4b   1   3   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.35       4a   2   3   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.35       4b   2   3   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.26       3b   1   10  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.20       3a   1   4   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.36       4a   2   4   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.36       3a   2   4   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.21       4a   1   5   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.21       3a   1   5   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.37       4a   2   5   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.37       3a   2   5   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.22       4a   1   6   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.22       3a   1   6   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.38       4a   2   6   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.38       4b   2   6   FC:B   -  FCAL 15000
136000/278528000  137104/280790184

   RAID group /logvol/plex0/rg1 (normal)

     RAID Disk          Device      HA  SHELF BAY CHAN
Pool Type  RPM  Used (MB/blks)    Phys (MB/blks)
     ---------------         ------------- ---- ---- ---- ----- -------------
-    --------------
     dparity             4b.23       4b   1   7   FC:B   -  FCAL
15000 136000/278528000  137104/280790184
     parity  3b.23       3b   1   7   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.39       3a   2   7   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.39       3b   2   7   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.24       4b   1   8   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.24       3b   1   8   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.40       3a   2   8   FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.40       3b   2   8   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.25       4b   1   9   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.25       3b   1   9   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.41       4b   2   9   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.41       3b   2   9   FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.26       4b   1   10  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.45       4a   2   13  FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.42       3a   2   10  FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.42       3b   2   10  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.27       4b   1   11  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4a.27       4a   1   11  FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3a.43       3a   2   11  FC:A   -  FCAL 15000
136000/278528000  137104/280790184
     data    3b.43       3b   2   11  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
     data    4b.28       4b   1   12  FC:B   -  FCAL 15000
136000/278528000  137104/280790184
```

data 3b.28 3b 1 12 FC:B - FCAL 15000 136000/278528000 137104/280790184
data 4b.44 4b 2 12 FC:B - FCAL 15000 136000/278528000 137104/280790184
data 4a.44 4a 2 12 FC:A - FCAL 15000 136000/278528000 137104/280790184
data 3a.29 3a 1 13 FC:A - FCAL 15000 136000/278528000 137104/280790184
data 3b.29 3b 1 13 FC:B - FCAL 15000 136000/278528000 137104/280790184

Spare disks

RAID Disk Device HA SHELF BAY CHAN Pool Type RPM Used (MB/blks) Phys (MB/blks)
--- --- --- --- --- --- --- --- --- --- --- ---
Spare disks for block or zoned checksum traditional volumes or aggregates
spare 4a.20 4a 1 4 FC:A - FCAL 15000 136000/278528000 137104/280790184
spare 4b.45 4b 2 13 FC:B - FCAL 15000 136000/278528000 137104/280790184

Microsoft Windows Server 2003

Client System Information Report

Following is the system information report for Client 1. The report for Client 5 is basically identical. These two clients used 2.6GHz processors and 15K RPM drives and were the basis for all client pricing.

System Information report written at: 11/16/05 15:17:21

System Name: IBMRTE1

[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 IBMRTE1

System Manufacturer IBM

System Model IBM eServer 326 -[884871U]-

System Type X86-based PC

Processor x86 Family 15 Model 37 Stepping 1 AuthenticAMD ~2591 Mhz

Processor x86 Family 15 Model 37 Stepping 1 AuthenticAMD ~2591 Mhz

BIOS Version/Date IBM IBM BIOS Version 1.23 - [M2E123AUS-1.23]-, 9/2/2005

SMBIOS Version 2.3

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 IBMRTE1\Administrator

Time Zone Eastern Standard Time

Total Physical Memory 2,046.94 MB

Available Physical Memory 1.73 GB

Total Virtual Memory 3.35 GB

Available Virtual Memory 3.23 GB

Page File Space 1.50 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 0xFE000000-0xFE0FFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xFE000000-0xFE0FFFFF Broadcom NetXtreme Gigabit Ethernet

I/O Port 0x000003C0-0x000003DF PCI standard PCI-to-PCI bridge

I/O Port 0x000003C0-0x000003DF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x00002000-0x00002FFF PCI standard PCI-to-PCI bridge

I/O Port 0x00002000-0x00002FFF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x00003000-0x00003FFF PCI standard PCI-to-PCI bridge

I/O Port 0x00003000-0x00003FFF LSI Logic PCI-X Ultra320 SCSI Host Adapter

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #2

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #3

IRQ 19 Standard OpenHCD USB Host Controller

IRQ 19 Standard OpenHCD USB Host Controller

Memory Address 0xA0000-0xC7FFF PCI bus

Memory Address 0xA0000-0xC7FFF PCI standard PCI-to-PCI bridge

Memory Address 0xA0000-0xC7FFF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x000003B0-0x000003BB PCI standard PCI-to-PCI bridge

I/O Port 0x000003B0-0x000003BB RAGE XL PCI Family (Microsoft Corporation)

Memory Address 0xFC100000-0xFDFFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xFC100000-0xFDFFFFFF Standard OpenHCD 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

0x00000D00-0x00007FFF PCI bus OK

0x00008100-0x0000FFFF PCI bus OK

0x00002000-0x00002FFF PCI standard PCI-to-PCI bridge OK

0x00002000-0x00002FFF RAGE XL PCI Family (Microsoft Corporation) OK

0x000003B0-0x000003BB PCI standard PCI-to-PCI bridge OK

0x000003B0-0x000003BB RAGE XL PCI Family (Microsoft Corporation) OK

0x000003C0-0x000003DF PCI standard PCI-to-PCI bridge OK

0x000003C0-0x000003DF RAGE XL PCI Family (Microsoft Corporation) OK

0x00002420-0x00002427 Silicon Image SiI 3512 SATALink Controller OK

0x00002414-0x00002417 Silicon Image SiI 3512 SATALink Controller OK

0x00002418-0x0000241F Silicon Image SiI 3512 SATALink Controller OK

0x00002410-0x00002413 Silicon Image SiI 3512 SATALink Controller OK

0x00002400-0x0000240F Silicon Image SiI 3512 SATALink Controller OK

0x00000A79-0x00000A79 ISAPNP Read Data Port OK

0x00000279-0x00000279 ISAPNP Read Data Port OK

0x00000274-0x00000277 ISAPNP Read Data Port OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x00001020-0x0000102F AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2 OK

0x000001F0-0x000001F7 Primary AMD IDE Channel OK

0x000003F6-0x000003F6 Primary AMD IDE Channel OK

0x00000170-0x00000177 Secondary AMD IDE Channel OK

0x00000376-0x00000376 Secondary AMD IDE Channel OK

0x00001000-0x0000101F AMD-8111 SMBus 2.0 Controller OK

0x00003000-0x00003FFF PCI standard PCI-to-PCI bridge OK

0x00003000-0x00003FFF LSI Logic PCI-X Ultra320 SCSI Host Adapter OK

0x00004000-0x00004FFF PCI standard PCI-to-PCI bridge OK

0x00004040-0x0000407F Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

0x00004080-0x000040BF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0x00000020-0x00000021 Programmable interrupt controller OK

0x000000A0-0x000000A1 Programmable interrupt controller OK

0x00000080-0x0000008F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x00000040-0x00000043 System timer OK

0x00000070-0x00000075 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x000000F0-0x000000FF Numeric data processor OK

0x000004D0-0x000004D1 Motherboard resources OK

0x00001100-0x0000117F Motherboard resources OK

0x00001180-0x000011FF Motherboard resources OK

0x00000010-0x0000001F Motherboard resources OK

0x00000022-0x0000003F Motherboard resources OK

0x00000044-0x0000005F Motherboard resources OK

0x00000062-0x00000063 Motherboard resources OK

0x00000065-0x0000006F Motherboard resources OK

0x00000076-0x0000007F Motherboard resources OK

0x00000090-0x0000009F Motherboard resources OK

0x000000A2-0x000000BF Motherboard resources OK

0x000000E0-0x000000EF Motherboard resources OK

0x00000060-0x00000060 Motherboard resources OK

0x00000064-0x00000064 Motherboard resources OK

0x00000300-0x00000307 Motherboard resources OK

0x00000421-0x0000042F Motherboard resources OK

0x00000CA2-0x00000CA3 Motherboard resources OK

[IRQs]

Resource	Device	Status
IRQ 9	Microsoft ACPI-Compliant System	OK
IRQ 19	Standard OpenHCD USB Host Controller	OK
IRQ 19	Standard OpenHCD USB Host Controller	OK
IRQ 16	RAGE XL PCI Family (Microsoft Corporation)	OK
IRQ 17	Silicon Image SiI 3512 SATALink Controller	OK
IRQ 4	Communications Port (COM1)	OK
IRQ 14	Primary AMD IDE Channel	OK
IRQ 15	Secondary AMD IDE Channel	OK
IRQ 24	Broadcom NetXtreme Gigabit Ethernet	OK
IRQ 26	LSI Logic PCI-X Ultra320 SCSI Host Adapter	OK
IRQ 29	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK
IRQ 29	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
IRQ 0	System timer	OK
IRQ 8	System CMOS/real time clock	OK
IRQ 13	Numeric data processor	OK

[Memory]

Resource	Device	Status
0x0000-0x9FFFF	System board	OK
0xE0000-0xFFFFF	System board	OK
0x100000-0x7FFFFFFF	System board	OK
0xFEC00000-0xFEC00FFF	System board	OK
0xFFC00000-0xFFF7FFFF	System board	OK
0xFEE00000-0xFEE00FFF	System board	OK
0xFFF80000-0xFFFFFFFF	System board	OK
0xA0000-0xC7FFF	PCI bus	OK
0xA0000-0xC7FFF	PCI standard PCI-to-PCI bridge	OK
0xA0000-0xC7FFF	RAGE XL PCI Family (Microsoft Corporation)	OK
0xD8000-0xDBFFF	PCI bus	OK
0x80000000-0xFEBFFFFF	PCI bus	OK
0xFC100000-0xFDFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xFC100000-0xFDFFFFFF	Standard OpenHCD USB Host Controller	OK
0xFC101000-0xFC101FFF	Standard OpenHCD USB Host Controller	OK
0xFD000000-0xFDFFFFFF	RAGE XL PCI Family (Microsoft Corporation)	OK
0xFC102000-0xFC102FFF	RAGE XL PCI Family (Microsoft Corporation)	OK
0xFC103000-0xFC1031FF	Silicon Image SiI 3512 SATALink Controller	OK
0xFE000000-0xFE0FFFFF	PCI standard PCI-to-PCI bridge	OK
0xFE000000-0xFE0FFFFF	Broadcom NetXtreme Gigabit Ethernet	OK
0xFE010000-0xFE01FFFF	Broadcom NetXtreme Gigabit Ethernet	OK
0xFE050000-0xFE05FFFF	LSI Logic PCI-X Ultra320 SCSI Host Adapter	OK
0xFE040000-0xFE04FFFF	LSI Logic PCI-X Ultra320 SCSI Host Adapter	OK
0xFC000000-0xFC000FFF	AMD-8131 HyperTransport(tm) IOAPIC Controller	OK
0xFE100000-0xFE1FFFFF	PCI standard PCI-to-PCI bridge	OK
0xFE1A0000-0xFE1BFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK
0xFE1C0000-0xFE1DFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0xFE140000-0xFE17FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0xFC001000-0xFC001FFF	AMD-8131 HyperTransport(tm) IOAPIC Controller	OK
0xC0000-0xC7FFF	Motherboard resources	OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

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\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\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\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

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\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)
10/18/2005 11:59 PM

[Video Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

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) 10/18/2005 11:59 PM

c:\windows\system32\msh263.drv Microsoft Corporation OK
C:\WINDOWS\system32\MSH263.DRV
5.2.3790.1830 288.00 KB (294,912 bytes)
10/18/2005 11:59 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\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\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)
10/18/2005 11:59 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-8240N

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-8240N_____1.06____\5&2C2874A0&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 RAGE XL PCI Family (Microsoft Corporation)

PNP Device ID PCI\VEN_1002&DEV_4752&SUBSYS_02401014&REV_27\4&21F0FBEE&0&2830

Adapter Type ATI RAGE XL PCI (B41), ATI Technologies Inc. compatible

Adapter Description RAGE XL PCI Family (Microsoft Corporation)

Adapter RAM 8.00 MB (8,388,608 bytes)

Installed Drivers ati2drad.dll

Driver Version 5.10.3663.6013

INF File atiixpad.inf (ati2mpad section)

Color Planes 1

Color Table Entries 4294967296

Resolution 800 x 600 x 60 hertz

Bits/Pixel 32

Memory Address 0xFD000000-0xFDFFFFFF

I/O Port 0x00002000-0x00002FFF

Memory Address 0xFC102000-0xFC102FFF

IRQ Channel IRQ 16

I/O Port 0x000003B0-0x000003BB

I/O Port 0x000003C0-0x000003DF

Memory Address 0xA0000-0xC7FFF

Driver c:\windows\system32\drivers\ati2mpad.sys (5.10.3663.6013, 335.38 KB (343,424 bytes), 9/28/2005 1:11 PM)

[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_04B4&PID_8081&MI_00\7&38EC599D&0&0000

Number of Function Keys 12

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.0 (srv03_rtm.030324-2048), 11.50 KB (11,776 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value

Hardware Type USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B4&PID_8081&MI_01\7&38EC599D&0&0001

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.0 (srv03_rtm.030324-2048), 11.50 KB (11,776 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1858

Last Reset 11/16/2005 11:55 AM

Index 7

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

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

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\4&2987B0F&0&1958

Last Reset 11/16/2005 11:55 AM

Index 8

Service Name E1000

IP Address 100.100.100.201

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:84:CF:2B

Memory Address 0xFE1A0000-0xFE1BFFFF

I/O Port 0x00004040-0x0000407F

IRQ Channel IRQ 29

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 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\4&2987B0F&0&2058

Last Reset 11/16/2005 11:55 AM

Index 9

Service Name E1000

IP Address 150.150.150.101

IP Subnet 255.255.252.0

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:84:CE:94

Memory Address 0xFE1C0000-0xFE1DFFFF

Memory Address 0xFE140000-0xFE17FFFF

I/O Port 0x00004080-0x000040BF

IRQ Channel IRQ 29

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2158

Last Reset 11/16/2005 11:55 AM

Index 10

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

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

Name [00000011] 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_02A61014&REV_03\4&F9B9445&0&0850

Last Reset 11/16/2005 11:55 AM

Index 11

Service Name b57w2k

IP Address 10.61.175.110

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 00:11:25:1E:5A:77
Memory Address 0xFE010000-0xFE01FFFF
Memory Address 0xFE000000-0xFE0FFFFF
IRQ Channel IRQ 24
Driver c:\windows\system32\drivers\b57xp32.sys (8.27.1.0 built by: WinDDK, 129.25 KB (132,352 bytes), 9/28/2005 9:36 PM)

Name [00000012] 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_02A61014&REV_03\4&F9B9445&0&0950
Last Reset 11/16/2005 11:55 AM
Index 12
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
Driver c:\windows\system32\drivers\b57xp32.sys (8.27.1.0 built by: WinDDK, 129.25 KB (132,352 bytes), 9/28/2005 9:36 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_{5E7CF10A-027D-4325-8299-AE8B24B398B8}] 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_{5E7CF10A-027D-4325-8299-AE8B24B398B8}] 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_{255D69A4-DE84-477E-BAED-97158383422D}] 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_{255D69A4-DE84-477E-BAED-97158383422D}] 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_{3704CF67-9CB9-4F27-90AD-635A3493A917}] 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_{3704CF67-9CB9-4F27-90AD-635A3493A917}] 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_{AD376F7D-F93B-42DE-868C-319BD982D4CB}] 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_{AD376F7D-F93B-42DE-868C-319BD982D4CB}] 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_{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}] 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_{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}] 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_{FCC9F109-8201-4724-8FD2-9CDD67213EFE}] 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_{FCC9F109-8201-4724-8FD2-9CDD67213EFE}] 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_{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}] 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_{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}] 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_{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}] 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_{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}] 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)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.90 GB (36,396,830,720 bytes)
Free Space 28.05 GB (30,115,938,304 bytes)
Volume Name
Volume Serial Number 0C6914A4

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 0
SCSI Target ID 0
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 Silicon Image SiI 3512 SATALink Controller

Manufacturer Silicon Image
Status OK
PNP Device ID
PCI\VEN_1095&DEV_3512&SUBSYS_351210 14&REV_01\4&21F0FBEE&0&3030
I/O Port 0x00002420-0x00002427
I/O Port 0x00002414-0x00002417
I/O Port 0x00002418-0x0000241F
I/O Port 0x00002410-0x00002413
I/O Port 0x00002400-0x0000240F
Memory Address 0xFC103000-0xFC1031FF
IRQ Channel IRQ 17
Driver c:\windows\system32\drivers\si3112.sys (1, 2, 0, 57, 55.88 KB (57,216 bytes), 9/28/2005 9:58 PM)

Name LSI Logic PCI-X Ultra320 SCSI Host Adapter

Manufacturer LSI Logic Inc.
Status OK
PNP Device ID
PCI\VEN_1000&DEV_0030&SUBSYS_026D10 14&REV_07\4&F9B9445&0&1050
I/O Port 0x00003000-0x00003FFF
Memory Address 0xFE050000-0xFE05FFFF
Memory Address 0xFE040000-0xFE04FFFF
IRQ Channel IRQ 26
Driver c:\windows\system32\drivers\symmpi.sys (1.10.05.00 (NT.041118-1101), 48.50 KB (49,664 bytes), 3/25/2003 7:00 AM)

[IDE]

Item Value
Name AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2
Manufacturer Advanced Micro Devices
Status OK
PNP Device ID
PCI\VEN_1022&DEV_7469&SUBSYS_746910 14&REV_03\3&13C0B0C5&0&39
I/O Port 0x00001020-0x0000102F
Driver c:\windows\system32\drivers\amdbusdr.sys (8.2.2, 29.00 KB (29,696 bytes), 9/28/2005 9:47 PM)

Name Primary AMD IDE Channel
Manufacturer Advanced Micro Devices
Status OK
PNP Device ID
PCIIDE\IDECHANNEL\4&9B02F85&0&0
I/O Port 0x000001F0-0x000001F7
I/O Port 0x000003F6-0x000003F6
IRQ Channel IRQ 14
Driver c:\windows\system32\drivers\amdeide.sys (8.2.2, 37.50 KB (38,400 bytes), 9/28/2005 9:47 PM)

Name Secondary AMD IDE Channel
Manufacturer Advanced Micro Devices
Status OK
PNP Device ID
PCIIDE\IDECHANNEL\4&9B02F85&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

IRQ Channel IRQ 15

Driver c:\windows\system32\drivers\amdeide.sys (8.2.2, 37.50 KB (38,400 bytes), 9/28/2005 9:47 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

Broadcom NetXtreme Gigabit Ethernet #2
PCI\VEN_14E4&DEV_1648&SUBSYS_02A61014&REV_03\4&F9B9445&0&0950 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1858 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #4
PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2158 This device is disabled.

[USB]

Device PNP Device ID

Standard OpenHCD USB Host Controller
PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0030

Standard OpenHCD USB Host Controller
PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0130

[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

amdbusdr amdbusdr
c:\windows\system32\drivers\amdbusdr.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

amdeide AMD EIDE Driver
c:\windows\system32\drivers\amdeide.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

amdk8 AMD K8 Processor Driver
c:\windows\system32\drivers\amdk8.sys
Kernel Driver Yes Manual
Running OK Normal No Yes

amdpci AMDPCI
\??\c:\docume~1\admini~1\locals~1\temp\amdpci.sys Kernel Driver No Manual
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

ati2mpad ati2mpad
c:\windows\system32\drivers\ati2mpad.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 Adapter 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 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

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    i8042prt
            c:\windows\system32\drivers\i8042prt.sys
            Kernel Driver        No        System
            Stopped   OK         Ignore    No        No

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

imbdrv      MSI Intelligent Management Bus Driver 1.2
            c:\windows\system32\drivers\imbdrv.sys
            Kernel Driver        Yes       Auto
            Running   OK         Normal    No        Yes

intelide    IntelIde  Not Available        Kernel Driver
            No        Disabled  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

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

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

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

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   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

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	Manual	
	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
si3112	SiI-3512 SATALink Controller				
	c:\windows\system32\drivers\si3112.sys				
	Kernel Driver		Yes	Boot	
	Running	OK	Normal	No	Yes
sifilter	SATALink driver accelerator				
	c:\windows\system32\drivers\siwinacc.sys				
	Kernel Driver		Yes	Boot	
	Running	OK	Ignore	No	Yes
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
c:\windows\system32\drivers\symmpi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

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

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 DriverYes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0003

AMD-8111 High Precision Event Timer Yes
SYSTEM 1.0.0.0 2/28/2003 AMD
oem8.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

SATALink driver accelerator Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_SIFILTER\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

PCIIde Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_PCIIDE\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

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

Standard IDE/ESDI Hard Disk Controller Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_ATAPI\0000

AMDPCI Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available
ROOT\LEGACY_AMDPCI\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 5.2.3790.0
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNA
TUREE258E258OFFSET7E00LENGTH8796B9400

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

Motherboard resources Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C02\3&13C0B0C5&0

Numeric data processor Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C04\3&13C0B0C5&0

System speaker Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0800\3&13C0B0C5&0

System CMOS/real time clock Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0B00\3&13C0B0C5&0

System timer Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\3&13C0B0C5&0

Direct memory access controller Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0200\3&13C0B0C5&0

Programmable interrupt controller Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0000\3&13C0B0C5&0

AMD Miscellaneous Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1103&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&CB

AMD DRAM and HyperTransport(tm) Trace Mode
Configuration Yes SYSTEM 5.2.3790.1830
10/1/2002 AMD machine.inf Not
Available
PCI\VEN_1022&DEV_1102&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&CA

AMD Address Map Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1101&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C9

AMD HyperTransport(tm) Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1100&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C8

AMD Miscellaneous Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1103&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C3

AMD DRAM and HyperTransport(tm) Trace Mode
Configuration Yes SYSTEM 5.2.3790.1830
10/1/2002 AMD machine.inf Not
Available
PCI\VEN_1022&DEV_1102&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C2

AMD Address Map Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1101&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C1

AMD HyperTransport(tm) Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1100&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C0

AMD-8131 HyperTransport(tm) IOAPIC Controller Yes
SYSTEM 1.80.0.0 5/8/2002 AMD
oem7.inf Not Available
PCI\VEN_1022&DEV_7451&SUBSYS_745110
22&REV_01\3&13C0B0C5&0&59

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 7.3.13.0 10/28/2003 Intel
oem3.inf Not Available

PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2158

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 7.3.13.0 10/28/2003 Intel oem3.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2058

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 7.3.13.0 10/28/2003 Intel oem3.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1958

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET 7.3.13.0 10/28/2003 Intel oem3.inf Not Available PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1858

PCI standard PCI-to-PCI bridge Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1022&DEV_7450&SUBSYS_00000000&REV_12\3&13C0B0C5&0&58

AMD-8131 HyperTransport(tm) IOAPIC Controller Yes SYSTEM 1.80.0.0 5/8/2002 AMD oem7.inf Not Available PCI\VEN_1022&DEV_7451&SUBSYS_74511022&REV_01\3&13C0B0C5&0&51

SCSI Processor Device Yes SYSTEM 5.2.3790.0 10/1/2002 IBM scsidev.inf Not Available SCSI\PROCESSOR&VEN_IBM&PROD_25P3495A_S320__1&REV_1\5&21C87AB5&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_B85D\5&21C87AB5&0&000

LSI Logic PCI-X Ultra320 SCSI Host Adapter Yes SCSIADAPTER 5.2.3790.0 10/1/2002 LSI Logic Inc. pnpscsi.inf Not Available PCI\VEN_1000&DEV_0030&SUBSYS_026D1014&REV_07\4&F9B9445&0&1050

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.27.1.0 4/5/2005 Broadcom oem5.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02A61014&REV_03\4&F9B9445&0&0950

Broadcom NetXtreme Gigabit Ethernet Yes NET 8.27.1.0 4/5/2005 Broadcom oem5.inf Not Available PCI\VEN_14E4&DEV_1648&SUBSYS_02A61014&REV_03\4&F9B9445&0&0850

PCI standard PCI-to-PCI bridge Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1022&DEV_7450&SUBSYS_00000000&REV_12\3&13C0B0C5&0&50

AMD-8111 System Management Controller Yes SYSTEM 5.2.3790.0 10/1/2002 AMD machine.inf Not Available PCI\VEN_1022&DEV_746B&SUBSYS_746B1014&REV_05\3&13C0B0C5&0&3B

AMD-8111 SMBus 2.0 Controller Yes SYSTEM 5.2.3790.0 10/1/2002 AMD machine.inf Not Available PCI\VEN_1022&DEV_746A&SUBSYS_746A1014&REV_02\3&13C0B0C5&0&3A

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-8240N_____1.06____\5&2C2874A0&0&0.0.0

Secondary AMD IDE Channel Yes HDC 8.2.2.2 7/1/2003 Advanced Micro Devices oem6.inf Not Available PCIIDE\IDECHANNEL\4&9B02F85&0&1

Primary AMD IDE Channel Yes HDC 8.2.2.2 7/1/2003 Advanced Micro Devices oem6.inf Not Available PCIIDE\IDECHANNEL\4&9B02F85&0&0

AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2 Yes HDC 8.2.2.2 7/1/2003 Advanced Micro Devices oem6.inf Not Available PCI\VEN_1022&DEV_7469&SUBSYS_74691014&REV_03\3&13C0B0C5&0&39

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\2

MSI Intelligent Management Bus Driver 1.2 Yes SYSTEM 1.0.0.0 8/7/2003 MSI, Inc. oem10.inf Not Available ACPI\MSI9549\4&35F74AAC&0

ISAPNP Read Data Port Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available ISAPNP\READDATAPORT\0

PCI standard ISA bridge Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available PCI\VEN_1022&DEV_7468&SUBSYS_00000000&REV_05\3&13C0B0C5&0&38

Silicon Image SiI 3512 SATALink Controller Yes SCSIADAPTER 1.2.0.57 6/14/2004 Silicon Image oem9.inf Not Available PCI\VEN_1095&DEV_3512&SUBSYS_351210 14&REV_01\4&21F0FBEE&0&3030

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available DISPLAY\DEFAULT_MONITOR\5&278F1F24&0&80000000&01&05

RAGE XL PCI Family (Microsoft Corporation) Yes DISPLAY 5.10.2600.6014 8/8/2001 ATI Technologies Inc. atiixpad.inf Not Available PCI\VEN_1002&DEV_4752&SUBSYS_024010 14&REV_27\4&21F0FBEE&0&2830

USB Root Hub Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available USB\ROOT_HUB\5&F83305F&0

Standard OpenHCD USB Host Controller Yes USB 5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available

PCI\VEN_1022&DEV_7464&SUBSYS_746410
22&REV_0B\4&21F0FBEE&0&0130

HID-compliant mouseYes MOUSE 5.2.3790.1830
10/1/2002 Microsoft msmouse.inf Not
Available
HID\VID_04B4&PID_8081&MI_01\8&C7B782
9&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.0 10/1/2002 (Standard system devices)
input.inf Not Available
USB\VID_04B4&PID_8081&MI_01\7&38EC59
9D&0&0001

HID Keyboard Device Yes KEYBOARD
5.2.3790.0 10/1/2002 (Standard keyboards)
keyboard.inf Not Available
HID\VID_04B4&PID_8081&MI_00\8&175BC5
99&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.0 10/1/2002 (Standard system devices)
input.inf Not Available
USB\VID_04B4&PID_8081&MI_00\7&38EC59
9D&0&0000

USB Composite Device Yes USB
5.2.3790.1830 10/1/2002 (Standard USB
Host Controller) usb.inf Not Available
USB\VID_04B4&PID_8081\6&1E854668&0&1

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\5&137E71FE&0

Standard OpenHCD USB Host Controller Yes USB
5.2.3790.0 10/1/2002 (Standard USB Host
Controller)usbport.inf Not Available
PCI\VEN_1022&DEV_7464&SUBSYS_746410
22&REV_0B\4&21F0FBEE&0&0030

PCI standard PCI-to-PCI bridge Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
PCI\VEN_1022&DEV_7460&SUBSYS_000000
00&REV_07\3&13C0B0C5&0&30

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002
(Standard system devices) machine.inf
Not Available ACPI\PNP0A03\1

System board Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C01\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C0C\2&DABA3FF&0

AMD K8 Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Advanced Micro
Devices cpu.inf Not Available
ACPI\AUTHENTICAMD_-
_X86_FAMILY_15_MODEL_37_1

AMD K8 Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Advanced Micro
Devices cpu.inf Not Available
ACPI\AUTHENTICAMD_-
_X86_FAMILY_15_MODEL_37_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

ClusterLogC:\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%;%Sys
temRoot%\System32\Wbem;c:\tools;c:\tools\util
<SYSTEM>

PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.
WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE x86
<SYSTEM>

PROCESSOR_IDENTIFIER x86 Family 15 Model 37
Stepping 1, AuthenticAMD <SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_REVISION 2501 <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
IBMRTE1\Administrator

TMP %USERPROFILE%\Local Settings\Temp
IBMRTE1\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

R: \\10.61.175.58\sqlserver Disk
Persistent Connection IBMRTE1\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

system Not Available 4 8 0
1413120 Not Available Not Available
Not Available Not Available

smss.exe Not Available 568 11
204800 1413120 11/16/2005 11:55 AM Not Available Not Available Not Available

csrss.exe Not Available 732 13 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
780 13 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
10/18/2005 11:58 PM

services.exe c:\windows\system32\services.exe
824 9 204800 1413120
11/16/2005 11:55 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 836 9
204800 1413120 11/16/2005 11:55 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
1092 8 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
10/18/2005 11:58 PM

svchost.exe Not Available 1140 8
Not Available Not Available
11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe Not Available 1196 8
Not Available Not Available
11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe Not Available 1304 8
Not Available Not Available
11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe
1344 8 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
10/18/2005 11:58 PM

spoolsv.exe c:\windows\system32\spoolsv.exe
148 8 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 57.00 KB (58,368 bytes)
10/18/2005 11:58 PM

msdtc.exe Not Available 220 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe
448 8 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
10/18/2005 11:58 PM

inetinfo.exe
c:\windows\system32\inetsrv\inetinfo.exe 508
8 204800 1413120 11/16/2005 11:55 AM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 10/19/2005 12:00 AM

svchost.exe Not Available 544 8
Not Available Not Available
11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe
680 8 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
10/18/2005 11:58 PM

svchost.exe c:\windows\system32\svchost.exe
1916 8 204800 1413120
11/16/2005 11:56 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
10/18/2005 11:58 PM

explorer.exe c:\windows\explorer.exe 960
8 204800 1413120 11/16/2005 11:56 AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 10/18/2005 11:59 PM

bmlisten.exe c:\slave\bmlisten.exe 980 8
204800 1413120 11/16/2005 11:56 AM 2, 1, 0, 2 156.00 KB (159,744 bytes) 11/10/2005 1:57 PM

wmiprvse.exe Not Available 1504 8
Not Available Not Available
11/16/2005 11:57 AM Not Available Not Available Not Available

csrss.exe Not Available 1464 13 Not Available Not Available 11/16/2005 3:12 PM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
1220 13 204800 1413120
11/16/2005 3:12 PM 5.2.3790.1830

(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 10/18/2005 11:58 PM

rdpclip.exe c:\windows\system32\rdpclip.exe 460 8 204800 1413120 11/16/2005 3:13 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 68.00 KB (69,632 bytes) 10/18/2005 11:59 PM

explorer.exe c:\windows\explorer.exe 1676 8 204800 1413120 11/16/2005 3:13 PM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 10/18/2005 11:59 PM

bmlisten.exe c:\slave\bmlisten.exe 1704 8 204800 1413120 11/16/2005 3:13 PM 2, 1, 0, 2 156.00 KB (159,744 bytes) 11/10/2005 1:57 PM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe 1420 8 204800 1413120 11/16/2005 3:13 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes) 10/19/2005 12:00 AM

wmiprvse.exe Not Available 1700 8 Not Available Not Available 11/16/2005 3:13 PM Not Available Not Available Not Available

helpsvc.exe c:\windows\pchealth\helpctr\binaries\helpsvc.exe 1840 8 204800 1413120 11/16/2005 3:13 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 10/19/2005 12:00 AM

[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) 10/18/2005 11:58 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) 10/18/2005 11:59 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) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\rpcrt4.dll

crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 582.00 KB (595,968 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\crypt32.dll

msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 56.50 KB (57,856 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\msasn1.dll

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 574.50 KB (588,288 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 10/18/2005 11:59 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) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 10/18/2005 11:59 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) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 10/18/2005 11:59 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) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 10/18/2005 11:58 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) 10/18/2005 11:58 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) 10/18/2005 11:58 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) 10/18/2005

11:59 PM Microsoft Corporation
c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
131.50 KB (134,656 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
313.50 KB (321,024 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:58 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) 10/18/2005
11:59 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 11:41 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) 10/18/2005
11:58 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) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wtsapi32.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
172.50 KB (176,640 bytes) 10/18/2005
11:58 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\shell32.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
174.50 KB (178,688 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wldap32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
183.98 KB (188,392 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\rsaenh.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
100.00 KB (102,400 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 10/19/2005
12:03 AM Microsoft Corporation
c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
94.50 KB (96,768 bytes) 10/18/2005
11:58 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 11:41
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) 10/18/2005
11:58 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\cscui.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
43.50 KB (44,544 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/19/2005
12:03 AM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
20.50 KB (20,992 bytes) 10/18/2005
11:59 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)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50
KB (43,520 bytes) 9/28/2005 8:15 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) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
153.50 KB (157,184 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
66.50 KB (68,096 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
126.50 KB (129,536 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
409.50 KB (419,328 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
222.00 KB (227,328 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
74.00 KB (75,776 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
23.00 KB (23,552 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
213.50 KB (218,624 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
29.50 KB (30,208 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
250.50 KB (256,512 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\mswsock.dll

sceeli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
186.50 KB (190,976 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\sceeli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
793.50 KB (812,544 bytes) 10/19/2005
12:03 AM Microsoft Corporation
c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
343.50 KB (351,744 bytes) 10/18/2005
11:59 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

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) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\strmfilt.dll

httpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\httpapi.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
139.98 KB (143,336 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\dssenh.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
406.00 KB (415,744 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\rpcss.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
197.50 KB (202,240 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\schedsvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.50 KB (33,280 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wiarpc.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

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
6.50 KB (6,656 bytes) 10/18/2005 11:59 PM
Microsoft Corporation
c:\windows\system32\msidle.dll

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
55.50 KB (56,832 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 10/18/2005
11:59 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) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\vssapi.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
233.00 KB (238,592 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\es.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\seclogon.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\dmserver.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.50 KB (37,376 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\sens.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
1.19 MB (1,248,256 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\comsvcs.dll

browser 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
76.50 KB (78,336 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\browser.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
258.50 KB (264,704 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\netman.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
89.00 KB (91,136 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
194.00 KB (198,656 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.00 KB (149,504 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
162.00 KB (165,888 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\credui.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
34.50 KB (35,328 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
60.00 KB (61,440 bytes) 10/18/2005
11:59 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) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\tapi32.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
646.00 KB (661,504 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
41.00 KB (41,984 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
364.50 KB (373,248 bytes) 10/18/2005
11:58 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 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

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) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\xactsrv.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 10/18/2005
11:59 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

netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
763.00 KB (781,312 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\netcfgx.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
35.50 KB (36,352 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\winipsec.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
96.50 KB (98,816 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\actxprxy.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
39.00 KB (39,936 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchsvc.dll

wbemcons 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
45.50 KB (46,592 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcons.dll

spoolsv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
57.00 KB (58,368 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\spoolsv.exe

spoolss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 85.00 KB (87,040 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\spoolss.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.50 KB (7,680 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\rasadhlp.dll

localspl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 339.00 KB (347,136 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\localspl.dll

cnbjmon 5.2.3790.1224 (dnsrv(skatari).040514-1058) 46.50 KB (47,616 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\cnbjmon.dll

pjlmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 15.00 KB (15,360 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\pjlmon.dll

tcpmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\tcpmon.dll

wsnmp32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.00 KB (44,032 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\wsnmp32.dll

tcpmib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.50 KB (17,920 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\tcpmib.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

mgmtapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mgmtapi.dll

snmpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\snmpapi.dll

usbmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\usbmon.dll

winrnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\winrnr.dll

wshqos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 10/18/2005 11:58 PM Microsoft Corporation c:\windows\system32\wshqos.dll

win32spl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 100.50 KB (102,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\win32spl.dll

inetpp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 75.00 KB (76,800 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\inetpp.dll

icmp 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\icmp.dll

ersvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\ersvc.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 164.00 KB (167,936 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\iisutil.dll

rpcref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 4.00 KB (4,096 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\rpcref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 138.50 KB (141,824 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 21.00 KB (21,504 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 62.50 KB (64,000 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 10/18/2005 11:59 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) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 229.00 KB (234,496 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\msxml3.dll

svcext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 10/19/2005 12:00 AM 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) 10/18/2005 11:59 PM Microsoft Corporation c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 10/19/2005 12:00 AM Microsoft Corporation c:\windows\system32\inetsrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 211.00 KB (216,064 bytes) 10/19/2005

12:00 AM Microsoft Corporation
c:\windows\system32\inetsrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\system32\inetsrv\w3cache.dll

w3tp 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\system32\inetsrv\w3tp.dll

lonsint 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
13.00 KB (13,312 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\system32\inetsrv\lonsint.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
239.00 KB (244,736 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.50 KB (12,800 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
116.00 KB (118,784 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
101.63 KB (104,072 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\rdpwsx.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 10/18/2005
11:59 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) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
496.50 KB (508,416 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\cryptui.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.50 KB (150,016 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\apphelp.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
377.50 KB (386,560 bytes) 10/18/2005
11:58 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

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
673.00 KB (689,152 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
272.50 KB (279,040 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\webcheck.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
16.50 KB (16,896 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\powrprof.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes)
11/10/2005 1:57 PM IBM xSeries Server Performance c:\slave\bmlisten.exe

rdpsnd 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\rdpsnd.dll

scredir 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
28.00 KB (28,672 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\scredir.dll

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
22.00 KB (22,528 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\msacm32.drv

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
69.50 KB (71,168 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\msacm32.dll

imaadp32 5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\imaadp32.acm

msadp32 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msadp32.acm

msg711 5.2.3790.0 (srv03_rtm.030324-2048) 10.00 KB (10,240 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msg711.acm

msgsm32 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msgsm32.acm

tssoft32 1.01 9.50 KB (9,728 bytes) 3/25/2003 7:00 AM DSP GROUP, INC.
c:\windows\system32\tssoft32.acm

tsd32 1.03 16.50 KB (16,896 bytes)
3/25/2003 7:00 AM DSP GROUP, INC.
c:\windows\system32\tsd32.dll

msg723 5.2.3790.1830 120.00 KB (122,880 bytes)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\msg723.acm

msaud32 8.00.00.4487 288.00 KB (294,912 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msaud32.acm

sl_anet 3.02 84.00 KB (86,016 bytes)
3/25/2003 7:00 AM Sipro Lab Telecom Inc.
c:\windows\system32\sl_anet.acm

printui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
563.00 KB (576,512 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\printui.dll

cfgmgr32 5.2.3790.0 (srv03_rtm.030324-2048) 17.50
KB (17,920 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\cfgmgr32.dll

l3codeca 1, 9, 0, 0305 284.00 KB (290,816 bytes)
3/25/2003 7:00 AM Fraunhofer Institut
Integrierte Schaltungen IIS
c:\windows\system32\l3codeca.acm

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
68.00 KB (69,632 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\rdpclip.exe

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

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 9/28/2005 8:18 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 10/19/2005
12:00 AM 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) 10/18/2005
11:59 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) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\msctf.dll

jscript 5.6.0.8827 448.00 KB (458,752 bytes)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes)
10/18/2005 11:58 PM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
376.00 KB (385,024 bytes) 10/19/2005
12:00 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
240.00 KB (245,760 bytes) 10/18/2005
11:59 PM Microsoft Corporation
c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00
KB (94,208 bytes) 10/18/2005 11:59 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)
10/18/2005 11:59 PM Microsoft Corporation
c:\windows\system32\riched20.dll

audiodev 5.2.3790.3700 (srv03_sp1_rtm.050324-1447)
470.00 KB (481,280 bytes) 10/19/2005
12:03 AM Microsoft Corporation
c:\windows\system32\audiodev.dll

wmvcore 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
2.21 MB (2,314,240 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wmvcore.dll

wmasf 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 10/18/2005
11:58 PM Microsoft Corporation
c:\windows\system32\wmasf.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
745.00 KB (762,880 bytes) 10/19/2005
12:00 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

Application Experience Lookup Service AeLookupSvc
Stopped Disabled 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

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 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

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 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 Running Auto
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 Running Auto
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

HID Input Service 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

Intel NCS NetService NetSvc Stopped Manual Own Process c:\program files\intel\prosetwired\ncs\sync\netsvc.exe Normal
LocalSystem 0

Network Location Awareness (NLA) Nla
Stopped Disabled 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

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 Stopped
Disabled 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 Running Auto 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 Stopped
Manual 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 Disabled
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
Disabled 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

Debugging Tools for Windows All Users:Debugging Tools for Windows All Users

Intel Network Adapters All Users:Intel Network Adapters 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 IBMRTE1\Administrator:Accessories IBMRTE1\Administrator

Accessories\Accessibility IBMRTE1\Administrator:Accessories\Accessibility IBMRTE1\Administrator

Accessories\Entertainment IBMRTE1\Administrator:Accessories\Entertainment IBMRTE1\Administrator

Administrative Tools IBMRTE1\Administrator:Administrative Tools IBMRTE1\Administrator

Startup IBMRTE1\Administrator:Startup IBMRTE1\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM Startup

desktop desktop.ini IBMRTE1\Administrator Startup

Shortcut to BMListen shortcut to bmlisten.lnk IBMRTE1\Administrator Startup

Shortcut to synctime shortcut to synctime.lnk IBMRTE1\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

PRONoMgrWired c:\program files\intel\prosetwired\ncs\proset\pronomgr.exe 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"

Windows Media Services DRM Storage object Not Available

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time Type Details

11/14/2005 1:23 PM Application Error Faulting application slave_ms.exe, version 2.2.0.21, faulting module ole32.dll, version 5.2.3790.1830, fault address 0x0001f9a8.

11/14/2005 12:02 PM Application Error Faulting application slave_ms.exe, version 2.2.0.21, faulting module unknown, version 0.0.0.0, fault address 0x69665f73.

[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 7:55:26 PM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 98 KB 3/24/2005 7:55:28 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 7:56:10 PM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 149 KB 3/24/2005 7:56:32 PM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 585 KB 3/24/2005 7:57:56 PM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 205 KB 3/24/2005 8:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 355 KB 3/24/2005 8:00:58 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 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 248 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 61 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 92 KB 3/24/2005 8:04:58 PM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 38 KB 3/24/2005 8:05:04 PM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 358 KB 3/24/2005 8:05:06 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 8:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 578 KB 3/24/2005 8:07:20 PM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll 2002.10.4.0 112 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 옷呈□ï v 坳

mshta.exe 6.0.3790.1830 30 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 3,036 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 455 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 48 KB 3/24/2005 8:07:28 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 8:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 144 KB 3/24/2005 8:07:36 PM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 523 KB 3/24/2005 8:07:38 PM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 94 KB 3/24/2005 8:08:34 PM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx 6.3.3790.1830 83 KB 3/24/2005 8:12:26 PM C:\WINDOWS\system32 Intel Corporation

sendmail.dll 6.0.3790.1830 56 KB 3/24/2005 8:13:36 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 8:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 25 KB 3/24/2005 8:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 8:13:40 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 8:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 8:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 8:26:16 PM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005 8:26:18 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

System Information Report for Client 14

Clients 2-4 and 6-16 used 2.4GHz processors and 10K RPM drives. They were configured identically for the benchmark measurements.

System Information report written at: 11/16/05 15:32:45

System Name: IBMRTE14

[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 IBMRTE14

System Manufacturer IBM

System Model IBM eServer 326 -[884871U]-

System Type X86-based PC

Processor x86 Family 15 Model 5 Stepping 10 AuthenticAMD ~2392 Mhz

Processor x86 Family 15 Model 5 Stepping 10 AuthenticAMD ~2392 Mhz

BIOS Version/Date IBM IBM BIOS Version 1.23 -[M2E123AUS-1.23]-, 9/2/2005

SMBIOS Version 2.3

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 IBMRTE14\Administrator

Time Zone Eastern Standard Time

Total Physical Memory 2,046.94 MB

Available Physical Memory 1.73 GB

Total Virtual Memory 3.35 GB

Available Virtual Memory 3.23 GB

Page File Space 1.50 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 0xFE000000-0xFE0FFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xFE000000-0xFE0FFFFF Broadcom NetXtreme Gigabit Ethernet

I/O Port 0x000003C0-0x000003DF PCI standard PCI-to-PCI bridge

I/O Port 0x000003C0-0x000003DF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x00002000-0x00002FFF PCI standard PCI-to-PCI bridge

I/O Port 0x00002000-0x00002FFF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x00003000-0x00003FFF PCI standard PCI-to-PCI bridge

I/O Port 0x00003000-0x00003FFF LSI Logic PCI-X Ultra320 SCSI Host Adapter

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #2

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #3

IRQ 19 Standard OpenHCD USB Host Controller

IRQ 19 Standard OpenHCD USB Host Controller

Memory Address 0xA0000-0xC7FFF PCI bus

Memory Address 0xA0000-0xC7FFF PCI standard PCI-to-PCI bridge

Memory Address 0xA0000-0xC7FFF RAGE XL PCI Family (Microsoft Corporation)

I/O Port 0x000003B0-0x000003BB PCI standard PCI-to-PCI bridge

I/O Port 0x000003B0-0x000003BB RAGE XL PCI Family (Microsoft Corporation)

Memory Address 0xFC100000-0xFDFFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xFC100000-0xFDFFFFFF Standard OpenHCD 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

0x00000D00-0x00007FFF PCI bus OK

0x00008100-0x0000FFFF PCI bus OK

0x00002000-0x00002FFF PCI standard PCI-to-PCI bridge OK

0x00002000-0x00002FFF RAGE XL PCI Family (Microsoft Corporation) OK

0x000003B0-0x000003BB PCI standard PCI-to-PCI bridge OK

0x000003B0-0x000003BB RAGE XL PCI Family (Microsoft Corporation) OK

0x000003C0-0x000003DF PCI standard PCI-to-PCI bridge OK

0x000003C0-0x000003DF RAGE XL PCI Family (Microsoft Corporation) OK

0x00002420-0x00002427 Silicon Image SiI 3512 SATALink Controller OK

0x00002414-0x00002417 Silicon Image SiI 3512 SATALink Controller OK

0x00002418-0x0000241F Silicon Image SiI 3512 SATALink Controller OK

0x00002410-0x00002413 Silicon Image SiI 3512 SATALink Controller OK

0x00002400-0x0000240F Silicon Image SiI 3512 SATALink Controller OK

0x00000A79-0x00000A79 ISAPNP Read Data Port OK

0x00000279-0x00000279 ISAPNP Read Data Port OK

0x00000274-0x00000277 ISAPNP Read Data Port OK

0x000003F8-0x000003FF Communications Port (COM1) OK

0x00001020-0x0000102F AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2 OK

0x000001F0-0x000001F7 Primary AMD IDE Channel OK

0x000003F6-0x000003F6 Primary AMD IDE Channel OK

0x00000170-0x00000177 Secondary AMD IDE Channel OK

0x00000376-0x00000376 Secondary AMD IDE Channel OK

0x00001000-0x0000101F AMD-8111 SMBus 2.0 Controller OK

0x00003000-0x00003FFF PCI standard PCI-to-PCI bridge OK

0x00003000-0x00003FFF LSI Logic PCI-X Ultra320 SCSI Host Adapter OK

0x00004000-0x00004FFF PCI standard PCI-to-PCI bridge OK

0x00004040-0x0000407F Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

0x00004080-0x000040BF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0x00000020-0x00000021 Programmable interrupt controller OK

0x000000A0-0x000000A1 Programmable interrupt controller OK

0x00000080-0x0000008F Direct memory access controller OK

0x000000C0-0x000000DF Direct memory access controller OK

0x00000040-0x00000043 System timer OK

0x00000070-0x00000075 System CMOS/real time clock OK

0x00000061-0x00000061 System speaker OK

0x000000F0-0x000000FF Numeric data processor OK

0x000004D0-0x000004D1 Motherboard resources OK

0x00001100-0x0000117F Motherboard resources OK

0x00001180-0x000011FF Motherboard resources OK

0x00000010-0x0000001F Motherboard resources OK

0x00000022-0x0000003F Motherboard resources OK

0x00000044-0x0000005F Motherboard resources OK

0x00000062-0x00000063 Motherboard resources OK

0x00000065-0x0000006F Motherboard resources OK

0x00000076-0x0000007F Motherboard resources OK

0x00000090-0x0000009F Motherboard resources OK

0x000000A2-0x000000BF Motherboard resources OK

0x000000E0-0x000000EF Motherboard resources OK

0x00000060-0x00000060 Motherboard resources OK

0x00000064-0x00000064 Motherboard resources OK

0x00000300-0x00000307 Motherboard resources OK

0x00000421-0x0000042F Motherboard resources OK

0x00000CA2-0x00000CA3 Motherboard resources OK

[IRQs]

Resource	Device	Status
IRQ 9	Microsoft ACPI-Compliant System	OK
IRQ 19	Standard OpenHCD USB Host Controller	OK
IRQ 19	Standard OpenHCD USB Host Controller	OK
IRQ 16	RAGE XL PCI Family (Microsoft Corporation)	OK
IRQ 17	Silicon Image SiI 3512 SATALink Controller	OK
IRQ 4	Communications Port (COM1)	OK
IRQ 14	Primary AMD IDE Channel	OK
IRQ 15	Secondary AMD IDE Channel	OK
IRQ 24	Broadcom NetXtreme Gigabit Ethernet	OK
IRQ 26	LSI Logic PCI-X Ultra320 SCSI Host Adapter	OK

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

IRQ 0 System timer OK

IRQ 8 System CMOS/real time clock OK

IRQ 13 Numeric data processor OK

[Memory]

Resource Device Status

0x0000-0x9FFFF System board OK

0xE0000-0xFFFFF System board OK

0x100000-0x7FFFFFFF System board OK

0xFEC00000-0xFEC00FFF System board OK

0xFFC00000-0xFFF7FFFF System board OK

0xFEE00000-0xFEE00FFF System board OK

0xFFF80000-0xFFFFFFFF System board OK

0xA0000-0xC7FFF PCI bus OK

0xA0000-0xC7FFF PCI standard PCI-to-PCI bridge OK

0xA0000-0xC7FFF RAGE XL PCI Family (Microsoft Corporation) OK

0xD8000-0xDBFFF PCI bus OK

0x80000000-0xFEBFFFFF PCI bus OK

0xFC100000-0xFDFFFFFF PCI standard PCI-to-PCI bridge OK

0xFC100000-0xFDFFFFFF Standard OpenHCD USB Host Controller OK

0xFC101000-0xFC101FFF Standard OpenHCD USB Host Controller OK

0xFD000000-0xFDFFFFFF RAGE XL PCI Family (Microsoft Corporation) OK

0xFC102000-0xFC102FFF RAGE XL PCI Family (Microsoft Corporation) OK

0xFC103000-0xFC1031FF Silicon Image SiI 3512 SATALink Controller OK

0xFE000000-0xFE0FFFFF PCI standard PCI-to-PCI bridge OK

0xFE000000-0xFE0FFFFF Broadcom NetXtreme Gigabit Ethernet OK

0xFE010000-0xFE01FFFF Broadcom NetXtreme Gigabit Ethernet OK

0xFE050000-0xFE05FFFF LSI Logic PCI-X Ultra320 SCSI Host Adapter OK

0xFE040000-0xFE04FFFF LSI Logic PCI-X Ultra320 SCSI Host Adapter OK

0xFC000000-0xFC000FFF AMD-8131 HyperTransport(tm) IOAPIC Controller OK

0xFE100000-0xFE1FFFFF PCI standard PCI-to-PCI bridge OK

0xFE1A0000-0xFE1BFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

0xFE1C0000-0xFE1DFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xFE140000-0xFE17FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xFC001000-0xFC001FFF AMD-8131 HyperTransport(tm) IOAPIC Controller OK

0xC0000-0xC7FFF Motherboard resources 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\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\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\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\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\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\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\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\msg723.acm Microsoft Corporation OK
C:\WINDOWS\system32\MSG723.ACM
5.2.3790.1830 120.00 KB (122,880 bytes)
10/18/2005 11:21 PM

[Video Codecs]

CODEC Manufacturer Description
Status File Version Size
Creation Date

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\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\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\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\msh261.drv Microsoft Corporation OK
C:\WINDOWS\system32\MSH261.DRV
5.2.3790.1830 184.00 KB (188,416 bytes)
10/18/2005 11:21 PM

c:\windows\system32\msh263.drv Microsoft Corporation OK
C:\WINDOWS\system32\MSH263.DRV
5.2.3790.1830 288.00 KB (294,912 bytes)
10/18/2005 11:21 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)
46.50 KB (47,616 bytes) 10/18/2005 11:21 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-8240N
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-8240N_____1.06____\5&2C2874A0&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 RAGE XL PCI Family (Microsoft Corporation)

PNP Device ID
PCI\VEN_1002&DEV_4752&SUBSYS_02401014&REV_27\4&21F0FBEE&0&2830
Adapter Type ATI RAGE XL PCI (B41), ATI Technologies Inc. compatible
Adapter Description RAGE XL PCI Family (Microsoft Corporation)
Adapter RAM 8.00 MB (8,388,608 bytes)
Installed Drivers ati2drad.dll
Driver Version 5.10.3663.6013
INF File atiixpad.inf (ati2mpad section)
Color Planes 1
Color Table Entries 4294967296
Resolution 800 x 600 x 60 hertz
Bits/Pixel 32
Memory Address 0xFD000000-0xFDFFFFFF
I/O Port 0x00002000-0x00002FFF
Memory Address 0xFC102000-0xFC102FFF
IRQ Channel IRQ 16
I/O Port 0x000003B0-0x000003BB
I/O Port 0x000003C0-0x000003DF
Memory Address 0xA0000-0xC7FFF
Driver c:\windows\system32\drivers\ati2mpad.sys (5.10.3663.6013, 335.38 KB (343,424 bytes), 9/28/2005 1:11 PM)

[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_04B4&PID_8081&MI_00\7&38EC599D&0&0000

Number of Function Keys 12

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.0 (srv03_rtm.030324-2048), 11.50 KB (11,776 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value

Hardware Type USB Human Interface Device

Number of Buttons 3

Status OK

PNP Device ID USB\VID_04B4&PID_8081&MI_01\7&38EC599D&0&0001

Power Management Supported No

Double Click Threshold 6

Handedness Right Handed Operation

Driver c:\windows\system32\drivers\hidusb.sys (5.2.3790.0 (srv03_rtm.030324-2048), 11.50 KB (11,776 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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 11/16/2005 11:55 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] 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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1858
Last Reset 11/16/2005 11:55 AM
Index 7
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
Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

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\4&2987B0F&0&1958
Last Reset 11/16/2005 11:55 AM
Index 8
Service Name E1000
IP Address 100.100.100.214
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:83:49:61
Memory Address 0xFE1A0000-0xFE1BFFFF
I/O Port 0x00004040-0x0000407F
IRQ Channel IRQ 29
Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 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\4&2987B0F&0&2058

Last Reset 11/16/2005 11:55 AM

Index 9

Service Name E1000

IP Address 150.150.150.214

IP Subnet 255.255.252.0

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:83:49:CA

Memory Address 0xFE1C0000-0xFE1DFFFF

Memory Address 0xFE140000-0xFE17FFFF

I/O Port 0x00004080-0x000040BF

IRQ Channel IRQ 29

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

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 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2158

Last Reset 11/16/2005 11:55 AM

Index 10

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

Driver c:\windows\system32\drivers\e1000325.sys (7.3.13.0 built by: WinDDK, 127.00 KB (130,048 bytes), 9/28/2005 9:33 PM)

Name [00000011] 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_02A61014&REV_03\4&F9B9445&0&0850

Last Reset 11/16/2005 11:55 AM

Index 11

Service Name b57w2k

IP Address 10.61.175.123

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 00:11:25:1E:5A:91

Memory Address 0xFE010000-0xFE01FFFF

Memory Address 0xFE000000-0xFE0FFFFF

IRQ Channel IRQ 24

Driver c:\windows\system32\drivers\b57xp32.sys (8.27.1.0 built by: WinDDK, 129.25 KB (132,352 bytes), 9/28/2005 9:36 PM)

Name [00000012] 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_02A61014&REV_03\4&F9B9445&0&0950

Last Reset 11/16/2005 11:55 AM

Index 12

Service Name b57w2k

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\b57xp32.sys (8.27.1.0 built by: WinDDK, 129.25 KB (132,352 bytes), 9/28/2005 9:36 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_{5E7CF10A-027D-4325-8299-AE8B24B398B8}] 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_{5E7CF10A-027D-4325-8299-AE8B24B398B8}] 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_{255D69A4-DE84-477E-BAED-97158383422D}] 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_{255D69A4-DE84-477E-BAED-97158383422D}] 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_{3704CF67-9CB9-4F27-90AD-635A3493A917}] 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_{3704CF67-9CB9-4F27-90AD-635A3493A917}] 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_{AD376F7D-F93B-42DE-868C-319BD982D4CB}] 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_{AD376F7D-F93B-42DE-868C-319BD982D4CB}] 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_{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}] 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_{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}] 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_{FCC9F109-8201-4724-8FD2-9CDD67213EFE}] 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_{FCC9F109-8201-4724-8FD2-9CDD67213EFE}] 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_{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}] 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_{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}] 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_{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}] 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_{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}] 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)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.90 GB (36,396,830,720 bytes)
Free Space 29.02 GB (31,156,166,656 bytes)
Volume Name
Volume Serial Number 0C6914A4

Drive D:
Description CD-ROM Disc

[Disks]

Item Value
Description Disk drive
Manufacturer (Standard disk drives)
Model IBM-ESXS DTN036C3UCDY10FN 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 0
SCSI Target ID 0
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 Silicon Image SiI 3512 SATALink Controller

Manufacturer Silicon Image

Status OK

PNP Device ID PCI\VEN_1095&DEV_3512&SUBSYS_35121014&REV_01\4&21F0FBEE&0&3030

I/O Port 0x00002420-0x00002427

I/O Port 0x00002414-0x00002417

I/O Port 0x00002418-0x0000241F

I/O Port 0x00002410-0x00002413

I/O Port 0x00002400-0x0000240F

Memory Address 0xFC103000-0xFC1031FF

IRQ Channel IRQ 17

Driver c:\windows\system32\drivers\si3112.sys (1, 2, 0, 57, 55.88 KB (57,216 bytes), 9/28/2005 9:58 PM)

Name LSI Logic PCI-X Ultra320 SCSI Host Adapter

Manufacturer LSI Logic Inc.

Status OK

PNP Device ID PCI\VEN_1000&DEV_0030&SUBSYS_026D1014&REV_07\4&F9B9445&0&1050

I/O Port 0x00003000-0x00003FFF

Memory Address 0xFE050000-0xFE05FFFF

Memory Address 0xFE040000-0xFE04FFFF

IRQ Channel IRQ 26

Driver c:\windows\system32\drivers\symmpi.sys (1.10.05.00 (NT.041118-1101), 48.50 KB (49,664 bytes), 3/25/2003 7:00 AM)

[IDE]

Item Value

Name AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2

Manufacturer Advanced Micro Devices

Status OK

PNP Device ID PCI\VEN_1022&DEV_7469&SUBSYS_74691014&REV_03\3&13C0B0C5&0&39

I/O Port 0x00001020-0x0000102F

Driver c:\windows\system32\drivers\amdbusdr.sys (8.2.2, 29.00 KB (29,696 bytes), 9/28/2005 9:47 PM)

Name Primary AMD IDE Channel

Manufacturer Advanced Micro Devices

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&9B02F85&0&0

I/O Port 0x000001F0-0x000001F7

I/O Port 0x000003F6-0x000003F6

IRQ Channel IRQ 14

Driver c:\windows\system32\drivers\amdeide.sys (8.2.2, 37.50 KB (38,400 bytes), 9/28/2005 9:47 PM)

Name Secondary AMD IDE Channel

Manufacturer Advanced Micro Devices

Status OK

PNP Device ID PCIIDE\IDECHANNEL\4&9B02F85&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

IRQ Channel IRQ 15

Driver c:\windows\system32\drivers\amdeide.sys (8.2.2, 37.50 KB (38,400 bytes), 9/28/2005 9:47 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

Broadcom NetXtreme Gigabit Ethernet #2 PCI\VEN_14E4&DEV_1648&SUBSYS_02A61014&REV_03\4&F9B9445&0&0950 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&1858 This device is disabled.

Intel(R) PRO/1000 MT Dual Port Server Adapter #4 PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\4&2987B0F&0&2158 This device is disabled.

[USB]

Device PNP Device ID

Standard OpenHCD USB Host Controller PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0030

Standard OpenHCD USB Host Controller PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0130

[Software Environment]

[System Drivers]

```
Name      Description              File       Type
          Started    Start ModeState      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

amdbusdr  amdbusdr
          c:\windows\system32\drivers\amdbusdr.sys
          Kernel Driver          Yes        Boot
          Running    OK         Normal      No         Yes

amdeide   AMD EIDE Driver
          c:\windows\system32\drivers\amdeide.sys
          Kernel Driver          Yes        Boot
          Running    OK         Normal      No         Yes

amdk8     AMD K8 Processor Driver
          c:\windows\system32\drivers\amdk8.sys
          Kernel Driver          Yes        Manual
          Running    OK         Normal      No         Yes

amdpci    AMDPCI
          \??\c:\docume~1\admini~1\locals~1\temp\amdpci.
sys       Kernel Driver          No         Manual
          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

ati2mpad  ati2mpad
          c:\windows\system32\drivers\ati2mpad.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 Adapter 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       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

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  i8042prt
          c:\windows\system32\drivers\i8042prt.sys
          Kernel Driver          No         System
          Stopped   OK           Ignore     No         No

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

imbdrv    MSI Intelligent Management Bus Driver 1.2
          c:\windows\system32\drivers\imbdrv.sys
          Kernel Driver          Yes        Auto
          Running   OK           Normal     No         Yes
```

intelide IntelIde Not Available Kernel Driver
No Disabled 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

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

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

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

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 Yes Manual
Running OK Normal No Yes

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 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

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 Manual
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

si3112 SiI-3512 SATALink Controller
c:\windows\system32\drivers\si3112.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

sifilter SATALink driver accelerator
c:\windows\system32\drivers\siwinacc.sys
Kernel Driver Yes Boot
Running OK Ignore No Yes

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
c:\windows\system32\drivers\symmpi.sys
Kernel Driver Yes Boot
Running OK Normal No Yes

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

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 DriverYes
SYSTEM 5.2.3790.1830 10/1/2002
(Standard system devices) machine.inf
Not Available ROOT\SYSTEM\0003

AMD-8111 High Precision Event Timer Yes
SYSTEM 1.0.0.0 2/28/2003 AMD
oem8.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 DriversYes 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

SATALink driver accelerator Not Available
LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available
ROOT\LEGACY_SIFILTER\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

PCIIde Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available
ROOT\LEGACY_PCIIDE\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

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

Standard IDE/ESDI Hard Disk Controller Not Available
LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available
ROOT\LEGACY_ATAPI\0000

AMDPCI Not Available LEGACYDRIVER Not Available Not Available Not Available Not Available Not Available
ROOT\LEGACY_AMDPCI\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 5.2.3790.0
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATUREC829C829OFFSET7E00LENGTH8796B9400

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

Motherboard resources Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C02\3&13C0B0C5&0

Numeric data processor Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C04\3&13C0B0C5&0

System speaker Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0800\3&13C0B0C5&0

System CMOS/real time clock Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0B00\3&13C0B0C5&0

System timer Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\3&13C0B0C5&0

Direct memory access controller Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0200\3&13C0B0C5&0

Programmable interrupt controller Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0000\3&13C0B0C5&0

AMD Miscellaneous Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1103&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&CB

AMD DRAM and HyperTransport(tm) Trace Mode
Configuration Yes SYSTEM 5.2.3790.1830
10/1/2002 AMD machine.inf Not
Available
PCI\VEN_1022&DEV_1102&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&CA

AMD Address Map Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1101&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C9

AMD HyperTransport(tm) Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1100&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C8

AMD Miscellaneous Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1103&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C3

AMD DRAM and HyperTransport(tm) Trace Mode
Configuration Yes SYSTEM 5.2.3790.1830
10/1/2002 AMD machine.inf Not
Available
PCI\VEN_1022&DEV_1102&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C2

AMD Address Map Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1101&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C1

AMD HyperTransport(tm) Configuration Yes
SYSTEM 5.2.3790.1830 10/1/2002
AMD machine.inf Not Available
PCI\VEN_1022&DEV_1100&SUBSYS_000000
00&REV_00\3&13C0B0C5&0&C0

AMD-8131 HyperTransport(tm) IOAPIC Controller Yes
SYSTEM 1.80.0.0 5/8/2002 AMD
oem7.inf Not Available
PCI\VEN_1022&DEV_7451&SUBSYS_745110
22&REV_01\3&13C0B0C5&0&59

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 7.3.13.0 10/28/2003 Intel
oem3.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\4&2987B0F&0&2158

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 7.3.13.0 10/28/2003 Intel
oem3.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\4&2987B0F&0&2058

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 7.3.13.0 10/28/2003 Intel
oem3.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\4&2987B0F&0&1958

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 7.3.13.0 10/28/2003 Intel
oem3.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\4&2987B0F&0&1858

PCI standard PCI-to-PCI bridge Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
PCI\VEN_1022&DEV_7450&SUBSYS_000000
00&REV_12\3&13C0B0C5&0&58

AMD-8131 HyperTransport(tm) IOAPIC Controller Yes
SYSTEM 1.80.0.0 5/8/2002 AMD
oem7.inf Not Available
PCI\VEN_1022&DEV_7451&SUBSYS_745110
22&REV_01\3&13C0B0C5&0&51

SCSI Processor Device Yes SYSTEM
5.2.3790.0 10/1/2002 IBM scsidev.inf Not
Available
SCSI\PROCESSOR&VEN_IBM&PROD_25P34
95A_S320__1&REV_1\5&21C87AB5&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_DTN036C3UCDY10FN&REV_S27P\5&21
C87AB5&0&000

LSI Logic PCI-X Ultra320 SCSI Host Adapter Yes
SCSIADAPTER 5.2.3790.0 10/1/2002 LSI
Logic Inc. pnpscsi.inf Not Available
PCI\VEN_1000&DEV_0030&SUBSYS_026D10
14&REV_07\4&F9B9445&0&1050

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.27.1.0 4/5/2005 Broadcom oem5.inf Not
Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02A610
14&REV_03\4&F9B9445&0&0950

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.27.1.0 4/5/2005 Broadcom oem5.inf Not
Available
PCI\VEN_14E4&DEV_1648&SUBSYS_02A610
14&REV_03\4&F9B9445&0&0850

PCI standard PCI-to-PCI bridge Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
PCI\VEN_1022&DEV_7450&SUBSYS_00000000&REV_12\3&13C0B0C5&0&50

AMD-8111 System Management Controller Yes
SYSTEM 5.2.3790.0 10/1/2002 AMD
machine.inf Not Available
PCI\VEN_1022&DEV_746B&SUBSYS_746B1014&REV_05\3&13C0B0C5&0&3B

AMD-8111 SMBus 2.0 Controller Yes
SYSTEM 5.2.3790.0 10/1/2002 AMD
machine.inf Not Available
PCI\VEN_1022&DEV_746A&SUBSYS_746A1014&REV_02\3&13C0B0C5&0&3A

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-8240N_____1.06____\5&2C2874A0&0&0.0.0

Secondary AMD IDE Channel Yes HDC
8.2.2.2 7/1/2003 Advanced Micro Devices
oem6.inf Not Available
PCIIDE\IDECHANNEL\4&9B02F85&0&1

Primary AMD IDE Channel Yes HDC
8.2.2.2 7/1/2003 Advanced Micro Devices
oem6.inf Not Available
PCIIDE\IDECHANNEL\4&9B02F85&0&0

AMD-8111 PCI Bus Master IDE Controller AMD V8.2.2
Yes HDC 8.2.2.2 7/1/2003
Advanced Micro Devices oem6.inf Not Available
PCI\VEN_1022&DEV_7469&SUBSYS_746910 14&REV_03\3&13C0B0C5&0&39

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\2

MSI Intelligent Management Bus Driver 1.2 Yes
SYSTEM 1.0.0.0 8/7/2003 MSI, Inc.
oem10.inf Not Available
ACPI\MSI9549\4&35F74AAC&0

ISAPNP Read Data Port Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ISAPNP\READDATAPORT\0

PCI standard ISA bridge Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
PCI\VEN_1022&DEV_7468&SUBSYS_00000000&REV_05\3&13C0B0C5&0&38

Silicon Image SiI 3512 SATALink Controller Yes
SCSIADAPTER 1.2.0.57 6/14/2004
Silicon Image oem9.inf Not Available
PCI\VEN_1095&DEV_3512&SUBSYS_351210 14&REV_01\4&21F0FBEE&0&3030

Default Monitor Yes MONITOR
5.1.2001.0 6/6/2001 (Standard monitor types)
monitor.inf Not Available
DISPLAY\DEFAULT_MONITOR\5&278F1F24&0&80000000&01&05

RAGE XL PCI Family (Microsoft Corporation) Yes
DISPLAY 5.10.2600.6014 8/8/2001 ATI Technologies Inc. atiixpad.inf Not Available
PCI\VEN_1002&DEV_4752&SUBSYS_02401014&REV_27\4&21F0FBEE&0&2830

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\5&F83305F&0

Standard OpenHCD USB Host Controller Yes USB
5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available
PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0130

HID-compliant mouse Yes MOUSE 5.2.3790.0
10/1/2002 Microsoft msmouse.inf Not Available
HID\VID_04B4&PID_8081&MI_01\8&C7B7829&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.0 10/1/2002 (Standard system devices)
input.inf Not Available
USB\VID_04B4&PID_8081&MI_01\7&38EC599D&0&0001

HID Keyboard Device Yes KEYBOARD
5.2.3790.0 10/1/2002 (Standard keyboards)
keyboard.inf Not Available
HID\VID_04B4&PID_8081&MI_00\8&175BC599&0&0000

USB Human Interface Device Yes HIDCLASS
5.2.3790.0 10/1/2002 (Standard system devices)
input.inf Not Available
USB\VID_04B4&PID_8081&MI_00\7&38EC599D&0&0000

USB Composite Device Yes USB
5.2.3790.0 10/1/2002 (Standard USB Host Controller) usb.inf Not Available
USB\VID_04B4&PID_8081\6&1E854668&0&1

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\5&137E71FE&0

Standard OpenHCD USB Host Controller Yes USB
5.2.3790.0 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available
PCI\VEN_1022&DEV_7464&SUBSYS_74641022&REV_0B\4&21F0FBEE&0&0030

PCI standard PCI-to-PCI bridge Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
PCI\VEN_1022&DEV_7460&SUBSYS_00000000&REV_07\3&13C0B0C5&0&30

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002
(Standard system devices) machine.inf
Not Available ACPI\PNP0A03\1

System board Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C01\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C0C\2&DABA3FF&0

AMD K8 Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Advanced Micro
Devices cpu.inf Not Available
ACPI\AUTHENTICAMD_-
_X86_FAMILY_15_MODEL_5_1

AMD K8 Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Advanced Micro
Devices cpu.inf Not Available
ACPI\AUTHENTICAMD_-
_X86_FAMILY_15_MODEL_5_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

ClusterLogC:\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%;%Sys
temRoot%\System32\Wbem;c:\tools;c:\tools\util
<SYSTEM>

PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.
WSF;.WSH <SYSTEM>

PROCESSOR_ARCHITECTURE x86
<SYSTEM>

PROCESSOR_IDENTIFIER x86 Family 15 Model 5
Stepping 10, AuthenticAMD <SYSTEM>

PROCESSOR_LEVEL 15 <SYSTEM>

PROCESSOR_REVISION 050a <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
IBMRTE14\Administrator

TMP %USERPROFILE%\Local Settings\Temp
IBMRTE14\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

R: \\10.61.175.58\sqlserver Disk
Persistent Connection IBMRTE14\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

system Not Available 4 8 0
1413120 Not Available Not Available
Not Available Not Available

smss.exe Not Available 568 11
204800 1413120 11/16/2005 11:55 AM Not
Available Not Available Not Available

csrss.exe Not Available 732 13 Not
Available Not Available 11/16/2005 11:55 AM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
804 13 204800 1413120
11/16/2005 11:55 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
10/18/2005 11:21 PM

services.exe c:\windows\system32\services.exe
848 9 204800 1413120
11/16/2005 11:55 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 860 9
204800 1413120 11/16/2005 11:55 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 1084 8 204800 1413120 11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:21 PM

svchost.exe Not Available 1172 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe Not Available 1288 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe Not Available 1396 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 1412 8 204800 1413120 11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:21 PM

spoolsv.exe c:\windows\system32\spoolsv.exe 456 8 204800 1413120 11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 57.00 KB (58,368 bytes) 10/18/2005 11:21 PM

msdtc.exe Not Available 492 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 708 8 204800 1413120 11/16/2005 11:55 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:21 PM

inetinfo.exe c:\windows\system32\inetsrv\inetinfo.exe 784 8 204800 1413120 11/16/2005 11:55 AM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:22 PM

svchost.exe Not Available 1140 8 Not Available Not Available 11/16/2005 11:55 AM Not Available Not Available Not Available

svchost.exe c:\windows\system32\svchost.exe 480 8 204800 1413120 11/16/2005 11:56 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:21 PM

svchost.exe c:\windows\system32\svchost.exe 1152 8 204800 1413120 11/16/2005 11:56 AM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:21 PM

explorer.exe c:\windows\explorer.exe 1892 8 204800 1413120 11/16/2005 11:56 AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 10/18/2005 11:22 PM

bmlisten.exe c:\slave\bmlisten.exe 1980 8 204800 1413120 11/16/2005 11:56 AM 2, 1, 0, 2 156.00 KB (159,744 bytes) 11/11/2005 12:36 PM

wmiprvse.exe Not Available 1944 8 Not Available Not Available 11/16/2005 11:57 AM Not Available Not Available Not Available

csrss.exe Not Available 2292 13 Not Available Not Available 11/16/2005 3:30 PM Not Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe 2304 13 204800 1413120 11/16/2005 3:30 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 10/18/2005 11:21 PM

rdpclip.exe c:\windows\system32\rdpclip.exe 2628 8 204800 1413120 11/16/2005 3:30 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 68.00 KB (69,632 bytes) 10/18/2005 11:21 PM

explorer.exe c:\windows\explorer.exe 2744 8 204800 1413120 11/16/2005 3:30 PM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 10/18/2005 11:22 PM

bmlisten.exe c:\slave\bmlisten.exe 2848 8 204800 1413120 11/16/2005 3:30 PM 2, 1, 0, 2 156.00 KB (159,744 bytes) 11/11/2005 12:36 PM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe 3512 8 204800 1413120 11/16/2005 3:30 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes) 10/18/2005 11:23 PM

wmiprvse.exe Not Available 3664 8 Not Available Not Available 11/16/2005 3:30 PM Not Available Not Available Not Available

helpsvc.exe c:\windows\pchealth\helpctr\binaries\helpsvc.exe 1972 8 204800 1413120 11/16/2005 3:30 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes) 10/18/2005 11:23 PM

[Loaded Modules]

Name	Version Path	Size	File Date	Manufacturer
winlogon	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) c:\windows\system32\winlogon.exe	497.00 KB (508,928 bytes)	10/18/2005 11:21 PM	Microsoft Corporation
ntdll	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) c:\windows\system32\ntdll.dll	748.50 KB (766,464 bytes)	3/25/2003 7:00 AM	Microsoft Corporation
kernel32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) c:\windows\system32\kernel32.dll	1,014.00 KB (1,038,336 bytes)	10/18/2005 11:21 PM	Microsoft Corporation
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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\rpcrt4.dll

crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
582.00 KB (595,968 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\crypt32.dll

msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
56.50 KB (57,856 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\msasn1.dll

msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447)
340.50 KB (348,672 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\msvcrt.dll

user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
574.50 KB (588,288 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\user32.dll

gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
273.00 KB (279,552 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\profmap.dll

netapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
341.50 KB (349,696 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\psapi.dll

regapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
55.00 KB (56,320 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\regapi.dll

secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
64.00 KB (65,536 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\version.dll

winsta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
54.50 KB (55,808 bytes) 10/18/2005
11:21 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) 10/18/2005
11:20 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) 10/18/2005
11:20 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\msgina.dll

shsvcs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
131.50 KB (134,656 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\shsvcs.dll

shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
313.50 KB (321,024 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 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) 10/18/2005
11:21 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) 10/18/2005
11:21 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 11:41 PM Microsoft
Corporation
c:\windows\winsxs\x86_microsoft.windows.com
mon-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) 10/18/2005
11:20 PM Microsoft Corporation
c:\windows\system32\wtsapi32.dll

sxs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
743.50 KB (761,344 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\sxs.dll

winmm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
172.50 KB (176,640 bytes) 10/18/2005
11:21 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) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\shell32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 183.98 KB (188,392 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\rsaenh.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 174.50 KB (178,688 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\wldap32.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 100.00 KB (102,400 bytes) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 10/18/2005 11:27 PM Microsoft Corporation c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 94.50 KB (96,768 bytes) 10/18/2005 11:21 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 11:41 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) 10/18/2005 11:21 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) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\cscui.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 10/18/2005 11:21 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) 10/18/2005 11:22 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) 10/18/2005 11:21 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) 10/18/2005 11:26 PM Microsoft Corporation c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.50 KB (20,992 bytes) 10/18/2005 11:22 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) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50 KB (43,520 bytes) 9/28/2005 8:15 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) 10/18/2005 11:22 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) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 153.50 KB (157,184 bytes) 10/18/2005

11:22 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
66.50 KB (68,096 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
126.50 KB (129,536 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 10/18/2005
11:21 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) 10/18/2005
11:22 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) 10/18/2005
11:21 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) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
409.50 KB (419,328 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
222.00 KB (227,328 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\schannel.dll

wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
74.00 KB (75,776 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\wdigest.dll

rassfm 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
23.00 KB (23,552 bytes) 10/18/2005
11:23 PM Microsoft Corporation
c:\windows\system32\rassfm.dll

kdcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
213.50 KB (218,624 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 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) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\esent.dll

ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
29.50 KB (30,208 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\ntdsatq.dll

mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
250.50 KB (256,512 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\mswsock.dll

scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
186.50 KB (190,976 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\scecli.dll

ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
793.50 KB (812,544 bytes) 10/18/2005
11:27 PM Microsoft Corporation
c:\windows\system32\ws03res.dll

hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
343.50 KB (351,744 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\ipsecsvc.dll

oakley 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
264.00 KB (270,336 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\oakley.dll

winipsec 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
35.50 KB (36,352 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\psbase.dll

dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
139.98 KB (143,336 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\dssenh.dll

wlbsctrl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
82.00 KB (83,968 bytes) 10/18/2005
11:21 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\strmfilt.dll

httpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
24.00 KB (24,576 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\httpapi.dll

svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\svchost.exe

rpcss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
406.00 KB (415,744 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\rpcss.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
364.50 KB (373,248 bytes) 10/18/2005
11:20 PM Microsoft Corporation
c:\windows\system32\wzcsvc.dll

rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
34.50 KB (35,328 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\rtutils.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

atl 3.05.2283 83.00 KB (84,992 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\atl.dll

rastls 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
180.00 KB (184,320 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\rastls.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
496.50 KB (508,416 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\cryptui.dll

mprapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
89.00 KB (91,136 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\mprapi.dll

activeds 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
194.00 KB (198,656 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\activeds.dll

adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.00 KB (149,504 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\adsldpc.dll

credui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
162.00 KB (165,888 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\credui.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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\tapi32.dll

raschap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
119.50 KB (122,368 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\raschap.dll

schedsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
197.50 KB (202,240 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\schedsvc.dll

wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.50 KB (33,280 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\wiarpc.dll

msidle 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
6.50 KB (6,656 bytes) 10/18/2005 11:21 PM
Microsoft Corporation
c:\windows\system32\msidle.dll

audiosrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
40.50 KB (41,472 bytes) 10/18/2005
11:22 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) 10/18/2005
11:27 PM Microsoft Corporation
c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
146.50 KB (150,016 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\apphelp.dll

cryptsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
55.50 KB (56,832 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\cryptsvc.dll

certcli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\certcli.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
548.00 KB (561,152 bytes) 10/18/2005

11:21 PM Microsoft Corporation
c:\windows\system32\vssapi.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
25.50 KB (26,112 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\dmserver.dll

es 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
233.00 KB (238,592 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\es.dll

pchsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
39.00 KB (39,936 bytes) 10/18/2005
11:23 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

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
18.50 KB (18,944 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\seclogon.dll

sens 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.50 KB (37,376 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\sens.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.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

wuauserv 5.7.3790.1830 (srv03_sp1_rtm.050324-1447)
8.00 KB (8,192 bytes) 10/18/2005 11:26 PM
Microsoft Corporation
c:\windows\system32\wuauserv.dll

wuaueng 5.7.3790.1830 (srv03_sp1_rtm.050324-1447)
1.18 MB (1,232,896 bytes) 10/18/2005
11:27 PM Microsoft Corporation
c:\windows\system32\wuaueng.dll

advpack 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
98.00 KB (100,352 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\advpack.dll

cabinet 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
81.50 KB (83,456 bytes) 3/24/2005 10:35
PM Microsoft Corporation
c:\windows\system32\cabinet.dll

mspatcha 5.2.3790.0 (srv03_rtm.030324-2048) 29.00
KB (29,696 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\mspatcha.dll

shfolder 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
24.50 KB (25,088 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\shfolder.dll

winhttp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
353.00 KB (361,472 bytes) 3/24/2005 11:41
PM Microsoft Corporation
c:\windows\winsxs\x86_microsoft.windows.winht
tp_6595b64144ccf1df_5.1.3790.1830_x-
ww_74150efb\winhttp.dll

comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
1.19 MB (1,248,256 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\comsvcs.dll

browser 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
76.50 KB (78,336 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\browser.dll

netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
258.50 KB (264,704 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\netman.dll

netshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.73 MB (1,812,992 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\netshell.dll

clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
60.00 KB (61,440 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\clusapi.dll

wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
646.00 KB (661,504 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
41.00 KB (41,984 bytes) 10/18/2005
11:20 PM Microsoft Corporation
c:\windows\system32\wzcsapi.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
497.50 KB (509,440 bytes) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005 11:21 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) 10/18/2005 11:22 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

netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 763.00 KB (781,312 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\netcfgx.dll

actxprxy 6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\actxprxy.dll

spoolsv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 57.00 KB (58,368 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\spoolsv.exe

spoolss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 85.00 KB (87,040 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\spoolss.dll

localspl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 339.00 KB (347,136 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\localspl.dll

cnbjmon 5.2.3790.1224 (dnsrv(skatari).040514-1058) 46.50 KB (47,616 bytes) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\cnbjmon.dll

pjlmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 15.00 KB (15,360 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\pjlmon.dll

tcpmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\tcpmon.dll

wsnmp32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.00 KB (44,032 bytes) 10/18/2005 11:20 PM Microsoft Corporation c:\windows\system32\wsnmp32.dll

tcpmib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.50 KB (17,920 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\tcpmib.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

mgmtapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\mgmtapi.dll

snmpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\snmpapi.dll

usbmon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\usbmon.dll

winrnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 17.00 KB (17,408 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\winrnr.dll

wshqos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 10/18/2005 11:20 PM Microsoft Corporation c:\windows\system32\wshqos.dll

win32spl 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 100.50 KB (102,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\win32spl.dll

inetpp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 75.00 KB (76,800 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\inetpp.dll

icmp 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\icmp.dll

ersvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\ersvc.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 10/18/2005 11:22 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) 10/18/2005 11:22 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) 10/18/2005 11:22 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) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 21.00 KB (21,504 bytes) 10/18/2005 11:22 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) 10/18/2005 11:22 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) 10/18/2005 11:22 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) 10/18/2005 11:22 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) 10/18/2005 11:22 PM Microsoft Corporation c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes) 10/18/2005 11:21 PM Microsoft Corporation c:\windows\system32\msxml3.dll

svcext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 10/18/2005

11:22 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
54.50 KB (55,808 bytes) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\inetsrv\lonsint.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
239.00 KB (244,736 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.50 KB (12,800 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
116.00 KB (118,784 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
101.63 KB (104,072 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\rdpwsx.dll

explorer 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 10/18/2005
11:22 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) 10/18/2005
11:22 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) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\shdocvw.dll

themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
377.50 KB (386,560 bytes) 10/18/2005
11:21 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

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
673.00 KB (689,152 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
272.50 KB (279,040 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\webcheck.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 10/18/2005
11:22 PM Microsoft Corporation
c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
16.50 KB (16,896 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\powrprof.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes)
11/11/2005 12:36 PM IBM xSeries Server Performance c:\slave\bmlisten.exe

rdpsnd 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\rdpsnd.dll

scredir 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
28.00 KB (28,672 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\scredir.dll

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
22.00 KB (22,528 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\msacm32.drv

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
69.50 KB (71,168 bytes) 10/18/2005
11:21 PM Microsoft Corporation
c:\windows\system32\msacm32.dll

imaadp32 5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\imaadp32.acm

msadp32 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msadp32.acm

msg711 5.2.3790.0 (srv03_rtm.030324-2048) 10.00 KB (10,240 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msg711.acm

msgsm32 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msgsm32.acm

tssoft32 1.01 9.50 KB (9,728 bytes) 3/25/2003 7:00 AM DSP GROUP, INC.
c:\windows\system32\tssoft32.acm

tsd32 1.03 16.50 KB (16,896 bytes)
3/25/2003 7:00 AM DSP GROUP, INC.
c:\windows\system32\tsd32.dll

msg723 5.2.3790.1830 120.00 KB (122,880 bytes)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\msg723.acm

printui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
563.00 KB (576,512 bytes) 3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\printui.dll

cfgmgr32 5.2.3790.0 (srv03_rtm.030324-2048) 17.50 KB (17,920 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\cfgmgr32.dll

msaud32 8.00.00.4487 288.00 KB (294,912 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msaud32.acm

sl_anet 3.02 84.00 KB (86,016 bytes)
3/25/2003 7:00 AM Sipro Lab Telecom Inc.
c:\windows\system32\sl_anet.acm

l3codeca 1, 9, 0, 0305 284.00 KB (290,816 bytes)
3/25/2003 7:00 AM Fraunhofer Institut Integrierte Schaltungen IIS
c:\windows\system32\l3codeca.acm

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
68.00 KB (69,632 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\rdpclip.exe

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

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 10/18/2005 11:23 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) 9/28/2005 8:18 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) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 10/18/2005 11:23 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) 10/18/2005 11:21 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) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\msctf.dll

jscript 5.6.0.8827 448.00 KB (458,752 bytes)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\jscript.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtmled 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\mshtmled.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
376.00 KB (385,024 bytes) 10/18/2005 11:23 PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
240.00 KB (245,760 bytes) 10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00 KB (94,208 bytes) 10/18/2005 11:21 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)
10/18/2005 11:21 PM Microsoft Corporation
c:\windows\system32\riched20.dll

audiodev 5.2.3790.3700 (srv03_sp1_rtm.050324-1447)
470.00 KB (481,280 bytes) 10/18/2005 11:27 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) 10/18/2005 11:20 PM Microsoft Corporation
c:\windows\system32\wmvcore.dll

wmasf 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 10/18/2005 11:20 PM Microsoft Corporation
c:\windows\system32\wmasf.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
745.00 KB (762,880 bytes) 10/18/2005 11:23 PM 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

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

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

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 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 Running Auto
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 Running Auto
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

Intel NCS NetService NetSvc Stopped Manual Own Process c:\program files\intel\prosetwired\ncs\sync\netsvc.exe 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

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 Running Auto 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 Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Wireless Configuration WZCSVC Running Auto
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

Intel Network Adapters All Users:Intel Network Adapters 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 IBMRTE14\Administrator:Accessories IBMRTE14\Administrator

Accessories\Accessibility IBMRTE14\Administrator:Accessories\Accessibility IBMRTE14\Administrator

Accessories\Entertainment IBMRTE14\Administrator:Accessories\Entertainment IBMRTE14\Administrator

Administrative Tools IBMRTE14\Administrator:Administrative Tools IBMRTE14\Administrator

Startup IBMRTE14\Administrator:Startup IBMRTE14\Administrator

[Startup Programs]

Program Command User Name Location

desktop desktop.ini NT AUTHORITY\SYSTEM Startup

desktop desktop.ini IBMRTE14\Administrator Startup

desktop desktop.ini .DEFAULT Startup

desktop desktop.ini All Users Common Startup

Shortcut to BMListen c:\slave\bmlisten.exe All Users Common Startup

Shortcut to synctime c:\batfiles\synctime.bat All Users Common Startup

PRONoMgrWired c:\program files\intel\prosetwired\ncs\proset\pronomgr.exe 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"

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 7:55:26 PM C:\WINDOWS\system32 Microsoft Corporation

advpack.dll 6.0.3790.1830 98 KB 3/24/2005 7:55:28 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 7:56:10 PM C:\WINDOWS\system32 Microsoft Corporation

cdfview.dll 6.0.3790.1830 149 KB 3/24/2005 7:56:32 PM C:\WINDOWS\system32 Microsoft Corporation

comctl32.dll 5.82.3790.1830 585 KB 3/24/2005 7:57:56 PM C:\WINDOWS\system32 Microsoft Corporation

dxtrans.dll 6.3.3790.1830 205 KB 3/24/2005 8:00:58 PM C:\WINDOWS\system32 Microsoft Corporation

dxtmsft.dll 6.3.3790.1830 355 KB 3/24/2005 8:00:58 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 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iepeers.dll 6.0.3790.1830 248 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

iesetup.dll 6.0.3790.1830 61 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Microsoft Corporation

ieuinit.inf Not Available 24 KB 3/24/2005 8:04:58 PM C:\WINDOWS\system32 Not Available

iexplore.exe 6.0.3790.1830 92 KB 3/24/2005 8:04:58 PM C:\Program Files\Internet Explorer Microsoft Corporation

imgutil.dll 6.0.3790.1830 38 KB 3/24/2005 8:05:04 PM C:\WINDOWS\system32 Microsoft Corporation

inetcpl.cpl 6.0.3790.1830 358 KB 3/24/2005 8:05:06 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 8:05:06 PM C:\WINDOWS\system32 Microsoft Corporation

mlang.dll 6.0.3790.1830 578 KB 3/24/2005 8:07:20 PM C:\WINDOWS\system32 Microsoft Corporation

msencode.dll 2002.10.4.0 112 KB 3/25/2003 7:00:00 AM C:\WINDOWS\system32 옷토□ㅇ|▯ v 坳

mshta.exe 6.0.3790.1830 30 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.dll 6.0.3790.1830 3,036 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtml.tlb 6.0.3790.1830 1,320 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmled.dll 6.0.3790.1830 455 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

mshtmler.dll 6.0.3790.1830 56 KB 3/24/2005 8:07:26 PM C:\WINDOWS\system32 Microsoft Corporation

msident.dll 6.0.3790.1830 48 KB 3/24/2005 8:07:28 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 8:07:28 PM C:\WINDOWS\system32 Microsoft Corporation

msrating.dll 6.0.3790.1830 144 KB 3/24/2005 8:07:36 PM C:\WINDOWS\system32 Microsoft Corporation

mstime.dll 6.0.3790.1830 523 KB 3/24/2005 8:07:38 PM C:\WINDOWS\system32 Microsoft Corporation

occache.dll 6.0.3790.1830 94 KB 3/24/2005 8:08:34 PM C:\WINDOWS\system32 Microsoft Corporation

proctexe.ocx 6.3.3790.1830 83 KB 3/24/2005 8:12:26 PM C:\WINDOWS\system32 Intel Corporation

sendmail.dll 6.0.3790.1830 56 KB 3/24/2005 8:13:36 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 8:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shfolder.dll 6.0.3790.1830 25 KB 3/24/2005 8:13:36 PM C:\WINDOWS\system32 Microsoft Corporation

shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 8:13:40 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 8:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 8:26:12 PM C:\WINDOWS\system32 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 8:26:16 PM C:\WINDOWS\system32 Microsoft Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005 8:26:18 PM C:\WINDOWS\system32 Microsoft Corporation

[Connectivity]

Item Value

Connection Preference Never dial

LAN Settings

AutoConfigProxy wininet.dll

AutoProxyDetectMode Enabled

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

Registry for Client 1

The registry file for clients 2-16 are identical to the following file.

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC

Class Name: <NO CLASS>

Last Write Time: 11/5/2005 - 12:15 AM

Value 0

Name: Type

Type: REG_DWORD

Data: 0x20

Value 1

Name: Start

Type: REG_DWORD

Data: 0x2

Value 2

Name: ErrorControl

Type: REG_DWORD
Data: 0x1

Value 3
Name: ImagePath
Type: REG_EXPAND_SZ
Data: %SystemRoot%\System32\svchost.exe -k iissvcs

Value 4
Name: DisplayName
Type: REG_SZ
Data: World Wide Web Publishing Service

Value 5
Name: DependOnService
Type: REG_MULTI_SZ
Data: RPCSS
HTTPFilter
IISADMIN

Value 6
Name: DependOnGroup
Type: REG_MULTI_SZ
Data:

Value 7
Name: ObjectName
Type: REG_SZ
Data: LocalSystem

Value 8
Name: Description
Type: REG_SZ
Data: Provides Web connectivity and administration through the Internet Information Services Manager

Value 9
Name: FailureActions
Type: REG_BINARY
Data:
00000000 80 51 01 00 00 00 00 00 - 00 00 00 00 03 00 00 00 .Q.....
00000010 49 00 42 00 01 00 00 00 - 01 00 00 00 01 00 00 00 I.B.....
01 00 00 00 01 00 00 00 - 01 00 00 00 .....

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM
Value 0
Name: MajorVersion
Type: REG_DWORD
Data: 0x6

Value 1
Name: MinorVersion
Type: REG_DWORD
Data: 0

Value 2
Name: InstallPath
Type: REG_SZ
Data: C:\WINDOWS\system32\inetsrv

Value 3
Name: AccessDeniedMessage
Type: REG_SZ
Data: Error: Access is Denied.

Value 4
Name: ServiceDll
Type: REG_EXPAND_SZ
Data: C:\WINDOWS\system32\inetsrv\iisw3adm.dll

Value 5
Name: AcceptExOutstanding
Type: REG_DWORD
Data: 0x28

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch\AdvancedDataFactory
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\ADCLaunch\RDSServer.DataFactory
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Performance

Class Name: <NO CLASS>

Last Write Time: 10/11/2005 - 6:10 PM

Value 0

Name: Library

Type: REG_SZ

Data: C:\WINDOWS\system32\inetsrv\w3ctrs.dll

Value 1

Name: Open

Type: REG_SZ

Data: OpenW3PerformanceData

Value 2

Name: Close

Type: REG_SZ

Data: CloseW3PerformanceData

Value 3

Name: Collect

Type: REG_SZ

Data: CollectW3PerformanceData

Value 4

Name: PerfIniFile

Type: REG_SZ

Data: w3ctrs.ini

Value 5

Name: Last Counter

Type: REG_DWORD

Data: 0xa9e

Value 6

Name: Last Help

Type: REG_DWORD

Data: 0xa9f

Value 7

Name: First Counter

Type: REG_DWORD

Data: 0x9a8

Value 8

Name: First Help

Type: REG_DWORD

Data: 0x9a9

Value 9

Name: Object List

Type: REG_SZ

Data: 2472 2646

Value 10

Name: Library Validation Code

Type: REG_BINARY

Data:

00000000 00 9b d8 ad ac c4 c5 01 - 00 5e 00 00 00 00 00 00 ..Ø-¬ÄÅ..^.....

Value 11

Name: WbemAdapFileSignature

Type: REG_BINARY

Data:

00000000 39 e3 6c 2c b4 be 59 f5 - 17 7c c4 d5 2f dc f7 1a 9ãl,´¾Yõ.|ÄÕ/Ü÷.

Value 12

Name: WbemAdapFileTime

Type: REG_BINARY

Data:

2c 1a 15 ad ac c4 c5 01 - ,..-¬ÄÅ.

Value 13

Name: WbemAdapFileSize

Type: REG_DWORD

Data: 0x5e00

Value 14

Name: WbemAdapStatus

Type: REG_DWORD

Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Security

Class Name: <NO CLASS>

Last Write Time: 10/11/2005 - 6:10 PM

Value 0

Name: Security

Type: REG_BINARY

Data:

00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00 .....

00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00 0.....

00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00 ÿ.....

00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00 ..`.....ý...

00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00 .....

00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ..... ...

00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00 .....

00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00 .....ý...

00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 ....#...

00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00 .....

00 00 00 05 12 00 00 00 - .....

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Enum

Class Name: <NO CLASS>

Last Write Time: 11/5/2005 - 12:15 AM

Value 0

Name: 0

Type: REG_SZ

Data: Root\LEGACY_W3SVC\0000

Value 1

Name: Count

Type: REG_DWORD

Data: 0x1

Value 2

Name: NextInstance

Type: REG_DWORD

Data: 0x1

****

Key Name: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\TPCC

Class Name: <NO CLASS>

Last Write Time: 11/10/2005 - 1:16 PM

Value 0

Name: Path

Type: REG_SZ

Data: C:\Inetpub\wwwroot\

Value 1

Name: NumberOfDeliveryThreads

Type: REG_DWORD

Data: 0x14

Value 2

Name: MaxConnections

Type: REG_DWORD

Data: 0xabe0

Value 3

Name: MaxPendingDeliveries

Type: REG_DWORD

Data: 0x1130

Value 4

Name: DB_Protocol

Type: REG_SZ

Data: ODBC

Value 5

Name: TxnMonitor

Type: REG_SZ

Data: COM

Value 6

Name: DbServer

Type: REG_SZ

Data: dcx460

Value 7

Name: DbName

Type: REG_SZ

Data: tpcc

Value 8

Name: DbUser

Type: REG_SZ

Data: sa

Value 9

Name: DbPassword

Type: REG_SZ

Data:

Value 10

Name: COM_SinglePool

Type: REG_SZ

Data: YES

Value 11

Name: CallNoDuplicatesNewOrder

Type: REG_DWORD

Data: 0x1

****
****

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Parameters
Class Name: <NO CLASS>
Last Write Time: 10/19/2005 - 1:50 PM
Value 0
Name: ListenBackLog
Type: REG_DWORD
Data: 0x8ca0

Value 1
Name: PoolThreadLimit
Type: REG_DWORD
Data: 0x2000

Value 2
Name: MaxPoolThreads
Type: REG_DWORD
Data: 0x1000

Value 3
Name: ThreadTimeout
Type: REG_DWORD
Data: 0x15180

Value 4
Name: WebserviceBacklogQueueSize
Type: REG_DWORD
Data: 0x1000

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\InetInfo\Performance
Class Name: <NO CLASS>
Last Write Time: 10/11/2005 - 6:10 PM
Value 0
Name: Library
Type: REG_SZ
Data: infoctrs.dll

Value 1
Name: Open
Type: REG_SZ
Data: OpenINFOPerformanceData

Value 2
Name: Close
Type: REG_SZ
Data: CloseINFOPerformanceData

Value 3
Name: Collect
Type: REG_SZ
Data: CollectINFOPerformanceData

Value 4
Name: PerfIniFile
Type: REG_SZ
Data: infoctrs.ini

Value 5
Name: Last Counter
Type: REG_DWORD
Data: 0x9a6

Value 6
Name: Last Help
Type: REG_DWORD
Data: 0x9a7

Value 7
Name: First Counter
Type: REG_DWORD
Data: 0x966

Value 8
Name: First Help
Type: REG_DWORD
Data: 0x967

Value 9
Name: Object List
Type: REG_SZ
Data: 2406

Value 10
Name: Library Validation Code

Type: REG_BINARY
Data:
00000000 00 e7 13 a9 ac c4 c5 01 - 00 20 00 00 00 00 00 00 .ç.©¬ÄÅ.. .....

Value 11
Name: WbemAdapFileSignature
Type: REG_BINARY
Data:
00000000 4c c3 d3 e7 44 ca 56 e0 - f3 e8 a0 14 52 26 fb 0f LÃÓçDÊVàóè .R&û.

Value 12
Name: WbemAdapFileTime
Type: REG_BINARY
Data:
ac fc e8 a8 ac c4 c5 01 - ¬üè¨¬ÄÅ.

Value 13
Name: WbemAdapFileSize
Type: REG_DWORD
Data: 0x2000

Value 14
Name: WbemAdapStatus
Type: REG_DWORD
Data: 0

****

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters
Class Name: Class
Last Write Time: 10/18/2005 - 11:04 PM
Value 0
Name: NV Hostname
Type: REG_SZ
Data: ibmrte1

Value 1
Name: DataBasePath
Type: REG_EXPAND_SZ
Data: %SystemRoot%\System32\drivers\etc

Value 2
Name: NameServer
Type: REG_SZ
Data:

Value 3
Name: ForwardBroadcasts
Type: REG_DWORD
Data: 0

Value 4
Name: IPEnableRouter
Type: REG_DWORD
Data: 0

Value 5
Name: Domain
Type: REG_SZ
Data:

Value 6
Name: Hostname
Type: REG_SZ
Data: ibmrte1

Value 7
Name: SearchList
Type: REG_SZ
Data:

Value 8
Name: UseDomainNameDevolution
Type: REG_DWORD
Data: 0x1

Value 9
Name: EnableICMPRedirect
Type: REG_DWORD
Data: 0x1

Value 10
Name: DeadGWDetectDefault
Type: REG_DWORD
Data: 0x1

Value 11
Name: DontAddDefaultGatewayDefault
Type: REG_DWORD
Data: 0

Value 12
Name: EnableSecurityFilters
Type: REG_DWORD

Data: 0

Value 13

Name: ReservedPorts

Type: REG_MULTI_SZ

Data: 3343-3343

Value 14

Name: maxuserport

Type: REG_DWORD

Data: 0xfffe

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\NdisWanIp

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data: WANARP

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}

Tcpip\Parameters\Interfaces\{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}

Value 2

Name: NumInterfaces

Type: REG_DWORD

Data: 0x2

Value 3

Name: IpInterfaces

Type: REG_BINARY

Data:

00000000 eb ed a9 1c 32 e4 c9 4f - 8e 9a 16 77 45 2d 1a 0f
ëí©.2äÉO...wE-..

00000010 5f 75 a2 52 0e 6f 8d 4a - 88 c8 17 d9 77 9f f9 cf
_u¢R.o.J.È.Ùw.ùÏ

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{255D69A4-DE84-477E-BAED-97158383422D}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{255D69A4-DE84-477E-BAED-97158383422D}

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{3704CF67-9CB9-4F27-90AD-635A3493A917}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{3704CF67-9CB9-4F27-90AD-635A3493A917}

Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{5E7CF10A-027D-4325-8299-AE8B24B398B8}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{5E7CF10A-027D-4325-8299-AE8B24B398B8}

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{AD376F7D-F93B-42DE-868C-319BD982D4CB}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{AD376F7D-F93B-42DE-868C-319BD982D4CB}

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Adapters\{FCC9F109-8201-4724-8FD2-9CDD67213EFE}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: LLInterface

Type: REG_SZ

Data:

Value 1

Name: IpConfig

Type: REG_MULTI_SZ

Data: Tcpip\Parameters\Interfaces\{FCC9F109-8201-4724-8FD2-9CDD67213EFE}

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\DNSRegisteredAdapters

Class Name: DynDRootClass

Last Write Time: 10/18/2005 - 11:04 PM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{1CA9EDEB-E432-4FC9-8E9A-1677452D1A0F}

Class Name: <NO CLASS>

Last Write Time: 10/18/2005 - 11:04 PM

Value 0

Name: UseZeroBroadcast

Type: REG_DWORD

Data: 0

Value 1

Name: EnableDHCP

Type: REG_DWORD

Data: 0

Value 2

Name: IPAddress

Type: REG_MULTI_SZ

Data: 0.0.0.0

Value 3

Name: SubnetMask

Type: REG_MULTI_SZ

Data: 0.0.0.0

Value 4

Name: DefaultGateway

Type: REG_MULTI_SZ

Data:

Value 5

Name: EnableDeadGWDetect

Type: REG_DWORD

Data: 0x1

Value 6

Name: DontAddDefaultGateway

Type: REG_DWORD

Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{255D69A4-DE84-477E-BAED-97158383422D}

Class Name: <NO CLASS>

Last Write Time: 10/27/2005 - 12:17 AM

Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 10.61.175.110

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 255.255.255.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain
Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled
Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000006

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY
Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0xe10

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD

Data: 0x433c937c

Value 19
Name: T1
Type: REG_DWORD
Data: 0x433c9a84

Value 20
Name: T2
Type: REG_DWORD
Data: 0x433c9fca

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x433ca18c

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 0.0.0.0

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0

Value 26
Name: DhcpIPAddress
Type: REG_SZ
Data: 0.0.0.0

Value 27
Name: DhcpSubnetMask
Type: REG_SZ
Data: 255.0.0.0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{3704CF67-9CB9-4F27-90AD-635A3493A917}
Class Name: <NO CLASS>
Last Write Time: 11/5/2005 - 5:27 PM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0x1

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain
Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled

Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000005

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY
Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD
Data: 0x436c403b

Value 19
Name: T1
Type: REG_DWORD
Data: 0x436c403b

Value 20
Name: T2
Type: REG_DWORD
Data: 0x436c403b

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x7fffffff

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 169.254.37.246

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0x1

Value 26
Name: DhcpIPAddress
Type: REG_SZ
Data: 169.254.37.246

Value 27
Name: DhcpSubnetMask
Type: REG_SZ
Data: 255.255.0.0

Value 28
Name: DhcpRetryTime
Type: REG_DWORD
Data: 0x142

Value 29
Name: DhcpRetryStatus

Type: REG_DWORD
Data: 0x1

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{52A2755F-6F0E-4A8D-88C8-17D9779FF9CF}
Class Name: <NO CLASS>
Last Write Time: 10/18/2005 - 11:04 PM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDHCP
Type: REG_DWORD
Data: 0

Value 2
Name: IPAddress
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 3
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 4
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 5
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 6
Name: DontAddDefaultGateway
Type: REG_DWORD
Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{5E7CF10A-027D-4325-8299-AE8B24B398B8}
Class Name: <NO CLASS>
Last Write Time: 10/21/2005 - 7:58 PM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 100.100.100.201

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 255.255.255.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain
Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled
Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000006

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY
Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0xe10

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD
Data: 0x435952a8

Value 19
Name: T1
Type: REG_DWORD
Data: 0x435959b0

Value 20
Name: T2
Type: REG_DWORD
Data: 0x43595ef6

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x435960b8

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 0.0.0.0

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{AD376F7D-F93B-42DE-868C-319BD982D4CB}
Class Name: <NO CLASS>
Last Write Time: 10/28/2005 - 1:18 PM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 150.150.150.101

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 255.255.252.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain
Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled
Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000004

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY
Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0xe10

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD
Data: 0x43626a70

Value 19
Name: T1
Type: REG_DWORD
Data: 0x43627178

Value 20
Name: T2
Type: REG_DWORD
Data: 0x436276be

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x43627880

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 0.0.0.0

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{B9AAFE1E-8A71-4E4D-9C05-1A87EC4FB1DB}
Class Name: <NO CLASS>
Last Write Time: 10/28/2005 - 1:18 PM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 100.100.100.201

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 255.255.255.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain
Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled
Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000003

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY

Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0xe10

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD
Data: 0x436267c8

Value 19
Name: T1
Type: REG_DWORD
Data: 0x43626ed0

Value 20
Name: T2
Type: REG_DWORD
Data: 0x43627416

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x436275d8

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 0.0.0.0

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Interfaces\{FCC9F109-8201-4724-8FD2-9CDD67213EFE}
Class Name: <NO CLASS>
Last Write Time: 11/5/2005 - 12:15 AM
Value 0
Name: UseZeroBroadcast
Type: REG_DWORD
Data: 0

Value 1
Name: EnableDeadGWDetect
Type: REG_DWORD
Data: 0x1

Value 2
Name: EnableDHCP
Type: REG_DWORD
Data: 0x1

Value 3
Name: IPAddress
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 4
Name: SubnetMask
Type: REG_MULTI_SZ
Data: 0.0.0.0

Value 5
Name: DefaultGateway
Type: REG_MULTI_SZ
Data:

Value 6
Name: DefaultGatewayMetric
Type: REG_MULTI_SZ
Data:

Value 7
Name: NameServer
Type: REG_SZ
Data:

Value 8
Name: Domain

Type: REG_SZ
Data:

Value 9
Name: RegistrationEnabled
Type: REG_DWORD
Data: 0x1

Value 10
Name: RegisterAdapterName
Type: REG_DWORD
Data: 0

Value 11
Name: TCPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 12
Name: UDPAllowedPorts
Type: REG_MULTI_SZ
Data: 0

Value 13
Name: RawIPAllowedProtocols
Type: REG_MULTI_SZ
Data: 0

Value 14
Name: NTEContextList
Type: REG_MULTI_SZ
Data: 0x00000002

Value 15
Name: DhcpClassIdBin
Type: REG_BINARY
Data:

Value 16
Name: DhcpServer
Type: REG_SZ
Data: 255.255.255.255

Value 17
Name: Lease
Type: REG_DWORD
Data: 0xe10

Value 18
Name: LeaseObtainedTime
Type: REG_DWORD
Data: 0x433b4454

Value 19
Name: T1
Type: REG_DWORD
Data: 0x433b4b5c

Value 20
Name: T2
Type: REG_DWORD
Data: 0x433b50a2

Value 21
Name: LeaseTerminatesTime
Type: REG_DWORD
Data: 0x433b5264

Value 22
Name: IPAutoconfigurationAddress
Type: REG_SZ
Data: 0.0.0.0

Value 23
Name: IPAutoconfigurationMask
Type: REG_SZ
Data: 255.255.0.0

Value 24
Name: IPAutoconfigurationSeed
Type: REG_DWORD
Data: 0

Value 25
Name: AddressType
Type: REG_DWORD
Data: 0

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\PersistentRoutes
Class Name: <NO CLASS>
Last Write Time: 10/18/2005 - 11:04 PM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\Winsock
Class Name: <NO CLASS>
Last Write Time: 10/18/2005 - 11:04 PM
Value 0
Name: UseDelayedAcceptance

Type: REG_DWORD
Data: 0

Value 1
Name: HelperDllName
Type: REG_EXPAND_SZ
Data: %SystemRoot%\System32\wshtcpip.dll

Value 2
Name: MaxSockAddrLength
Type: REG_DWORD
Data: 0x10

Value 3
Name: MinSockAddrLength
Type: REG_DWORD
Data: 0x10

Value 4
Name: Mapping
Type: REG_BINARY
Data:

```
00000000  0b 00 00 00 03 00 00 00 - 02 00 00 00 01 00 00 00  ................
00000010  06 00 00 00 02 00 00 00 - 01 00 00 00 00 00 00 00  ................
00000020  02 00 00 00 00 00 00 00 - 06 00 00 00 00 00 00 00  ................
00000030  00 00 00 00 06 00 00 00 - 00 00 00 00 01 00 00 00  ................
00000040  06 00 00 00 02 00 00 00 - 02 00 00 00 11 00 00 00  ................
00000050  02 00 00 00 02 00 00 00 - 00 00 00 00 02 00 00 00  ................
00000060  00 00 00 00 11 00 00 00 - 00 00 00 00 00 00 00 00  ................
00000070  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                        ............
```

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	GROUP2	ENDWH	#USERS	SP
1A	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	1	473	4730	n/a
1B	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	474	947	4740	n/a
1C	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	948	1421	4740	n/a
1D	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	1422	1895	4740	n/a
1E	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	1896	2369	4740	n/a
1F	driver1	c:\rtelogs	tpcc	ibmrte1	dcx460	client1	node3	2370	2843	4740	n/a
2A	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	2844	3249	4060	n/a
2B	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	3250	3656	4070	n/a
2C	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	3657	4063	4070	n/a
2D	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	4064	4470	4070	n/a
2E	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	4471	4878	4080	n/a
2F	driver2	c:\rtelogs	tpcc	ibmrte2	dcx460	client2	node3	4879	5286	4080	n/a
3A	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	5287	5733	4470	n/a
3B	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	5734	6181	4480	n/a
3C	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	6182	6629	4480	n/a
3D	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	6630	7077	4480	n/a
3E	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	7078	7525	4480	n/a
3F	driver3	c:\rtelogs	tpcc	ibmrte3	dcx460	client3	node3	7526	7973	4480	n/a
4A	driver4	c:\rtelogs	tpcc	ibmrte4	dcx460	client4	node3	7974	8343	3700	n/a
4B	driver4	c:\rtelogs	tpcc	ibmrte4	dcx460	client4	node3	8344	8714	3710	n/a

4C	driver4	c:\rtelogs	tpcc	ibmrte4	
	dcx460	8715	9085	3710	n/a
	client4	node3			
4D	driver4	c:\rtelogs	tpcc	ibmrte4	
	dcx460	9086	9456	3710	n/a
	client4	node3			
4E	driver4	c:\rtelogs	tpcc	ibmrte4	
	dcx460	9457	9827	3710	n/a
	client4	node3			
4F	driver4	c:\rtelogs	tpcc	ibmrte4	
	dcx460	9828	10198	3710	n/a
	client4	node3			
5A	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	10199	10605	4070	n/a
	client5	node2			
5B	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	10606	11013	4080	n/a
	client5	node2			
5C	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	11014	11421	4080	n/a
	client5	node2			
5D	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	11422	11829	4080	n/a
	client5	node2			
5E	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	11830	12237	4080	n/a
	client5	node2			
5F	driver5	c:\rtelogs	tpcc	ibmrte5	
	dcx460	12238	12645	4080	n/a
	client5	node2			
6A	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	12646	13088	4430	n/a
	client6	node2			
6B	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	13089	13532	4440	n/a
	client6	node2			
6C	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	13533	13976	4440	n/a
	client6	node2			
6D	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	13977	14420	4440	n/a
	client6	node2			
6E	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	14421	14864	4440	n/a
	client6	node2			
6F	driver6	c:\rtelogs	tpcc	ibmrte6	
	dcx460	14865	15308	4440	n/a
	client6	node2			
7A	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	15309	15756	4480	n/a
	client7	node2			
7B	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	15757	16205	4490	n/a
	client7	node2			
7C	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	16206	16654	4490	n/a
	client7	node2			
7D	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	16655	17103	4490	n/a
	client7	node2			
7E	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	17104	17552	4490	n/a
	client7	node2			
7F	driver7	c:\rtelogs	tpcc	ibmrte7	
	dcx460	17553	18001	4490	n/a
	client7	node2			
8A	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	18002	18435	4340	n/a
	client8	node2			
8B	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	18436	18870	4350	n/a
	client8	node2			
8C	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	18871	19305	4350	n/a
	client8	node2			
8D	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	19306	19740	4350	n/a
	client8	node2			
8E	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	19741	20175	4350	n/a
	client8	node2			
8F	driver8	c:\rtelogs	tpcc	ibmrte8	
	dcx460	20176	20610	4350	n/a
	client8	node2			
9A	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	20611	21031	4210	n/a
	client9	node1			
9B	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	21032	21453	4220	n/a
	client9	node1			
9C	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	21454	21875	4220	n/a
	client9	node1			
9D	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	21876	22297	4220	n/a
	client9	node1			
9E	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	22298	22719	4220	n/a
	client9	node1			
9F	driver9	c:\rtelogs	tpcc	ibmrte9	
	dcx460	22720	23141	4220	n/a
	client9	node1			
10A	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	23142	23582	4410	n/a
	client10	node1			
10B	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	23583	24024	4420	n/a
	client10	node1			
10C	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	24025	24466	4420	n/a
	client10	node1			
10D	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	24467	24908	4420	n/a
	client10	node1			
10E	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	24909	25350	4420	n/a
	client10	node1			
10F	driver10	c:\rtelogs	tpcc	ibmrte10	
	dcx460	25351	25792	4420	n/a
	client10	node1			

11A	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	25793	26250	4580	n/a
	client11	node1			
11B	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	26251	26709	4590	n/a
	client11	node1			
11C	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	26710	27168	4590	n/a
	client11	node1			
11D	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	27169	27627	4590	n/a
	client11	node1			
11E	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	27628	28086	4590	n/a
	client11	node1			
11F	driver11	c:\rtelogs	tpcc	ibmrte11	
	dcx460	28087	28545	4590	n/a
	client11	node1			
12A	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	28546	28871	3260	n/a
	client12	node1			
12B	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	28872	29198	3270	n/a
	client12	node1			
12C	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	29199	29525	3270	n/a
	client12	node1			
12D	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	29526	29852	3270	n/a
	client12	node1			
12E	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	29853	30179	3270	n/a
	client12	node1			
12F	driver12	c:\rtelogs	tpcc	ibmrte12	
	dcx460	30180	30506	3270	n/a
	client12	node1			
13A	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	30507	30866	3600	n/a
	client13	node0			
13B	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	30867	31227	3610	n/a
	client13	node0			
13C	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	31228	31588	3610	n/a
	client13	node0			
13D	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	31589	31949	3610	n/a
	client13	node0			
13E	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	31950	32310	3610	n/a
	client13	node0			
13F	driver13	c:\rtelogs	tpcc	ibmrte13	
	dcx460	32311	32671	3610	n/a
	client13	node0			
14A	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	32672	33081	4100	n/a
	client14	node0			
14B	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	33082	33492	4110	n/a
	client14	node0			
14C	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	33493	33903	4110	n/a
	client14	node0			
14D	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	33904	34314	4110	n/a
	client14	node0			
14E	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	34315	34725	4110	n/a
	client14	node0			
14F	driver14	c:\rtelogs	tpcc	ibmrte14	
	dcx460	34726	35136	4110	n/a
	client14	node0			
15A	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	35137	35536	4000	n/a
	client15	node0			
15B	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	35537	35937	4010	n/a
	client15	node0			
15C	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	35938	36338	4010	n/a
	client15	node0			
15D	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	36339	36739	4010	n/a
	client15	node0			
15E	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	36740	37140	4010	n/a
	client15	node0			
15F	driver15	c:\rtelogs	tpcc	ibmrte15	
	dcx460	37141	37541	4010	n/a
	client15	node0			
16A	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	37542	37950	4090	n/a
	client16	node0			
16B	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	37951	38360	4100	n/a
	client16	node0			
16C	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	38361	38770	4100	n/a
	client16	node0			
16D	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	38771	39180	4100	n/a
	client16	node0			
16E	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	39181	39590	4100	n/a
	client16	node0			
16F	driver16	c:\rtelogs	tpcc	ibmrte16	
	dcx460	39591	40000	4100	n/a
	client16	node0			

1000 ** Connect rate - rate users log in to the database (users per minute)

208 ** 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)"

40000 ** 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	40000	**tpmC**	492307.567	**tpmC/W**	12.31	
Table	**Rows**	**Data**	**Index**	**5% Space**	**8H Space**	**Total Space**
Warehouse	40,400	4,312	136	222.40		4,670.40
District	404,000	44,896	216	2,255.60		47,367.60
Item	100,000	9,416	152	478.40		10,046.40
New-order	363,600,000	6,478,400	16,272		3,232,000	9,726,672.00
History	1,212,000,000	70,773,728	264,352		13,850,528.45	84,888,608.45
Orders	1,212,000,000	39,575,512	19,304,552		11,480,040.02	70,360,104.02
Customer	1,212,000,000	881,454,552	54,996,320	46,822,543.60		983,273,415.60
Order-line	12,119,962,596	794,751,648	1,871,816		155,320,300.74	951,943,764.74
Stock	4,040,000,000	1,292,800,000	2,726,184	64,776,309.20		1,360,302,493.20
Totals		3,085,892,464	79,180,000	111,601,809.20	183,882,869.21	3,460,557,142.41
Segment	**LogDev Cnt.**	**Seg. Size**	**Needed**	**Overhead**		**Not Needed**
misc	16	1,327,104,000	1,116,981,234	11,169,812		198,952,954.05
big	16	2,408,448,000	2,343,575,909	23,435,759		41,436,332.11
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	3,460,587,350.41	34,605,571.42		240,389,286.16
Dynamic space	905,100,888.00	Sum of Data for Order, Order-Line and History				
Static space	2,406,178,956.62	Data + Index + 5% Space + Overhead - Dynamic space				
Free space	183,913,077.21	Total Seg. Size - Dynamic Space - Static Space - Not Needed				
Daily growth	176,470,501.41	Dynamic space/(Wc * 62.5)* tpmC				
Daily spread	(80,792,674.90)	Free space - 1.5 * Daily growth (zero if negative)				
60 day (KB)	12,994,409,041.24	Static space + 60* (daily growth + daily spread)				
60 day (GB)	12,392.43	60-day space in GB (excludes OS, Paging and RDBMS logs)				
Available (GB)	78,625.00	The total storage configured and available for the database, minus logs, in a RAID4 configuration				
Log File Storage Requirement:						
Log size (MB)	1,520,000.00	Total size of log file				
% Log Used	40.0020	% of log file used during entire run				
Total N-O Txn	96,935,672	Total count of new order transactions during entire run				
Log per N-O txn	6.42	KB of log storage used per New Order transaction				
8 Hour Log (GB)	1,447.50	8-hour log storage required				
Log configured (GB)	6,375.00					
Disk Capacity	**MB**	**GB**				
18GB-15K RPM	17000	16.60				
36GB-15K RPM	34000	33.20				
72GB-15K RPM	68000	66.41				
144GB-15K RPM	136000	132.81				
			Disks Priced			
Space Usage	**GB Needed**				**GB Priced**	**GB Usable**
60-Day (RAID-DP)	12,392.43		1344	72GB-15K RPM	89,250.00	78,625.00
					Total DB	78,625.00
8hr Log (RAID-DP)	1,447.50		56	144GB-15K RPM	7,437.50	6,375.00
					Total Log	6,375.00
OS, SQL Server	8.00		4	36.4GB-10K RPM	132.81	132.81
Total Space	13,847.94		1404		96,820.31	85,132.81

Appendix E: Third-Party Price Quotes

Protect Your Data - Grow Your Business

To:
Attention:
Phone:
Fax:
Email:

From: Alan Powers
Phone: (248)223-1020 x344
Fax: (248)223-1026
Email: apowers@compsat.com

QUOTE # : **16W460_111805**
DATE: **November 18, 2005**

IBM x460 Configuration

Part No.	Description	Qty	List Price (per unit) US Dollar	List Price (quantity x unit price) US Dollar	Compsat Discounted Price (per unit) US Dollar	Compsat Discounted Price (quantity x unit price) US Dollar	
x460 SERVER							
8872-6EU	xSeries 460 with 4 x Intel Xeon Processor 7040 3.00GHz/2x2MB L2 Cache	1	$50,779	$50,779	$41,639	$41,639	
96P2688	3 YR onsite repair 24x7x4 hour (x460)	1	$3,390	$3,390	$2,983	$2,983	
8874-2EU	MXE-460 (0 Processors, 0 Memory, 2 Memory Cards)	3	$16,569	$49,707	$13,587	$40,760	
96P2688	3 YR onsite repair 24x7x4 hour (MXE-x460)	3	$3,390	$10,170	$2,983	$8,950	
4818-HAX	Software Update Subscription for Scalable Datacenter x64 Edition	4	$2,239	$8,956	$1,903	$7,613	
41C6022	3 Year Remote Technical Support for xSeries and Datacenter	1	$13,755	$13,755	$11,692	$11,692	
30R5145	8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIMM	32	$15,499	$495,968	$13,639	$436,452	
13M7409	Active Memory 4-Slot Memory Expansion Card	4	$499	$1,996	$439	$1,756	
40K2450	xSeries 460 Scalability Enablement/Memory Adapter	4	$849	$3,396	$747	$2,988	
25R8942	Intel Xeon Processor 7040 3.00GHz/2x2MB L2 Cache	12	$5,999	$71,988	$5,279	$63,349	
13M7414	Scalability Cable 2.3.M	6	$299	$1,794	$263	$1,579	
26K5654	IBM 36.4GB 10K 2.5 inch SAS Drive	4	$419	$1,676	$369	$1,475	
24P0960	IBM TotalStorage DS4000 Host Bus Adapter	16	$1,485	$23,760	$1,307	$20,909	
Network							
AV424-AM	AutoView 424 2-Users Switch w/o Receiver / 24 Systems (2 spares)	3	$1,715	$5,145	$1,509	$4,528	
633147N	E54 15" (13.8" Viewable) Color Monitor	1	$139	$139	$122	$122	
73P2620	IBM USB Keyboard Enhanced Performance Keyboard	1	$35	$35	$31	$31	
06P4069	IBM USB Optical Wheel Mouse	1	$14	$14	$12	$12	
30L9183	ServicePac for 3-Year 24x7x4 Support (Monitor)	1	$90	$90	$79	$79	
e326m SERVER(s)							
7969-81U	eServer 326m Model 252 2.6 GHz/1MB, 1GB, SCSI H/S open bay	16	$2,149	$34,384	$1,762	$28,195	
13N0703	AMD Opteron Processor Model 252 2.6GHz/1MB	16	$1,499	$23,984	$1,319	$21,106	
73P3233	1GB (2x512MB) PC-3200 DDR ECC SDRAM RDIMM	16	$549	$8,784	$483	$7,730	
90P1380	36.4GB 15K Ultra320 SCSI Drive	16	$299	$4,784	$263	$4,210	
73P4201	NetXtreme 1000T Dual-Port Ethernet Adapter	32	$249	$7,968	$219	$7,012	
69P9507	ServicePac for 3-Year 24x7x4 Support (e326)	16	$419	$6,704	$369	$5,900	
			TOTAL =	**$829,366**	**TOTAL =**	**$721,068**	13.06%

25330 Telegraph Road / Suite 200 Raleigh Officentre / Southfield, Michigan 48034
Phone: 248-223-1020 / Fax: 248-223-1026 / www.compsat.com

NOTE:
- This quote may include Compsat Technology consulting and configuration charges.
- Mfg. pricing is out of our control and could change without notice.
- Pricing good for 30 Days from date quoted.

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
http://www.microsoft.com/

Microsoft

October 31, 2005

IBM Corporation
Chris King
3079 Cornwallis Road
Durham, NC 27709

Ms. King:

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 x64 Edition** *Per Processor License* *Discount Schedule: Open Program - Level C* *Unit Price reflects a 6% discount from the retail unit price of $24,999.*	$23,432	16	$374,912
P73-00295	**Windows Server 2003 Standard Edition** *Server License Only - No CALs* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 28% discount from the retail unit price of $999.*	$719	16	$11,504
254-00170	**Visual C++ Standard Edition** *No Discounts Applied*	$109	1	$109
N/A	**Microsoft Problem Resolution Services** *Professional Support* *(1 Incident)*	$245	1	$245

Some products may not be currently orderable but will be available through Microsoft's normal distribution channels by November 7, 2005.

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.

Jeffrey Eckard
Network Appliance, Inc.

,
Phone: 919.294.1274
Fax:
Email: eckard@netapp.com

Price Quotation

NetApp®
Simplifying Data Management

To:

Attn:
Phone:
Fax:
Email:

FOB: Delivery: Terms: **NET 30**

Quote Date: **11/21/2005** Quote Valid Until: **12/22/2005** Contract Number:

Quote Number: **1-6Y34LC** Quote Name:

Comment to Customer:

NetApp FAS3050C

		List Price	Disc%	Net Price	Ext Qty	Ext Net Price
FAS3050C	**Product**				**8**	
FAS3050HAS-IB-SYS	FAS3050HA,SAN,IB,Data ONTAP	$37,550.00	55	$16,897.50	16	$270,360.00
SW-ONTAP-3XXX-GA2	SW,DataONTAP,3XXX-GEN AVAIL2	$0.00	0	$0.00	16	$0.00
X60015A-C	DS14mk2,AC PSU,14x72GB 15K Drvs,-C	$22,790.00	55	$10,255.50	96	$984,528.00
X5511A-C	ESH2 Module,-C	$1,950.00	55	$877.50	192	$168,480.00
X2050B-C	FC HBA for Disk,Op (2),Rev B,-C	$4,500.00	55	$2,025.00	16	$32,400.00
X1941A-C	Cluster 4X IB cable, Copper, 5M	$97.00	55	$43.65	16	$698.40
X6530-C	FC SFP to SFP Patch Cable,0.5M,-C	$0.00	0	$0.00	128	$0.00
X6518A-C	5M Optical Cable, LC/LC Ends	$150.00	55	$67.50	96	$6,480.00
X800E-C	Power Cable, North America	$0.00	0	$0.00	224	$0.00
X505-C	System Lift handle,Detachable	$0.00	0	$0.00	16	$0.00
X6529-C	Optical SFP,FC,-C	$0.00	0	$0.00	64	$0.00

USD **$1,462,946.40**

NetApp Service

		List Price	Disc%	Net Price	Ext Qty	Ext Net Price
CS-S-SSP-4R	4hr Parts Replace and SW Subscription-FAS3050C Mths:36	$62,208.82	20	$49,767.06	8	$398,136.45

All amounts are in US Dollars.

Amounts quoted are before all applicable local taxes. Applicable sales tax (tax rate is based on ship-to location) will be charged to shipments in the USA, if exemption certificate is not received. Submit a completed certificate of tax exemption for each state where purchases are tax-exempt.

This quote is valid for thirty days and is based on NetApp's Standard Terms and Conditions (see www.netapp.com/sales/terms). Changes to terms may affect pricing.

This Pricing information is CONFIDENTIAL between Network Appliance, Inc. and , and may not be distributed to third parties without prior written consent from Network Appliance, Inc..

Jeffrey Eckard
Network Appliance, Inc.

,
Phone: 919.294.1274
Fax:
Email: eckard@netapp.com

Price Quotation

NetApp®
Simplifying Data Management

Service Address :USA USA N/A

Hardware Support	$366,304.38 ext net price
Software Subscription	$31,832.06 ext net price

USD **$398,136.45**

NetApp FAS3050

		List Price	Disc%	Net Price	Ext Qty	Ext Net Price
FAS3050	**Product**				**1**	
FAS3050-BASE-C	FAS3050,Data ONTAP,-C	$62,475.00	55	$28,113.75	1	$28,113.75
SW-T5-ISCSI-C	iSCSI Software,T5-C	$0.00	0	$0.00	1	$0.00
SW-T5-FCP-C	FCP Software,T5-C	$25,000.00	55	$11,250.00	1	$11,250.00
SW-ONTAP-3XXX-GA2	SW,DataONTAP,3XXX-GEN AVAIL2	$0.00	0	$0.00	1	$0.00
X70015-C	DS14MK2 Shelf w/AC PSU,14x144GB 15K Drvs	$40,990.00	55	$18,445.50	4	$73,782.00
X5511A-C	ESH2 Module,-C	$1,950.00	55	$877.50	8	$7,020.00
X2050B-C	FC HBA for Disk,Op (2),Rev B,-C	$4,500.00	55	$2,025.00	2	$4,050.00
X6518A-C	5M Optical Cable, LC/LC Ends	$150.00	55	$67.50	6	$405.00
X6530-C	FC SFP to SFP Patch Cable,0.5M,-C	$0.00	0	$0.00	4	$0.00
X800E-C	Power Cable, North America	$0.00	0	$0.00	10	$0.00
X505-C	System Lift handle,Detachable	$0.00	0	$0.00	1	$0.00
X6529-C	Optical SFP,FC,-C	$0.00	0	$0.00	4	$0.00

USD **$124,620.75**

NetApp Service

		List Price	Disc%	Net Price	Ext Qty	Ext Net Price
CS-S-SSP-4R	4hr Parts Replace and SW Subscription-FAS3050 Mths:36	$45,305.54	20	$36,244.43	1	$36,244.43

Service Address :USA USA N/A

Hardware Support	$29,044.43 ext net price
Software Subscription	$7,200.00 ext net price

USD **$36,244.43**

All amounts are in US Dollars.

Amounts quoted are before all applicable local taxes. Applicable sales tax (tax rate is based on ship-to location) will be charged to shipments in the USA, if exemption certificate is not received. Submit a completed certificate of tax exemption for each state where purchases are tax-exempt.

This quote is valid for thirty days and is based on NetApp's Standard Terms and Conditions (see www.netapp.com/sales/terms). Changes to terms may affect pricing.

This Pricing information is CONFIDENTIAL between Network Appliance, Inc. and , and may not be distributed to third parties without prior written consent from Network Appliance, Inc..

Jeffrey Eckard
Network Appliance, Inc.

,
Phone: 919.294.1274
Fax:
Email: eckard@netapp.com

Price Quotation

NetApp®
Simplifying Data Management

Additional Parts and Components

		List Price	Disc%	Net Price	Ext Qty	Ext Net Price
X8712	NEMA 30A PDU Upgrade, single PDU	$850.00	55	$382.50	2	$765.00
					USD	**$765.00**

Grand Total: $2,022,713.03

All amounts are in US Dollars.

Amounts quoted are before all applicable local taxes. Applicable sales tax (tax rate is based on ship-to location) will be charged to shipments in the USA, if exemption certificate is not received. Submit a completed certificate of tax exemption for each state where purchases are tax-exempt.

This quote is valid for thirty days and is based on NetApp's Standard Terms and Conditions (see www.netapp.com/sales/terms). Changes to terms may affect pricing.

This Pricing information is CONFIDENTIAL between Network Appliance, Inc. and , and may not be distributed to third parties without prior written consent from Network Appliance, Inc..

ePlus

Quotation

Bill To	Ship To		
NETWORK APPLIANCE 627 DAVIS DRIVE SUITE 200 MORRISVILLE NC 27560 ATTN: ACCOUNTS PAYABLE	NETWORK APPLIANCE	Quotation	Page 1 of 1
		Quotation #:	20358058
		Quotation Date:	11/21/05
		Expiration Date:	12/22/05
		Client Reference:	
		Account Rep:	KEVIN ENGLISH

Qty	Part Number	MFG Name	Description	Availability	Unit Price	Extended Price
1	SUA3000RM2U	APC	SMARTUPS 3000VA RM 2U USB SER 120V LINEINT BLK	Available	1,036.33	1,036.33

ePlus offers flexible and easy leasing options for your IT equipment. Use leasing to increase your IT acquisition capability, overcome limited budgets, and manage the lifecycle of your assets. Contact an ePlus Leasing Coordinator at 1-800-503-5970 or leasing@eplus.com to receive a lease quote today.

Thank you for your inquiry. Please note the following about this quotation: It will expire on the date stated above. Unless freight amount is indicated, or is zero, freight will be added to the invoice. Unless Bill-To company is exempt from Sales Tax, it will be added to the invoice. Extended Warranties and Professional Services are available.

Customer Acceptance

Signature: _____ Date: _____

Name: _____ PO #: _____

Title: _____ Ship VIA: _____

ePlus Confidential Information

This is a solicitation for an offer. No contract is formed unless a purchase order or other offer is received and accepted by our office

To Place An Order , Please Contact:

Sales: Kristi Johnson
Phone: 910.763.3373 Ext:223
Fax: 910.762.8235
email: kjohnson@eplus.com
Address: 3825 Market Street, Wilmington, NC 28403

SubTotal:	$1,036.33
Tax:	TBD if Applicable
Freight:	TBD
Total:	$1,036.33

| Home | About CDW | Customer Support | View Cart |

CDW | Mac Warehouse

NEW SonicWall TotalSecure
complete network security solution
More Info

Search

Mac PC All

Brands Hardware Software Networking Accessories Services Finders 800.750.4239

Filter YOUR Search Results

FILTER BY GROUP
- Data Storage-Drives (3)
- NetComm Products (1)

FILTER BY BRAND
- Emulex Network Systems (2)
- EMC Corporation (1)
- Hitachi Data Systems (1)

FILTER BY PRICE
- $1000-$2000 (3)

FILTER BY KEYWORD
Search within your results
GO
Include product descriptions

Hints and Help

Take Our Survey
Was our search engine helpful?

Keyword: lp9002l

Show ready to ship products only(Shipping Definitions) Hide Product images

Sort By: BEST MATCH | GROUP | BRAND | LOWEST PRICE | HIGHEST PRICE

Showing 1 - 4 of **4** Products

Compare

Product Details	CDW#	Shipping	Advertised Price	Cart
Emulex LP9002L-E LightPulse 2Gb/s PCI Fibre Channel Host Bus Adapter Single LC Fibre Channel 2Gbps PCI interface controller card for select EMC branded products with 1 embedded LC connector **MFG#: LP9002L-E**	359078	Same Day	$1,249.76	
Emulex LightPulse Fibre Channel Host Bus Adapter, LP9002L-F2 LC Fibre Channel 2Gbps PCI interface controller card for PCs with 1 embedded LC connector **MFG#: LP9002L-F2**	289515	Same Day	$1,195.00	
HITACHI HBA 2GB PCI EBEDDED OPTICS **MFG#: LP9002L-F2.P**	757171	2+ Weeks	$1,347.00	
Emulex LightPulse LP9002L-E - network adapter E - Network adapter - PCI 64 - Fibre Channel **MFG#: LP9002L-E**	857264	1-2 Weeks	Call	

Compare

Showing 1 - 4 of **4** Products

> My Shopping Cart

MY SHOPPING CART | MY SAVED ITEMS

Returns | Privacy | Security

Clear Cart | Move Cart to Wish List | Save Cart | Print Cart | Email Cart

Switches

Qty.	Product Description	Unit Price	Savings	Total Price
1 Update	**NETGEAR GS108 10/100/1000Mbps Copper Gigabit Switch - Retail** **Model #:** GS108 **Item #:** N82E16833122111 *** This item is warranted through the product **manufacturer** only.* **$10.00 Mail-in Rebate** Select An Optional Extended Warranty Plan Remove Save Move To Wish List	$79.99		$79.99

Network - Cables

Qty.	Product Description	Unit Price	Savings	Total Price
1 Update	**AMC CC5E-B14B 14 FT Cat 5E Blue Cat 5E Blue Cable - OEM** **Model #:** CC5E-B14B **Item #:** N82E16812105305 Remove Save Move To Wish List	$3.29	-$0.50 Sale	$13.95

Subtotal: $93.94

Shipping **Shipping:** $0.00

Zip Code: GO UPS 3 Days

*Enter your Zip Code and select a shipping option to determine your shipping cost.

****UPS Shipping Now Available****
We're pleased to offer you the option to ship your order via UPS.

Redeem Gift Certificates **Gift Certificates:** $0.00

Claim Code:

Security Code: Redeem

Apply Promo Code

Promo Code: Apply

Total(before tax): $93.94

Printer-friendly Version

Continue Shopping | Checkout »

If you're experiencing problems with your shopping cart, please click here and try again.
Note: Your shopping cart will be emptied.

IMPORTANT SHIPPING INFORMATION

- All orders require 1-2 business days of processing time prior to shipping.

CABLES TO GO
"Your One Source For Connectivity"
Resellers, click here to request User ID.
American Red Cross Search
CART: 0 items Subtotal: $0.00
Cable Configurator | Connector Guide | View Cart | Customer Support

New Products
Adapters
Apple/Mac Compatible
Audio Video Cables
Audio Video Devices
Bulk Cable
CATV and SATV
Clearance/Overstock
Computer Accessories
Connectors
DVI and HDMI
Fiber Cables
FireWire
Gender Changers
Home Distribution
I O Cards and Devices
KVMs and Switches
Monitor Cables
Network Cables
Network Electronics
PC Cables
PDA/Cell Phone Cables
Power and Batteries
Premise Wiring
Projector Cables
RapidRun Audio/Video
SCSI Cables
Tools and Testers
Travel Tools
USB
VGA
Workstation

Log In/Register
What's New
Custom Cables
Where to Buy
Tech Support
About Us
Search

Cables To Go 21 YEARS Of Connectivity

Quick Buy

Submit

Enter a 5 digit part # to add it to your cart and click submit.

Search Results

Searching for **usb AND keyboard AND adapter**.
Use Search Tips to refine your search.

Found: 5 Showing: 1 - 5

- **32185 PORT AUTHORITY USB TO PS/2 KEYBOARD/MOUSE ADAPTER - BLACK**
  Allows you to use your PS/2 compatible mouse and keyboard on a USB port
  Price: $24.99 **Quantity:** 1

- **24221 Y-MOUSE PS/2 MOUSE and KEYBOARD ADAPTER for USB**
  Connect two PS/2 peripherals to a single USB port
  Price: $49.99 **Quantity:** 1

- **27225 USB to DUAL PS/2 KEYBOARD/MOUSE ADAPTER**
  Allows you to use your PS/2 compatible mouse and keyboard on a USB port
  Price: $24.99 **Quantity:** 1

- **35700 USB TO PS/2 ADAPTER**
  Converts USB keyboard or mouse to a PS/2 port
  Price: $7.99 **Quantity:** 1

- **35691 NOTEBOOK BUNDLE**
  Everything you need while on the go for one low price!
  Price: $117.99 **Quantity:** 1

Found: 5 Showing: 1 - 5