

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

TPC-C Version 5.6

Submitted for Review
June 12, 2006

IBM Corporation

First Edition – June 2006

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Notes

¹ GHz and MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.

² When referring to hard disk capacity, GB, or gigabyte, means one thousand million bytes. Total user-accessible capacity may be less.

Abstract

IBM Corporation conducted the TPC Benchmark™ C on the IBM® System x3950 configured as a client/server system with attached IBM TotalStorage DS4500. This report documents the full disclosure information required by the TPC Benchmark C Standard Specification, Revision 5.6, including the methodology used to achieve the reported results. All testing fully complied with this revision level.

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

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

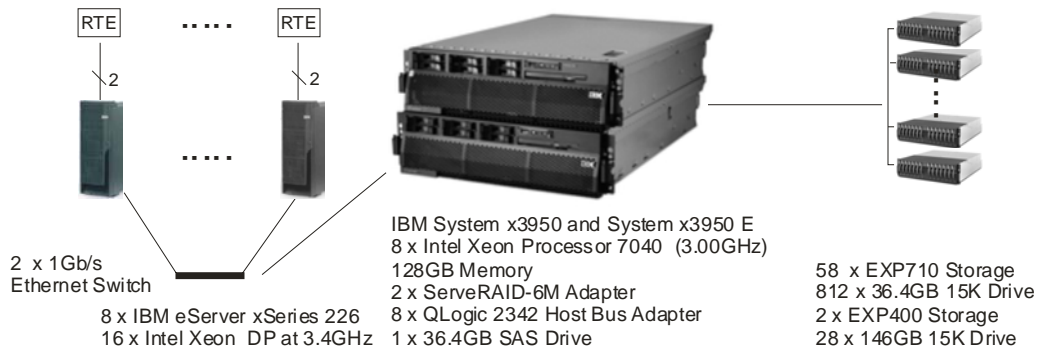
The benchmark results are summarized in the following table.

Hardware	Software	Total System Cost	tpmC	\$/tpmC	Total Solution Availability Date
IBM System x3950	Microsoft SQL Server 2005 Enterprise x64 Edition (SP1) Microsoft Windows Server 2003 Enterprise x64 Edition	\$1,783,882 USD	340,243	\$5.24 USD	June 12, 2006

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

IBM Corporation	IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1)		TPC-C Rev. 5.6	
			Report Date 06/12/06	
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$1,783,882 USD	340,243 tpmC	\$5.24 USD /tpmC	June 12, 2006	
Database Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number Of Users
8/16/32 Intel® Xeon® Processor 7040 3.00GHz	Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)	Microsoft Windows® Server 2003 Enterprise x64 Edition	Microsoft Visual C++ Standard Edition Microsoft COM+	275,200

8 RTEs emulating 275,200 users



System Component	Qty	Server	Qty	Each of 8 Clients
Processors/Cores/Threads	8/16/32	Intel Xeon Processor 7040 3.00GHz	2/2/4	Intel Xeon DP 3.4GHz
Cache		2x2MB L2		2MB L2 Cache
Memory	32	4GB ECC RDIMM	4 2	512MB PC-3200 256MB PC-3200
Disk Controllers	7 8 2	IBM TotalStorage DS4500 QLogic 2342 HBA ServeRAID-6M		Ultra320 SCSI Interface
Disk Drives	812 28 1	36.4GB 15K FC Drive 146GB 15K SCSI Drive 36.4GB 10K SAS Drive	1	36.4GB 15K U320
Total Storage		33681.2GB		

IBM Corporation	IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1)				TPC-C Rev. 5.6				
					Report Date 06/12/06				
IBM Corporation	IBM System x3950 c/s with Microsoft SQL Server 2005			TPC-C Revision 5.6					
Description			Part Number	Third Party Brand	List Price	Qty	Extended Price	3-Yr. Maint. Price	
Server Hardware									
x3950 with 2 x Intel Xeon Processor 7040 3.00GHz/2x2MB L2	8872-8RU	IBM	1	22,999	1	22,999			
Intel Xeon Processor 7040 3.00GHz/2x2MB L2	40K2523	IBM	1	4,729	6	28,374			
x3950 E (0 Processors, 0 Memory, 2 Memory Cards)	8874-3RU	IBM	1	6,999	1	6,999			
Scalability Cable 2.3.M	13M7414	IBM	1	299	2	598			
8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIMM	30R5145	IBM	1	5,299	16	84,784			
Memory Upgrade Card	41Y5000	IBM	1	499	4	1,996			
IBM 36.4GB 10K 2.5 inch SAS Drive	26K5654	IBM	1	419	1	419			
ServeRAID-6M Ultra320 SCSI Adapter	39R8815	IBM	1	879	2	1,758			
IBM C117 Display	49387NU	IBM	1	149	1	149			
IBM Preferred Pro USB Keyboard	40K9584	IBM	1	29	1	29			
ScrollPoint 800 DPI Optical Mouse - USB & PS/2	90P0742	IBM	1	25	1	25			
ServicePac for 3-Year 24x7x4 Support (x3950)	96P2685	IBM	1	6,840	1			6,840	
ServicePac for 3-Year 24x7x4 Support (x3950 E)	96P2685	IBM	1	6,840	1			6,840	
ServicePac for 3-Year 24x7x4 Support (Display)	30L9183	IBM	1	90	1			90	
Alacritech SEN2002XT Gigabit Accelerator (2 spares)	SEN2002XT	Alacritech	3	1,449	4	5,796			
						Subtotal	153,926	13,770	
Server Storage									
QLogic 2342 Dual-Port Host Bus Adapter (2 spares)	QLA2342	QLogic	4	1,392	10	13,920			
IBM TotalStorage DS4500 Midrange Disk Subsystem	174290U	IBM	1	49,900	7	349,300			
IBM DS4000 Mini Hub	19K1269	IBM	1	899	14	12,586			
IBM Short Wave SFP Module (4 Pack)	22R0483	IBM	1	550	62	34,100			
IBM 1m LC-LC Fibre Channel Cable	19K1247	IBM	1	79	102	8,058			
IBM 5m LC-LC Fibre Channel Cable	19K1248	IBM	1	129	28	3,612			
IBM TotalStorage DS4000 EXP710 Storage Exp. Unit	1740710	IBM	1	6,000	58	348,000			
2Gbps FC 36.4GB 15K Hot-Swap HDD	06P5772	IBM	1	1,115	812	905,380			
146GB 15K Ultra320 SCSI Hot-Swap HDD	90P1382	IBM	1	649	28	18,172			
IBM EXP400 Rack Storage Exp. Enclosure	17331RU	IBM	1	3,099	2	6,198			
IBM UPS 750TLV	2130R1X	IBM	1	545	1	545			
IBM S2 42U Standard Rack	93074RX	IBM	1	1,489	8	11,912			
2M SCSI cable	03K9310	IBM	1	75	4	300			
ESM for EXP400	59P5018	IBM	1	699	2	1,398			
ServicePac for 3-Year 24x7x4 Support (EXP710)	41L2768	IBM	1	760	58			44,080	
ServicePac for 3-Year 24x7x4 Support (DS4500)	96P2062	IBM	1	1,087	7			7,609	
ServicePac for 3-Year 24x7x4 Support (EXP400)	41L2768	IBM	1	760	2			1,520	
ServicePac for 3-Year 24x7x4 Support (Rack)	41L2760	IBM	1	300	8			2,400	
						Subtotal	1,713,481	55,609	
Server Software									
Microsoft SQL Server 2005 Enterprise Edition	810-03134	Microsoft	2a	23,432	8	187,456			
Microsoft Windows Server 2003 Enterprise x64 Edition	P72-00274	Microsoft	2b	2,334	1	2,334			
Microsoft Problem Resolution Services	N/A	Microsoft	2	245	1			245	
						Subtotal	189,790	245	
Client Hardware									
x226 with 3.4GHz/2MB Xeon DP, 512MB (2x256MB) Memory	8648-6AU	IBM	1	1,499	8	11,992			
3.4GHz/2MB Xeon DP Processor Upgrade	40K2517	IBM	1	799	8	6,392			
1GB (2x512MB) PC-3200 DDR2 ECC SDRAM RDIMM	73P3522	IBM	1	275	16	4,400			
36.4GB 15K Ultra320 SCSI Drive	40K1026	IBM	1	249	8	1,992			
Intel PRO/1000 GT Dual-Port Server Adapter	73P5101	IBM	1	249	16	3,984			
IBM C117 Display	49387NU	IBM	1	149	8	1,192			
ServicePac for 3-Year 24x7x4 Support (x226)	96P2250	IBM	1	586	8			4,688	
ServicePac for 3-Year 24x7x4 Support (Display)	30L9183	IBM	1	90	8			720	
						Subtotal	29,952	5,408	
Client Software									
Microsoft Windows Server 2003 with COM+	P73-00295	Microsoft	2c	719	8	5,752			
Microsoft Visual C++ Professional 6.0	254-00170	Microsoft	2	109	1	109			
						Subtotal	5,861		
Network Components									
NetGear 8-Port Ethernet Switch (2 spares)	GS-108		5	70	4	280			
Ethernet Cable (2 spares)	CC5E-B14B		5	3	15	45			
						Subtotal	325		
						Total	2,093,335	75,032	
Large Purchase Discount (See Note 1.) 19.69%							(384,485)		
Pricing: 1 - IBM - 1-888-SHOP-IBM, ext. 5821; 2 - Microsoft - 2 - 0%; prices for 2a - 6%, 2b - 42%, and 2c - 28% reflect applied "open-level" discounts; 3 - Alacritech; 4 - cxfs-estore.com; 5 - newegg.com. . . Note 1: Discount based on IBM Direct guidance applies to all line items where Pricing=1.						Three-Year Cost of Ownership USD:		\$1,783,882	
								tpmC:	340,243
								\$ USD/tpmC:	\$5.24
Audited by Francois Raab, InfoSizing, Inc.									
Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specifications. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org.									

IBM Corporation	IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1)		TPC-C Rev. 5.6
			Report Date 06/12/06
Numerical Quantities Summary			
MQTh, Computed Maximum Qualified Throughput: 340,243 tpmC			
Response Times (in seconds)	90th Percentile	Average	Maximum
New Order	1.14	0.67	5.92
Payment	1.10	0.64	4.66
Delivery	0.18	0.13	1.13
Stock Level	1.52	0.99	2.58
Order Status	1.14	0.66	5.88
Delivery (Deferred)	0.15	0.11	5.17
Menu	0.16	0.13	1.16
Response Time Delay Added for Emulated Components: 0.1 Seconds			
Transaction Mix (in percent of total transactions)			Percent
New Order			44.94
Payment			43.03
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 / 12.06	18.02 / 120.50
Payment	3.00 / 0.00	3.00 / 12.06	3.02 / 120.50
Delivery	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Stock Level	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Order Status	2.00 / 0.00	2.00 / 10.06	2.02 / 100.50
Test Duration			
Ramp-up Time			53 minutes 46 seconds
Measurement Interval			120 minutes
Number of Checkpoints			4
Checkpoint Interval			30 minutes
Number of transactions (all types) completed in measurement interval			90,847,698

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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 5.6.

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

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

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

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

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

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

General Items

Benchmark Sponsor

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

This benchmark was sponsored by IBM Corporation.

Application Code Disclosure and Definition Statements

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

Appendix A contains all source code implemented in this benchmark.

Parameter Settings

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

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

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

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

Configuration Diagrams

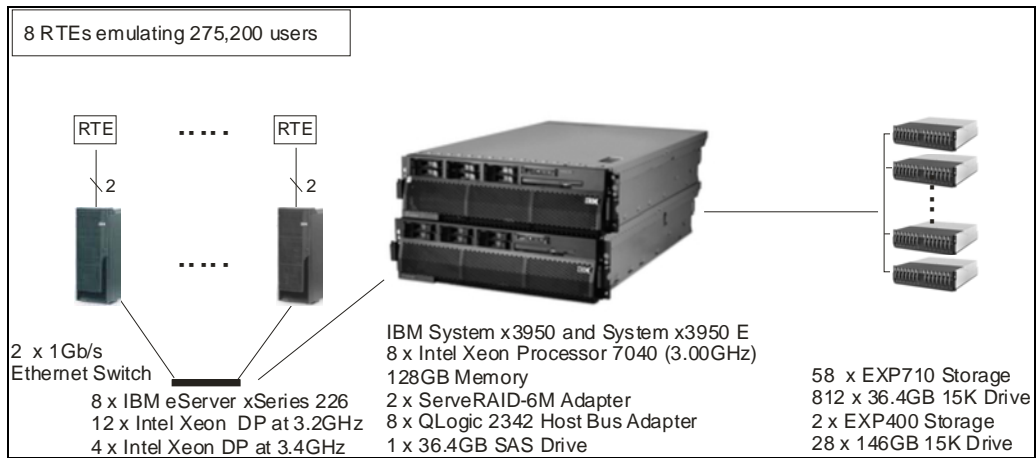
Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences.

The configuration 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 5.6, 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 eight IBM eServer xSeries 226 systems as the clients, which executed the terminal I/O and submitted transactions to COM+ servers, which are also running on the clients. Six of these clients were configured with two 3.2GHz Intel Xeon processors, and two clients were configured with two 3.4GHz processors. These COM+ servers forwarded the transaction requests to the server, and returned the results to the RTE. Microsoft SQL Server 2005 Enterprise Edition is the DBMS executing on the server.

Measured Configuration



The measured configuration consisted of two x226 clients with two 3.4GHz Intel Xeon DP processors and six x226 clients each with two 3.2GHz Intel Xeon DP processors. However, eight x226 clients each with two 3.4GHz processors 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 upgrade does not have a material effect on the reported performance.

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 xSeries 226 clients. The screen input/output was managed via HTML strings that comply with the HTML Version 2.0 specification. A listing of the code used to implement the intelligent terminals is provided in Appendix A. All data manipulation was handled by the x3950 database server.

Transaction Profiles

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

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

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

Table 2-1. Transaction Statistics

New Order	Values
Home warehouse order lines	99.00%
Remote warehouse order lines	1.00%
Rolled back transactions	1.00%
Average number of items per order	10.00
Payment	
Home warehouse payment transactions	85%
Remote warehouse payment transactions	15%
Non-Primary Key Access	
Payment transactions using C_LAST	60.01%
Order-Status transactions using C_LAST	60.00%
Delivery	
Delivery transactions skipped	0
Transaction Mix	
New-Order	44.94%
Payment	43.03%
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 batch file to issue queries to the database. The results of the queries demonstrated that the database was consistent for all four tests.

Isolation Requirements

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

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

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

Case A was followed for isolation test seven.

Durability Requirements

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

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

Loss of Data Test

The DS4500 disk subsystem contains two RAID controller blades, which provide RAID functionality to the attached disks. Each RAID controller blade contains a read/write cache. Write caching was enabled on the controllers. The attached disks contained a portion of each of the tables in the database. During steady state, one disk drive was removed causing Microsoft SQL Server 2005 to report errors accessing that device.

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

1. The contents of the database were backed up to several database dump devices during the initial database load.
2. The current count of the total number of orders was determined by the sum of D_NEXT_O_ID for all rows in the district table giving SUM1.
3. A test was started with 275,200 users submitting transactions.
4. A 15K rpm Fibre Channel disk drive containing a portion of each of the tables in the tpc database was pulled out causing Microsoft SQL Server 2005 to report errors accessing that device.
5. The run was aborted and Microsoft SQL Server 2005 was stopped.
6. A new 15K rpm disk drive was reinserted and was recovered.
7. The database was recovered and restored from the backup dump devices. Afterwards, the transaction log was rolled forward to the database.
8. Step 2 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 is recovered is 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.
10. Consistency Condition 3 was verified.

Loss of DS4500 Cache Controller Durability Test

The DS4500 disk subsystem contains two RAID controller blades, which provide RAID functionality to the attached disks. Each RAID controller blade contains a read/write cache. Write caching was enabled. The attached disks contained a portion of each of the tables in the database. During steady state, one RAID controller blade was desinserted causing SQL Server to report errors accessing that device.

The following steps were successfully performed to pass the durability test of failure of a DS4500 controller 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 27,520 users submitting transactions. The users were evenly distributed over all seven DS4500 controllers of the audit configuration
4. A DS4500 controller blade containing a portion of each of the tables in the tpcc database was pulled out causing SQL Server 2005 to report errors accessing that device.
5. The run was aborted and SQL Server was stopped.
6. The failed DS4500 controller blade was reinserted and was recovered.
7. The database was recovered and restored from the backup dump devices. Afterwards, the transaction log was rolled forward to the database.
8. Step 2 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 is recovered is 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.
10. Consistency Condition 3 was verified.

Loss of Log Test

The following steps were successfully performed to pass the durability test of loss of a log drive:

1. The current count of the total number of orders was determined by the sum of D_NEXT_O_ID for all rows in the district table giving SUM1.
2. This test was executed on a full scale benchmark run with 275,200 users.
3. The test continued to run for 5 minutes after all users were connected to the server.
4. One disk from a log array was removed. Since both of the log arrays were RAID-10 mirrored, Microsoft SQL Server 2005 continued to process transactions without interruption.
5. The test continued to run for another 5 minutes before stopping.
6. Step 1 was repeated to obtain the current count of the total number of orders giving SUM2.
7. 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.

Loss of System Test (Instantaneous Interruption and Loss of Memory)

The following steps were successfully performed to pass the durability test of loss of system power:

1. The current count of the total number of orders was determined by the sum of D_NEXT_O_ID for all rows in the district table giving SUM1.
2. This test was executed on a full scale benchmark run with 275,200 users.
3. The test continued to run for 5 minutes after all users were connected to the server.
4. The server under test was powered off, which removed power from the system and the memory.
5. The server was powered on again.
6. Microsoft SQL Server 2005 was allowed to recover.
7. Step 1 was repeated to obtain the current count of the total number of orders giving SUM2.
8. 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.

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 28,160 warehouses and the audited run used 27,520 warehouses. A total of 640 warehouses was deleted.

Table 4-1. Initial Cardinality of Tables

Table Name	Rows
Warehouse	27,520
District	281,600
Item	100,000
New Order	253,440,001
History	844,800,003
Orders	844,800,011
Customer	844,800,000
Order Line	8,447,980,026
Stock	2,816,000,000
Inactive Warehouses	640

Distribution of Tables and Logs

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

The log was configured using two ServeRAID-6M adapters. Each ServeRAID-6M adapter was connected to a RAID-10 disk array consisting of fourteen 146GB 15K rpm physical disks. The partitions for the ServeRAID-6M adapters were striped together via software striping included within the Windows 2003 SP1 Operating System to create one large log volume.

The database tables were stored on 812 Fibre Channel disk drives. Each physical disk has a capacity of 36.4GB. A total of seven DS4500 storage systems connected these 812 disks. Five DS4500 storage systems were connected to 112 Fibre Channel disks and two DS4500 storage systems were connected to 126 Fibre Channel disks.

Each disk volume, as seen by the Windows operating system, was configured as a RAID-0 disk array with 14 physical disks. There was a total of 58 such disk volumes. Each disk volume was further partitioned into 3 partitions.

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

Table 4-2. Data Distribution for the Benchmarked Configuration

Disk #	Drives	Partition	Size	Use
0	1 - 36.4GB SAS	C:	33.89GB (NTFS)	Operating System
1	14 - 146GB EXP400 Enclosure	E: F:	957.03GB 89GB	Logfile MDF File
2	14 - 146GB EXP400 Enclosure	E: F:	957.03GB 89GB	Logfile MDF File
3	014 - 36.4GB EXP710 Enclosure	C:\mp\c1 C:\mp\m1 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
4	014 - 36.4GB EXP710 Enclosure	C:\mp\c2 C:\mp\m2 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
5	014 - 36.4GB EXP710 Enclosure	C:\mp\c3 C:\mp\m3 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
6	014 - 36.4GB EXP710 Enclosure	C:\mp\c4 C:\mp\m4 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
7	014 - 36.4GB EXP710 Enclosure	C:\mp\c5 C:\mp\m5 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
8	014 - 36.4GB EXP710 Enclosure	C:\mp\c26 C:\mp\m26 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
9	014 - 36.4GB EXP710 Enclosure	C:\mp\c27 C:\mp\m27 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
10	014 - 36.4GB EXP710 Enclosure	C:\mp\c28 C:\mp\m28 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
11	014 - 36.4GB EXP710 Enclosure	C:\mp\c29 C:\mp\m29 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
12	014 - 36.4GB EXP710 Enclosure	C:\mp\c55 C:\mp\m55 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
13	014 - 36.4GB EXP710 Enclosure	C:\mp\c56 C:\mp\m56 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
14	014 - 36.4GB EXP710 Enclosure	C:\mp\c57 C:\mp\m57 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
15	014 - 36.4GB EXP710 Enclosure	C:\mp\c58 C:\mp\m58 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
16	014 - 36.4GB EXP710 Enclosure	C:\mp\c18 C:\mp\m18 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files

17	014 - 36.4GB EXP710 Enclosure	C:\mp\c19 C:\mp\m19 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
18	014 - 36.4GB EXP710 Enclosure	C:\mp\c20 C:\mp\m20 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
19	014 - 36.4GB EXP710 Enclosure	C:\mp\c21 C:\mp\m21 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
20	014 - 36.4GB EXP710 Enclosure	C:\mp\c10 C:\mp\m10 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
21	014 - 36.4GB EXP710 Enclosure	C:\mp\c11 C:\mp\m11 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
22	014 - 36.4GB EXP710 Enclosure	C:\mp\c12 C:\mp\m12 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
23	014 - 36.4GB EXP710 Enclosure	C:\mp\c13 C:\mp\m13 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
24	014 - 36.4GB EXP710 Enclosure	C:\mp\c47 C:\mp\m47 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
25	014 - 36.4GB EXP710 Enclosure	C:\mp\c48 C:\mp\m48 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
26	014 - 36.4GB EXP710 Enclosure	C:\mp\c49 C:\mp\m49 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
27	014 - 36.4GB EXP710 Enclosure	C:\mp\c50 C:\mp\m50 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
28	014 - 36.4GB EXP710 Enclosure	C:\mp\c51 C:\mp\m51 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
29	014 - 36.4GB EXP710 Enclosure	C:\mp\c52 C:\mp\m52 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
30	014 - 36.4GB EXP710 Enclosure	C:\mp\c53 C:\mp\m53 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
31	014 - 36.4GB EXP710 Enclosure	C:\mp\c54 C:\mp\m54 C:\mp\disk5	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
32	014 - 36.4GB EXP710 Enclosure	C:\mp\c43 C:\mp\m43 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
33	014 - 36.4GB EXP710 Enclosure	C:\mp\c44 C:\mp\m44 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
34	014 - 36.4GB EXP710 Enclosure	C:\mp\c45 C:\mp\m45 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files

35	014 - 36.4GB EXP710 Enclosure	C:\mp\c46 C:\mp\m46 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
36	014 - 36.4GB EXP710 Enclosure	C:\mp\c39 C:\mp\m39 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
37	014 - 36.4GB EXP710 Enclosure	C:\mp\c40 C:\mp\m40 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
38	014 - 36.4GB EXP710 Enclosure	C:\mp\c41 C:\mp\m41 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
39	014 - 36.4GB EXP710 Enclosure	C:\mp\c42 C:\mp\m42 C:\mp\disk4	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
40	014 - 36.4GB EXP710 Enclosure	C:\mp\c22 C:\mp\m22 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
41	014 - 36.4GB EXP710 Enclosure	C:\mp\c23 C:\mp\m23 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
42	014 - 36.4GB EXP710 Enclosure	C:\mp\c24 C:\mp\m24 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
43	014 - 36.4GB EXP710 Enclosure	C:\mp\c25 C:\mp\m25 C:\mp\disk2	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
44	014 - 36.4GB EXP710 Enclosure	C:\mp\c6 C:\mp\m6 C:\mp\disk6	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
45	014 - 36.4GB EXP710 Enclosure	C:\mp\c7 C:\mp\m7 C:\mp\disk7	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
46	014 - 36.4GB EXP710 Enclosure	C:\mp\c8 C:\mp\m8 C:\mp\disk8	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
47	014 - 36.4GB EXP710 Enclosure	C:\mp\c9 C:\mp\m9 C:\mp\disk9	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
48	014 - 36.4GB EXP710 Enclosure	C:\mp\c35 C:\mp\m35 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
49	014 - 36.4GB EXP710 Enclosure	C:\mp\c36 C:\mp\m36 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
50	014 - 36.4GB EXP710 Enclosure	C:\mp\c37 C:\mp\m37 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
51	014 - 36.4GB EXP710 Enclosure	C:\mp\c38 C:\mp\m38 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
52	014 - 36.4GB EXP710 Enclosure	C:\mp\c14 C:\mp\m14 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
53	014 - 36.4GB EXP710 Enclosure	C:\mp\c15 C:\mp\m15 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files

54	014 - 36.4GB EXP710 Enclosure	C:\mp\c16 C:\mp\m16 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
55	014 - 36.4GB EXP710 Enclosure	C:\mp\c17 C:\mp\m17 C:\mp\disk1	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
56	014 - 36.4GB EXP710 Enclosure	C:\mp\c30 C:\mp\m30 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
57	014 - 36.4GB EXP710 Enclosure	C:\mp\c31 C:\mp\m31 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
58	014 - 36.4GB EXP710 Enclosure	C:\mp\c32 C:\mp\m32 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
59	014 - 36.4GB EXP710 Enclosure	C:\mp\c33 C:\mp\m33 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files
60	014 - 36.4GB EXP710 Enclosure	C:\mp\c34 C:\mp\m34 C:\mp\disk3	30.27GB 18.56GB 418.77GB (NTFS)	Customer and Stock Miscellaneous Backup files

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/I, COBOL, read/write) used to implement the TPC-C transactions. If more than one interface/access language is used to implement TPC-C, each interface/access language must be described and a list of which interface/access language is used with which transaction type must be disclosed.

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

Partitions/Replications Mapping

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

Neither horizontal nor vertical partitioning was used.

60-Day Space Requirement

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

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

Clause 5 – Performance Metrics and Response Time Related Items

Measured tpmC

Measured tpmC must be reported.

Measured tpmC: 340,243 tpmC
 Price per tpmC: \$5.24 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	0.67	5.92	1.14
Payment	0.64	4.66	1.10
Delivery	0.13	1.13	0.18
Stock Level	0.99	2.58	1.52
Order Status	0.66	5.88	1.14
Delivery (Deferred)	0.11	5.17	0.15
Menu	0.13	1.16	0.16

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 / 12.06	18.02 / 120.50
Payment	3.00 / 0.00	3.00 / 12.06	3.02 / 120.50
Delivery	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Stock Level	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Order Status	2.00 / 0.00	2.00 / 10.06	2.02 / 100.50

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

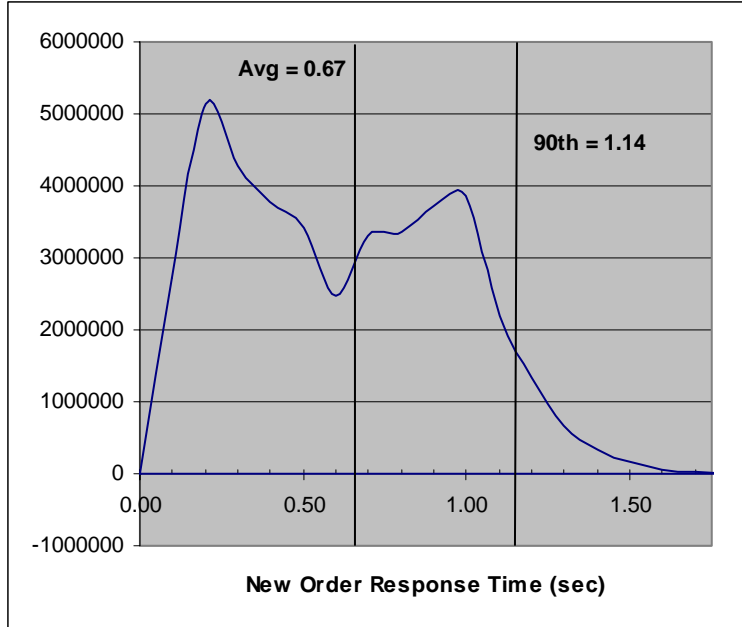


Figure 5-2. Payment Transaction - Response Time Frequency Distribution

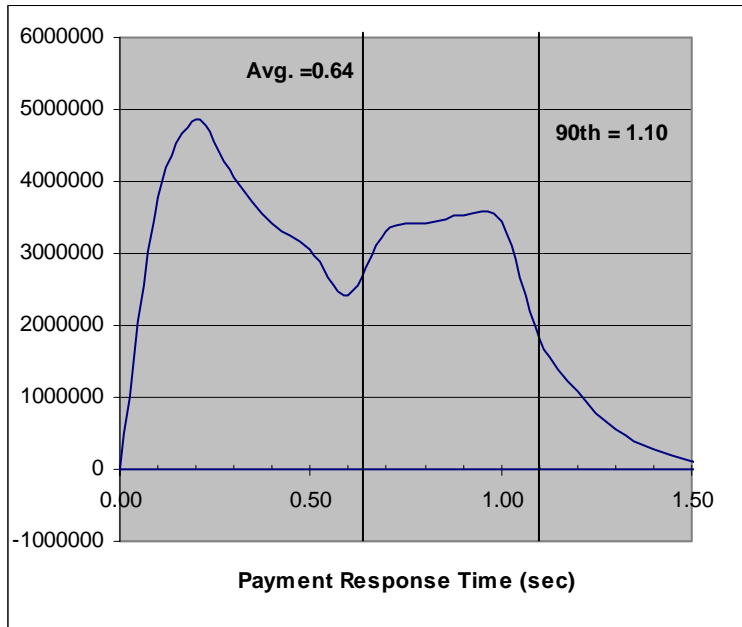


Figure 5-3. Order-Status Transaction - Response Time Frequency Distribution



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

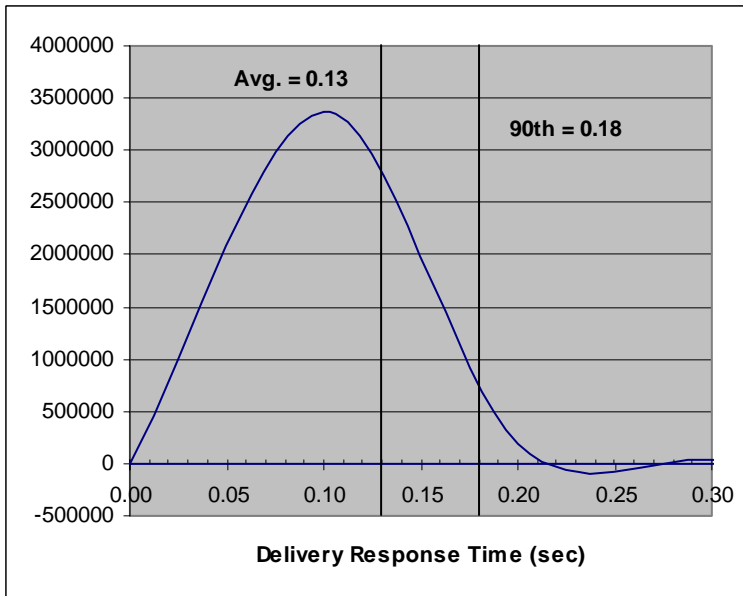
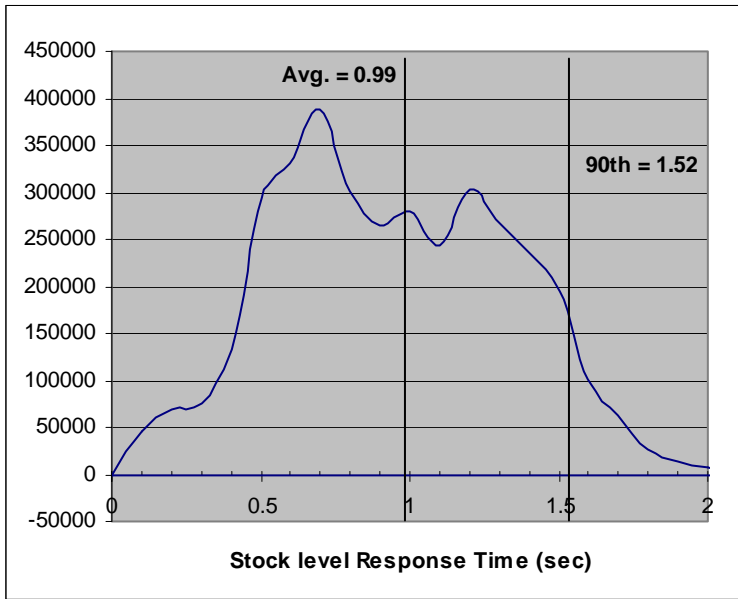


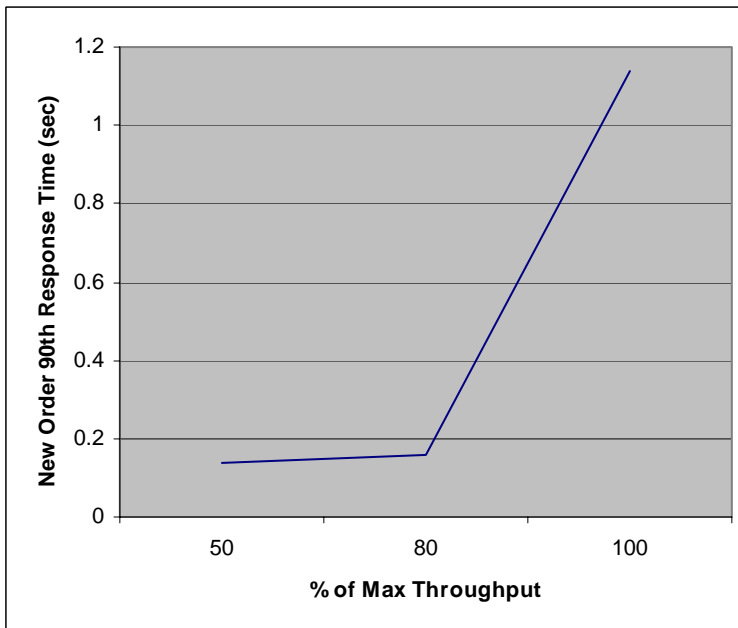
Figure 5-5. Stock-Level Transaction - Response Time Frequency Distribution



Performance Curve for Response Time vs. Throughput

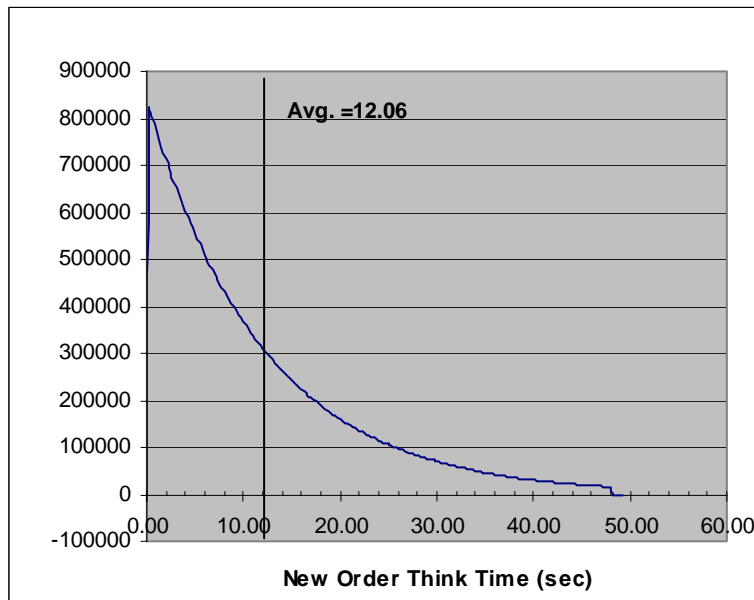
The performance curve for response time vs. throughput (see Clause 5.6.2) must be reported for the New-Order transaction.

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



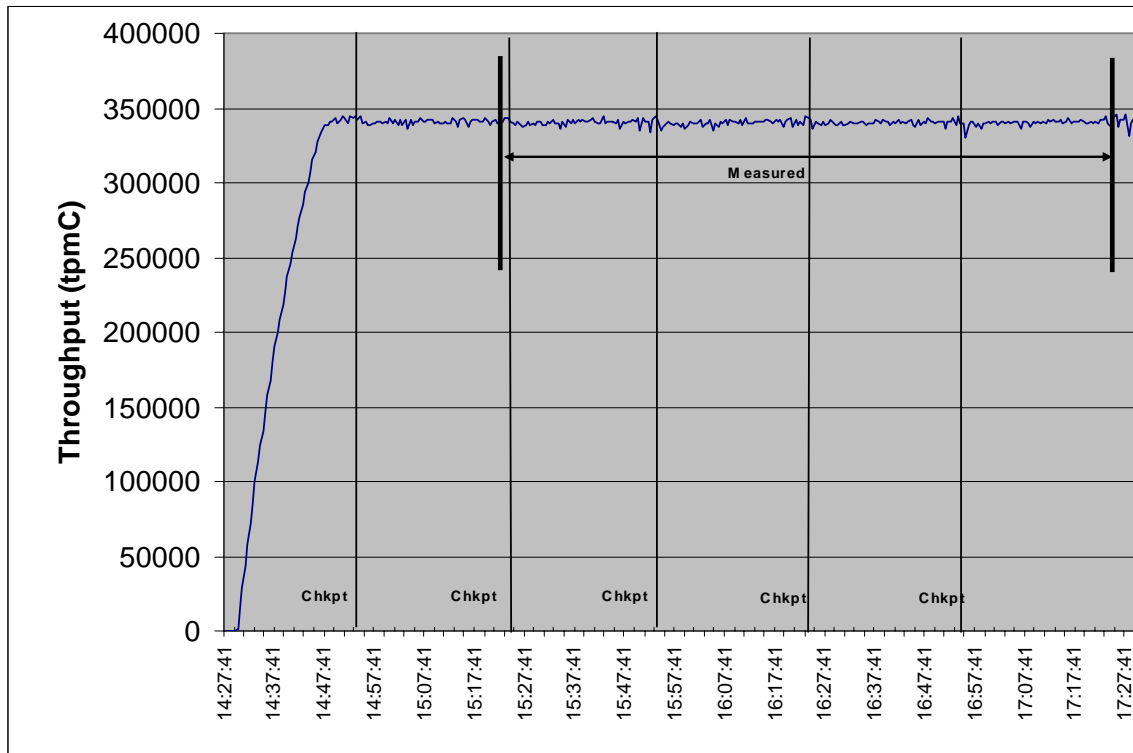
New Order Think Time Distribution

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	60.01%
Order-Status transactions using C_LAST	60.00%
Delivery	
Delivery transactions skipped	0
Transaction Mix	
New-Order	44.94%
Payment	43.03%
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 36 seconds after the start of the measurement interval. The checkpoint interval was 30 minutes and each checkpoint lasts for 1700 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	15:24:22	28 minutes 20 seconds
2	15:54:17	28 minutes 20 seconds
3	16:24:12	28 minutes 20 seconds
4	16:54:08	28 minutes 20 seconds

Clause 6 – SUT, Driver and Communication Related Items

Description of RTE

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

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

Emulated Components

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

No components were emulated.

Benchmarked and Targeted System Configuration Diagrams

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

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

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

Network Configuration

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

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

Network Bandwidth

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

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

Operator Intervention

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

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

Clause 7 – Pricing Related Items

Hardware and Software Components

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

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

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

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

Availability Date

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

The total solution as priced will be generally available June 12, 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: 340,243 tpmC
- Price per tpmC: \$5.24 USD per tpmC
- Three-year cost of ownership: \$1,783,882 USD

Country-Specific Pricing

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

The configuration is priced for the United States of America.

Usage Pricing

For any usage pricing, the sponsor must disclose:

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

The component pricing based on usage is shown below:

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

System Pricing

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

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

Clause 9 – Audit Related Items

Auditor

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

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

Availability of the Full Disclosure Report

The Full Disclosure Report must be readily available to the public at a reasonable charge, similar to the charges for similar documents by the test sponsor. The report must be made available when results are made public. In order to use the phrase "TPC BenchmarkTMC," 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.

Benchmark Sponsor: Celia Schreiber
 Manager, System x Performance
 IBM Systems and Technology Group
 3039 Cornwallis Road
 Research Triangle Park, NC 27709

June 6, 2006

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

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

The results were:

CPU's Speed	Memory	Disks	NewOrder 90% Response Time	tpmC
Server: IBM System x3950				
8 x Xeon 7040 (3.0GHz)	128 GB (2 x 2 MB L2)	812 x 36.4 GB FC 28 x 146 GB SCSI 1 x 36.4 GB SAS	1.14 Seconds	340,243.6
Eight (8) Client: IBM eServer xSeries 226 (each with)				
2 x Xeon DP (3.4 GHz)	2.5 GB (2 MB cache)	1 x 36.4 GB U320 SCSI	n/a	n/a

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

The following verification items were given special attention:

- The transactions were correctly implemented
- The database records were the proper size

- The database was properly scaled and populated
- The ACID properties were met
- Input data was generated according to the specified percentages
- The transaction cycle times included the required keying and think times
- The reported response times were correctly measured.
- At least 90% of all delivery transactions met the 80 Second completion time limit
- All 90% response times were under the specified maximums
- The measurement interval was representative of steady state conditions
- The reported measurement interval was 120 minutes
- Four checkpoints were included during the measurement interval
- The 60 day storage requirement was correctly computed
- The system pricing was verified for major components and maintenance

Additional Audit Notes:

The measured configuration used six x226 clients each with two 3.2GHz/2MB processors and two x226 each with two 3.4GHz/2MB processors. In the priced configuration, all x226 clients were upgraded to 3.4GHz processors.

Respectfully Yours,

A handwritten signature in black ink, appearing to read "François Raab", with a long horizontal flourish extending to the right.

François Raab, President

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

#ifdef _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_BCONN 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 immediately
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 = sprintf(szTmp,
"%s\n", szStr);
    if (ErrorNum() !=
INV_ERROR_CODE)
        j += sprintf(szTmp+j,
"Error = %d\n", ErrorNum());
    if (m_szLoc)
        j += sprintf(szTmp+j,
"Location = %s\n", GetLocation());

```

```

        j += sprintf(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/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/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 versionDIIMS;
DWORD versionDIILS;

// 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 iISMajorVersion;
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, "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.%2d.%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_THREAD_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;

                }

            }

        }

    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_THREAD_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) occurred
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 occurred 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\\InetSrv", 0, KEY_READ, &hKey)
== ERROR_SUCCESS )
    {
        size = sizeof(iISMajVersion);
        if ( RegQueryValueEx(hKey,
"MajorVersion", 0, &type, (char *)&iISMajVersion,
&size) == ERROR_SUCCESS )
            if ( !iISMajVersion )

                iISMajVersion = 5;
    }

    if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\InetInfo\\Parameter
s", 0, KEY_READ, &hKey) == ERROR_SUCCESS )
    {
        if ( iISMajVersion == 6 )
            // since IIS6 handles the
pool thread parameters differently, we need to fill in the
dialog
            // with the MaxPoolThreads
rather than 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 )

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                                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 provided in the dialog and then set
            // PoolThreadLimit to
            MaxPoolThreads * number of processors on this system
            if ( iISMajorVersion == 6 )

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        {
            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
pPathWWWRoot 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;

    versionDIIMS = 0;
    versionDIILS = 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);
        versionDiIMS = vs-
>dwProductVersionMS;
        versionDiLS = vs-
>dwProductVersionLS;
    }
    }

    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);
    }
    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, "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
        siSysInfo.dwNumberOfProcessors =
iNumberOfProcessors =
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_THREAD_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_THREAD_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) occurred
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 occurred 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 than 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\Parameter
s", 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 provided in the dialog and then set
        // PoolThreadLimit to
MaxPoolThreads * number of processors on this system
        if ( iISMajorVersion == 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]
        }
    }
    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
        VS_FIXEDFILEINFO
        *vs;
        *ptr;

        versionDiIMS = 0;
        versionDiILS = 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);

                versionDiIMS = vs-
>dwProductVersionMS;
                versionDiILS = 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 CheckWWWService(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 StartWWWService(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 StartWWWWebErr;
    //start Service pending, Check the status until the
service is running.
    if (! QueryServiceStatus(schService, &ssStatus) )
        goto StartWWWWebErr;
    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 StartWWWWebErr;

    CloseServiceHandle(schService);
    return TRUE;

StartWWWWebErr:
    CloseServiceHandle(schService);
    return FALSE;
}

static BOOL StopWWWService(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_THREAD_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"

//
// English (U.S.) resources

#ifdef APSTUDIO_READONLY_SYMBOLS
//
// English (U.S.) resources

#endif

// 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_THREAD_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
Successful",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,7,77,12,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
// remains consistent on all systems.
IDI_ICON1 ICON "icon1.ico"
IDI_ICON2 ICON "icon2.ico"

```

```

////////////////////////////////////
//
// TPCCDLL
//
IDR_TPCCDLL      TPCCDLL
"..\\..\\visapi_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

////////////////////////////////////
//
// 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 (wcsncmp(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_BUFFER |
FORMAT_MESSAGE_FROM_SYSTEM,
                NULL,
                hr,
                MAKELANGID(LANG_NEUTRAL,
                SUBLANG_DEFAULT),
                (LPTSTR)
                &lpBuf,
                0,
                NULL);
        //
        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

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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
CCComObjectRootEx<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 ( !strcmp(szTmp,
szDBNames[ODBC]) )
            pReg->eDB_Protocol =
ODBC;
        else if ( !strcmp(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 ( !strcmp(szTmp,
szTxnMonNames[TUXEDO]) )
            pReg->eTxnMon =
TUXEDO;
        else if ( !strcmp(szTmp,
szTxnMonNames[ENCINA]) )
            pReg->eTxnMon =
ENCINA;
        else if ( !strcmp(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 ( !strcmp(szTmp, "YES") )
            pReg->bCOM_SinglePool
= TRUE;
    }

    pReg->dwMaxConnections = 0;
    size = sizeof(dwTmp);
    if ( ( RegQueryValueEx(hKey,
"MaxConnections", 0, &type, (LPBYTE)&dwTmp, &size)
== ERROR_SUCCESS )
        && (type == REG_DWORD) )
        pReg->dwMaxConnections = dwTmp;

    pReg->dwMaxPendingDeliveries = 0;
    size = sizeof(dwTmp);
    if ( ( RegQueryValueEx(hKey,
"MaxPendingDeliveries", 0, &type, (LPBYTE)&dwTmp,
&size) == ERROR_SUCCESS )
        && (type == REG_DWORD) )
        pReg->dwMaxPendingDeliveries =
dwTmp;

    pReg->dwNumberOfDeliveryThreads = 0;
    size = sizeof(dwTmp);
    if ( ( RegQueryValueEx(hKey,
"NumberOfDeliveryThreads", 0, &type, (LPBYTE)&dwTmp,
&size) == ERROR_SUCCESS )
        && (type == REG_DWORD) )
        pReg->dwNumberOfDeliveryThreads
= dwTmp;

    size = sizeof( pReg->szPath );
    if ( RegQueryValueEx(hKey, "Path", 0, &type,
(BYTE *)&pReg->szPath, &size) != ERROR_SUCCESS )
        pReg->szPath[0] = 0;

    size = sizeof( pReg->szDbServer );
    if ( RegQueryValueEx(hKey, "DbServer", 0,
&type, (BYTE *)&pReg->szDbServer, &size) !=
ERROR_SUCCESS )
        pReg->szDbServer[0] = 0;

    size = sizeof( pReg->szDbName );
    if ( RegQueryValueEx(hKey, "DbName", 0,
&type, (BYTE *)&pReg->szDbName, &size) !=
ERROR_SUCCESS )
        pReg->szDbName[0] = 0;

    size = sizeof( pReg->szDbUser );
    if ( RegQueryValueEx(hKey, "DbUser", 0, &type,
(BYTE *)&pReg->szDbUser, &size) != ERROR_SUCCESS )

```

```

        pReg->szDbUser[0] = 0;

        size = sizeof( pReg->szDbPassword );
        if ( RegQueryValueEx(hKey, "DbPassword", 0,
&type, (BYTE *)&pReg->szDbPassword, &size) !=
ERROR_SUCCESS )
            pReg->szDbPassword[0] = 0;

        size = sizeof( pReg->szSPPrefix );
        if ( RegQueryValueExW(hKey, L"SPPrefix", 0,
&type, (BYTE *)&pReg->szSPPrefix, &size) !=
ERROR_SUCCESS )
            pReg->szSPPrefix[0] = L'\0';

        pReg->dwConnectDelay = 0;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey, "ConnectDelay", 0,
&type, (LPBYTE)&dwTmp, &size) == ERROR_SUCCESS )
            && (type == REG_DWORD) )
            pReg->dwConnectDelay = dwTmp;

        pReg->bCallNoDuplicatesNewOrder = FALSE;
        size = sizeof(dwTmp);
        if ( ( RegQueryValueEx(hKey,
"CallNoDuplicatesNewOrder", 0, &type,
(LPBYTE)&dwTmp, &size) == ERROR_SUCCESS )
            && (type == REG_DWORD) )
            pReg->bCallNoDuplicatesNewOrder =
dwTmp;

        RegCloseKey(hKey);

        return FALSE;
    }

```

readregistry.h

```

/* FILE: ReadRegistry.h
* Microsoft TPC-
C Kit Ver. 4.20.000
* Copyright
Microsoft, 1999
* All Rights Reserved
*
* not audited
*
* PURPOSE: Header for registry related
code.
*
* Change history:
* 4.20.000 - first version
*/

enum DBPROTOCOL { Unspecified, ODBC, DBLIB };
const char *szDBNames[] = { "Unspecified", "ODBC",
"DBLIB" };

enum TXNMON { None, TUXEDO, ENCINA, COM };
const char *szTxnMonNames[] = { "NONE", "TUXEDO",
"ENCINA", "COM" };

//This structure defines the data necessary to keep distinct for
each terminal or client connection.
typedef struct _TPCCREGISTRYDATA
{
    enum DBPROTOCOL eDB_Protocol;
    enum TXNMON eTxnMon;
    BOOL bCOM_SinglePool;
    DWORD dwMaxConnections;

```

```

        DWORD dwMaxPendingDeliveries;
        DWORD dwNumberOfDeliveryThreads;
        char szPath[128];
        char szDbServer[32];
        char szDbName[32];
        char szDbUser[32];
        char szDbPassword[32];
        wchar_t szSPPrefix[32]; //tpcc_odbc.dll
stored procedures prefix
        DWORD dwConnectDelay; // delay in ms to
use in pacing connection open and close
        BOOL bCallNoDuplicatesNewOrder; //
whether to check for non-duplicate item ids and call a
different New Order SP
} TPCCREGISTRYDATA, *PTPCCREGISTRYDATA;

BOOL
ReadTPCCRegistrySettings( TPCCREGISTRYDATA
*pReg );

```

resource.h

```

//{{NO_DEPENDENCIES}}
// Microsoft Visual C++ generated include file.
// Used by install.rc
//
#define IDD_DIALOG1 101
#define IDI_ICON1 102
#define IDR_TPCCDLL 103
#define IDD_DIALOG2 105
#define IDI_ICON2 106
#define IDR_DELIVERY 107
#define IDD_DIALOG3 108
#define IDR_LICENSE1 112
#define IDD_DIALOG4 113
#define IDR_TPCCOBJ1 117
#define IDR_TPCCSTUB1 118
#define IDR_DBLIB_DLL 122
#define IDR_ODBC_DLL 123
#define IDR_TUXEDO_APP 124
#define IDR_TUXEDO_DLL 125
#define IDR_COM_DLL 126
#define IDR_COMPS_DLL 127
#define IDR_COMALL_DLL 128
#define IDR_COMTYPLIB_DLL 129
#define IDR_MSVCRT701 130
#define BN_LOG 1001
#define ED_KEEP 1002
#define ED_THREADS 1003
#define ED_THREADS2 1004
#define IDC_PATH 1007
#define IDC_VERSION 1009
#define IDC_RESULTS 1010
#define IDC_PROGRESS1 1011
#define IDC_STATUS 1012
#define IDC_BUTTON1 1013
#define ED_MAXCONNECTION 1014
#define ED_IIS_MAX_THREAD_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: DIIMain
*
* 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 occurred in
initialization
*
                TRUE                DLL
successfully initialized
*/

BOOL WINAPI DIIMain(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() );
    }
}

(dwNumDeliveryThreads)
{
    //
    Initialize delivery delay critical section
    //
}

InitializeCriticalSection(&hConnectCriticalSection);
// 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);
    lstrcpy(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(txnDeliRec != 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;
                (pDelBuff+dwDelBuffFreeIndex)-
                = 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].iSyncnd, 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 iTot;

    EnterCriticalSection(&TermCriticalSection);

    iTot = 0;
    for(i=0; i<Term.iNumEntries; i++)
    {
        if (Term.pClientData[i].iNextFree == -
1)
            iTot++;

        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>"
, iTot );
    }

    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)
    sprintf( 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 key
*pKey
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 key
*pKey
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_EXCEED
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="TERMINID" 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="TERMINID" 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 = sprintf(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=\"TERMINID\" 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
    {
        sprintf(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 = sprintf(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=\"TERMINID\" 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 += sprintf(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>
        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 += sprintf(szForm+c, "Warehouse:
                %6.6d District: %2.2d Date: ",
                pNewOrderData->w_id,
                pNewOrderData->d_id);

                if ( bValid )
                {
                    c += sprintf(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 += sprintf(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 += sprintf(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 committed.      Total:
                $%8.2f ",

                pNewOrderData->total_amount);
            else
                c += sprintf(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 = sprintf(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=\"TERMINID\" 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 += sprintf(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 += sprintf(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=\"CW1*\" 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>
<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 += sprintf(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 += sprintf(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 += sprintf(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
blnInput, char *szForm)
{
    int i, c;
    static char szBR[] = " <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>";

    c = sprintf(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 ( blnInput )
    {
        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></font></PRE>"
            "<HR><INPUT
TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process!\"><INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu!\">"
            "</BODY></FORM></HTML>" );
    }
    else
    {
        c += sprintf(szForm+c,
            "District: %2.2d<BR>"
            "Customer: %4.4d Name:
%0-16s %0-2s %0-16s<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 += sprintf(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 = sprintf(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=\"TERMINID\" 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> </font></PRE><HR>"
            "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Process\">"
            "<INPUT
TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
            "</BODY></FORM></HTML>");
    }
    else
    {
        sprintf( 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> </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_BLOCK *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
        //index of next free element
        iNextFree;
    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
        iSynId;
        //synchronization 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
        iMasterSynId;
    //synchronization 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_WEBDDL;};
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"

//
// 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 _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
//////////////////////////////////////

#ifdef APSTUDIO_INVOKED
//////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//

//////////////////////////////////////
#endif // not APSTUDIO_INVOKED

tpcc_com.cpp

/*      FILE:          TPC_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.
#ifdef 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 <atbase.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 <atimpl.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 /*IpReserved*/)
{

```

```

    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];
        _snprintf(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 DllGetObject(REFCLSID rclsid, REFIID riid,
LPVOID* ppv)
{
    return _Module.GetObject(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(LPCTSTR lpszMsg)
{
    TCHAR szMsg[256];
    HANDLE hEventSource;
    LPCTSTR lpszStrings[2];

    // Use event logging to log the error.
    //
    hEventSource = RegisterEventSource(NULL,
TEXT("tpcc_com_all.dll"));

    _snprintf(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)
        sprintf( 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)) ||
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

```

```

#ifdef _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;

#ifdef __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 "oidl.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"

//
// 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

#ifdef _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_

#ifdef INITGUID
#define INITGUID
#include <guiddef.h>
#undef INITGUID
#else
#include <guiddef.h>
#endif
#endif

#define MIDL_DEFINE_GUID(type,name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8) \
    DEFINE_GUID(name,l,w1,w2,b1,b2,b3,b4,b5,b6,b7,b8)

#ifdef !_MIDL_USE_GUIDDEF_

#ifdef INITGUID
#define INITGUID
#endif

#ifdef __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( )

#ifdef 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
#ifdef 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
            VersionIndependentProgID
            InprocServer32 = s
            {
                val
            }
        }
    }
}

```

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__

#ifdef _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;

#ifdef __cplusplus && !defined(CINTERFACE)

MIDL_INTERFACE("FEE6AA2-84B1-11d2-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)(
            *QueryInterface)(
                ITPCC * This,
                /* [in] */ REFIID riid,
                /* [iid_is][out] */ void **ppvObject);

        ULONG ( STDMETHODCALLTYPE *AddRef)(
            ITPCC * This);

        ULONG ( STDMETHODCALLTYPE *Release)(
            ITPCC * This);

        HRESULT ( STDMETHODCALLTYPE *NewOrder)(
            ITPCC * This,
            /* [in] */ VARIANT txn_in,
            /* [out] */ VARIANT *txn_out);

        HRESULT ( STDMETHODCALLTYPE *Payment)(
            ITPCC * This,
            /* [in] */ VARIANT txn_in,
            /* [out] */ VARIANT *txn_out);

        HRESULT ( STDMETHODCALLTYPE *Delivery)(
            ITPCC * This,
            /* [in] */ VARIANT txn_in,
            /* [out] */ VARIANT *txn_out);

        HRESULT ( STDMETHODCALLTYPE *StockLevel)(
            ITPCC * This,
            /* [in] */ VARIANT txn_in,
            /* [out] */ VARIANT *txn_out);

        HRESULT ( STDMETHODCALLTYPE *OrderStatus)(
            ITPCC * This,
            /* [in] */ VARIANT txn_in,
            /* [out] */ VARIANT *txn_out);

        HRESULT ( STDMETHODCALLTYPE *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 */

#ifdef /* 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 "oidl.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_

```

```

#endif
#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)

#ifndef !_MIDL_USE_GUIDDEF_

#ifdef __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__

#ifdef __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_ITPC,0xFEE6AA2,0x84B1,0x11d2,0xBA,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( )

#ifndef _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,0xE8,0x08,0x00,0x2B,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_marshall] or [user_marshall]
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, */
/*
/* 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, */
/*
/* 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, */
/*
/* 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, */
/*
/* 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, */
/*
/* 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, */
/*
/* 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, */
/*
/* Return value */
/* 186 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
/* 188 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4
*/
/* 190 */ 0x8, /* FC_LONG */
/* 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( 0xffff8 ), /* -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	/* 364 */	0x0,	/* 0 */
/* 304 */	NdrFcShort(0x8),	/* 8 */	*/	0x0,	/* 0
/* 306 */	0xb,	/* FC_HYPER */	/* 366 */	0x0,	/* 0 */
FC_END */	0x5b,	/*	*/	0x46,	/* 70
/* 308 */			/* 368 */		
/	0x12, 0x0, / FC_UP */		*/	0x12, 0x10,	/*
/* 310 */	NdrFcShort(0xc),	/* Offset= 12 (322) */	FC_UP [pointer_deref] */		
/* 312 */			/* 370 */	NdrFcShort(0x2),	/* Offset= 2 (372) */
FC_CARRAY */	0x1b,	/*	/* 372 */		
/	0x1,	/ 1	*/	0x12, 0x0, /* FC_UP */	/*
/* 314 */	NdrFcShort(0x2),	/* 2 */	/* 374 */	NdrFcShort(0x1fc),	/* Offset= 508 (882) */
/* 316 */	0x9,	/* Corr desc: FC_ULONG	/* 376 */		
*/			FC_ENCAPSULATED_UNION */	0x2a,	/*
/* 318 */	NdrFcShort(0xfffc),	/* -4 */	*/	0x49,	/* 73
/* 320 */	0x6,	/* FC_SHORT */	/* 378 */	NdrFcShort(0x18),	/* 24 */
FC_END */	0x5b,	/*	/* 380 */	NdrFcShort(0xa),	/* 10 */
/* 322 */			/* 382 */	NdrFcLong(0x8),	/* 8 */
FC_CSTRUCT */	0x17,	/*	/* 386 */	NdrFcShort(0x58),	/* Offset= 88 (474) */
/	0x3,	/ 3	/* 388 */	NdrFcLong(0xd),	/* 13 */
/* 324 */	NdrFcShort(0x8),	/* 8 */	/* 392 */	NdrFcShort(0x78),	/* Offset= 120 (512) */
/* 326 */	NdrFcShort(0xffffffff2),	/* Offset= -14 (312) */	/* 394 */	NdrFcLong(0x9),	/* 9 */
/* 328 */	0x8,	/* FC_LONG */	/* 398 */	NdrFcShort(0x94),	/* Offset= 148 (546) */
FC_LONG */	0x8,	/*	/* 400 */	NdrFcLong(0xc),	/* 12 */
/* 330 */	0x5c,	/* FC_PAD */	/* 404 */	NdrFcShort(0xbc),	/* Offset= 188 (592) */
FC_END */	0x5b,	/*	/* 406 */	NdrFcLong(0x24),	/* 36 */
/* 332 */			/* 410 */	NdrFcShort(0x114),	/* Offset= 276 (686) */
FC_IP */	0x2f,	/*	/* 412 */	NdrFcLong(0x800d),	/* 32781 */
/	0x5a,	/	/* 416 */	NdrFcShort(0x130),	/* Offset= 304 (720) */
FC_CONSTANT_IID */			/* 418 */	NdrFcLong(0x10),	/* 16 */
/* 334 */	NdrFcLong(0x0),	/* 0 */	/* 422 */	NdrFcShort(0x148),	/* Offset= 328 (750) */
/* 338 */	NdrFcShort(0x0),	/* 0 */	/* 424 */	NdrFcLong(0x2),	/* 2 */
/* 340 */	NdrFcShort(0x0),	/* 0 */	/* 428 */	NdrFcShort(0x160),	/* Offset= 352 (780) */
/* 342 */	0xc0,	/* 192 */	/* 430 */	NdrFcLong(0x3),	/* 3 */
/	0x0,	/ 0	/* 434 */	NdrFcShort(0x178),	/* Offset= 376 (810) */
/* 344 */	0x0,	/* 0 */	/* 436 */	NdrFcLong(0x14),	/* 20 */
/	0x0,	/ 0	/* 440 */	NdrFcShort(0x190),	/* Offset= 400 (840) */
/* 346 */	0x0,	/* 0 */	/* 442 */	NdrFcShort(0xffffffff),	/* Offset= -1 (441) */
/	0x0,	/ 0	/* 444 */		
/* 348 */	0x0,	/* 0 */	*/	0x1b,	/*
/	0x46,	/ 70	FC_CARRAY */	0x3,	/* 3
/* 350 */			*/		
FC_IP */	0x2f,	/*	/* 446 */	NdrFcShort(0x4),	/* 4 */
/	0x5a,	/	/* 448 */	0x19,	/* Corr desc: field pointer,
FC_CONSTANT_IID */			FC_ULONG */		
/* 352 */	NdrFcLong(0x20400),	/* 132096 */	*/	0x0,	/* */
/* 356 */	NdrFcShort(0x0),	/* 0 */	/* 450 */	NdrFcShort(0x0),	/* 0 */
/* 358 */	NdrFcShort(0x0),	/* 0 */	/* 452 */		
/* 360 */	0xc0,	/* 192 */	FC_PP */	0x4b,	/*
/	0x0,	/ 0	*/	0x5c,	/*
/* 362 */	0x0,	/* 0 */	FC_PAD */		
/	0x0,	/ 0	/* 454 */		
*/			FC_VARIABLE_REPEAT */	0x48,	/*
*/			*/	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(0xffffffff6e),	/* Offset= -146 (322) */

/* 470 */			/* 522 */	0x5c,	/* FC_PAD */
FC_END */	0x5b,	/*	FC_END */		0x5b,
			/* 524 */		/*
FC_LONG */	0x8,	/*		0x11, 0x0,	/* FC_RP */
/* 472 */	0x5c,	/* FC_PAD */	/* 526 */	NdrFcShort(0xfffffe0),	/* Offset= -32
FC_END */	0x5b,	/*	(494) */		
/* 474 */			/* 528 */		
FC_PSTRUCT */	0x16,	/*	FC_BOGUS_ARRAY */	0x21,	/*
			/*	0x3,	/* 3
/* 476 */	0x3,	/* 3	/* 530 */	NdrFcShort(0x0),	/* 0 */
/* 478 */			/* 532 */	0x19,	/* Corr desc: field pointer,
FC_PP */	0x4b,	/*	FC_ULONG */		
FC_PAD */	0x5c,	/*		0x0,	/* */
/* 480 */			/* 534 */	NdrFcShort(0x0),	/* 0 */
FC_NO_REPEAT */	0x46,	/*	/* 536 */	NdrFcLong(0xffffffff),	/* -1 */
FC_PAD */	0x5c,	/*	/* 540 */	0x4c,	/*
/* 482 */			FC_EMBEDDED_COMPLEX */		
/* 484 */				0x0,	/* 0
/* 486 */			/* 542 */	NdrFcShort(0xfffff40),	/* Offset= -192
/* 488 */		/* Offset= -44	(350) */		
/* 490 */			/* 544 */	0x5c,	/* FC_PAD */
FC_END */	0x5b,	/*	FC_END */	0x5b,	/*
			/* 546 */		
FC_LONG */	0x8,	/*	FC_BOGUS_STRUCT */	0x1a,	/*
/* 492 */	0x8,	/* FC_LONG */	/*	0x3,	/* 3
FC_END */	0x5b,	/*	/* 548 */	NdrFcShort(0x8),	/* 8 */
FC_BOGUS_ARRAY */			/* 550 */	NdrFcShort(0x0),	/* 0 */
/* 496 */			/* 552 */	NdrFcShort(0x6),	/* Offset= 6 (558) */
/* 498 */		/* Corr desc: field pointer,	/* 554 */	0x8,	/* FC_LONG */
FC_ULONG */				0x36,	/*
	0x0,	/* */	FC_POINTER */		
/* 500 */			/* 556 */	0x5c,	/* FC_PAD */
/* 502 */		/* -1 */	FC_END */	0x5b,	/*
/* 506 */			/* 558 */		
FC_EMBEDDED_COMPLEX */				0x11, 0x0,	/* FC_RP */
/* 508 */		/* Offset= -176	/* 560 */	NdrFcShort(0xfffffe0),	/* Offset= -32
(332) */			(528) */		
/* 510 */		/* FC_PAD */	/* 562 */		
FC_END */	0x5b,	/*	FC_CARRAY */	0x1b,	/*
/* 512 */			/*	0x3,	/* 3
FC_BOGUS_STRUCT */	0x1a,	/*	/* 564 */	NdrFcShort(0x4),	/* 4 */
/* 514 */			/* 566 */	0x19,	/* Corr desc: field pointer,
/* 516 */			FC_ULONG */		
/* 518 */		/* Offset= 6 (524) */		0x0,	/* */
/* 520 */		/* FC_LONG */	/* 568 */	NdrFcShort(0x0),	/* 0 */
FC_POINTER */	0x36,	/*	/* 570 */		
			FC_PP */	0x4b,	/*
			FC_PAD */	0x5c,	/*
			/* 572 */		
			FC_VARIABLE_REPEAT */	0x48,	/*
				0x49,	/*
			FC_FIXED_OFFSET */		
			/* 574 */	NdrFcShort(0x4),	/* 4 */
			/* 576 */	NdrFcShort(0x0),	/* 0 */
			/* 578 */	NdrFcShort(0x1),	/* 1 */
			/* 580 */	NdrFcShort(0x0),	/* 0 */
			/* 582 */	NdrFcShort(0x0),	/* 0 */

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/* 584 */ 0x12, 0x0, /* FC_UP */
/* 586 */ NdrFcShort( 0x184 ), /* Offset= 388 (974) */
/* 588 */
FC_END */
0x5b, /*
FC_LONG */
/* 590 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 592 */
FC_BOGUS_STRUCT */
0x1a, /*
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( 0xfffffd4 ), /* 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) */

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```

/* 644 */ 0x8, /* FC_LONG */
0x8, /*
FC_LONG */
/* 646 */ 0x4c, /*
FC_EMBEDDED_COMPLEX */
0x0, /* 0
*/
/* 648 */ NdrFcShort( 0xfffffd8 ), /* Offset= -40
(608) */
/* 650 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 652 */
0x12, 0x0, /* FC_UP */
/* 654 */ NdrFcShort( 0xfffffe4 ), /* 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( 0xfffffd4 ), /* 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( 0xfffffd4 ), /* Offset= -44
(656) */
/* 702 */
FC_SMFARRAY */
0x1d, /*
*/
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( 0xfffff1 ),
/* 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( 0xfffffe8 ), /* Offset= -24
(708) */
/* 734 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 736 */
0x11, 0x0, /* FC_RP */
/* 738 */ NdrFcShort( 0xfffff0c ), /* 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( 0xfffffe8 ), /* 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( 0xfffffe8 ), /* Offset= -24
(770) */
/* 796 */
0x5b, /*
FC_END */
0x8, /*
FC_LONG */
/* 798 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */
/* 800 */

```

FC_CARRAY */	0x1b,	/*	FC_PAD */	0x5c,	/*
/	0x3,	/ 3	/* 848 */ NdrFcShort(0x4),	/* 4 */	
/* 802 */ NdrFcShort(0x4),	/* 4 */		/* 850 */ NdrFcShort(0x4),	/* 4 */	
/* 804 */ 0x19,	/* Corr desc: field pointer,		/* 852 */ 0x12, 0x0, /* FC_UP */		
FC_ULONG */			/* 854 */ NdrFcShort(0xfffffe8),	/* Offset= -24	
	0x0,	/* */	(830) */		
/* 806 */ NdrFcShort(0x0),	/* 0 */		/* 856 */		
/* 808 */ 0x8,	/* FC_LONG */			0x5b,	/*
FC_END */	0x5b,	/*	FC_END */		
/* 810 */				0x8,	/*
FC_PSTRUCT */	0x16,	/*	FC_LONG */	/* FC_LONG */	
/	0x3,	/ 3	/* 858 */ 0x8,	0x5b,	/*
/* 812 */ NdrFcShort(0x8),	/* 8 */		FC_END */		
/* 814 */			/* 860 */		
FC_PP */	0x4b,	/*	FC_STRUCT */	0x15,	/*
			/	0x3,	/ 3
FC_PAD */	0x5c,	/*	/* 862 */ NdrFcShort(0x8),	/* 8 */	
/* 816 */			/* 864 */ 0x8,	/* FC_LONG */	
FC_NO_REPEAT */	0x46,	/*		0x8,	/*
	0x5c,	/*	FC_LONG */		
FC_PAD */			/* 866 */ 0x5c,	/* FC_PAD */	
/* 818 */ NdrFcShort(0x4),	/* 4 */		FC_END */	0x5b,	/*
/* 820 */ NdrFcShort(0x4),	/* 4 */		/* 868 */		
/* 822 */ 0x12, 0x0, /* FC_UP */				0x1b,	/*
/* 824 */ NdrFcShort(0xfffffe8),	/* Offset= -24		FC_CARRAY */	0x3,	/* 3
(800) */			*/		
/* 826 */	0x5b,	/*	/* 870 */ NdrFcShort(0x8),	/* 8 */	
FC_END */			/* 872 */ 0x7,	/* Corr desc: FC_USHORT	
			*/		
	0x8,	/*		0x0,	/* */
FC_LONG */			/* 874 */ NdrFcShort(0xffd8),	/* -40 */	
/* 828 */ 0x8,	/* FC_LONG */		/* 876 */ 0x4c,	/*	
	0x5b,	/*	FC_EMBEDDED_COMPLEX */		
FC_END */				0x0,	/* 0
/* 830 */			*/		
FC_CARRAY */	0x1b,	/*	/* 878 */ NdrFcShort(0xfffffee),	/* Offset= -18	
/	0x7,	/ 7	(860) */		
/* 832 */ NdrFcShort(0x8),	/* 8 */		/* 880 */ 0x5c,	/* FC_PAD */	
/* 834 */ 0x19,	/* Corr desc: field pointer,			0x5b,	/*
FC_ULONG */			FC_END */		
	0x0,	/* */	/* 882 */		
/* 836 */ NdrFcShort(0x0),	/* 0 */			0x1a,	/*
/* 838 */ 0xb,	/* FC_HYPER */		FC_BOGUS_STRUCT */	0x3,	/* 3
FC_END */	0x5b,	/*	*/		
/* 840 */			/* 884 */ NdrFcShort(0x28),	/* 40 */	
FC_PSTRUCT */	0x16,	/*	/* 886 */ NdrFcShort(0xfffffee),	/* Offset= -18	
/	0x3,	/ 3	(868) */		
/* 842 */ NdrFcShort(0x8),	/* 8 */		/* 888 */ NdrFcShort(0x0),	/* Offset= 0 (888) */	
/* 844 */			/* 890 */ 0x6,	/* FC_SHORT */	
FC_PP */	0x4b,	/*		0x6,	/*
			FC_SHORT */		
FC_PAD */	0x5c,	/*	/* 892 */ 0x8,	/* FC_LONG */	
/* 846 */				0x8,	/*
FC_NO_REPEAT */	0x46,	/*	FC_LONG */		
			/* 894 */ 0x4c,	/*	
			FC_EMBEDDED_COMPLEX */		
				0x0,	/* 0
			*/		
			/* 896 */ NdrFcShort(0xffffdf8),	/* Offset= -520	
			(376) */		
			/* 898 */ 0x5c,	/* FC_PAD */	

	0x5b,	/*	/* 952 */	
FC_END */			0x12, 0x0, /* FC_UP */	
/* 900 */			/* 954 */ NdrFcShort(0x14), /* Offset= 20 (974) */	
	0x12, 0x0, /* FC_UP */		/* 956 */	
/* 902 */ NdrFcShort(0xffffef6),		/* Offset= -266		0x15,
(636) */				/*
/* 904 */			FC_STRUCT */	
	0x12, 0x8, /* FC_UP		/*	0x7,
[simple_pointer] */			/* 958 */ NdrFcShort(0x10), /* 16 */	/* 7
/* 906 */ 0x1,	/* FC_BYTE */		/* 960 */ 0x6,	/* FC_SHORT */
FC_PAD */	0x5c,	/*		0x1,
/* 908 */			FC_BYTE */	/*
	0x12, 0x8, /* FC_UP		/* 962 */ 0x1,	/* FC_BYTE */
[simple_pointer] */				0x8,
/* 910 */ 0x6,	/* FC_SHORT */		FC_LONG */	/* FC_HYPER */
	0x5c,	/*	/* 964 */ 0xb,	0x5b,
FC_PAD */			FC_END */	/*
/* 912 */			/* 966 */	
	0x12, 0x8, /* FC_UP			0x12, 0x0, /* FC_UP */
[simple_pointer] */			/* 968 */ NdrFcShort(0xfffff4), /* Offset= -12	(956) */
/* 914 */ 0x8,	/* FC_LONG */		/* 970 */	
FC_PAD */	0x5c,	/*		0x12, 0x8, /* FC_UP
/* 916 */			[simple_pointer] */	
	0x12, 0x8, /* FC_UP		/* 972 */ 0x2,	/* FC_CHAR */
[simple_pointer] */				0x5c,
/* 918 */ 0xb,	/* FC_HYPER */		FC_PAD */	/*
	0x5c,	/*	/* 974 */	
FC_PAD */				0x1a,
/* 920 */			FC_BOGUS_STRUCT */	/*
	0x12, 0x8, /* FC_UP		/*	0x7,
[simple_pointer] */			/* 976 */ NdrFcShort(0x20), /* 32 */	/* 7
/* 922 */ 0xa,	/* FC_FLOAT */		/* 978 */ NdrFcShort(0x0), /* 0 */	
FC_PAD */	0x5c,	/*	/* 980 */ NdrFcShort(0x0), /* Offset= 0 (980) */	
/* 924 */			/* 982 */ 0x8,	/* FC_LONG */
	0x12, 0x8, /* FC_UP			0x8,
[simple_pointer] */			FC_LONG */	/*
/* 926 */ 0xc,	/* FC_DOUBLE */		/* 984 */ 0x6,	/* FC_SHORT */
	0x5c,	/*		0x6,
FC_PAD */			FC_SHORT */	/*
/* 928 */			/* 986 */ 0x6,	/* FC_SHORT */
	0x12, 0x0, /* FC_UP */			0x6,
/* 930 */ NdrFcShort(0xffffd8c),		/* Offset= -628	FC_SHORT */	/*
(302) */			/* 988 */ 0x4c,	/*
/* 932 */			FC_EMBEDDED_COMPLEX */	
	0x12, 0x10,	/*	/*	0x0,
FC_UP [pointer_deref] */			/* 990 */ NdrFcShort(0xffffc28), /* Offset= -984	/* 0
/* 934 */ NdrFcShort(0xffffd8e),		/* Offset= -626	(6) */	
(308) */			/* 992 */ 0x5c,	/* FC_PAD */
/* 936 */				0x5b,
	0x12, 0x10,	/*	FC_END */	/*
FC_UP [pointer_deref] */			/* 994 */ 0xb4,	/* FC_USER_MARSHAL
/* 938 */ NdrFcShort(0xffffda2),		/* Offset= -606	/*	0x83,
(332) */				/*
/* 940 */			131 */	
	0x12, 0x10,	/*	/* 996 */ NdrFcShort(0x0), /* 0 */	
FC_UP [pointer_deref] */			/* 998 */ NdrFcShort(0x10), /* 16 */	
/* 942 */ NdrFcShort(0xffffdb0),		/* Offset= -592	/* 1000 */ NdrFcShort(0x0), /* 0 */	
(350) */			/* 1002 */ NdrFcShort(0xffffc18), /* Offset= -1000	
/* 944 */			(2) */	
	0x12, 0x10,	/*	/* 1004 */	
FC_UP [pointer_deref] */				0x11, 0x4, /* FC_RP
/* 946 */ NdrFcShort(0xffffdbe),		/* Offset= -578	[alloced_on_stack] */	
(368) */			/* 1006 */ NdrFcShort(0x6), /* Offset= 6 (1012) */	
/* 948 */			/* 1008 */	
	0x12, 0x10,	/*		0x13, 0x0, /* FC_OP */
FC_UP [pointer_deref] */				
/* 950 */ NdrFcShort(0x2),		/* Offset= 2 (952) */		

```

/* 1010 */ NdrFcShort( 0xfffffcdc ),      /* Offset= -36
(974) */
/* 1012 */ 0xb4,                          /* FC_USER_MARSHAL
*/
                                0x83,      /*
131 */
/* 1014 */ NdrFcShort( 0x0 ),      /* 0 */
/* 1016 */ NdrFcShort( 0x10 ),      /* 16 */
/* 1018 */ NdrFcShort( 0x0 ),      /* 0 */
/* 1020 */ NdrFcShort( 0xfffff4 ),      /* 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_tpsc_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,
    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,
    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_uid] 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
*/
}
};

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( 0xffff8 ), /* -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= 618 (900) */
/* 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) */

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/* 302 */ NdrFcShort( 0xffffffff ), /* Offset= -1
(301) */
/* 304 */
FC_STRUCT */
0x15, /*
*/
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( 0xffc ), /* -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( 0xffffffff0 ), /* 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( 0xffffffff74 ), /* Offset= -140
(326) */
/* 468 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 470 */

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FC_BOGUS_STRUCT */	0x1a,	/*	/* 540 */	0x4c,	/*	
/	0x3,	/ 3	FC_EMBEDDED_COMPLEX */	0x0,	/* 0	
/* 472 */	NdrFcShort(0x10),	/* 16 */	*/	/* 542 */	NdrFcShort(0xfffff44),	/* Offset= -188
/* 474 */	NdrFcShort(0x0),	/* 0 */	(354) */	/* 544 */	0x5c,	/* FC_PAD */
/* 476 */	NdrFcShort(0x6),	/* Offset= 6 (482) */	/* 546 */	0x5b,	/*	
/* 478 */	0x8,	/* FC_LONG */	FC_END */	0x1a,	/*	
FC_STRUCTPAD4 */	0x40,	/*	/* 546 */	0x3,	/* 3	
/* 480 */	0x36,	/* FC_POINTER */	*/	/* 548 */	NdrFcShort(0x10),	/* 16 */
FC_END */	0x5b,	/*	/* 550 */	NdrFcShort(0x0),	/* 0 */	
/* 482 */	0x11, 0x0, /* FC_RP */	/*	/* 552 */	NdrFcShort(0x6),	/* Offset= 6 (558) */	
/* 484 */	NdrFcShort(0xfffffdc),	/* Offset= -36	/* 554 */	0x8,	/* FC_LONG */	
(448) */	0x21,	/*	0x40,	/*		
/* 486 */	0x3,	/* 3	FC_STRUCTPAD4 */	/* FC_POINTER */	/*	
FC_BOGUS_ARRAY */	0x3,	/* 3	/* 556 */	0x36,	/*	
/	/ 488 */	NdrFcShort(0x0),	/* 0 */	0x5b,	/*	
/* 490 */	0x19,	/* Corr desc: field pointer,	FC_END */	/* 558 */	0x11, 0x0, /* FC_RP */	
FC_ULONG */	0x0,	/* */	/* 560 */	NdrFcShort(0xfffffdc),	/* Offset= -36	
/* 492 */	NdrFcShort(0x0),	/* 0 */	(524) */	/* 562 */	0x21,	/*
/* 494 */	NdrFcShort(0x1),	/* Corr flags: early, */	FC_BOGUS_ARRAY */	0x3,	/* 3	
/* 496 */	NdrFcLong(0xffffffff),	/* -1 */	*/	/* 564 */	NdrFcShort(0x0),	/* 0 */
/* 500 */	NdrFcShort(0x0),	/* Corr flags: */	/* 566 */	0x19,	/* Corr desc: field pointer,	
/* 502 */	0x4c,	/*	FC_ULONG */	0x0,	/* */	
FC_EMBEDDED_COMPLEX */	0x0,	/* 0	/* 568 */	NdrFcShort(0x0),	/* 0 */	
/	/ 504 */	NdrFcShort(0xfffff58),	/* Offset= -168	/* 570 */	NdrFcShort(0x1),	/* Corr flags: early, */
(336) */	/* 506 */	0x5c,	/* FC_PAD */	/* 572 */	NdrFcLong(0xffffffff),	/* -1 */
/* 508 */	0x5b,	/*	/* 574 */	NdrFcShort(0x0),	/* Corr flags: */	
FC_END */	0x1a,	/*	/* 576 */	0x12, 0x0, /* FC_UP */	/*	
/* 508 */	0x3,	/* 3	/* 578 */	NdrFcShort(0x176),	/* Offset= 374 (954) */	
FC_BOGUS_STRUCT */	0x3,	/* 3	/* 580 */	0x5c,	/* FC_PAD */	
/	/ 510 */	NdrFcShort(0x10),	/* 16 */	0x5b,	/*	
/* 512 */	NdrFcShort(0x0),	/* 0 */	FC_END */	/* 584 */	0x1a,	/*
/* 514 */	NdrFcShort(0x6),	/* Offset= 6 (520) */	/* 586 */	NdrFcShort(0x10),	/* 16 */	
/* 516 */	0x8,	/* FC_LONG */	/* 588 */	NdrFcShort(0x0),	/* 0 */	
FC_STRUCTPAD4 */	0x40,	/*	/* 590 */	NdrFcShort(0x6),	/* Offset= 6 (596) */	
/* 518 */	0x36,	/* FC_POINTER */	/* 592 */	0x8,	/* FC_LONG */	
FC_END */	0x5b,	/*	0x40,	/*		
/* 520 */	0x11, 0x0, /* FC_RP */	/*	FC_STRUCTPAD4 */	/* FC_POINTER */	/*	
/* 522 */	NdrFcShort(0xfffffdc),	/* Offset= -36	/* 594 */	0x36,	/*	
(486) */	0x21,	/*	FC_END */	0x5b,	/*	
/* 524 */	0x3,	/* 3	/* 596 */	0x11, 0x0, /* FC_RP */	/*	
FC_BOGUS_ARRAY */	0x3,	/* 3	/* 598 */	NdrFcShort(0xfffffdc),	/* Offset= -36	
/	/ 526 */	NdrFcShort(0x0),	/* 0 */	(562) */	/*	
/* 528 */	0x19,	/* Corr desc: field pointer,	/* 600 */	0x2f,	/*	
FC_ULONG */	0x0,	/* */	FC_IP */	0x5a,	/*	
/* 530 */	NdrFcShort(0x0),	/* 0 */	FC_CONSTANT_IID */	/* 602 */	NdrFcLong(0x2f),	/* 47 */
/* 532 */	NdrFcShort(0x1),	/* Corr flags: early, */	/*	/*	/*	
/* 534 */	NdrFcLong(0xffffffff),	/* -1 */	/*	/*	/*	
/* 538 */	NdrFcShort(0x0),	/* Corr flags: */	/*	/*	/*	

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/* 606 */ NdrFcShort( 0x0 ), /* 0 */
/* 608 */ NdrFcShort( 0x0 ), /* 0 */
/* 610 */ 0xc0, /* 192 */
/*
/* 612 */ 0x0, /* 0 */
/*
/* 614 */ 0x0, /* 0 */
/*
/* 616 */ 0x0, /* 0 */
/* 616 */ 0x46, /* 70 */
/*
/* 618 */
FC_CARRAY */
/*
/* 620 */ NdrFcShort( 0x1 ), /* 1 */
/* 622 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
/* 624 */ NdrFcShort( 0x4 ), /* 4 */
/* 626 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 628 */ 0x1, /* FC_BYTE */
/*
FC_END */
/* 630 */
FC_BOGUS_STRUCT */
/*
/* 632 */ NdrFcShort( 0x18 ), /* 24 */
/* 634 */ NdrFcShort( 0x0 ), /* 0 */
/* 636 */ NdrFcShort( 0xa ), /* Offset= 10 (646) */
/* 638 */ 0x8, /* FC_LONG */
/*
FC_LONG */
/* 640 */ 0x4c, /*
FC_EMBEDDED_COMPLEX */
/*
/* 642 */ NdrFcShort( 0xfffffd6 ), /* Offset= -42
(600) */
/* 644 */ 0x36, /* FC_POINTER */
/*
FC_END */
/* 646 */
/* 648 */ NdrFcShort( 0xfffffe2 ), /* Offset= -30
(618) */
/* 650 */
FC_BOGUS_ARRAY */
/*
/* 652 */ NdrFcShort( 0x0 ), /* 0 */
/* 654 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
/*
/* 656 */ NdrFcShort( 0x0 ), /* 0 */
/* 658 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 660 */ NdrFcLong( 0xffffffff ), /* -1 */
/* 664 */ NdrFcShort( 0x0 ), /* Corr flags: */
/* 666 */
/* 668 */ NdrFcShort( 0xfffffda ), /* Offset= -38
(630) */
/* 670 */ 0x5c, /* FC_PAD */

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FC_END */
/* 672 */
FC_BOGUS_STRUCT */
/*
/* 674 */ NdrFcShort( 0x10 ), /* 16 */
/* 676 */ NdrFcShort( 0x0 ), /* 0 */
/* 678 */ NdrFcShort( 0x6 ), /* Offset= 6 (684) */
/* 680 */ 0x8, /* FC_LONG */
/*
FC_STRUCTPAD4 */
/* 682 */ 0x36, /* FC_POINTER */
/*
FC_END */
/* 684 */
/* 686 */ NdrFcShort( 0xfffffdc ), /* FC_RP */
/* 688 */ /* Offset= -36
(650) */
/*
FC_SMFARRAY */
/*
/* 690 */ NdrFcShort( 0x8 ), /* 8 */
/* 692 */ 0x1, /* FC_BYTE */
/*
FC_END */
/* 694 */
/*
FC_STRUCT */
/*
/* 696 */ NdrFcShort( 0x10 ), /* 16 */
/* 698 */ 0x8, /* FC_LONG */
/*
FC_SHORT */
/* 700 */ 0x6, /* FC_SHORT */
/*
FC_EMBEDDED_COMPLEX */
/* 702 */ 0x0, /* 0 */
/*
/* Offset= -15 (688) */
/*
FC_END */
/* 706 */
/*
FC_BOGUS_STRUCT */
/*
/* 708 */ NdrFcShort( 0x20 ), /* 32 */
/* 710 */ NdrFcShort( 0x0 ), /* 0 */
/* 712 */ NdrFcShort( 0xa ), /* Offset= 10 (722) */
/* 714 */ 0x8, /* FC_LONG */
/*
FC_STRUCTPAD4 */
/* 716 */ 0x36, /* FC_POINTER */
/*
FC_EMBEDDED_COMPLEX */
/* 718 */ 0x0, /* 0 */
/*
/* Offset= -25 (694) */
/*
FC_END */
/* 722 */
/*
/* 724 */ NdrFcShort( 0xfffff12 ), /* FC_RP */
/* 726 */ /* Offset= -238
(486) */

```

FC_CARRAY */	0x1b,	/*	/* 786 */ 0x19,	/* Corr desc: field pointer,
FC_ULONG */	0x0,	/* 0	FC_ULONG */	0x0,
/*	/* 728 */ NdrFcShort(0x1),	/* 1 */	/* 788 */ NdrFcShort(0x0),	/* 0 */
/* 730 */ 0x19,	/* Corr desc: field pointer,	/* 790 */ NdrFcShort(0x1),	/* 792 */ 0x8,	/* Corr flags: early, */
FC_ULONG */	0x0,	/* */	FC_END */	0x5b,
/* 732 */ NdrFcShort(0x0),	/* 0 */	/* 794 */	FC_BOGUS_STRUCT */	0x1a,
/* 734 */ NdrFcShort(0x1),	/* Corr flags: early, */	/* 796 */ NdrFcShort(0x10),	/* 16 */	/* 798 */ NdrFcShort(0x0),
/* 736 */ 0x1,	/* FC_BYTE */	/* 800 */ NdrFcShort(0x6),	/* Offset= 6 (806) */	/* 802 */ 0x8,
FC_END */	0x5b,	/* FC_LONG */	/* FC_LONG */	0x40,
/* 738 */	/* 3	0x40,	FC_STRUCTPAD4 */	/* 804 */ 0x36,
FC_BOGUS_STRUCT */	0x1a,	/* FC_POINTER */	/* FC_POINTER */	0x5b,
0x3,	/* 3	0x5b,	FC_END */	/* 806 */
/*	/* 740 */ NdrFcShort(0x10),	/* 16 */	/* 808 */ NdrFcShort(0xfffffe6),	/* FC_UP */
/* 742 */ NdrFcShort(0x0),	/* 0 */	/* 744 */ NdrFcShort(0x6),	/* Offset= -26	(782) */
/* 744 */ NdrFcShort(0x6),	/* Offset= 6 (750) */	/* 746 */ 0x8,	/* 810 */	0x1b,
/* 746 */ 0x8,	/* FC_LONG */	FC_STRUCTPAD4 */	/* 748 */ 0x36,	/* FC_POINTER */
FC_STRUCTPAD4 */	0x12, 0x0, /* FC_UP */	/* 750 */	/* 752 */ NdrFcShort(0xfffffe6),	/* Offset= -26
/* 748 */ 0x36,	/* FC_POINTER */	/* 752 */ NdrFcShort(0xfffffe6),	(726) */	/* 754 */
FC_END */	0x5b,	/* 754 */	0x1b,	/*
/* 750 */	/* 7	FC_CARRAY */	0x7,	/* 7
0x12, 0x0, /* FC_UP */	/* 812 */ NdrFcShort(0x8),	/* 8 */	/*	/* 814 */ 0x19,
/* 752 */ NdrFcShort(0xfffffe6),	/* 814 */ 0x19,	/* Corr desc: field pointer,	FC_ULONG */	0x0,
/* 754 */	FC_ULONG */	/* 816 */ NdrFcShort(0x0),	/* 0 */	/* 818 */ NdrFcShort(0x1),
FC_CARRAY */	0x1,	/* 820 */ 0xb,	/* FC_HYPER */	0x5b,
/*	/* 756 */ NdrFcShort(0x2),	/* 2 */	FC_END */	/* 822 */
/* 758 */ 0x19,	/* Corr desc: field pointer,	/* 760 */ NdrFcShort(0x0),	/* 0 */	/* 762 */ NdrFcShort(0x1),
FC_ULONG */	0x0,	/* Corr flags: early, */	/* FC_SHORT */	0x5b,
/* 760 */ NdrFcShort(0x0),	/* 0 */	/* 764 */ 0x6,	FC_BOGUS_STRUCT */	0x1a,
/* 762 */ NdrFcShort(0x1),	/* FC_SHORT */	FC_END */	/* 766 */	0x3,
/* 764 */ 0x6,	0x5b,	/* 768 */ NdrFcShort(0x10),	/* 16 */	/* 770 */ NdrFcShort(0x0),
FC_END */	/* 766 */	/* 770 */ NdrFcShort(0x0),	/* 0 */	/* 772 */ NdrFcShort(0x6),
/* 768 */ NdrFcShort(0x10),	/* 16 */	/* 772 */ NdrFcShort(0x6),	/* Offset= 6 (778) */	/* 774 */ 0x8,
/* 770 */ NdrFcShort(0x0),	/* 0 */	/* 774 */ 0x8,	/* FC_LONG */	0x40,
/* 772 */ NdrFcShort(0x6),	/* Offset= 6 (778) */	FC_STRUCTPAD4 */	/* 776 */ 0x36,	/* FC_POINTER */
/* 774 */ 0x8,	/* FC_LONG */	/* 776 */ 0x36,	/* FC_POINTER */	0x5b,
FC_STRUCTPAD4 */	0x40,	FC_END */	/* 778 */	0x12, 0x0, /* FC_UP */
/* 776 */ 0x36,	/* FC_POINTER */	/* 780 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(754) */
FC_END */	0x5b,	/* 782 */	0x1b,	/*
/* 778 */	/* 3	FC_CARRAY */	0x3,	/* 3
0x12, 0x0, /* FC_UP */	/* 780 */ NdrFcShort(0xfffffe6),	/* Offset= -26	/*	/* 840 */ NdrFcShort(0x8),
/* 780 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(754) */	/* 842 */ 0x8,	/* FC_LONG */
/* 782 */	0x1b,	/*	FC_LONG */	0x8,
FC_CARRAY */	0x3,	/* 4 */	/* 844 */ 0x5c,	/* FC_PAD */
/*	/* 784 */ NdrFcShort(0x4),	/* 4 */	FC_END */	0x5b,
/* 784 */ NdrFcShort(0x4),	/* 4 */	FC_END */	/* 834 */	0x15,
/* 786 */ NdrFcShort(0x19),	/* Corr desc: field pointer,	/* 836 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(810) */
/* 788 */ NdrFcShort(0x0),	/* 0 */	/* 838 */	FC_STRUCT */	0x3,
/* 790 */ NdrFcShort(0x1),	/* Corr flags: early, */	/* 840 */ NdrFcShort(0x8),	/* 8 */	/* 842 */ 0x8,
/* 792 */ 0x8,	/* FC_LONG */	/* 844 */ 0x5c,	/* FC_PAD */	0x5b,
FC_END */	0x5b,	FC_END */	/* 846 */	/* 848 */
/* 794 */	/* 3	FC_BOGUS_STRUCT */	0x1a,	/*
/* 796 */ NdrFcShort(0x10),	/* 16 */	/* 798 */ NdrFcShort(0x0),	/* 0 */	/* 800 */ NdrFcShort(0x6),
/* 798 */ NdrFcShort(0x0),	/* 0 */	/* 802 */ 0x8,	/* FC_LONG */	0x40,
/* 800 */ NdrFcShort(0x6),	/* Offset= 6 (806) */	FC_STRUCTPAD4 */	/* 804 */ 0x36,	/* FC_POINTER */
/* 802 */ 0x8,	/* FC_LONG */	/* 806 */	FC_END */	/* 808 */
FC_STRUCTPAD4 */	0x40,	/* 810 */	/* 812 */ NdrFcShort(0x8),	/* 8 */
/* 804 */ 0x36,	/* FC_POINTER */	/* 814 */ 0x19,	/* Corr desc: field pointer,	FC_ULONG */
/* 806 */	/* FC_POINTER */	/* 816 */ NdrFcShort(0x0),	/* 0 */	/* 818 */ NdrFcShort(0x1),
/* 808 */ NdrFcShort(0xfffffe6),	/* Offset= -26	/* 820 */ 0xb,	/* FC_HYPER */	0x5b,
/* 810 */	0x12, 0x0, /* FC_UP */	FC_END */	/* 822 */	/* 824 */ NdrFcShort(0x10),
/* 812 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(782) */	/* 826 */ NdrFcShort(0x0),	/* 0 */
/* 814 */	0x1b,	/*	/* 828 */ NdrFcShort(0x6),	/* Offset= 6 (834) */
/* 816 */ NdrFcShort(0x8),	/* 8 */	/* 820 */ 0xb,	/* FC_LONG */	0x40,
/* 818 */ NdrFcShort(0x1),	/* Corr flags: early, */	/* 822 */	FC_STRUCTPAD4 */	/* 824 */ 0x36,
/* 820 */ 0xb,	/* FC_HYPER */	/* 824 */ NdrFcShort(0x10),	/* 16 */	/* 826 */ NdrFcShort(0x0),
FC_END */	0x5b,	/* 826 */ NdrFcShort(0x0),	/* 0 */	/* 828 */ NdrFcShort(0x6),
/* 822 */	/* 7	/* 828 */ NdrFcShort(0x6),	/* Offset= 6 (834) */	/* 830 */ 0x8,
FC_BOGUS_STRUCT */	0x1a,	/* 830 */ 0x8,	/* FC_LONG */	0x40,
/*	/* 3	FC_STRUCTPAD4 */	/* 832 */ 0x36,	/* FC_POINTER */
/* 824 */ NdrFcShort(0x10),	/* 16 */	/* 832 */ 0x36,	/* FC_POINTER */	0x5b,
/* 826 */ NdrFcShort(0x0),	/* 0 */	FC_END */	/* 834 */	0x12, 0x0, /* FC_UP */
/* 828 */ NdrFcShort(0x6),	/* Offset= 6 (834) */	/* 836 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(810) */
/* 830 */ 0x8,	/* FC_LONG */	/* 838 */	FC_CARRAY */	0x7,
FC_STRUCTPAD4 */	0x40,	/* 840 */ NdrFcShort(0x8),	/* 8 */	/* 842 */ 0x8,
/* 832 */ 0x36,	/* FC_POINTER */	/* 844 */ 0x5c,	/* FC_PAD */	0x5b,
/* 834 */	/* 3	FC_END */	/* 846 */	/* 848 */
/* 836 */ NdrFcShort(0xfffffe6),	/* Offset= -26	(810) */	FC_STRUCT */	0x3,
/* 838 */	0x15,	/*	/*	/* 840 */ NdrFcShort(0x8),
FC_STRUCT */	0x3,	/* 840 */ NdrFcShort(0x8),	/* 8 */	/* 842 */ 0x8,
/*	/* 3	/* 842 */ 0x8,	/* FC_LONG */	0x8,
/* 840 */ NdrFcShort(0x8),	/* 8 */	/* 844 */ 0x5c,	/* FC_PAD */	0x5b,
/* 842 */ 0x8,	/* FC_LONG */	FC_END */	/* 846 */	/* 848 */
FC_LONG */	0x8,	/* 844 */ 0x5c,	/* FC_PAD */	0x5b,
/* 844 */ 0x5c,	/* FC_PAD */	FC_END */	/* 846 */	/* 848 */
/* 846 */	/* 3	FC_END */	/* 848 */	/*
/* 848 */	/*	FC_END */	/* 850 */	/*

```

/* 846 */
FC_CARRAY */
    0x1b, /*
    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( 0xfffffec ), /* Offset= -20
(838) */
/* 860 */ 0x5c, /* FC_PAD */
    0x5b, /*
FC_END */
/* 862 */
    0x1a, /*
FC_BOGUS_STRUCT */
    0x3, /* 3
*/
/* 864 */ NdrFcShort( 0x38 ), /* 56 */
/* 866 */ NdrFcShort( 0xfffffec ), /* 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( 0xffffe0f ),
/* Offset= -497 (380) */
    0x5b, /*
FC_END */
/* 880 */
    0x12, 0x0, /* FC_UP */
/* 882 */ NdrFcShort( 0xfffff04 ), /* 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 */

```

```

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( 0xffffda2 ), /* Offset= -606
(304) */
/* 912 */
    0x12, 0x10, /*
FC_UP [pointer_deref] */
/* 914 */ NdrFcShort( 0xffffda4 ), /* Offset= -604
(310) */
/* 916 */
    0x12, 0x10, /*
FC_UP [pointer_deref] */
/* 918 */ NdrFcShort( 0xffffdba ), /* Offset= -582
(336) */
/* 920 */
    0x12, 0x10, /*
FC_UP [pointer_deref] */
/* 922 */ NdrFcShort( 0xffffdc8 ), /* Offset= -568
(354) */
/* 924 */
    0x12, 0x10, /*
FC_UP [pointer_deref] */
/* 926 */ NdrFcShort( 0xffffdd6 ), /* 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( 0xfffff4 ), /* Offset= -12
(936) */
/* 950 */
    0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 952 */ 0x2, /* FC_CHAR */
    0x5c, /*
FC_PAD */

```



```

/* 954 */
FC_BOGUS_STRUCT */
    0x1a, /*
    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( 0xffffc3c ), /* 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( 0xffffc2c ), /* Offset= -980
(2) */
/* 984 */
    0x11, 0x4, /* FC_RP
[allocated_on_stack] */
/* 986 */ NdrFcShort( 0x6 ), /* Offset= 6 (992) */
/* 988 */
    0x13, 0x0, /* FC_OP */
/* 990 */ NdrFcShort( 0xfffffdc ), /* Offset= -36
(954) */
/* 992 */ 0xb4, /* FC_USER_MARSHAL
*/
    0x83, /*
131 */
/* 994 */ NdrFcShort( 0x0 ), /* 0 */
/* 996 */ NdrFcShort( 0x18 ), /* 24 */
/* 998 */ NdrFcShort( 0x0 ), /* 0 */
/* 1000 */ NdrFcShort( 0xfffff4 ), /* 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,
    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>

#ifdef 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

#ifndef 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 WINAPI 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_erno == errorMsgs[i].iError )
            break;
    }
    if ( !errorMsgs[i].szMsg[0] )
        return szNotFound;
    else
        return errorMsgs[i].szMsg;
}

// wrapper routine for class constructor
__declspec(dlllexport) CTPCC_ODBC*
CTPCC_ODBC_new(
    LPCSTR szServer,      // name of SQL
server
    LPCSTR szUser,      //
user name for login

```

```

        LPCSTR szPassword,          // password for
login
        LPCSTR szHost,              // not
used
        LPCSTR szDatabase,         // name of
database to use
        LPCWSTR szSPPrefix,       // prefix to
append to the stored procedure names
        BOOL bCallNoDuplicatesNewOrder ) // whether
to check for non-duplicate items in NewOrder and call a new
SP
{
    return new CTPCC_ODBC( szServer, szUser,
szPassword, szHost, szDatabase, szSPPrefix,
bCallNoDuplicatesNewOrder );
}

CTPCC_ODBC::CTPCC_ODBC (
    LPCSTR szServer,
    // name of SQL server
    LPCSTR szUser,
    // user name for login
    LPCSTR szPassword,
    // password for login
    LPCSTR szHost,
    // not used
    LPCSTR szDatabase,
    // name of database to use
    LPCWSTR szSPPrefix,
    // prefix to append to the stored
procedure names
    BOOL bCallNoDuplicatesNewOrder //
whether to check for non-duplicate items in NewOrder and
call a new SP
)
:
m_bCallNoDuplicatesNewOrder(bCallNoDuplicatesNewOrder)
{
    RETCODE rc;

    // initialization
    m_hdbc = SQL_NULL_HDBC;
    m_hstmt = SQL_NULL_HSTMT;

    m_hstmtNewOrder = SQL_NULL_HSTMT;
    m_hstmtPayment = SQL_NULL_HSTMT;
    m_hstmtDelivery = SQL_NULL_HSTMT;
    m_hstmtOrderStatus = SQL_NULL_HSTMT;
    m_hstmtStockLevel = SQL_NULL_HSTMT;

    m_descNewOrderCols1 = SQL_NULL_HDESC;
    m_descNewOrderCols2 = SQL_NULL_HDESC;
    m_descOrderStatusCols1 = SQL_NULL_HDESC;
    m_descOrderStatusCols2 = SQL_NULL_HDESC;

    wcsncpy(m_szSPPrefix, szSPPrefix,
sizeof(m_szSPPrefix)/sizeof(m_szSPPrefix[0]));

    if ( SQLAllocHandle(SQL_HANDLE_DBC,
henv, &m_hdbc) != SQL_SUCCESS )

        ThrowError(CODBCERR::eAllocHandle);

    if ( SQLSetConnectOption(m_hdbc,
SQL_PACKET_SIZE, 4096) != SQL_SUCCESS )

        ThrowError(CODBCERR::eConnOption);

```

```

    {
        char
szConnectStr[256];
        char
szOutStr[1024];
        SQLSMALLINT
iOutStrLen;

#ifdef 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           INativeError;
    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, &INativeError,
(BYTE *)&szMsg, sizeof(szMsg), NULL);
        if (rc == SQL_NO_DATA)
            break;

        // check for deadlock

```

```

        if (INativeError == 1205 ||
(INativeError == iErrOleDbProvider &&
sErrTimeoutExpired) != NULL))
            pODBCErr-
>m_bDeadLock = TRUE;

        // capture the (first) database error
        if (pODBCErr->m_NativeError == 0
&& INativeError != 0)
            pODBCErr-
>m_NativeError = INativeError;

        // 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
        _snprintf(m_szNewOrderCommand,
sizeof(m_szNewOrderCommand)/sizeof(m_szNewOrderCo
mmand[0]),
                //0 1 2

```

```

//
012345678901234567890123456789
        L"{call
%stpc_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_UIINTEGER) != 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
_sprintf(m_szNewOrderNoDuplicatesComman
d,
sizeof(m_szNewOrderNoDuplicatesCommand)/sizeof(m_sz
NewOrderNoDuplicatesCommand[0]),
L" {call
%stpc_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;

1      2                                     // 0

012345678901234567890123456789           //
    wchar_t
    szSqlTemplate[iMAX_SP_NAME_LEN];

tpcc_neworder(?,?,?,?,?)                //="L"{call

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
    wcsncpy(szSqlTemplate,
m_szNewOrderCommand);
    i = m_iBeginNewOrderVariablePart +
m_txn.NewOrder.o_ol_cnt*6;
    wcsncpy( &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"?,?,?,?,?,?,?,?,?,?,?,?,?",
//
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
wscncpy(szSqlTemplate,
m_szNewOrderNoDuplicatesCommand);
i = m_iBeginNewOrderNoDuplicatesVariablePart
+ m_txn.NewOrder.o_ol_cnt*6;
wscncpy( &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
    snprintf(m_szPaymentCommand,
sizeof(m_szPaymentCommand)/sizeof(m_szPaymentComm
nd[0]),
        L"{call %stpc_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 %stpcce_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_CUŠT );
            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 %stpc_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.
#ifdef 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_erno = iErr; m_iTryCount = 0; };

    CTPCC_ODBC_ERR( int iErr, int
    iTryCount ) { m_erno = iErr; m_iTryCount = iTryCount; };

    int m_erno;
    int m_iTryCount;

    int ErrorType()
    {return ERR_TYPE_TPCC_ODBC;};
    char* ErrorTypeStr() { return
    "TPCC ODBC"; }
    int ErrorNum()
    {return m_erno;};

    char* ErrorText();
};

class DIIDecl 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; // beginning of
the variable part in NewOrder statement
int m_iBeginNewOrderNoDuplicatesVariablePart;
// beginning 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
SQLINTEGER m_BindOffset;
SQLINTEGER 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, 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 dblink, 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    /*
SQLINTEGER */ fraction;
    } TIMESTAMP_STRUCT;
#endif

// possible values for exec_status_code after transaction
completes
enum EXEC_STATUS
{
    eOK, // 0
    "Transaction committed."
    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 uplock)
    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
    
```

```

        -- accumulate 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

```

neworder.sql

```

-----
--
-- File: NEWORDER.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 available 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

-----
-- 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 tpcc
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 tpc_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,
    @threshold 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 -
@c_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,
@threshold 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 < @threshold
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 available 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,lineno,qty)
            ) AS
            ol(iid,wid,lineno,ol_qty,rownum)
            INNER JOIN
            item (repeatableread) ON i_id = iid AND
-- filters out invalid items
                rownum = 1
            ) AS
info(i_id,w_id,lineno,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 tpcc21, tpcc22, tpcc23, tpcc24,  
tpcc25, tpcc26, tpcc27, tpcc28, tpcc29, tpcc30, tpcc31,  
tpcc32, tpcc33, tpcc34, tpcc35, tpcc36, tpcc37, tpcc38,  
tpcc39, tpcc40 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
```

backupdevb.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',tpcc1',c:\mp\disk1\tpcc1.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc2',c:\mp\disk2\tpcc2.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc3',c:\mp\disk3\tpcc3.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc4',c:\mp\disk4\tpcc4.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc5',c:\mp\disk5\tpcc5.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc6',c:\mp\disk6\tpcc6.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc7',c:\mp\disk7\tpcc7.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc8',c:\mp\disk8\tpcc8.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc9',c:\mp\disk9\tpcc9.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc10',c:\mp\disk10\tpcc10.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc11',c:\mp\disk11\tpcc11.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc12',c:\mp\disk12\tpcc12.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc13',c:\mp\disk13\tpcc13.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc14',c:\mp\disk14\tpcc14.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc15',c:\mp\disk15\tpcc15.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc16',c:\mp\disk16\tpcc16.dmp'  
GO  
  
EXEC sp_addumpdevice  
'disk',tpcc17',c:\mp\disk17\tpcc17.dmp'  
GO
```



```

EXEC sp_addumpdevice
'disk','tpcc18','c:\mp\disk18\tpcc18.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc19','c:\mp\disk19\tpcc19.dmp'
GO
EXEC sp_addumpdevice
'disk','tpcc20','c:\mp\disk20\tpcc20.dmp'
GO

```

createdb.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      =
'F:\MSSQL_tpcc_root.mdf',
    SIZE          = 8MB,
    FILEGROWTH    = 0),
FILEGROUP        MSSQL_misc_fg
(
    NAME          = MSSQL_misc1,
    FILENAME      = 'C:\mp\m1\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc2,
    FILENAME      = 'C:\mp\m2\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc3,
    FILENAME      = 'C:\mp\m3\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc4,
    FILENAME      = 'C:\mp\m4\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
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    FILENAME      = 'C:\mp\m5\',
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    FILEGROWTH    = 0),
(
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    FILENAME      = 'C:\mp\m6\',
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    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc7,
    FILENAME      = 'C:\mp\m7\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc8,
    FILENAME      = 'C:\mp\m8\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc9,
    FILENAME      = 'C:\mp\m9\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc10,
    FILENAME      = 'C:\mp\m10\',
    SIZE          = 16000MB,
    FILEGROWTH    = 0),
(
    NAME          = MSSQL_misc11,
    FILENAME      = 'C:\mp\m11\'

```

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	FILENAME	= 'C:\mp\c15\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(NAME	= MSSQL_cs28,

	FILENAME	= 'C:\mp\c28\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs41,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c41\,
(	NAME	= MSSQL_cs29,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c29\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs42,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c42\,
(	NAME	= MSSQL_cs30,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c30\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs43,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c43\,
(	NAME	= MSSQL_cs31,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c31\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs44,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c44\,
(	NAME	= MSSQL_cs32,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c32\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs45,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c45\,
(	NAME	= MSSQL_cs33,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c33\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs46,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c46\,
(	NAME	= MSSQL_cs34,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c34\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs47,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c47\,
(	NAME	= MSSQL_cs35,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c35\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs48,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c48\,
(	NAME	= MSSQL_cs36,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c36\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs49,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c49\,
(	NAME	= MSSQL_cs37,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c37\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs50,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c50\,
(	NAME	= MSSQL_cs38,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c38\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs51,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c51\,
(	NAME	= MSSQL_cs39,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c39\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs52,
	FILEGROWTH	= 0),		FILENAME	= 'C:\mp\c52\,
(	NAME	= MSSQL_cs40,		SIZE	= 29000MB,
	FILENAME	= 'C:\mp\c40\,		FILEGROWTH	= 0),
	SIZE	= 29000MB,	(	NAME	= MSSQL_cs53,

```

        FILENAME      = 'C:\mp\c53\',
        SIZE          = 29000MB,
        FILEGROWTH    = 0),
(
    NAME            = MSSQL_cs54,
    FILENAME        = 'C:\mp\c54\',
    SIZE            = 29000MB,
    FILEGROWTH      = 0),
(
    NAME            = MSSQL_cs55,
    FILENAME        = 'C:\mp\c55\',
    SIZE            = 29000MB,
    FILEGROWTH      = 0),
(
    NAME            = MSSQL_cs56,
    FILENAME        = 'C:\mp\c56\',
    SIZE            = 29000MB,
    FILEGROWTH      = 0),
(
    NAME            = MSSQL_cs57,
    FILENAME        = 'C:\mp\c57\',
    SIZE            = 29000MB,
    FILEGROWTH      = 0),
(
    NAME            = MSSQL_cs58,
    FILENAME        = 'C:\mp\c58\',
    SIZE            = 29000MB,
    FILEGROWTH      = 0)
LOG ON
(
    NAME            = MSSQL_tpcc_log,
    FILENAME        = 'E:',
    SIZE            = 1119000MB,
    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

```

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 'tpcc1'
EXEC sp_dropdevice 'tpcc2'
EXEC sp_dropdevice 'tpcc3'
EXEC sp_dropdevice 'tpcc4'
EXEC sp_dropdevice 'tpcc5'
EXEC sp_dropdevice 'tpcc6'
EXEC sp_dropdevice 'tpcc7'
EXEC sp_dropdevice 'tpcc8'
EXEC sp_dropdevice 'tpcc9'
EXEC sp_dropdevice 'tpcc10'
EXEC sp_dropdevice 'tpcc11'
EXEC sp_dropdevice 'tpcc12'
EXEC sp_dropdevice 'tpcc13'
EXEC sp_dropdevice 'tpcc14'
EXEC sp_dropdevice 'tpcc15'
EXEC sp_dropdevice 'tpcc16'
EXEC sp_dropdevice 'tpcc17'
EXEC sp_dropdevice 'tpcc18'
EXEC sp_dropdevice 'tpcc19'
EXEC sp_dropdevice 'tpcc20'
GO

```

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 tpcc1, tpcc2, tpcc3, tpcc4,
tpcc5, tpcc6, tpcc7, tpcc8, tpcc9, tpcc10, tpcc11, tpcc12,
tpcc13, tpcc14, tpcc15, tpcc16, tpcc17, tpcc18, tpcc19,
tpcc20 WITH REPLACE, stats = 1

SELECT @enddate = GETDATE()
SELECT 'End date:',

        CONVERT(VARCHAR(30),@enddate, 21)
SELECT 'Elapsed time (in seconds): ',

        DATEDIFF(second, @startdate, @enddate)
GO

```

dbop-options.sql

```

use master
go
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

```

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

```

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

```

RunSQLcfg.sql

```

-----
--
--      File:  RUNSQLCFG.SQL
--
--      Microsoft TPC-C Benchmark Kit Ver.
4.51
--      Copyright Microsoft, 2003
--
--
-----

```

```

--          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.
4.51
--          Copyright Microsoft, 2003
--
--
--          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

```

Load Source Code

getargs.c

```

//      File:          GETARGS.C
//                                     Microsoft TPC-
C Kit Ver. 4.41
//                                     Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001
//      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("[%d]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      =
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 through */
            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("[%d]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
%d\n", (long) BATCH);
    printf("-p TDS packet size
%d\n", (long) DEFLDAPACKSIZE);
    printf("-f Loader Results Output Filename
%s\n", LOADER_RES_FILE);
    printf("-s Starting Warehouse
%d\n", (long) DEF_STARTING_WAREHOUSE);
    printf("-i Build Option (data = 0, data and index =
1) %d\n", (long) BUILD_INDEX);
    printf("-o Cluster Index Build Order (before = 1,
after = 0) %d\n", (long) INDEX_ORDER);
    printf("-c Build Scaled Database (normal = 0, tiny
= 1) %d\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);
}

strings.c

//      File:          STRINGS.C
//                               Microsoft TPC-
C Kit Ver. 4.41
//                               Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001
//      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("[%d]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("[%d]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("[%d]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
<%d> out of range (0,999)\n", num);
        exit(-1);
    }
}

#ifdef DEBUG
printf("[%d]DBG: LastName: num = [%d] ==>
[%d][%d][%d]\n",
    (int) GetCurrentThreadId(),
num, num/100, (num/10)%10, num%10);
printf("[%d]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("[%d]DBG: Entering MakeAlphaString()\n", (int)
GetCurrentThreadId());
#endif

    len= RandomNumber(x, y);

    for (i=0; i<len; i++)
    {
        cc = chArray[RandomNumber(0,
chArrayMax)];
        str[i] = cc;
    }
    //if ( len < z )
    //    memset(str+len, ' ', z - len);
    str[len] = 0;

    return len;
}

//=====
//
// Function name: MakeOriginalAlphaString
//
//=====

int MakeOriginalAlphaString(int x,
    int y,
    int z,
    char *str,
    int percent)
{
    int len;
    int val;
    int start;

#ifdef DEBUG
printf("[%d]DBG: Entering
MakeOriginalAlphaString()\n", (int) GetCurrentThreadId());
#endif

    // verify percentage 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 + y) <= 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 strlen(str);
}

```

```

=====
//
// 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. 4.41
//
//      Copyright
//      Microsoft, 1996, 1997, 1998, 1999, 2000, 2001
//      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. 4.41
//
//      Copyright
//      Microsoft, 1996, 1997, 1998, 1999, 2000, 2001
//      Purpose:  Header file for TPC-C database loader

```

```

// Build number of TPC Benchmark Kit
#define TPCKIT_VER      "4.41"

```

```

// 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>

```

```

// 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.440\SETUP\logs\load.out"
#define LOG_PATH
    "C:\MSTPCC.440\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     MakeOriginalAlphaString();
int     MakeNumberString();
int     MakeZipNumberString();
void    InitString();
void    InitAddress();
void    PaddString();

```

tpccldr.c

```

// File:                TPCCLDR.C
//                      Microsoft TPC-
C Kit Ver. 4.41
//                      Copyright
Microsoft, 1996, 1997, 1998, 1999, 2000, 2001
// 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

// Functions declarations
void HandleErrorDBC (SQLHDBC hdbc1);

void CheckDataBase();

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 OpenConnections();
void BuildIndex();
void FormatDate ();

// Shared memory structures

typedef struct
{
    long        ol;
    long        ol_i_id;
    short       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;
    short       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;
    short       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];
    double      c_credit[CREDIT_LEN+1];
    long        c_credit_lim;

```

```

    double      c_discount;
    // fix to avoid ODBC float to numeric conversion problem.
    // double    c_balance;
    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;

ORDERS_STRUCT
orders_buf[ORDERS_PER_DISTRICT];
CUSTOMER_STRUCT
customer_buf[CUSTOMERS_PER_DISTRICT];
long        orders_rows_loaded;

```

```

long    new_order_rows_loaded;
long    order_line_rows_loaded;
long    history_rows_loaded;
long    customer_rows_loaded;
long    stock_rows_loaded;
long    district_rows_loaded;
long    item_rows_loaded;
long    warehouse_rows_loaded;
long    main_time_start;
long    main_time_end;
long
long    max_items;
long    customers_per_district;
long    orders_per_district;
long    first_new_order;
long    last_new_order;

TPCCCLDR_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);

    // verify database and tables exist before
attempting to load
    //CheckDataBase();

    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);

    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
%d 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()
{
    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(1);

    printf("Loading item table...\n");

    // if build index before load
    if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
        BuildIndex("idxitmc1");

    InitString(i_name, I_NAME_LEN+1);
    InitString(i_data, I_DATA_LEN+1);

    sprintf(name, "%s..%s", aptr->database, "item");

    //rc = bcp_init(i_hdbc1, name, NULL,
"logs\item.err", DB_IN);
    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);
    }

    rc = bcp_bind(i_hdbc1, (BYTE *) &i_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);

    rc = bcp_bind(i_hdbc1, (BYTE *) &i_im_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 2);
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);

    rc = bcp_bind(i_hdbc1, (BYTE *) i_name, 0,
I_NAME_LEN, NULL, 0, 0, 3);
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);

    rc = bcp_bind(i_hdbc1, (BYTE *) &i_price, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 4);
    if (rc != SUCCEED)

```

```

        HandleErrorDBC(i_hdbc1);

        rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0,
I_DATA_LEN, NULL, 0, 0, 5);
        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);

            MakeAlphaString(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("idxitmc1");
    }

}

=====
//
// Function : LoadWarehouse
//
// Loads WAREHOUSE table and loads Stock and District as
Warehouses are created
//
=====

void LoadWarehouse()
{
    short        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 bcp hint[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("idxwarehouse");

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");

//rc = bcp_init(w_hdbc1, name, NULL,
"logs\warehouse.err", DB_IN);
strcpy(err_log_path, aptr->log_path);
strcat(err_log_path, "warehouse.err");
rc = bcp_init(w_hdbc1, name, NULL,
err_log_path, DB_IN);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
{
    sprintf(bcp hint, "tablock, order (w_id),
ROWS_PER_BATCH = %d", aptr->num_warehouses);
rc = bcp_control(w_hdbc1,
BCPHINTS, (void*) bcp hint);
if (rc != SUCCEEDED)

    HandleErrorDBC(w_hdbc1);
}

rc = bcp_bind(w_hdbc1, (BYTE *) &w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 1);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) w_name, 0,
W_NAME_LEN, NULL, 0, 0, 2);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) w_street_1, 0,
ADDRESS_LEN, NULL, 0, 0, 3);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) w_street_2, 0,
ADDRESS_LEN, NULL, 0, 0, 4);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

```

```

rc = bcp_bind(w_hdbc1, (BYTE *) w_city, 0,
ADDRESS_LEN, NULL, 0, 0, 5);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) w_state, 0,
STATE_LEN, NULL, 0, 0, 6);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) w_zip, 0,
ZIP_LEN, NULL, 0, 0, 7);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &w_tax, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 8);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &w_ytd, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 9);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

time_start = (TimeNow() / MILLI);

warehouse_rows_loaded = 0;

for (w_id = (short)aptr->starting_warehouse; w_id
<= aptr->num_warehouses; w_id++)
{
    MakeAlphaString(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 != SUCCEEDED)

    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("idxwarehouse");

stock_rows_loaded = 0;
district_rows_loaded = 0;

```



```

District();
Stock();
}

//=====
//
// Function : District
//
//=====

void District()
{
    short d_id;
    short 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;
    int w_id;
    RETCODE rc;
    DBINT rcint;
    char bcpint[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");

    //rc = bcp_init(w_hdbc1, name, NULL,
"logs\\district.err", DB_IN);
    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 != SUCCEEDED)
        HandleErrorDBC(w_hdbc1);

    if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
    {
        sprintf(bcpint, "tablock, order
(d_w_id, d_id), ROWS_PER_BATCH = %u", (aptr-
>num_warehouses * 10));
        rc = bcp_control(w_hdbc1,
BCPHINTS, (void*) bcpint);
        if (rc != SUCCEEDED)

            HandleErrorDBC(w_hdbc1);
    }
}

```

```

}

rc = bcp_bind(w_hdbc1, (BYTE *) &d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 1);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &d_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_name, 0,
D_NAME_LEN, NULL, 0, 0, 3);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_street_1, 0,
ADDRESS_LEN, NULL, 0, 0, 4);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_street_2, 0,
ADDRESS_LEN, NULL, 0, 0, 5);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_city, 0,
ADDRESS_LEN, NULL, 0, 0, 6);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_state, 0,
STATE_LEN, NULL, 0, 0, 7);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) d_zip, 0,
ZIP_LEN, NULL, 0, 0, 8);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &d_tax, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 9);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &d_ytd, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 10);
if (rc != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

rc = bcp_bind(w_hdbc1, (BYTE *) &d_next_o_id,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, 11);
if (rc != SUCCEEDED)
    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++)

```

```

        {
            MakeAlphaString(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()
{
    long   s_i_id;
    short  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");

    //rc = bcp_init(w_hdbc1, name, NULL,
"log\stock.err", DB_IN);
    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);
    }

    rc = bcp_bind(w_hdbc1, (BYTE *) &s_i_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    bcp_bind(w_hdbc1, (BYTE *) &s_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    rc = bcp_bind(w_hdbc1, (BYTE *) &s_quantity,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_01, 0,
S_DIST_LEN, NULL, 0, 0, 4);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_02, 0,
S_DIST_LEN, NULL, 0, 0, 5);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_03, 0,
S_DIST_LEN, NULL, 0, 0, 6);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

    rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_04, 0,
S_DIST_LEN, NULL, 0, 0, 7);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

```

```

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_05, 0,
S_DIST_LEN, NULL, 0, 0, 8);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_06, 0,
S_DIST_LEN, NULL, 0, 0, 9);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_07, 0,
S_DIST_LEN, NULL, 0, 0, 10);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_08, 0,
S_DIST_LEN, NULL, 0, 0, 11);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_09, 0,
S_DIST_LEN, NULL, 0, 0, 12);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_10, 0,
S_DIST_LEN, NULL, 0, 0, 13);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) &s_ytd, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 14);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) &s_order_cnt,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT2, 15);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *)
&s_remote_cnt, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, 16);
        if (rc != SUCCEEDED)
            HandleErrorDBC(w_hdbc1);

        rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0,
S_DATA_LEN, NULL, 0, 0, 17);
        if (rc != SUCCEEDED)
            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 = (short)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 != SUCCEEDED)
                                        HandleErrorDBC(w_hdbc1);

                                        stock_rows_loaded++;
                                        CheckForCommit(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;
        short                  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];
// SQLRETURN
rc_1;
// SQLSMALLINT
recnum, MsgLen;
// SQLCHAR
SqlState[6],
Msg[SQL_MAX_MESSAGE_LENGTH];
// SQLINTEGER
NativeError;

// 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");

//rc = bcp_init(c_hdbc1, name, NULL,
"log\customer.err", DB_IN);
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 != SUCCEEDED)
    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 != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);
}

sprintf(name, "%s..%s", aptr->database, "history");

rc = bcp_init(c_hdbc2, name, NULL,
"log\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 != SUCCEEDED)
    HandleErrorDBC(c_hdbc2);

sprintf(bcphint, "tablock");
rc = bcp_control(c_hdbc2, BCPHINTS, (void*)
bcphint);
if (rc != SUCCEEDED)
    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 = (short)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("idxhisc1");
        }

        // 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\" >
logs\nurand_load.log",
            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()
{
    int 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;

        // fix to avoid ODBC float to numeric
conversion problem.
        //      customer_buf[i].c_balance
= 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, int 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_NURAND_C), c[i].c_last);
    }
}

```

```

        MakeAlphaString(8,16,FIRST_NAME_LEN,
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;

        // Generate CUSTOMER and
HISTORY data

        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;

        // fix to avoid ODBC float to numeric
conversion problem.
        // customer_buf[i].c_balance = -10.0;
    }
}

```

```

        strcpy(customer_buff[i].c_balance,"-
10.0");

        MakeAlphaString(300, 500,
C_DATA_LEN, customer_buff[i].c_data);

        // Generate HISTORY data
        MakeAlphaString(12, 24,
H_DATA_LEN, customer_buff[i].h_data);

    }
}

//=====
//
// Function : LoadCustomerTable
//
//=====

void LoadCustomerTable(LOADER_TIME_STRUCT
*customer_time_start)
{
    int i;
    long c_id;
    short c_d_id;
    short 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;

    // fix to avoid ODBC float to numeric conversion
    problem.
    // double c_balance;
    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;

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

```

```

    rc = bcp_bind(c_hdbc1, (BYTE *) c_first, 0,
FIRST_NAME_LEN, NULL, 0, 0, 4);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_middle, 0,
MIDDLE_NAME_LEN, NULL, 0, 0, 5);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_last, 0,
LAST_NAME_LEN, NULL, 0, 0, 6);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_street_1, 0,
ADDRESS_LEN, NULL, 0, 0, 7);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_street_2, 0,
ADDRESS_LEN, NULL, 0, 0, 8);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_city, 0,
ADDRESS_LEN, NULL, 0, 0, 9);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_state, 0,
STATE_LEN, NULL, 0, 0, 10);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_zip, 0, ZIP_LEN,
NULL, 0, 0, 11);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_phone, 0,
PHONE_LEN, NULL, 0, 0, 12);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_since, 0,
C_SINCE_LEN, NULL, 0, SQLCHARACTER, 13);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) c_credit, 0,
CREDIT_LEN, NULL, 0, 0, 14);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_credit_lim, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 15);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_discount, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 16);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    // fix to avoid ODBC float to numeric conversion
    problem.
    // rc = bcp_bind(c_hdbc1, (BYTE *) &c_balance, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 17);

```

```

        // if (rc != SUCCEED)
        //     HandleErrorDBC(c_hdbc1);
        rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5, NULL,
0, SQLCHARACTER, 17);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc1);

        rc = bcp_bind(c_hdbc1, (BYTE *) &c_ytd_payment, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 18);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc1);

        rc = bcp_bind(c_hdbc1, (BYTE *) &c_payment_cnt, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 19);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc1);

        rc = bcp_bind(c_hdbc1, (BYTE *) &c_delivery_cnt, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 20);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc1);

        rc = bcp_bind(c_hdbc1, (BYTE *) c_data, 0, 500, NULL,
0, 0, 21);
        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;

            // fix to avoid ODBC float to numeric
conversion problem.
            // c_balance =
            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)
{
    int i;
    long c_id;
    short c_d_id;
    short c_w_id;
    double h_amount;
    char h_data[H_DATA_LEN+1];
    char h_date[H_DATE_LEN+1];

    RETCODE rc;

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 4);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 5);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    rc = bcp_bind(c_hdbc2, (BYTE *) &h_date, 0,
H_DATE_LEN, NULL, 0, SQLCHARACTER, 6);
    if (rc != SUCCEED)

```



```

        HandleErrorDBC(c_hdbc2);

rc = bcp_bind(c_hdbc2, (BYTE *) &h_amount, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 7);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

rc = bcp_bind(c_hdbc2, (BYTE *) h_data, 0,
H_DATA_LEN, NULL, 0, 0, 8);
    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;
    short                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("idxodcl");
}

// 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 = (short)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

                // 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(int d_id, int w_id)
{
    int cust[ORDERS_PER_DISTRICT+1];
    long o_id;
    short 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

strep(y(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;
    short 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
rc = bcp_bind(o_hdbc1, (BYTE *) &o_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_c_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 4);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_entry_d, 0,
O_ENTRY_D_LEN, NULL, 0, SQLCHARACTER, 5);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_carrier_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 6);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_ol_cnt, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 7);
if (rc != SUCCEEDED)
HandleErrorDBC(o_hdbc1);

rc = bcp_bind(o_hdbc1, (BYTE *) &o_all_local, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 8);
if (rc != SUCCEEDED)
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 != SUCCEEDED)

HandleErrorDBC(o_hdbc1);

orders_rows_loaded++;

CheckForCommit(o_hdbc1, o_hstmt1,
orders_rows_loaded, "orders", &orders_time_start-
>time_start);

```

```

    }

    // rcint = bcp_batch(o_hdbc1);
    // if (rcint < 0)
    //     HandleErrorDBC(o_hdbc1);

    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)
{
    int i;
    long o_id;
    short o_d_id;
    short o_w_id;
    RETCODE rc;
    DBINT rcint;

    // Bind NEW-ORDER data

    rc = bcp_bind(o_hdbc2, (BYTE *) &o_id, 0,
        SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);

    rc = bcp_bind(o_hdbc2, (BYTE *) &o_d_id, 0,
        SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);

    rc = bcp_bind(o_hdbc2, (BYTE *) &o_w_id, 0,
        SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
    if (rc != SUCCEEDED)
        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 != SUCCEEDED)

            HandleErrorDBC(o_hdbc2);

        new_order_rows_loaded++;

        CheckForCommit(o_hdbc2, o_hstmt2,
            new_order_rows_loaded, "new_order",
            &new_order_time_start->time_start);
    }

    // rcint = bcp_batch(o_hdbc2);
    // if (rcint < 0)
    //     HandleErrorDBC(o_hdbc2);

    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("idxnodel");
    }
}

//=====
//
// Function : LoadOrderLineTable
//
//=====

void LoadOrderLineTable(LOADER_TIME_STRUCT
    *order_line_time_start)
{
    int i,j;
    long o_id;
    short o_d_id;
    short o_w_id;
    long ol;
    long ol_i_id;
    short 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
rc = bcp_bind(o_hdbc3, (BYTE *) &o_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &o_d_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 2);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &o_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 3);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &ol, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 4);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &ol_i_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 5);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &ol_supply_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 6);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *)
&ol_delivery_d, 0, OL_DELIVERY_D_LEN, NULL, 0,
SQLCHARACTER, 7);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &ol_quantity, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT2, 8);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) &ol_amount, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 9);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc3);

rc = bcp_bind(o_hdbc3, (BYTE *) ol_dist_info, 0,
DIST_INFO_LEN, NULL, 0, 0, 10);
if (rc != SUCCEEDED)
    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 != SUCCEEDED)

            HandleErrorDBC(o_hdbc3);

            order_line_rows_loaded++;
            CheckForCommit(o_hdbc3,
o_hstmt3, order_line_rows_loaded, "order_line",
&order_line_time_start->time_start);
        }
    }

    // rcint = bcp_batch(o_hdbc3);
    // if (rcint < 0)
    //     HandleErrorDBC(o_hdbc3);

    if ((o_w_id == apr->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 ((apr->build_index == 1) && (apr-
>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,
                   int rows_loaded,
                   char
*table_name,
                   long *time_start)
{
    long   time_end, time_diff;
    // DBINT rcint;

    if ( !(rows_loaded % aptr->batch) )
    {
        // rcint = bcp_batch(hdbc);
        // if (rcint < 0)
        //     HandleErrorDBC(hdbc);

        time_end = (TimeNow() / MILLI);
        time_diff = time_end - *time_start;

        printf("> Loaded %ld rows into %s in
%d 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 : 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)
    HandleErrorDBC(i_hdbc1);

// 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)
    HandleErrorDBC(w_hdbc1);

// 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)
    HandleErrorDBC(c_hdbc1);

// 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)
    HandleErrorDBC(c_hdbc2);

// 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)
        HandleErrorDBC(o_hdbc1);

    // 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)
        HandleErrorDBC(o_hdbc2);

    // 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)
        HandleErrorDBC(o_hdbc3);

}

//=====
//
// 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);
}

```

```

void HandleErrorDBC (SQLHDBC hdbc1)
{
    SQLCHAR                SqlState[6],
    Msg[SQL_MAX_MESSAGE_LENGTH];
    SQLINTEGER 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" , datebuf,
timebuf, szLastError);

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"tpccldr.err");
        fp1 = fopen(err_log_path,"w");
        //fp1 = fopen("logs\\tpccldr.err","w");
        if (fp1 == NULL)
            printf("ERROR: Unable to
open errorlog file.\n");
        else
        {
            fprintf(fp1, "[%s : %s]
%s\n" , datebuf, timebuf, szLastError);
            fclose(fp1);
        }
        i++;
    }
}

void HandleErrorSTMT (HSTMT hstmt1)
{
    SQLCHAR                SqlState[6],
    Msg[SQL_MAX_MESSAGE_LENGTH];
    SQLINTEGER 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 )
    {
        sprintf( szLastError , "%s" , Msg );

```

```

        _strtime(timebuf);
        _strdate(datebuf);

        printf( "[%s : %s] %s\n" , datebuf,
timebuf, szLastError);

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"tpccldr.err");
        fp1 = fopen(err_log_path,"w");
        //fp1 = fopen("logs\\tpccldr.err","w");
        if (fp1 == NULL)
            printf("ERROR: Unable to
open errorlog file.\n");
        else
        {
            fprintf(fp1, "[%s : %s]
%s\n" , datebuf, timebuf, szLastError);
            fclose(fp1);
        }
        i++;
    }
}

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;
}

//=====
//
// Function : CheckDataBase
//
//=====

void CheckDataBase()
{
    RETCODE rc;

    char szDriverString[300];
    char szDriverStringOut[1024];
    char TablesBitMap[9]
= {"000000000"};
    int i,
ExitFlag;

    SQLSMALLINT
cbDriverStringOut;

```

```

SQLCHAR
TabName[10];
SQLINTEGER          TabNameInd,
TabCount, TabCountInd;

ExitFlag = 0;

SQLAllocHandle(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv );

SQLSetEnvAttr(henv,
SQL_ATTR_ODBC_VERSION, (void*)SQL_OV_ODBC3,
0);

SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&v_hdbc);

SQLSetConnectAttr(v_hdbc,
SQL_COPT_SS_BCP, (void*)SQL_BCP_ON,
SQL_IS_INTEGER);

// Open connection to SQL Server

sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s
",

aptr->server,

aptr->user,

aptr->password,

aptr->database );

rc = SQLSetConnectAttr( v_hdbc,
SQL_ATTR_PACKET_SIZE, (SQLPOINTER)aptr-
>pack_size, SQL_IS_INTEGER );
if (rc != SQL_SUCCESS)
    HandleErrorDBC(v_hdbc);

rc = SQLDriverConnect ( v_hdbc,
NULL,

(SQLCHAR*)&szDriverString[0] ,

SQL_NTS,

(SQLCHAR*)&szDriverStringOut[0],

sizeof(szDriverStringOut),

&cbDriverStringOut,

SQL_DRIVER_NOPROMPT );

// if the rc is SQL_ERROR, the the TPCC
database probably does not exist
if (rc == SQL_ERROR)
{
    printf("The database TPCC does not
appear to exist!\n");
    printf("\nCheck LOGS\ directory for
database creation errors.\n");

    // cleanup database connections and
handles

```

```

SQLFreeHandle(SQL_HANDLE_STMT,
v_hstmt);

SQLDisconnect(v_hdbc);

SQLFreeHandle(SQL_HANDLE_DBC, v_hdbc);

// since there is not a database, exit
back to SETUP.CMD
    exit(1);
}

if ( SQLAllocHandle(SQL_HANDLE_STMT,
v_hdbc , &v_hstmt) != SQL_SUCCESS )
    HandleErrorDBC(v_hdbc);

if ( SQLBindCol(v_hstmt, 1, SQL_C_ULONG,
&TabCount, 0, &TabCountInd) != SQL_SUCCESS )
    HandleErrorSTMT(v_hstmt);

// count the number of user tables from sysobjects
rc = SQLExecDirect(v_hstmt, "select count(*)
from sysobjects where xtype = '\U'", SQL_NTS);
if ((rc != SQL_SUCCESS) && (rc !=
SQL_SUCCESS_WITH_INFO))
    HandleErrorSTMT(v_hstmt);

if ( SQLFetch(v_hstmt) != SQL_SUCCESS )
    HandleErrorSTMT(v_hstmt);

// if the number of tables is less than 9, select all
the user tables in TPCC
if (TabCount != 9)
{
    SQLFreeHandle(SQL_HANDLE_STMT,
v_hstmt);

    SQLAllocHandle(SQL_HANDLE_STMT,
v_hdbc , &v_hstmt);

    if ( SQLBindCol(v_hstmt, 1,
SQL_C_CHAR, &TabName, sizeof(TabName),
&TabNameInd) != SQL_SUCCESS )

        HandleErrorSTMT(v_hstmt);

// select the list of user tables into a
result set
rc = SQLExecDirect(v_hstmt, "select *
from sysobjects where xtype = '\U'", SQL_NTS);
if ((rc != SQL_SUCCESS) && (rc !=
SQL_SUCCESS_WITH_INFO))

    HandleErrorSTMT(v_hstmt);

// go through the result set and set the
bitmap for each found table
// set the bitmap to '1' if the table name
is found

while ((rc = SQLFetch(v_hstmt)) !=
SQL_NO_DATA)
{
    switch( TabName[0] )
    {
        case 'w':
            TablesBitMap[0]
= '1';

```

```

        break;
    case 'd':
        TablesBitMap[1]
= '1';
        break;
    case 'c':
        TablesBitMap[2]
= '1';
        break;
    case 'h':
        TablesBitMap[3]
= '1';
        break;
    case 'n':
        TablesBitMap[4]
= '1';
        break;
    case 'o':
        if (TabName[5]
= 's')
            TablesBitMap[5] = '1';
        if (TabName[5]
= '_')
            TablesBitMap[6] = '1';
        break;
    case 'i':
        TablesBitMap[7]
= '1';
        break;
    case 's':
        TablesBitMap[8]
= '1';
        break;
    }
    // a '0' ExitFlag means do NOT exit the
loader early, a '1' means exit the loader early
    ExitFlag = 0;

    // iterate through the bitmap to
display which table(s) is actually missing
    for (i = 0; i <= 8; i++)
    {
        switch(i)
        {
            case 0:
                if
(TablesBitMap[i] == '0')
                {
                    printf("The Warehouse table is missing or
damaged.\n");
                    ExitFlag = 1;
                }
            case 1:
                if
(TablesBitMap[i] == '0')
                {
                    printf("The District table is missing or
damaged.\n");
                    ExitFlag = 1;
                }
                break;
        }
    }

```

```

        case 2:
            if
(TablesBitMap[i] == '0')
            {
                printf("The Customer table is missing or
damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 3:
            if
(TablesBitMap[i] == '0')
            {
                printf("The History table is missing or
damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 4:
            if
(TablesBitMap[i] == '0')
            {
                printf("The New_Order table is missing or
damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 5:
            if
(TablesBitMap[i] == '0')
            {
                printf("The Orders table is missing or
damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 6:
            if
(TablesBitMap[i] == '0')
            {
                printf("The Order_Line table is missing or
damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 7:
            if
(TablesBitMap[i] == '0')
            {
                printf("The Item table is missing or damaged.\n");
                ExitFlag = 1;
            }
            break;
        case 8:
            if
(TablesBitMap[i] == '0')
            {

```

```

printf("The Stock table is missing or damaged.\n");

ExitFlag = 1;
        }
        break;
    }
}

// if one or more tables are missing,
display message and exit the loader
if (ExitFlag = 1)
{
    printf("\nExiting TPC-C
Loader!\n");
    printf("\nCheck LOGS\
directory for database\n");
    printf("or table creation
errors.\n");

    // cleanup database
connections and handles

    SQLFreeHandle(SQL_HANDLE_STMT,
v_hstmt);
    SQLDisconnect(v_hdbc);
    SQLFreeHandle(SQL_HANDLE_DBC, v_hdbc);
    exit(1);
}

// cleanup database connections and handles
SQLFreeHandle(SQL_HANDLE_STMT,
v_hstmt);
SQLDisconnect(v_hdbc);
SQLFreeHandle(SQL_HANDLE_DBC, v_hdbc);

return;
}

```

tpccldr.mak

```

# Microsoft Developer Studio Generated NMAKE File,
Format Version 4.10
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Console Application" 0x0103

!IF "$(CFG)" == ""
CFG=tpccldr - Win32 Debug
!MESSAGE No configuration specified. Defaulting to
tpccldr - Win32 Debug.
!ENDIF

!IF "$(CFG)" != "tpccldr - Win32 Release" && "$(CFG)" !=\
"tpccldr - Win32 Debug"
!MESSAGE Invalid configuration "$(CFG)" specified.
!MESSAGE You can specify a configuration when running
NMAKE on this makefile
!MESSAGE by defining the macro CFG on the command
line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tpccldr.mak" CFG="tpccldr -
Win32 Debug"

```

```

!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tpccldr - Win32 Release" (based on "Win32
(x86) Console Application")
!MESSAGE "tpccldr - Win32 Debug" (based on "Win32
(x86) Console Application")
!MESSAGE
!ERROR An invalid configuration is specified.
!ENDIF

!IF "$(OS)" == "Windows_NT"
NULL=
!ELSE
NULL=nul
!ENDIF
#####
#####
# Begin Project
# PROP Target_Last_Scanned "tpccldr - Win32 Debug"
RSC=rc.exe
CPP=cl.exe

!IF "$(CFG)" == "tpccldr - Win32 Release"

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir "bin"
# PROP Intermediate_Dir "objects"
# PROP Target_Dir ""
OUTDIR=.bin
INTDIR=.objects

ALL : "$(OUTDIR)\tpccldr.exe"

CLEAN :
-@erase "$(INTDIR)\getargs.obj"
-@erase "$(INTDIR)\random.obj"
-@erase "$(INTDIR)\strings.obj"
-@erase "$(INTDIR)\time.obj"
-@erase "$(INTDIR)\tpccldr.obj"
-@erase "$(OUTDIR)\tpccldr.exe"

"$(OUTDIR)" :
if not exist "$(OUTDIR)\$(NULL)" mkdir "$(OUTDIR)"

"$(INTDIR)" :
if not exist "$(INTDIR)\$(NULL)" mkdir "$(INTDIR)"

# ADD BASE CPP /nologo /W3 /GX /O2 /D "WIN32" /D
"NDEBUG" /D "_CONSOLE" /YX /c
# ADD CPP /nologo /MT /W3 /GX /O2 /I
"c:\mssql\dblib\include" /D "NDEBUG" /D "WIN32" /D
"_CONSOLE" /D "DBNTWIN32" /c
# SUBTRACT CPP /YX
CPP_PROJ=/nologo /MT /W3 /GX /O2 /I
"c:\mssql\dblib\include" /D "NDEBUG" /D\
"WIN32" /D "_CONSOLE" /D "DBNTWIN32"
/Fo"$(INTDIR)" /c
CPP_OBJS=.objects/
CPP_SBRS=.\
# ADD BASE RSC /I 0x409 /d "NDEBUG"
# ADD RSC /I 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo

```

```

# ADD BSC32 /nologo
BSC32_FLAGS=/nologo /o"$(OUTDIR)\tpccldr.bsc"
BSC32_SBRS= \

LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib uuid.lib odbcc32.lib odbccp32.lib /nologo
/subsystem:console /machine:I386
# ADD LINK32 c:\mssql\dblib\lib\ntwdblib.lib kernel32.lib
user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib
shell32.lib ole32.lib oleaut32.lib uuid.lib odbcc32.lib
odbccp32.lib /nologo /subsystem:console /pdb:none
/machine:I386
LINK32_FLAGS=c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib\
winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib\
uuid.lib odbcc32.lib odbccp32.lib /nologo /subsystem:console
/pdb:none\
/machine:I386 /out:"$(OUTDIR)\tpccldr.exe"
LINK32_OBJS= \
    "$(INTDIR)\getargs.obj" \
    "$(INTDIR)\random.obj" \
    "$(INTDIR)\strings.obj" \
    "$(INTDIR)\time.obj" \
    "$(INTDIR)\tpccldr.obj"

"$$(OUTDIR)\tpccldr.exe" : "$$(OUTDIR)" $(DEF_FILE)
$(LINK32_OBJS)
    $(LINK32) @<<
    $(LINK32_FLAGS) $(LINK32_OBJS)
<<

!ELSEIF "$(CFG)" == "tpccldr - Win32 Debug"

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir "bin"
# PROP Intermediate_Dir "objects"
# PROP Target_Dir ""
OUTDIR=. \bin
INTDIR=. \objects

ALL : "$(OUTDIR)\tpccldr.exe"

CLEAN :
    -@erase "$(INTDIR)\getargs.obj"
    -@erase "$(INTDIR)\random.obj"
    -@erase "$(INTDIR)\strings.obj"
    -@erase "$(INTDIR)\time.obj"
    -@erase "$(INTDIR)\tpccldr.obj"
    -@erase "$(INTDIR)\vc40.idb"
    -@erase "$(INTDIR)\vc40.pdb"
    -@erase "$(OUTDIR)\tpccldr.exe"

"$$(OUTDIR)" :
    if not exist "$$(OUTDIR)\$(NULL)" mkdir "$$(OUTDIR)"

"$$(INTDIR)" :
    if not exist "$$(INTDIR)\$(NULL)" mkdir "$$(INTDIR)"

# ADD BASE CPP /nologo /W3 /Gm /GX /Zi /Od /D
"WIN32" /D "_DEBUG" /D "_CONSOLE" /YX /c

```

```

# ADD CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /I
"c:\mssql\dblib\include" /D "_DEBUG" /D "WIN32" /D
"_CONSOLE" /D "DBNTWIN32" /c
# SUBTRACT CPP /YX
CPP_PROJ=/nologo /MTd /W3 /Gm /GX /Zi /Od /I
"c:\mssql\dblib\include" /D\
"_DEBUG" /D "WIN32" /D "_CONSOLE" /D
"DBNTWIN32" /Fo"$(INTDIR)\\"
/Fd"$(INTDIR)\\" /c
CPP_OBJS=. \objects\
CPP_SBRS=. \.
# ADD BASE RSC /I 0x409 /d "_DEBUG"
# ADD RSC /I 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
BSC32_FLAGS=/nologo /o"$(OUTDIR)\tpccldr.bsc"
BSC32_SBRS= \

LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib uuid.lib odbcc32.lib odbccp32.lib /nologo
/subsystem:console /debug /machine:I386
# ADD LINK32 c:\mssql\dblib\lib\ntwdblib.lib kernel32.lib
user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib
shell32.lib ole32.lib oleaut32.lib uuid.lib odbcc32.lib
odbccp32.lib /nologo /subsystem:console /pdb:none /debug
/machine:I386
LINK32_FLAGS=c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib\
winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib\
uuid.lib odbcc32.lib odbccp32.lib /nologo /subsystem:console
/pdb:none /debug\
/machine:I386 /out:"$(OUTDIR)\tpccldr.exe"
LINK32_OBJS= \
    "$(INTDIR)\getargs.obj" \
    "$(INTDIR)\random.obj" \
    "$(INTDIR)\strings.obj" \
    "$(INTDIR)\time.obj" \
    "$(INTDIR)\tpccldr.obj"

"$$(OUTDIR)\tpccldr.exe" : "$$(OUTDIR)" $(DEF_FILE)
$(LINK32_OBJS)
    $(LINK32) @<<
    $(LINK32_FLAGS) $(LINK32_OBJS)
<<

!ENDIF

.c{$(CPP_OBJS)}.obj:
    $(CPP) $(CPP_PROJ) $<

.cpp{$(CPP_OBJS)}.obj:
    $(CPP) $(CPP_PROJ) $<

.cxx{$(CPP_OBJS)}.obj:
    $(CPP) $(CPP_PROJ) $<

.c{$(CPP_SBRS)}.sbr:
    $(CPP) $(CPP_PROJ) $<

.cpp{$(CPP_SBRS)}.sbr:
    $(CPP) $(CPP_PROJ) $<

.cxx{$(CPP_SBRS)}.sbr:
    $(CPP) $(CPP_PROJ) $<

```

```
#####
#####
# Begin Target

# Name "tpccldr - Win32 Release"
# Name "tpccldr - Win32 Debug"

!IF "$(CFG)" == "tpccldr - Win32 Release"

!ELSEIF "$(CFG)" == "tpccldr - Win32 Debug"

!ENDIF

#####
#####
# Begin Source File

SOURCE=\src\random.c
DEP_CPP_RAND0=\
    ".\src\tpcc.h"
    "\mssql\dblib\include\sqldb.h"
    "\mssql\dblib\include\sqlfront.h"

"$(INTDIR)\random.obj" : $(SOURCE)
$(DEP_CPP_RAND0) "$(INTDIR)"
$(CPP) $(CPP_PROJ) $(SOURCE)

# End Source File
#####
#####
# Begin Source File

SOURCE=\src\strings.c
DEP_CPP_STRIN=\
    ".\src\tpcc.h"
    "\mssql\dblib\include\sqldb.h"
    "\mssql\dblib\include\sqlfront.h"

"$(INTDIR)\strings.obj" : $(SOURCE) $(DEP_CPP_STRIN)
"$(INTDIR)"
$(CPP) $(CPP_PROJ) $(SOURCE)

# End Source File
#####
#####
# Begin Source File

SOURCE=\src\time.c
DEP_CPP_TIME_=\
    ".\src\tpcc.h"
    "\mssql\dblib\include\sqldb.h"
    "\mssql\dblib\include\sqlfront.h"

"$(INTDIR)\time.obj" : $(SOURCE) $(DEP_CPP_TIME_)
"$(INTDIR)"
$(CPP) $(CPP_PROJ) $(SOURCE)

# End Source File
#####
#####
# Begin Source File

SOURCE=\src\tpccldr.c
DEP_CPP_TPCC=\
```

```
".\src\tpcc.h"
"\mssql\dblib\include\sqldb.h"
"\mssql\dblib\include\sqlfront.h"

"$(INTDIR)\tpccldr.obj" : $(SOURCE) $(DEP_CPP_TPCC)
"$(INTDIR)"
$(CPP) $(CPP_PROJ) $(SOURCE)

# End Source File
#####
#####
# Begin Source File

SOURCE=\src\getargs.c
DEP_CPP_GETAR=\
    ".\src\tpcc.h"
    "\mssql\dblib\include\sqldb.h"
    "\mssql\dblib\include\sqlfront.h"

"$(INTDIR)\getargs.obj" : $(SOURCE)
$(DEP_CPP_GETAR) "$(INTDIR)"
$(CPP) $(CPP_PROJ) $(SOURCE)

# End Source File
# End Target
# End Project
#####
#####
```

VerifyTpccLoad.sql

```
-----
--
--          --
--      File:  VERIFYTPCCLOAD.SQL
--          --
--      Microsoft TPC-C Benchmark Kit Ver.
4.51
--      Copyright Microsoft, 2003
--          --
--          --
--      Performs series of TPCC database
checks to --
--      verify that database load completed
correctly --
--          --
-----

print    ''
select   convert(char(30), getdate(), 21)
print    ''

use tpcc
go

-----
-- Check rows per table
-----

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

-----
-- Check indices
-----
print '----- Index Check -----'

use tpcc
go

sp_helpindex customer
go

sp_helpindex stock
go

sp_helpindex district
go

sp_helpindex item
go

sp_helpindex new_order
go

sp_helpindex orders

```

```

go

sp_helpindex order_line
go

sp_helpindex warehouse
go

```

version.sql

```

-----
--
-- File: VERSION.SQL
--
-- Microsoft TPC-C Benchmark Kit Ver.
4.51
-- Copyright Microsoft, 2003
--
--
-- 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

```


Appendix C: Tunable Parameters

Microsoft SQL Server 2005 Configuration Parameters

```

1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> -----
--
-- File:  VERSION.SQL                               --
--   Microsoft TPC-C Benchmark Kit Ver. 4.63         --
--
--   Copyright Microsoft, 2005                       --
--   - Extracts current version of SQL Server        --
--
-----
USE master
1> 2> 3> 4> 5>
SELECT CONVERT(char(20),
SERVERPROPERTY('ProductVersion')),
       CONVERT(char(20),
SERVERPROPERTY('ProductLevel')),
       CONVERT(char(29), SERVERPROPERTY('Edition'))
-----
9.00.2047.00    SPI            Enterprise Edition (64-bit)

(1 row affected)
1> 2> 3>
SELECT CONVERT(char(30), GETDATE(), 21)
-----
2006-05-30 16:57:53.470

(1 row affected)
1>
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> 13> 14>
-----
--
-- File:  CONFIG.SQL                               --
--   Microsoft TPC-C Benchmark Kit Ver. 4.63         --
--
--   Copyright Microsoft, 2005                       --
--   - Collects SQL Server configuration parameters --
--
-----
PRINT ''
SELECT CONVERT(char(30), GETDATE(), 21)
PRINT ''
-----
2006-05-30 16:57:53.813

(1 row affected)

```

1> 2> 3> Configuration option 'show advanced options' changed from 1 to 1. Run the RECONFIGURE statement to install.

```

sp_configure 'show advanced',1
1> 2> 3>
RECONFIGURE WITH OVERRIDE
1> 2> 3>
sp_configure
name                minimum    maximum
config_value run_value
-----
Ad Hoc Distributed Queries          0         1         0
0
affinity I/O mask                  -2147483648 2147483647
0         0
affinity mask                       -2147483648 2147483647
-1        -1
affinity64 I/O mask                 -2147483648 2147483647
0         0
affinity64 mask                     -2147483648 2147483647
0         0
Agent XPs                           0         1         0     0
allow updates                       0         1         0     0
awe enabled                          0         1         1     1
blocked process threshold            0         86400    0
0
c2 audit mode                       0         1         0     0
clr enabled                          0         1         0     0
cost threshold for parallelism       0         32767    5
5
cross db ownership chaining          0         1         0
0
cursor threshold                    -1 2147483647 -1
-1
Database Mail XPs                   0         1         0
0
default full-text language          0 2147483647
1033    1033
default language                     0         9999     0
0
default trace enabled               0         1         0
0
disallow results from triggers       0         1         0
0
fill factor (%)                     0         100      0     0
ft crawl bandwidth (max)             0         32767    100
100
ft crawl bandwidth (min)             0         32767    0
0
ft notify bandwidth (max)           0         32767    100
100
ft notify bandwidth (min)           0         32767    0
0
in-doubt xact resolution             0         2         0
0
index create memory (KB)             704 2147483647
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
125440 125440

```

```

max text repl size (B)          0 2147483647
65536 65536
max worker threads             128 32767 880
880
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
0 0
remote proc trans               0 1 0
0
remote query timeout (s)       0 2147483647
0 0
Replication XPs                 0 1 0
0
scan for startup procs         0 1 0
0
server trigger recursion        0 1 1
1
set working set size           0 1 0
0
show advanced options          0 1 1
1
SMO and DMO XPs                 0 1 1
1
SQL Mail XPs                    0 1 0
0
transform noise words           0 1 0
0
two digit year cutoff           1753 9999 2049
2049
user connections                0 32767 0
0
user options                    0 32767 0
0
Web Assistant Procedures        0 1 0
0
xp_cmdshell                     0 1 0 0
l>

```

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

The following services were disabled:

- Automatic Updates
- Computer Browser
- Error Reporting Service
- Help and Support
- Messenger
- Print Spooler
- Windows Time
- Wireless Configuration

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

Install and enable Microsoft Windows 2003 Scalable
Networking Pack.

c:\boot.ini added /noexecute=optout /fastdetect

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 -T8011 -T8012 -T8018 -T8019 -T8020 -T1228
-T8744

where:

- c Start SQL Server independent of the Service Control
Manager
- x Disable the keeping of CPU time and cache hit ratio
statistics
- T661 - Disable the ghost record removal process
- T827 - Display latch promotions in the SQL Server errorlog.
These are informational messages only and are performance
neutral
- T834 - Use Large Pages
- T3502 - Display checkpoint information in errorlog
- T8011 - Disable ring buffer for resource monitor
- T8012 - Disable ring buffer for schedulers
- T8018 - Disable exception ring buffer

- T8019 - Disable stack collection for exception ring buffers
- T8020 - Disable working set trimming
- T1228 - Enable lock partitioning
- T8744 - Disable pre-fetch

Server Registry Parameters:

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

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

"CPUMask"=dword:000000f0

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

"CPUMask"=dword:000000f0

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

"CPUMask"=dword:0000000f

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

"CPUMask"=dword:0000f000

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

"CPUMask"=dword:000f0000

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

"CPUMask"=dword:00f00000

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

"CPUMask"=dword:0f000000

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

"CPUMask"=dword:f0000000

Windows Registry Editor Version 5.00

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

"TcpPort"="1433,1434[4],1436[2],1438[1],1440[8],1442[16],1444[32],1446[64],1448[128],1450[256]"

"TcpDynamicPorts"=""

"DisplayName"="Any IP Address"

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management

Class Name: <NO CLASS>

Last Write Time: 5/26/2006 - 6:37 PM

Value 0

Name: ClearPageFileAtShutdown
Type: REG_DWORD
Data: 0

Value 1

Name: DisablePagingExecutive
Type: REG_DWORD
Data: 0x1

Value 2

Name: LargeSystemCache
Type: REG_DWORD
Data: 0

Value 3

Name: NonPagedPoolQuota
Type: REG_DWORD
Data: 0

Value 4

Name: NonPagedPoolSize
Type: REG_DWORD
Data: 0

Value 5

Name: PagedPoolQuota
Type: REG_DWORD
Data: 0

Value 6

Name: PagedPoolSize
Type: REG_DWORD
Data: 0

Value 7

Name: SecondLevelDataCache
Type: REG_DWORD
Data: 0

Value 8

Name: SystemPages
Type: REG_DWORD
Data: 0

<p>Value 9</p> <p>Name: PagingFiles</p> <p>Type: REG_MULTI_SZ</p> <p>Data: C:\pagefile.sys 2046 4092</p>	<p>00,45,00,52,00,00,00,00,00</p> <p>"NullSessionShares"=hex(7):43,00,4f,00,4d,00,43,00,46,00,47,00,00,00,44,00,46,\</p> <p>00,53,00,24,00,00,00,00,00</p> <p>"ServiceDll"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\</p>
<p>Value 10</p> <p>Name: PhysicalAddressExtension</p> <p>Type: REG_DWORD</p> <p>Data: 0x1</p>	<p>00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\</p> <p>73,00,72,00,76,00,73,00,76,00,63,00,2e,00,64,00,6c,00,6c,00,00,00</p>
<p>Value 11</p> <p>Name: WriteWatch</p> <p>Type: REG_DWORD</p> <p>Data: 0x1</p>	<p>"Lmannounce"=dword:00000000</p> <p>"Size"=dword:00000003</p> <p>"AdjustedNullSessionPipes"=dword:00000001</p> <p>"Guid"=hex:2c,82,a8,e3,46,35,eb,48,bc,62,3b,28,6c,5e,c9,f6</p>
<p>Value 12</p> <p>Name: DontVerifyRandomDrivers</p> <p>Type: REG_DWORD</p> <p>Data: 0x1</p>	<p>Windows Registry Editor Version 5.00</p>
<p>Key Name:</p> <p>HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\O System</p> <p>Class Name: <NO CLASS></p> <p>Last Write Time: 5/26/2006 - 6:37 PM</p>	<p>[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\Tcpip\Parameters]</p> <p>"NV Hostname"="ibmserv4"</p> <p>"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\</p>
<p>Value 0</p> <p>Name: CountOperations</p> <p>Type: REG_DWORD</p> <p>Data: 0</p>	<p>00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\</p> <p>64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,00,00</p>
<p>Windows Registry Editor Version 5.00</p> <p>[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanmanserver\parameters]</p> <p>"autodisconnect"=dword:0000000f</p> <p>"enableforcedlogoff"=dword:00000001</p> <p>"enablesecuritysignature"=dword:00000000</p> <p>"requiresecuritysignature"=dword:00000000</p> <p>"restrictnullsessaccess"=dword:00000001</p> <p>"NullSessionPipes"=hex(7):43,00,4f,00,4d,00,4e,00,41,00,50,00,00,00,43,00,4f,\</p> <p>00,4d,00,4e,00,4f,00,44,00,45,00,00,00,53,00,51,00,4c,00,5c,00,51,00,55,00,\</p> <p>45,00,52,00,59,00,00,00,53,00,50,00,4f,00,4f,00,4c,00,53,00,53,00,00,00,4e,\</p> <p>00,45,00,54,00,4c,00,4f,00,47,00,4f,00,4e,00,00,00,4c,00,53,00,41,00,52,00,\</p> <p>50,00,43,00,00,00,53,00,41,00,4d,00,52,00,00,00,42,00,52,00,4f,00,57,00,53,\</p>	<p>"NameServer"=""</p> <p>"ForwardBroadcasts"=dword:00000000</p> <p>"IPEnableRouter"=dword:00000000</p> <p>"Domain"=""</p> <p>"Hostname"="ibmserv4"</p> <p>"SearchList"=""</p> <p>"UseDomainNameDevolution"=dword:00000001</p> <p>"EnableICMPRedirect"=dword:00000001</p> <p>"DeadGWDetectDefault"=dword:00000001</p> <p>"DontAddDefaultGatewayDefault"=dword:00000000</p> <p>"EnableSecurityFilters"=dword:00000000</p> <p>"ReservedPorts"=hex(7):31,00,34,00,33,00,33,00,2d,00,31,00,34,00,33,00,34,00,\</p> <p>00,00,33,00,33,00,34,00,33,00,2d,00,33,00,33,00,34,00,33,00,00,00,00,00</p> <p>"EnableTCPA"=dword:00000001</p> <p>"EnableRSS"=dword:00000001</p> <p>"EnableTCPChimney"=dword:00000001</p> <p>"DisableRSS"=dword:00000001</p> <p>"DisableTCPChimney"=dword:00000000</p> <p>SQL database changes</p>

use master
go
alter database tpcc set page_verify none
go

SUT System Information Report

System Information report written at: 05/30/06 16:23:20

System Name: IBMSERV4

[System Summary]

Item	Value
OS Name	Microsoft(R) Windows(R) Server 2003 Enterprise x64 Edition
Version	5.2.3790 Service Pack 1 Build 3790
Other OS Description	Not Available
OS Manufacturer	Microsoft Corporation
System Name	IBMSERV4
System Manufacturer	IBM
System Model	IBM x3950-[88724RZ]-
System Type	x64-based PC
Processor	EM64T Family 15 Model 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
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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 -[ZUE154AUS-1.09]-, 4/26/2006
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 IBMSERV4\Administrator
Time Zone Eastern Daylight Time
Total Physical Memory 130,558.81 MB
Available Physical Memory 1.20 GB
Total Virtual Memory 126.62 GB
Available Virtual Memory 2.22 GB
Page File Space 2.00 GB
Page File C:\pagefile.sys
[Hardware Resources]
[Conflicts/Sharing]
Resource Device

I/O Port 0x00003200-0x000033FF PCI bus
I/O Port 0x00003200-0x000033FF Adaptec AIC-9410w SAS 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 Radeon 7000 / RADEON VE Family (Microsoft Corporation)

Memory Address 0xF9600000-0xF96FFFFFF PCI bus
Memory Address 0xF9600000-0xF96FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF9000000-0xF90FFFFFF PCI bus
Memory Address 0xF9000000-0xF90FFFFFF NEC PCI to USB Open Host Controller

Memory Address 0xFE000000-0xFE0FFFFFF PCI bus
Memory Address 0xFE000000-0xFE0FFFFFF PCI bus

Memory Address 0xF8100000-0xF81FFFFFF PCI bus
Memory Address 0xF8100000-0xF81FFFFFF Alacritech SEN2002XT Accelerator Slot #6 Port A

Memory Address 0xF8800000-0xF88FFFFFF PCI bus
Memory Address 0xF8800000-0xF88FFFFFF PCI standard PCI-to-PCI bridge

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

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

Memory Address 0xF9700000-0xF97FFFFFF PCI bus
Memory Address 0xF9700000-0xF97FFFFFF Adaptec AIC-9410w SAS Controller

I/O Port 0x00002A00-0x00002BFF PCI bus
I/O Port 0x00002A00-0x00002BFF QLogic Fibre Channel Adapter

I/O Port 0x00002000-0x000027FF PCI bus
I/O Port 0x00002000-0x000027FF Adaptec AIC-9410w SAS Controller

I/O Port 0x00003800-0x000039FF PCI bus
I/O Port 0x00003800-0x000039FF QLogic Fibre Channel Adapter

I/O Port 0x00003400-0x000035FF PCI bus
I/O Port 0x00003400-0x000035FF QLogic Fibre Channel Adapter

Memory Address 0xF8200000-0xF82FFFFFF PCI bus
Memory Address 0xF8200000-0xF82FFFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation)

Memory Address 0xF9100000-0xF91FFFFFF PCI bus
Memory Address 0xF9100000-0xF91FFFFFF Adaptec AIC-9410w SAS Controller

I/O Port 0x00002C00-0x00002DFF PCI bus
I/O Port 0x00002C00-0x00002DFF QLogic Fibre Channel Adapter

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

Memory Address 0xA0000-0xBFFFF PCI bus
Memory Address 0xA0000-0xBFFFF Radeon 7000 / RADEON VE Family (Microsoft Corporation)

Memory Address 0xF9800000-0xF98FFFFFF PCI bus
Memory Address 0xF9800000-0xF98FFFFFF Alacritech SEN2002XT Accelerator Slot #12 Port A

Memory Address 0xF8000000-0xF80FFFFFF PCI bus
Memory Address 0xF8000000-0xF80FFFFFF 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 0x00003A00-0x00003BFF PCI bus
I/O Port 0x00003A00-0x00003BFF QLogic Fibre Channel Adapter

I/O Port 0x00003600-0x000037FF PCI bus
I/O Port 0x00003600-0x000037FF QLogic Fibre Channel Adapter

[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	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0x000003B0-0x000003BB	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0x000003C0-0x000003DF	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0x00000700-0x0000070F	Standard Dual Channel PCI IDE Controller	OK
0x000001F0-0x000001F7	Primary IDE Channel	OK
0x000003F6-0x000003F6	Primary IDE Channel	OK
0x00000170-0x00000177	Secondary IDE Channel	OK
0x00000376-0x00000376	Secondary IDE Channel	OK
0x00000060-0x00000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x000003F8-0x000003FF	Communications Port (COM1)	OK
0x000002F8-0x000002FF	Communications Port (COM2)	OK
0x00000020-0x00000021	Advanced programmable interrupt controller	OK
0x000000A0-0x000000A1	Advanced programmable interrupt controller	OK
0x00000080-0x0000008F	Direct memory access controller	OK
0x000000C0-0x000000DF	Direct memory access controller	OK
0x00000040-0x00000043	System timer	OK
0x00000070-0x00000073	System CMOS/real time clock	OK
0x00000061-0x00000061	System speaker	OK
0x000000F0-0x000000FF	Numeric data processor	OK
0x0000002E-0x0000002F	Motherboard resources	OK
0x0000004E-0x0000004F	Motherboard resources	OK

0x00000052-0x00000053	Motherboard resources	OK
0x00000092-0x00000092	Motherboard resources	OK
0x00000094-0x0000009F	Motherboard resources	OK
0x000000A8-0x000000A9	Motherboard resources	OK
0x00000400-0x0000047F	Motherboard resources	OK
0x00000480-0x000004FF	Motherboard resources	OK
0x00000500-0x0000055F	Motherboard resources	OK
0x00000600-0x00000600	Motherboard resources	OK
0x00000800-0x00000803	Motherboard resources	OK
0x00000C00-0x00000CDF	Motherboard resources	OK
0x00000F50-0x00000F5F	Motherboard resources	OK
0x00002000-0x000027FF	PCI bus	OK
0x00002000-0x000027FF	Adaptec AIC-9410w SAS Controller	OK
0x00002800-0x000029FF	PCI bus	OK
0x00002800-0x000029FF	QLogic Fibre Channel Adapter	OK
0x00002900-0x000029FF	QLogic Fibre Channel Adapter	OK
0x00002A00-0x00002BFF	PCI bus	OK
0x00002A00-0x00002BFF	QLogic Fibre Channel Adapter	OK
0x00002B00-0x00002BFF	QLogic Fibre Channel Adapter	OK
0x00002C00-0x00002DFF	PCI bus	OK
0x00002C00-0x00002DFF	QLogic Fibre Channel Adapter	OK
0x00002D00-0x00002DFF	QLogic Fibre Channel Adapter	OK
0x00002E00-0x00002FFF	PCI bus	OK
0x00002E00-0x00002FFF	QLogic Fibre Channel Adapter	OK
0x00002F00-0x00002FFF	QLogic Fibre Channel Adapter	OK
0x00003000-0x000031FF	PCI bus	OK
0x00003200-0x000033FF	PCI bus	OK
0x00003200-0x000033FF	Adaptec AIC-9410w SAS Controller	OK
0x00003400-0x000035FF	PCI bus	OK
0x00003400-0x000035FF	QLogic Fibre Channel Adapter	OK
0x00003500-0x000035FF	QLogic Fibre Channel Adapter	OK
0x00003600-0x000037FF	PCI bus	OK
0x00003600-0x000037FF	QLogic Fibre Channel Adapter	OK

0x00003700-0x000037FF	QLogic Fibre Channel Adapter	OK
0x00003800-0x000039FF	PCI bus	OK
0x00003800-0x000039FF	QLogic Fibre Channel Adapter	OK
0x00003900-0x000039FF	QLogic Fibre Channel Adapter	OK
0x00003A00-0x00003BFF	PCI bus	OK
0x00003A00-0x00003BFF	QLogic Fibre Channel Adapter	OK
0x00003B00-0x00003BFF	QLogic Fibre Channel Adapter	OK

[IRQs]

Resource	Device	Status
IRQ 9	Microsoft ACPI-Compliant System	OK
IRQ 16	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	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 25	Adaptec AIC-9410w SAS Controller	OK
IRQ 18	QLogic Fibre Channel Adapter	OK
IRQ 22	QLogic Fibre Channel Adapter	OK
IRQ 19	QLogic Fibre Channel Adapter	OK
IRQ 23	QLogic Fibre Channel Adapter	OK
IRQ 52	QLogic Fibre Channel Adapter	OK
IRQ 56	QLogic Fibre Channel Adapter	OK
IRQ 53	QLogic Fibre Channel Adapter	OK
IRQ 57	QLogic Fibre Channel Adapter	OK
IRQ 54	IBM ServeRAID 6M Controller	OK
IRQ 55	Alacritech SEN2002XT Accelerator Slot #6 Port A	OK
IRQ 59	Alacritech SEN2002XT Accelerator Slot #6 Port B	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 97	Adaptec AIC-9410w SAS Controller	OK
IRQ 90	QLogic Fibre Channel Adapter	OK
IRQ 94	QLogic Fibre Channel Adapter	OK
IRQ 91	QLogic Fibre Channel Adapter	OK
IRQ 95	QLogic Fibre Channel Adapter	OK
IRQ 124	QLogic Fibre Channel Adapter	OK
IRQ 128	QLogic Fibre Channel Adapter	OK
IRQ 125	QLogic Fibre Channel Adapter	OK
IRQ 129	QLogic Fibre Channel Adapter	OK
IRQ 126	IBM ServeRAID 6M Controller	OK
IRQ 127	Alacritech SEN2002XT Accelerator Slot #12 Port A	OK
IRQ 131	Alacritech SEN2002XT Accelerator Slot #12 Port B	OK

[Memory]

Resource	Device	Status
0xA0000-0xBFFFF	PCI bus	OK
0xA0000-0xBFFFF	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0xF0000000-0xF7FFFFFF	PCI bus	OK
0xF0000000-0xF7FFFFFF	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0xF8200000-0xF82FFFFF	PCI bus	OK
0xF8200000-0xF82FFFFF	Radeon 7000 / RADEON VE Family (Microsoft Corporation)	OK
0xF8210000-0xF8210FFF	NEC PCI to USB Open Host Controller	OK
0xF8211000-0xF8211FFF	NEC PCI to USB Open Host Controller	OK
0xF8212000-0xF8212FFF	Standard Enhanced PCI to USB Host Controller	OK
0x0400-0x04FF	System board	OK
0x100000-0x7FFFFFFF	Memory Module	OK
0xF8000000-0xF80FFFFF	PCI bus	OK
0xF8000000-0xF80FFFFF	Adaptec AIC-9410w SAS Controller	OK
0xF8300000-0xF83FFFFF	PCI bus	OK
0xF8380000-0xF83BFFFF	Adaptec AIC-9410w SAS Controller	OK
0xF8400000-0xF84FFFFF	PCI bus	OK
0xF8420000-0xF8420FFF	QLogic Fibre Channel Adapter	OK
0xF8421000-0xF8421FFF	QLogic Fibre Channel Adapter	OK
0xF8500000-0xF85FFFFF	PCI bus	OK
0xF8520000-0xF8520FFF	QLogic Fibre Channel Adapter	OK
0xF8521000-0xF8521FFF	QLogic Fibre Channel Adapter	OK

0xF8600000-0xF86FFFFF	PCI bus OK
0xF8620000-0xF8620FFF	QLogic Fibre Channel Adapter OK
0xF8621000-0xF8621FFF	QLogic Fibre Channel Adapter OK
0xF8700000-0xF87FFFFF	PCI bus OK
0xF8720000-0xF8720FFF	QLogic Fibre Channel Adapter OK
0xF8721000-0xF8721FFF	QLogic Fibre Channel Adapter OK
0xF8800000-0xF88FFFFF	PCI bus OK
0xF8800000-0xF88FFFFF	PCI standard PCI-to-PCI bridge OK
0xF8880000-0xF8880FFF	IBM ServeRAID 6M Controller OK
0xF8100000-0xF81FFFFF	PCI bus OK
0xF8100000-0xF81FFFFF	Alacritech SEN2002XT Accelerator Slot #6 Port A OK
0xFE000000-0xFE0FFFFF	PCI bus OK
0xFE000000-0xFE0FFFFF	PCI bus OK
0xF8110000-0xF811FFFF	Alacritech SEN2002XT Accelerator Slot #6 Port B OK
0xF9000000-0xF90FFFFF	PCI bus OK
0xF9000000-0xF90FFFFF	NEC PCI to USB Open Host Controller OK
0xF9001000-0xF9001FFF	NEC PCI to USB Open Host Controller OK
0xF9002000-0xF90020FF	Standard Enhanced PCI to USB Host Controller OK
0xF9100000-0xF91FFFFF	PCI bus OK
0xF9100000-0xF91FFFFF	Adaptec AIC-9410w SAS Controller OK
0xF9700000-0xF97FFFFF	PCI bus OK
0xF9700000-0xF97FFFFF	Adaptec AIC-9410w SAS Controller OK
0xF9200000-0xF92FFFFF	PCI bus OK
0xF9220000-0xF9220FFF	QLogic Fibre Channel Adapter OK
0xF9221000-0xF9221FFF	QLogic Fibre Channel Adapter OK
0xF9300000-0xF93FFFFF	PCI bus OK
0xF9320000-0xF9320FFF	QLogic Fibre Channel Adapter OK
0xF9321000-0xF9321FFF	QLogic Fibre Channel Adapter OK
0xF9400000-0xF94FFFFF	PCI bus OK
0xF9420000-0xF9420FFF	QLogic Fibre Channel Adapter OK
0xF9421000-0xF9421FFF	QLogic Fibre Channel Adapter OK
0xF9500000-0xF95FFFFF	PCI bus OK
0xF9520000-0xF9520FFF	QLogic Fibre Channel Adapter OK
0xF9521000-0xF9521FFF	QLogic Fibre Channel Adapter OK
0xF9600000-0xF96FFFFF	PCI bus OK

0xF9600000-0xF96FFFFF	PCI standard PCI-to-PCI bridge OK
0xF9680000-0xF9680FFF	IBM ServeRAID 6M Controller OK
0xF9800000-0xF98FFFFF	PCI bus OK
0xF9800000-0xF98FFFFF	Alacritech SEN2002XT Accelerator Slot #12 Port A OK
0xF9810000-0xF981FFFF	Alacritech SEN2002XT Accelerator Slot #12 Port B OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description
Status	File	Version
Creation Date		Size
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
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\tsoft32.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

[Video Codecs]

CODEC	Manufacturer	Description
Status	File	Version
Creation Date		Size
c:\windows\system32\msrle32.dll	Microsoft Corporation	OK

C:\WINDOWS\system32\MSRLE32.DLL
 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
 15.50 KB (15,872 bytes) 3/25/2005 7:00
 AM
 c:\windows\system32\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\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\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	D:
Description	CD-ROM Drive
Media Loaded	No
Media Type	CD-ROM
Name	MATSHITA DVD-ROM SR-8178
Manufacturer	(Standard CD-ROM drives)
Status	OK
Transfer Rate	Not Available
SCSI Target ID	0
PNP Device ID	IDE\CDROMMATSHITA_DVD- ROM_SR- 8178_PJ22_5&A8D2D22&0&0.0.0
Driver	c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 75.50 KB (77,312 bytes), 3/25/2005 7:00 AM)

[Sound Device]

Item	Value
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[Display]

Item	Value
Name	Radeon 7000 / RADEON VE Family (Microsoft Corporation)

PNP Device ID
 PCI\VEN_1002&DEV_5159&SUBSYS_02C810
 14&REV_003&267A616A&0&08
 Adapter Type ATI display adapter (0x5159), ATI
 Technologies Inc. compatible
 Adapter Description Radeon 7000 / RADEON VE Family
 (Microsoft Corporation)
 Adapter RAM 16.00 MB (16,777,216 bytes)
 Installed Drivers ati2dvag.dll
 Driver Version 6.14.10.6509
 INF File atiiexpag.inf (ati2mtag_RV100 section)
 Color Planes 1
 Color Table Entries 4294967296
 Resolution 1024 x 768 x 75 hertz
 Bits/Pixel 32
 Memory Address 0xF0000000-0xF7FFFFFF
 I/O Port 0x00001800-0x000018FF
 Memory Address 0xF8200000-0xF82FFFFFF
 IRQ Channel IRQ 16
 I/O Port 0x000003B0-0x000003BB
 I/O Port 0x000003C0-0x000003DF
 Memory Address 0xA0000-0xBFFFF
 Driver c:\windows\system32\drivers\ati2mtag.sys
 (6.14.10.6509, 1.39 MB (1,452,544 bytes), 1/24/2006 4:53
 AM)

[Infrared]

Item	Value
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[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&91D87B 8&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&91D87B
 8&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&91D87B 8&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&91D87B 8&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
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[Network]

[Adapter]

Item	Value
Name	[00000001] 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_02E710 14&REV_10\3&13C0B0C5&0&09
Last Reset	5/30/2006 7:03 AM
Index	1
Service Name	b57nd
IP Address	Not Available
IP Subnet	Not Available
Default IP Gateway	Not Available
DHCP Enabled	Yes
DHCP Server	Not Available
DHCP Lease Expires	Not Available
DHCP Lease Obtained	Not Available
MAC Address	Not Available
Driver	c:\windows\system32\drivers\b57amd64.sys (7.98.0.0 built by: WinDDK, 187.00 KB (191,488 bytes), 1/24/2006 4:54 AM)

Name	[00000002] 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_02E710 14&REV_10\3&13C0B0C5&0&08
Last Reset	5/30/2006 7:03 AM
Index	2
Service Name	b57nd
IP Address	Not Available
IP Subnet	Not Available

Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\b57amd64.sys
(7.98.0.0 built by: WinDDK, 187.00 KB (191,488 bytes),
1/24/2006 4:54 AM)

Name [00000003] RAS Async Adapter
Adapter Type Not Available
Product Type RAS Async Adapter
Installed Yes
PNP Device ID Not Available
Last Reset 5/30/2006 7:03 AM
Index 3
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000004] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPOINT\0000

Last Reset 5/30/2006 7:03 AM
Index 4
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Driver c:\windows\system32\drivers\rasl2tp.sys
(5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 132.00 KB
(135,168 bytes), 3/25/2005 7:00 AM)

Name [00000005] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes

PNP Device ID ROOT\MS_PPTPMINIPOINT\0000

Last Reset 5/30/2006 7:03 AM
Index 5
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30
Driver c:\windows\system32\drivers\raspppt.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_PPPOEMINIPOINT\0000

Last Reset 5/30/2006 7:03 AM
Index 6
Service Name RasPppoe
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 33:50:6F:45:30:30
Driver c:\windows\system32\drivers\raspppoe.sys
(5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 67.50 KB
(69,120 bytes), 3/25/2005 7:00 AM)

Name [00000007] Direct Parallel
Adapter Type Not Available
Product Type Direct Parallel
Installed Yes
PNP Device ID ROOT\MS_PTMINIPOINT\0000

Last Reset 5/30/2006 7:03 AM
Index 7
Service Name Raspti
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available

DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\raspti.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 30.50 KB
 (31,232 bytes), 3/25/2005 7:00 AM)

Name [00000008] WAN Miniport (IP)
 Adapter Type Not Available
 Product Type WAN Miniport (IP)
 Installed Yes
 PNP Device ID ROOT\MS_NDISWANIP\0000
 Last Reset 5/30/2006 7:03 AM
 Index 8
 Service Name NdisWan
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\ndiswan.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 157.50 KB
 (161,280 bytes), 3/25/2005 7:00 AM)

Name [00000009] Broadcom NetXtreme Gigabit
 Ethernet
 Adapter Type Not Available
 Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
 PNP Device ID
 PCI\VEN_14E4&DEV_1648&SUBSYS_02E710
 14&REV_10\3&1D521019&0&08
 Last Reset 5/30/2006 7:03 AM
 Index 9
 Service Name b57nd
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\b57amd64.sys
 (7.98.0.0 built by: WinDDK, 187.00 KB (191,488 bytes),
 1/24/2006 4:54 AM)

Name [00000010] 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_02E710
 14&REV_10\3&1D521019&0&09
 Last Reset 5/30/2006 7:03 AM
 Index 10
 Service Name b57nd
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\b57amd64.sys
 (7.98.0.0 built by: WinDDK, 187.00 KB (191,488 bytes),
 1/24/2006 4:54 AM)

Name [00000011] Broadcom NetXtreme Gigabit
 Ethernet
 Adapter Type Not Available
 Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
 PNP Device ID Not Available
 Last Reset 5/30/2006 7:03 AM
 Index 11
 Service Name b57nd
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available

Name [00000012] Broadcom NetXtreme Gigabit
 Ethernet
 Adapter Type Not Available
 Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
 PNP Device ID Not Available
 Last Reset 5/30/2006 7:03 AM
 Index 12
 Service Name b57nd
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available

DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000013] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 5/30/2006 7:03 AM

Index 13
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000014] Broadcom NetXtreme Gigabit Ethernet
Adapter Type Not Available
Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
PNP Device ID Not Available
Last Reset 5/30/2006 7:03 AM

Index 14
Service Name b57nd
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000015] Alacritech SEN2002XT Accelerator
Adapter Type Ethernet 802.3
Product Type Alacritech SEN2002XT Accelerator

Installed Yes
PNP Device ID
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&20FEA912&0&08

Last Reset 5/30/2006 7:03 AM
Index 15
Service Name SLIC
IP Address 0.0.0.0
IP Subnet 0.0.0.0
Default IP Gateway Not Available
DHCP Enabled Yes
DHCP Server
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:10:42:00:B8:8C
Memory Address 0xF8100000-0xF81FFFFFF
IRQ Channel IRQ 55
Driver c:\windows\system32\drivers\slic.sys (9.0.0.122,
799.50 KB (818,688 bytes), 3/28/2006 11:30 AM)

Name [00000016] Alacritech SEN2002XT Accelerator
Adapter Type Ethernet 802.3
Product Type Alacritech SEN2002XT Accelerator

Installed Yes
PNP Device ID
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&20FEA912&0&09
Last Reset 5/30/2006 7:03 AM

Index 16
Service Name SLIC
IP Address 192.168.40.230
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 00:10:42:00:B8:8D
Memory Address 0xF8110000-0xF811FFFF
IRQ Channel IRQ 59
Driver c:\windows\system32\drivers\slic.sys (9.0.0.122,
799.50 KB (818,688 bytes), 3/28/2006 11:30 AM)

Name [00000017] Alacritech SEN2002XT Accelerator
Adapter Type Ethernet 802.3
Product Type Alacritech SEN2002XT Accelerator

Installed Yes
PNP Device ID
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&36B90202&0&08
Last Reset 5/30/2006 7:03 AM

Index 17
Service Name SLIC

IP Address 0.0.0.0
 IP Subnet 0.0.0.0
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:10:42:00:BA:7E
 Memory Address 0xF9800000-0xF98FFFFF
 IRQ Channel IRQ 127
 Driver c:\windows\system32\drivers\slhc.sys (9.0.0.122,
 799.50 KB (818,688 bytes), 3/28/2006 11:30 AM)

Name [00000018] Alacritech SEN2002XT Accelerator

Adapter Type Ethernet 802.3
 Product Type Alacritech SEN2002XT Accelerator

Installed Yes
 PNP Device ID
 PCI\VEN_139A&DEV_0007&SUBSYS_000B13
 9A&REV_01\3&36B90202&0&09

Last Reset 5/30/2006 7:03 AM

Index 18

Service Name SLIC

IP Address 192.168.40.231

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 00:10:42:00:BA:7F

Memory Address 0xF9810000-0xF981FFFF

IRQ Channel IRQ 131

Driver c:\windows\system32\drivers\slhc.sys (9.0.0.122,
 799.50 KB (818,688 bytes), 3/28/2006 11:30 AM)

[Protocol]

Item	Value
Name	MSAFD Tcpi [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 Tcpi [UDP/IP]
Connectionless Service	Yes
Guarantees Delivery	No
Guarantees Sequencing	No
Maximum Address Size	16 bytes
Maximum Message Size	63.93 KB (65,467 bytes)

Message Oriented	Yes
Minimum Address Size	16 bytes
Pseudo Stream Oriented	No
Supports Broadcasting	Yes
Supports Connect Data	No
Supports Disconnect Data	No
Supports Encryption	No
Supports Expedited Data	No
Supports Graceful Closing	No
Supports Guaranteed Bandwidth	No
Supports Multicasting	Yes

Name	RSVP UDP Service Provider
Connectionless Service	Yes
Guarantees Delivery	No
Guarantees Sequencing	No
Maximum Address Size	16 bytes
Maximum Message Size	63.93 KB (65,467 bytes)

Message Oriented	Yes
Minimum Address Size	16 bytes
Pseudo Stream Oriented	No
Supports Broadcasting	Yes
Supports Connect Data	No
Supports Disconnect Data	No
Supports Encryption	Yes
Supports Expedited Data	No
Supports Graceful Closing	No
Supports Guaranteed Bandwidth	No
Supports Multicasting	Yes

Name	RSVP TCP Service Provider
Connectionless Service	No
Guarantees Delivery	Yes
Guarantees Sequencing	Yes
Maximum Address Size	16 bytes
Maximum Message Size	0 bytes

Message Oriented No
 Minimum Address Size 16 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption Yes
 Supports Expedited Data Yes
 Supports Graceful Closing Yes
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

[WinSock]

Item	Value
File	c:\windows\system32\wsock32.dll
Size	24.50 KB (25,088 bytes)
Version	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)

[Ports]

[Serial]

Item	Value
Name	Communications Port (COM1)
Status	OK
PNP Device ID	ACPI\PNP0501\1
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes
Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes
Supports 16 Bit Mode	No
Supports Special Characters	No
Baud Rate	9600
Bits/Byte	8
Stop Bits	1
Parity	None
Busy	No
Abort Read/Write on Error	No
Binary Mode Enabled	Yes
Continue XMit on XOff	No
CTS Outflow Control	No

Discard NULL Bytes	No
DSR Outflow Control	0
DSR Sensitivity	0
DTR Flow Control Type	Enable
EOF Character	0
Error Replace Character	0
Error Replacement Enabled	No
Event Character	0
Parity Check Enabled	No
RTS Flow Control Type	Enable
XOff Character	19
XOffXMit Threshold	512
XOn Character	17
XOnXMit Threshold	2048
XOnXOff InFlow Control	0
XOnXOff OutFlow Control	0
I/O Port	0x000003F8-0x000003FF
IRQ Channel	IRQ 4
Driver	c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 118.50 KB (121,344 bytes), 3/25/2005 7:00 AM)

Name	Communications Port (COM2)
Status	OK
PNP Device ID	ACPI\PNP0501\2
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes
Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes
Supports 16 Bit Mode	No
Supports Special Characters	No
Baud Rate	9600
Bits/Byte	8
Stop Bits	1
Parity	None
Busy	No
Abort Read/Write on Error	No
Binary Mode Enabled	Yes
Continue XMit on XOff	No
CTS Outflow Control	No
Discard NULL Bytes	No
DSR Outflow Control	0
DSR Sensitivity	0
DTR Flow Control Type	Enable
EOF Character	0

Error Replace Character 0
 Error Replacement Enabled No
 Event Character 0
 Parity Check Enabled No
 RTS Flow Control Type Enable
 XOff Character 19
 XOffXMit Threshold 512
 XOn Character 17
 XOnXMit Threshold 2048
 XOnXOff InFlow Control 0
 XOnXOff OutFlow Control 0
 I/O Port 0x000002F8-0x000002FF
 IRQ Channel IRQ 3
 Driver c:\windows\system32\drivers\serial.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 118.50 KB
 (121,344 bytes), 3/25/2005 7:00 AM)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
 Drive C:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 33.89 GB (36,388,605,952 bytes)
 Free Space 20.98 GB (22,528,004,096 bytes)
 Volume Name
 Volume Serial Number B0DE3BB9

Drive D:
 Description CD-ROM Disc

Drive E:
 Description Local Fixed Disk
 Compressed Not Available
 File System Not Available
 Size Not Available
 Free Space Not Available
 Volume Name Not Available
 Volume Serial Number Not Available

Drive F:
 Description Local Fixed Disk

Compressed No
 File System NTFS
 Size 178.00 MB (186,646,016 bytes)
 Free Space 167.52 MB (175,659,520 bytes)
 Volume Name F_drive
 Volume Serial Number 18FCE2B1

Drive Z:
 Description Network Connection
 Provider Name \\192.168.40.1\edrive

[Disks]

Item Value
 Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 11
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #20, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 11
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795

Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #21, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #22, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 11
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #23, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 17
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #44, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 17
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #45, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3

SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 17
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #46, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 7
 SCSI Port 17
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255

Partition Disk #47, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 20
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043

Total Cylinders 61,043

Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #52, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 2
 SCSI Port 20
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255

Partition Disk #53, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 20
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255

Partition Disk #54, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 6
 SCSI Port 20
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #55, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 8
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #12, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 8
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #13, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 2
 SCSI Port 8
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #14, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 3
 SCSI Port 8
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #15, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 16
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #40, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 3
 SCSI Port 16
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #41, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 16
 SCSI Target ID 0
 Sectors/Track 63

Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #42, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 7
 SCSI Port 16
 SCSI Target ID 0
 Sectors/Track 63

Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #43, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes

Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 10
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #16, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 10
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #17, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 2
 SCSI Port 10
 SCSI Target ID 0
 Sectors/Track 63

Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #18, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 3
 SCSI Port 10
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #19, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 13
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #28, Partition #0

Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 5
SCSI Port 13
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255

Partition Disk #29, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 6
SCSI Port 13
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255

Partition Disk #30, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 7
SCSI Port 13
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255

Partition Disk #31, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 1
SCSI Port 15
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)

Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255

Partition Disk #36, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device

Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 15

SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #37, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 15
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #38, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 7
 SCSI Port 15
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255

Partition Disk #39, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 6
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #3, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 6
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #4, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)

Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 2
 SCSI Port 6
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #5, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 3
 SCSI Port 6
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #6, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 8

SCSI Port 6
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #7, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 19
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #48, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 19
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965

Tracks/Cylinder 255
Partition Disk #49, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)
Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 19
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #50, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 3
SCSI Port 19
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #51, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive

Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 0
SCSI Port 12
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #24, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0
SCSI Logical Unit 2
SCSI Port 12
SCSI Target ID 0
Sectors/Track 63
Size 467.61 GB (502,095,767,040 bytes)
Total Cylinders 61,043
Total Sectors 980,655,795
Total Tracks 15,565,965
Tracks/Cylinder 255
Partition Disk #25, Partition #0
Partition Size 467.61 GB (502,087,541,760 bytes)

Partition Starting Offset 8,225,280 bytes

Description Disk drive
Manufacturer (Standard disk drives)
Model IBM 1742-900 SCSI Disk Device
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 3
SCSI Bus 0

SCSI Logical Unit 4
 SCSI Port 12
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #26, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 6
 SCSI Port 12
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #27, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 21
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795

Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #56, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 2
 SCSI Port 21
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #57, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 21
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #58, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 6
 SCSI Port 21
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #59, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 8
 SCSI Port 21
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #60, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3

SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 14
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #32, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 14
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #33, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 6
 SCSI Port 14
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043

Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #34, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 7
 SCSI Port 14
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #35, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 4
 SCSI Port 7
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #8, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 5
 SCSI Port 7
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #9, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 6
 SCSI Port 7
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #10, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)
 Partition Starting Offset 8,225,280 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM 1742-900 SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 3
 SCSI Bus 0
 SCSI Logical Unit 7
 SCSI Port 7
 SCSI Target ID 0
 Sectors/Track 63
 Size 467.61 GB (502,095,767,040 bytes)
 Total Cylinders 61,043
 Total Sectors 980,655,795
 Total Tracks 15,565,965
 Tracks/Cylinder 255
 Partition Disk #11, Partition #0
 Partition Size 467.61 GB (502,087,541,760 bytes)

 Partition Starting Offset 8,225,280 bytes

 Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM ServeRAID 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 4
 SCSI Target ID 0
 Sectors/Track 32
 Size 957.12 GB (1,027,698,851,840 bytes)
 Total Cylinders 490,045
 Total Sectors 2,007,224,320
 Total Tracks 62,725,760
 Tracks/Cylinder 128
 Partition Disk #1, Partition #0
 Partition Size 957.12 GB (1,027,698,835,456 bytes)

 Partition Starting Offset 16,384 bytes

 Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM ServeRAID 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 32
 Size 957.12 GB (1,027,698,851,840 bytes)

Total Cylinders 490,045
 Total Sectors 2,007,224,320
 Total Tracks 62,725,760
 Tracks/Cylinder 128
 Partition Disk #2, Partition #0
 Partition Size 957.12 GB (1,027,698,835,456 bytes)

 Partition Starting Offset 16,384 bytes

 Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM-ESXS ST936701SS F SCSI Disk Device

 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 2
 SCSI Logical Unit 0
 SCSI Port 2
 SCSI Target ID 2
 Sectors/Track 63
 Size 33.90 GB (36,396,864,000 bytes)
 Total Cylinders 4,425
 Total Sectors 71,087,625
 Total Tracks 1,128,375
 Tracks/Cylinder 255
 Partition Disk #0, Partition #0
 Partition Size 33.89 GB (36,388,606,464 bytes)
 Partition Starting Offset 32,256 bytes

 [SCSI]

 Item Value
 Name Adaptec AIC-9410w SAS Controller
 Manufacturer Adaptec
 Status OK
 PNP Device ID
 PCI\VEN_9005&DEV_041E&SUBSYS_02E710
 14&REV_08\3&13C0B0C5&0&10
 Memory Address 0xF8380000-0xF83BFFFF
 Memory Address 0xF8000000-0xF80FFFFF
 I/O Port 0x00002000-0x000027FF
 IRQ Channel IRQ 25
 Driver c:\windows\system32\drivers\adp94xx.sys
 (1.1.608.818 built by: WinDDK, 522.50 KB (535,040 bytes),
 3/28/2005 12:04 PM)

 Name Adaptec Processor Device (Pseudo)
 Manufacturer Adaptec
 Status OK

PNP Device ID
SCSI\PROCESSOR&VEN_ADAPTEC&PROD_
HOSTRAID&REV_1.0\4&4963A81&0&77E0

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&1070020&0&08
I/O Port 0x00002800-0x000029FF
Memory Address 0xF8420000-0xF8420FFF
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),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&1070020&0&09
I/O Port 0x00002900-0x000029FF
Memory Address 0xF8421000-0xF8421FFF
IRQ Channel IRQ 22
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&29E81982&0&08
I/O Port 0x00002A00-0x00002BFF
Memory Address 0xF8520000-0xF8520FFF
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),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&29E81982&0&09
I/O Port 0x00002B00-0x00002BFF
Memory Address 0xF8521000-0xF8521FFF
IRQ Channel IRQ 23
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&172E68DD&0&08
I/O Port 0x00002C00-0x00002DFF
Memory Address 0xF8620000-0xF8620FFF
IRQ Channel IRQ 52
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&172E68DD&0&09
I/O Port 0x00002D00-0x00002DFF
Memory Address 0xF8621000-0xF8621FFF
IRQ Channel IRQ 56
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&474B838&0&08
I/O Port 0x00002E00-0x00002FFF
Memory Address 0xF8720000-0xF8720FFF
IRQ Channel IRQ 53
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&474B838&0&09
I/O Port 0x00002F00-0x00002FFF
Memory Address 0xF8721000-0xF8721FFF
IRQ Channel IRQ 57
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name IBM ServeRAID 6M Controller
Manufacturer IBM Corporation
Status OK
PNP Device ID
PCI\VEN_9005&DEV_0250&SUBSYS_027910
14&REV_02\4&6924BCD&0&4008
Memory Address 0xF8880000-0xF8880FFF
IRQ Channel IRQ 54

Driver c:\windows\system32\drivers\infrd960.sys
(7.10.53 built by: NT, 52.00 KB (53,248 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_02E710
14&REV_08\3&1D521019&0&10
Memory Address 0xF9100000-0xF910FFFF
Memory Address 0xF9700000-0xF970FFFF
I/O Port 0x00003200-0x000033FF
IRQ Channel IRQ 97

Driver c:\windows\system32\drivers\adp94xx.sys
(1.1.608.818 built by: WinDDK, 522.50 KB (535,040 bytes),
3/28/2005 12:04 PM)

Name Adaptec Processor Device (Pseudo)
Manufacturer Adaptec
Status OK
PNP Device ID
SCSI\PROCESSOR&VEN_ADAPTEC&PROD_
HOSTRAID&REV_1.0\4&37BC741F&0&77E0

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&300BC0BE&0&08
I/O Port 0x00003400-0x000035FF
Memory Address 0xF9220000-0xF9220FFF
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),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&300BC0BE&0&09
I/O Port 0x00003500-0x000035FF
Memory Address 0xF9221000-0xF9221FFF
IRQ Channel IRQ 94
Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&72AA75C&0&08
I/O Port 0x00003600-0x000037FF
Memory Address 0xF9320000-0xF9320FFF
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),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&72AA75C&0&09
I/O Port 0x00003700-0x000037FF
Memory Address 0xF9321000-0xF9321FFF
IRQ Channel IRQ 95

Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&19E45801&0&08
I/O Port 0x00003800-0x000039FF
Memory Address 0xF9420000-0xF9420FFF
IRQ Channel IRQ 124

Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&19E45801&0&09
I/O Port 0x00003900-0x000039FF
Memory Address 0xF9421000-0xF9421FFF
IRQ Channel IRQ 128

Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&2C9E08A6&0&08
I/O Port 0x00003A00-0x00003BFF

Memory Address 0xF9520000-0xF9520FFF

IRQ Channel IRQ 125

Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name QLogic Fibre Channel Adapter

Manufacturer QLogic

Status OK

PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&2C9E08A6&0&09

I/O Port 0x00003B00-0x00003BFF

Memory Address 0xF9521000-0xF9521FFF

IRQ Channel IRQ 129

Driver c:\windows\system32\drivers\ql2300.sys
(9.1.0.12+MMIO (wx64 IP), 1.12 MB (1,178,624 bytes),
5/16/2006 2:48 PM)

Name IBM ServeRAID 6M Controller

Manufacturer IBM Corporation

Status OK

PNP Device ID
PCI\VEN_9005&DEV_0250&SUBSYS_027910
14&REV_02\4&30BCEF04&0&4008

Memory Address 0xF9680000-0xF9680FFF

IRQ Channel IRQ 126

Driver c:\windows\system32\drivers\nfrd960.sys
(7.10.53 built by: NT, 52.00 KB (53,248 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), 5/16/2006 4:44 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_021211
66&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
PCI\IDE\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
 PCI\IDE\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
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[Problem Devices]

Device	PNP Device ID	Error Code
Broadcom NetXtreme Gigabit Ethernet #2	PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&13C0B0C5&0&08	This device is disabled.
Broadcom NetXtreme Gigabit Ethernet	PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&13C0B0C5&0&09	This device is disabled.
Broadcom NetXtreme Gigabit Ethernet #3	PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&08	This device is disabled.
Broadcom NetXtreme Gigabit Ethernet #4	PCI\VEN_14E4&DEV_1648&SUBSYS_02E71014&REV_10\3&1D521019&0&09	This device is disabled.

[USB]

Device	PNP Device ID
NEC PCI to USB Open Host Controller	PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&18
NEC PCI to USB Open Host Controller	PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&19

Standard Enhanced PCI to USB Host Controller
 PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&267A616A&0&1A

NEC PCI to USB Open Host Controller
 PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&18

NEC PCI to USB Open Host Controller
 PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&A985F74&0&19

Standard Enhanced PCI to USB Host Controller
 PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&A985F74&0&1A

[Software Environment]

[System Drivers]

Name	Description	File	Type	Started	Start Mode	State	Status	Error
Control	Accept Pause	Accept Stop						
abiosdsk	Abiosdsk	c:\windows\system32\drivers\abiosdsk.sys	Kernel Driver	No	Disabled	Stopped	OK	
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Running	OK	Normal	No	Yes
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel Driver	Stopped	OK	Normal	No	No
adp94xx	adp94xx	c:\windows\system32\drivers\adp94xx.sys	Kernel Driver	Running	OK	Normal	No	Yes
adpu160m	adpu160m		Kernel Driver	No	Disabled	Stopped	OK	
adpu320	adpu320		Kernel Driver	No	Disabled	Stopped	OK	

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				
asynmac	RAS Asynchronous Media Driver						
	c:\windows\system32\drivers\asynmac.sys						
	Kernel Driver	No	Manual				
	Stopped	OK	Normal	No	No		
atapi	Standard IDE/ESDI Hard Disk Controller						
	c:\windows\system32\drivers\atapi.sys						
	Kernel Driver	Yes	Boot				
	Running	OK	Normal	No	Yes		
atdisk	Atdisk	Not Available	Kernel Driver				
	No	Disabled	Stopped	OK			
	Ignore	No	No				
ati2mtag	ati2mtag						
	c:\windows\system32\drivers\ati2mtag.sys						
	Kernel Driver	Yes	Manual				
	Running	OK	Ignore	No	Yes		
atmarpc	ATM ARP Client Protocol						
	c:\windows\system32\drivers\atmarpc.sys						
	Kernel Driver	No	Manual				
	Stopped	OK	Normal	No	No		
audstub	Audio Stub Driver						
	c:\windows\system32\drivers\audstub.sys						
	Kernel Driver	Yes	Manual				
	Running	OK	Normal	No	Yes		
b57nd	Broadcom NetXtreme Gigabit Ethernet						
	c:\windows\system32\drivers\b57amd64.sys						
	Kernel Driver	No	Manual				
	Stopped	OK	Normal	No	No		

beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel Driver	Yes	System		
	Running	OK	Normal	No	Yes		
cdac15ba	CdaC15BA						
	c:\windows\system32\drivers\cdac15ba.sys						
	Kernel Driver	No	Disabled				
	Stopped	OK	Normal	No	No		
cdad10ba	CdaD10BA						
	c:\windows\system32\drivers\cdad10ba.sys						
	Kernel Driver	No	Disabled				
	Stopped	OK	Normal	No	No		
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File System Driver	Yes	Disabled		
	Running	OK	Normal	No	Yes		
cdrom	CD-ROM Driver						
	c:\windows\system32\drivers\cdrom.sys						
	Kernel Driver	Yes	System				
	Running	OK	Normal	No	Yes		
changer	Changer	Not Available	Kernel Driver				
	No	System	Stopped	OK			
	Ignore	No	No				
clusdisk	Cluster Disk Driver						
	c:\windows\system32\drivers\clusdisk.sys						
	Kernel Driver	No	Disabled				
	Stopped	OK	Normal	No	No		
cmdide	CmdIde	Not Available	Kernel Driver				
	No	Disabled	Stopped	OK			
	Normal	No	No				
cpqccism	cpqccism	Not Available	Kernel Driver				
	No	Disabled	Stopped	OK			
	Normal	No	No				
credisk	CRC Disk Filter Driver						
	c:\windows\system32\drivers\credisk.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	Yes	Disabled				

	Running	OK	Normal	No	Yes					
dmio	Logical Disk Manager Driver c:\windows\system32\drivers\dmio.sys Kernel Driver Running					OK	Yes	Normal	No	Yes
dmload	dmload c:\windows\system32\drivers\dmload.sys Kernel Driver Running					OK	Yes	Normal	No	Yes
dpti2o	dpti2o No Normal					Not Available Disabled No	Stopped	Kernel Driver OK		
elxstor	elxstor No Normal					Not Available Disabled No	Stopped	Kernel Driver OK		
em	em \\?\c:\windows\system32\drivers\em.sys Kernel Driver Stopped					OK	No	Manual	No	No
fastfat	Fastfat c:\windows\system32\drivers\fastfat.sys System Driver Normal					No	Disabled	Stopped	OK	File
fdc	Fdc Kernel Driver Stopped					OK	No	System	No	No
fips	Fips Kernel Driver Running					OK	Yes	System	No	Yes
flpydisk	Flpydisk c:\windows\system32\drivers\flpydisk.sys Kernel Driver Stopped					OK	No	System	No	No
fltMgr	FltMgr c:\windows\system32\drivers\fltMgr.sys System Driver Normal					Yes	Boot	Running	OK	File
ftdisk	Volume Manager Driver c:\windows\system32\drivers\ftdisk.sys Kernel Driver Running					OK	Yes	Boot	No	Yes
gpc	Generic Packet Classifier c:\windows\system32\drivers\msgpc.sys Kernel Driver Running					OK	Yes	Manual	No	Yes
hidusb	Microsoft HID Class Driver c:\windows\system32\drivers\hidusb.sys Kernel Driver Running					OK	Ignore	No	Manual	Yes
hpciss	hpciss No Normal					Not Available Disabled No	Stopped	Kernel Driver OK		
http	HTTP Kernel Driver Stopped					OK	No	Manual	No	No
i2omgmt	i2omgmt No Normal					Not Available System No	Stopped	Kernel Driver OK		
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver c:\windows\system32\drivers\i8042prt.sys Kernel Driver Running					OK	Yes	System	No	Yes
ibmhp	IBMHPA c:\windows\system32\drivers\ibmhp.sys Kernel Driver Running					OK	Yes	Manual	No	Yes
iirsp	iirsp No Normal					Not Available Disabled No	Stopped	Kernel Driver OK		
imapi	CD-Burning Filter Driver c:\windows\system32\drivers\imapi.sys Kernel Driver Stopped					OK	No	System	No	No
intelide	IntelIde No Normal					Not Available Disabled No	Stopped	Kernel Driver OK		
intelppm	Intel Processor Driver c:\windows\system32\drivers\intelppm.sys Kernel Driver Running					OK	Yes	Manual	No	Yes
ip6fw	IPv6 Windows Firewall Driver c:\windows\system32\drivers\ip6fw.sys Kernel Driver Stopped					OK	No	Manual	No	No
ipfilterdriver	IP Traffic Filter Driver c:\windows\system32\drivers\ipfltdrv.sys Kernel Driver Stopped					OK	No	Manual	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	No	Kernel Driver	No	Disabled	Stopped	OK		
mmdd	mmdd c:\windows\system32\drivers\mmdd.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	No	Kernel Driver	No	Disabled	Stopped	OK		
mrxdav	WebDav Client Redirector c:\windows\system32\drivers\mrxdav.sys	System Driver	No	Manual	Running	OK	Normal	No	File	OK
mrxsmmb	MRXSMB c:\windows\system32\drivers\mrxsmmb.sys	System Driver	Yes	System	Running	OK	Normal	No	File	OK
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 Running	OK	Yes	Manual	No	Yes
netbios	NetBIOS Interface c:\windows\system32\drivers\netbios.sys System Driver	Yes Normal	System Running	OK	File	OK
netbt	NetBios over Tcpip c:\windows\system32\drivers\netbt.sys Kernel Driver Running	OK	Yes Normal	System No	Yes	Yes
nfrd960	nfrd960 c:\windows\system32\drivers\nfrd960.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes	Yes
npfs	Npfs c:\windows\system32\drivers\npfs.sys File System Driver Running	OK	Yes Normal	System No	Yes	Yes
ntfs	Ntfs c:\windows\system32\drivers\ntfs.sys File System Driver Running	OK	Yes Normal	Disabled No	Yes	Yes
null	Null c:\windows\system32\drivers\null.sys Kernel Driver Running	OK	Yes Normal	System No	Yes	Yes
parport	Parport c:\windows\system32\drivers\parport.sys Kernel Driver Stopped	OK	No Ignore	Manual No	No	No
partmgr	Partition Manager c:\windows\system32\drivers\partmgr.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes	Yes
pci	PCI Bus Driver c:\windows\system32\drivers\pci.sys Kernel Driver Running	OK	Yes Critical	Boot No	Yes	Yes
pciide	PCIide c:\windows\system32\drivers\pciide.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes	Yes
pcmcia	Pcmcia c:\windows\system32\drivers\pcmcia.sys Kernel Driver Stopped	OK	No Normal	Disabled No	No	No

pdcomp	PDCOMP No Ignore	Not Available Manual No	Stopped OK	Kernel Driver OK		
pdframe	PDFRAME Kernel Driver Stopped	OK	Not Available No Ignore	Manual No	No	No
pdreli	PDRELI No Ignore	Not Available Manual No	Stopped OK	Kernel Driver OK		
pdrframe	PDRFRAME Kernel Driver Stopped	OK	Not Available No Ignore	Manual No	No	No
pnpmem	Microsoft Memory Module Driver c:\windows\system32\drivers\pnpmem.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes	Yes
pptpminiport	WAN Miniport (PPTP) c:\windows\system32\drivers\rasppptp.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes	Yes
ptilink	Direct Parallel Link Driver c:\windows\system32\drivers\ptilink.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes	Yes
ql2300 (wx64 IP)	QLogic Fibre Channel SCSI Miniport Driver c:\windows\system32\drivers\ql2300.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes	Yes
qldirect	qldirect c:\windows\system32\drivers\qldirect.sys Kernel Driver Running	OK	Yes Normal	Auto No	Yes	Yes
rasacd	Remote Access Auto Connection Driver c:\windows\system32\drivers\rasacd.sys Kernel Driver Running	OK	Yes Normal	System No	Yes	Yes
rasl2tp	WAN Miniport (L2TP) c:\windows\system32\drivers\rasl2tp.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes	Yes
rasppoe	Remote Access PPPOE Driver c:\windows\system32\drivers\rasppoe.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes	Yes

raspti	Direct Parallel c:\windows\system32\drivers\raspti.sys Kernel Driver Yes Manual Running OK Normal No Yes		Running	OK	Normal	No	Yes
rbss	Rdbss c:\windows\system32\drivers\rdbss.sys File System Driver Yes System Running OK Normal No Yes						
rdpcdd	RDPCDD c:\windows\system32\drivers\rdpcdd.sys Kernel Driver Yes System Running OK Ignore No Yes						
rdpdr	Terminal Server Device Redirector Driver c:\windows\system32\drivers\rdpdr.sys Kernel Driver Yes Manual Running OK Normal No Yes						
rdpwd	RDPWD c:\windows\system32\drivers\rdpwd.sys Kernel Driver Yes Manual Running OK Ignore No Yes						
redbook	Digital CD Audio Playback Filter Driver c:\windows\system32\drivers\redbook.sys Kernel Driver Yes System Running OK Normal No Yes						
secdrv	Security Driver c:\windows\system32\drivers\secdrv.sys Kernel Driver No Disabled Stopped OK Normal No No						
serenum	Serenum Filter Driver c:\windows\system32\drivers\serenum.sys Kernel Driver Yes Manual Running OK Normal No Yes						
serial	Serial port driver c:\windows\system32\drivers\serial.sys Kernel Driver Yes System Running OK Ignore No Yes						
sfloppy	High-Capacity Floppy Disk Drive c:\windows\system32\drivers\sfloppy.sys Kernel Driver No Manual Stopped OK Normal No No						
simbad	Simbad Not Available Kernel Driver No Disabled Stopped OK Normal No No						
slic	Alacritech Accelerator c:\windows\system32\drivers\slic.sys Kernel Driver Yes Manual						
srv	Srv c:\windows\system32\drivers\srv.sys File System Driver Yes Manual Running OK Normal No Yes						
swenum	Software Bus Driver c:\windows\system32\drivers\swenum.sys Kernel Driver Yes Manual Running OK Normal No Yes						
symc8xx	symc8xx Not Available Kernel Driver No Disabled Stopped OK Normal No No						
symmpi	symmpi Not Available Kernel Driver No Disabled Stopped OK Normal No No						
sym_hi	sym_hi Not Available Kernel Driver No Disabled Stopped OK Normal No No						
sym_u3	sym_u3 Not Available Kernel Driver No Disabled Stopped OK Normal No No						
tcpip	TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel Driver Yes System Running OK Normal No Yes						
tdpipe	TDPIPE c:\windows\system32\drivers\tdpipe.sys Kernel Driver No Manual Stopped OK Ignore No No						
tdtcp	TDTCP c:\windows\system32\drivers\tdtcp.sys Kernel Driver Yes Manual Running OK Ignore No Yes						
termdd	Terminal Device Driver c:\windows\system32\drivers\termdd.sys Kernel Driver Yes System Running OK Normal No Yes						
toside	TosIde Not Available Kernel Driver No Disabled Stopped OK Normal No No						
udfs	Udfs c:\windows\system32\drivers\udfs.sys File System Driver No Disabled Stopped OK Normal No No						
ultra	ultra Not Available Kernel Driver No Disabled Stopped OK Normal No No						

update	Microcode Update Driver c:\windows\system32\drivers\update.sys Kernel Driver Yes Manual Running OK Normal No Yes
usbccgp	Microsoft USB Generic Parent Driver c:\windows\system32\drivers\usbccgp.sys Kernel Driver Yes Manual Running OK Normal No Yes
usbhci	Microsoft USB 2.0 Enhanced Host Controller Miniport Driver c:\windows\system32\drivers\usbhci.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	Device ID	
Microsoft System Management BIOS Driver	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
Not Available	machine.inf	ROOT\SYSTEM\0002
Microcode Update Device	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
system devices)	machine.inf	Not Available
ROOT\SYSTEM\0001		
Plug and Play Software Device Enumerator	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
Not Available	machine.inf	ROOT\SYSTEM\0000
QLogic Optimizing and Multipath Driver	No	SCSIADAPTER
SCSIADAPTER	Not Available	Not Available
Available	Not Available	oem3.inf
ROOT\SCSIADAPTER\0000		
Terminal Server Mouse Driver	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
system devices)	machine.inf	Not Available
ROOT\RDP_MOUSE\0000		
Terminal Server Keyboard Driver	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
Not Available	machine.inf	ROOT\RDP_KEYBOARD\0000
Terminal Server Device Redirector	No	SYSTEM
5.2.3790.1830	10/1/2002	(Standard system devices)
Not Available	machine.inf	ROOT\RDPDR\0000
Direct Parallel	No	NET
10/1/2002	Microsoft	5.2.3790.1830
ROOT\MS_PTMINIPOINT\0000	netrasa.inf	Not Available
WAN Miniport (PPTP)	No	NET
5.2.3790.1830	10/1/2002	Microsoft
netrasa.inf	Not Available	ROOT\MS_PPTPMINIPOINT\0000
WAN Miniport (PPPOE)	No	NET
5.2.3790.1830	10/1/2002	Microsoft
netrasa.inf	Not Available	ROOT\MS_PPPOEMINIPOINT\0000

WAN Miniport (IP) No NET 5.2.3790.1830
10/1/2002 Microsoft netrasa.inf Not Available
ROOT\MS_NDISWANIP\0000

WAN Miniport (L2TP) No NET
5.2.3790.1830 10/1/2002 Microsoft
netrasa.inf Not Available
ROOT\MS_L2TPMINIPORT\0000

Video Codecs No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices No MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMVCD

Media Control Devices No MEDIA
5.2.3790.1830 10/1/2002 (Standard
system devices) wave.inf Not Available
ROOT\MEDIA\MS_MMMCI

Legacy Audio Drivers No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMDRV

Audio Codecs No MEDIA 5.2.3790.1830
10/1/2002 (Standard system devices)
wave.inf Not Available
ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_WANARP\0000

volsnap Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available 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 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

RDPCCD Not Available LEGACYDRIVER Not
Available Not Available Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RDPCCD\0000

Remote Access Auto Connection Driver Not Available
LEGACYDRIVER Not Available Not
Available Not Available Not Available Not
Available ROOT\LEGACY_RASACD\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 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 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 Not Available Not
Available ROOT\LEGACY_MOUNTMGR\0000

mnmd Not Available LEGACYDRIVER Not
Available Not Available 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 Not Available Not
Available ROOT\LEGACY_KSECDD\0000

IPSEC driver Not Available
LEGACYDRIVER Not Available Not

Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_IPSEC\0000		
IP Network Address Translator	Not Available		
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_IPNAT\0000		
Generic Packet Classifier	Not Available		
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_GPC\0000		
Fips	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_FIPS\0000		
em	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_EM\0000		
dmload	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_DMLOAD\0000		
dmboot	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_DMBOOT\0000		
CRC Disk Filter Driver	Not Available		
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_CRCDISK\0000		
CdaD10BA	Not Available		
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_CDAD10BA\0000		
CdaC15BA	Not Available		
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_CDAC15BA\0000		
Beep	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_BEEP\0000		
AFD	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_AFD\0000		
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D4782DOFFSETC35EE4E00LENGTH68B14F180			0
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available

STORAGE\VOLUME\1&30A96598&0&SIGNA			
TUREA0D4782DOFFSET79204E000LENGTH4A3E8F000			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D4782DOFFSET7E0000LENGTH791866200			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D4783BOFFSETC35EE4E00LENGTH68B14F180			0
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D4783BOFFSET79204E000LENGTH4A3E8F000			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D4783BOFFSET7E0000LENGTH791866200			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478C6OFFSETC35EE4E00LENGTH68B14F180			0
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478C6OFFSET79204E000LENGTH4A3E8F000			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478C6OFFSET7E0000LENGTH791866200			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478CCOFFSETC35EE4E00LENGTH68B14F180			0
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478CCOFFSET79204E000LENGTH4A3E8F000			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D478CCOFFSET7E0000LENGTH791866200			
Generic volume	No	VOLUME 5.2.3790.1830	
	10/1/2002 Microsoft	volume.inf	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNA		
TUREA0D47B51OFFSETC35EE4E00LENGTH68B14F180			0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4791COFFSETC35EE4E00LENGTH68B14F180
 0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4791COFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4791COFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4792AOFFSETC35EE4E00LENGTH68B14F180
 0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4792AOFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D4792AOFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B27OFFSETC35EE4E00LENGTH68B14F180
 0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B27OFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B27OFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B2DOFFSETC35EE4E00LENGTH68B14F18
 00

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B2DOFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA

TUREA0D47B2DOFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B38OFFSETC35EE4E00LENGTH68B14F180
 0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B38OFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47B38OFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BC6OFFSETC35EE4E00LENGTH68B14F180
 0

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BC6OFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BC6OFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BCCOFFSETC35EE4E00LENGTH68B14F18
 00

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BCCOFFSET79204E000LENGTH4A3E8F000

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREA0D47BCCOFFSET7E0000LENGTH791866200

Generic volume No VOLUME 5.2.3790.1830
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&SIGNA
 TUREF9BEF9BEOFFSET7E00LENGTH878EE1200

Volume Manager No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ROOT\FTDISK\0000

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&3735C57B&0&LDM#
{E2B483A5-958E-4F75-A489-97CD4B3D6EC3}

Generic volume No VOLUME 5.2.3790.1830
10/1/2002 Microsoft volume.inf Not Available
STORAGE\VOLUME\1&3735C57B&0&LDM#
{5652A0AE-ACAF-4153-8BC3-5DB0C8C87A6C}

Logical Disk Manager No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\DMIO\0000

Alacritech SEN2002XT Accelerator No NET
9.0.0.122 5/2/2006 Alacritech, Inc.
oem6.inf Not Available
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&36B90202&0&09

Alacritech SEN2002XT Accelerator No NET
9.0.0.122 5/2/2006 Alacritech, Inc.
oem6.inf Not Available
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&36B90202&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&36B90202&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\17

IBM Dummy Device No SYSTEM 5.2.3790.1830
10/1/2002 IBM scsidev.inf Not Available
SCSI\BRIDGE&VEN_IBM&PROD_DUMMY_
DEVICE&REV_7.10\5&4BDE4FC&0&300

SCSI Processor Device No SYSTEM
5.2.3790.1830 10/1/2002 IBM
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_IBM&PROD_EXP40
0__S320&REV_D110\5&4BDE4FC&0&2F0

SCSI Processor Device No SYSTEM
5.2.3790.1830 10/1/2002 IBM
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_IBM&PROD_EXP40
0__S320&REV_D110\5&4BDE4FC&0&1F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_SERVERAID
&REV_6.10\5&4BDE4FC&0&000

IBM ServeRAID 6M Controller No SCSIADAPTER
5.2.3790.1830 10/1/2002 IBM
Corporation pnpscsi.inf Not Available
PCI\VEN_9005&DEV_0250&SUBSYS_027910
14&REV_02\4&30BCEF04&0&4008

PCI standard PCI-to-PCI bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_000000
00&REV_02\3&3BCEF44&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&3BCEF44&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\16

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_4&BE04513&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1742-
900&REV_0520\4&BE04513&0&007

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1742-
900&REV_0520\4&BE04513&0&006

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1742-
900&REV_0520\4&BE04513&0&005

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_1742-
900&REV_0520\4&BE04513&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_010110
77&REV_02\3&2C9E08A6&0&09

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_4&34C15E75&0&07F0

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
Available
PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&2C9E08A6&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
00&REV_02\3&2C9E08A6&0&00

PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\15

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
 SEUDO_DEVICE&REV_4&145A1DE3&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&145A1DE3&0&007

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&145A1DE3&0&006

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&145A1DE3&0&005

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&145A1DE3&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_010110
 77&REV_02\3&19E45801&0&09

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
 SEUDO_DEVICE&REV_4&2713CE88&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2713CE88&0&007

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2713CE88&0&006

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2713CE88&0&005

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2713CE88&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_010110
 77&REV_02\3&19E45801&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\14

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
 SEUDO_DEVICE&REV_4&293AF0DF&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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 900&REV_0520\4&293AF0DF&0&003

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
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QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
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 PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&72AA75C&0&09

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
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 SEUDO_DEVICE&REV_4&1681403A&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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 900&REV_0520\4&1681403A&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_010110
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PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
 PCI\VEN_1014&DEV_02A1&SUBSYS_000000
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\13

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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QLogic Fibre Channel Adapter No SCSIADAPTER
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Qlogic processor device No SYSTEM
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
 Available PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&300BC0BE&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
 PCI\VEN_1014&DEV_02A1&SUBSYS_000000
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\12

Adaptec Processor Device (Pseudo) No
 SCSIADAPTER 1.10.608.818
 8/22/2005 Adaptec oem12.inf Not Available
 SCSI\PROCESSOR&VEN_ADAPTEC&PROD_
 HOSTRAID&REV_1.0\4&37BC741F&0&77E0

Adaptec AIC-9410w SAS Controller No
 SCSIADAPTER 1.10.608.818
 8/22/2005 Adaptec oem12.inf Not Available
 PCI\VEN_9005&DEV_041E&SUBSYS_02E710
 14&REV_08\3&1D521019&0&10

Broadcom NetXtreme Gigabit Ethernet No NET
 7.98.0.0 10/1/2002 Broadcom net57amd.inf
 Not Available
 PCI\VEN_14E4&DEV_1648&SUBSYS_02E710
 14&REV_10\3&1D521019&0&09

Broadcom NetXtreme Gigabit Ethernet No NET
 7.98.0.0 10/1/2002 Broadcom net57amd.inf
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 PCI\VEN_14E4&DEV_1648&SUBSYS_02E710
 14&REV_10\3&1D521019&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\11

Serverworks Champion CSB6 - SouthBridge 6 LPC No
 SYSTEM 5.2.3790.1830 10/1/2002
 ServerWorks (RCC) machine.inf Not
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 PCI\VEN_1166&DEV_0227&SUBSYS_000000
 00&REV_00\3&A985F74&0&7B

ServerWorks Champion CSB6 - SouthBridge 6 No
 SYSTEM 5.2.3790.1830 10/1/2002
 ServerWorks (RCC) machine.inf Not
 Available
 PCI\VEN_1166&DEV_0203&SUBSYS_000000
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USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)
 usbport.inf Not Available
 USB\ROOT_HUB20\4&26176FDA&0

Standard Enhanced PCI to USB Host Controller No
 USB 5.2.3790.1830 10/1/2002
 (Standard USB Host Controller) usbport.inf Not
 Available
 PCI\VEN_1033&DEV_00E0&SUBSYS_00E010
 33&REV_04\3&A985F74&0&1A

HID-compliant device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 HID\VID_04B3&PID_4001&MI_02\7&19A2797
 B&0&0000

USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_02\6&2F17CB
 FC&1&0002

HID-compliant mouse No MOUSE 5.2.3790.1830
 10/1/2002 Microsoft msmouse.inf Not
 Available
 HID\VID_04B3&PID_4001&MI_01\7&316605C
 0&0&0000

USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_01\6&2F17CB
 FC&1&0001

HID Keyboard Device No KEYBOARD
 5.2.3790.1830 10/1/2002 (Standard
 keyboards) keyboard.inf Not Available
 HID\VID_04B3&PID_4001&MI_00\7&D8EC7F
 E&0&0000

USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_00\6&2F17CB
 FC&1&0000

USB Composite Device No USB
 5.2.3790.1830 10/1/2002 (Standard USB
 Host Controller) usb.inf Not Available
 USB\VID_04B3&PID_4001\000D6046D97A

USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)
 usbport.inf Not Available
 USB\ROOT_HUB\4&14A79F01&1

NEC PCI to USB Open Host Controller No USB
 5.2.3790.1830 10/1/2002 NEC
 usbport.inf Not Available
 PCI\VEN_1033&DEV_0035&SUBSYS_003510
 33&REV_43\3&A985F74&0&19

USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)
 usbport.inf Not Available
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NEC PCI to USB Open Host Controller No USB
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 usbport.inf Not Available
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PCI standard host CPU bridge No SYSTEM
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 system devices) machine.inf Not Available
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\10

Memory Module No MEMORY
 5.2.3790.1830 10/1/2002 Microsoft
 memory.inf Not Available
 ACPI\PNP0C80\2

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\31

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\30

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\29

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\28

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\27

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\26

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\25

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\24

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\23

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
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Intel Processor No PROCESSOR
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cpu.inf Not Available
ACPI\GENUINEINTEL_-
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cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\20

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
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Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\18

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\17

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\16

Alacritech SEN2002XT Accelerator No NET
9.0.0.122 5/2/2006 Alacritech, Inc.
oem6.inf Not Available
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&20FEA912&0&09

Alacritech SEN2002XT Accelerator No NET
9.0.0.122 5/2/2006 Alacritech, Inc.
oem6.inf Not Available
PCI\VEN_139A&DEV_0007&SUBSYS_000B13
9A&REV_01\3&20FEA912&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
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PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\7

IBM Dummy Device No SYSTEM 5.2.3790.1830
10/1/2002 IBM scsidev.inf Not Available
SCSI\BRIDGE&VEN_IBM&PROD_DUMMY_
DEVICE&REV_7.10\5&2A9B2238&0&300

SCSI Processor Device No SYSTEM
5.2.3790.1830 10/1/2002 IBM
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_IBM&PROD_EXP40
0__S320&REV_D110\5&2A9B2238&0&2F0

SCSI Processor Device No SYSTEM
5.2.3790.1830 10/1/2002 IBM
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_IBM&PROD_EXP40
0__S320&REV_D110\5&2A9B2238&0&1F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available
SCSI\DISK&VEN_IBM&PROD_SERVERAID
&REV_6.10\5&2A9B2238&0&000

IBM ServeRAID 6M Controller No SCSIADAPTER
5.2.3790.1830 10/1/2002 IBM
Corporation pnpscsi.inf Not Available
PCI\VEN_9005&DEV_0250&SUBSYS_027910
14&REV_02\4&6924BCD&0&4008

PCI standard PCI-to-PCI bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_000000
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PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available

PCI\VEN_1014&DEV_02A1&SUBSYS_000000
&REV_02\3&E44F86D&0&00

PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\6

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_4&1682DB68&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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900&REV_0520\4&1682DB68&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
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PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&474B838&0&09

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_4&3C92AC3&0&07F0

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
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PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
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PCI bus No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A03\5

Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available

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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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900&REV_0520\4&1E5BEE2A&0&003

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
Available SCSI\DISK&VEN_IBM&PROD_1742-
900&REV_0520\4&1E5BEE2A&0&001

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
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Qlogic processor device No SYSTEM
5.2.3790.1830 10/1/2002 QLOGIC
scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
SEUDO_DEVICE&REV_4&BA23D85&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
10/1/2002 (Standard disk drives) disk.inf Not
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900&REV_0520\4&BA23D85&0&004

QLogic Fibre Channel Adapter No SCSIADAPTER
9.1.0.12 9/21/2005 QLogic oem9.inf Not
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PCI\VEN_1077&DEV_2312&SUBSYS_010110
77&REV_02\3&172E68DD&0&08

PCI standard host CPU bridge No SYSTEM
5.2.3790.1830 10/1/2002 (Standard
system devices) machine.inf Not Available
PCI\VEN_1014&DEV_02A1&SUBSYS_000000
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\4

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
 Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&29E81982&0&09

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
 SEUDO_DEVICE&REV_4&251A9308&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&251A9308&0&003

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&251A9308&0&002

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&251A9308&0&001

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&251A9308&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
 Available

PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&29E81982&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
 PCI\VEN_1014&DEV_02A1&SUBSYS_000000
 00&REV_02\3&29E81982&0&00

PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\3

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_P
 SEUDO_DEVICE&REV_4&19DD3FC2&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&19DD3FC2&0&002

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&19DD3FC2&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
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 PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&1070020&0&09

Qlogic processor device No SYSTEM
 5.2.3790.1830 10/1/2002 QLOGIC
 scsidev.inf Not Available
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 SEUDO_DEVICE&REV_4&2C96F067&0&07F0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
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Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2C96F067&0&002

Disk drive No DISKDRIVE 5.2.3790.1830
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 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2C96F067&0&001

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM&PROD_1742-
 900&REV_0520\4&2C96F067&0&000

QLogic Fibre Channel Adapter No SCSIADAPTER
 9.1.0.12 9/21/2005 QLogic oem9.inf Not
 Available PCI\VEN_1077&DEV_2312&SUBSYS_010110
 77&REV_02\3&1070020&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
 PCI\VEN_1014&DEV_02A1&SUBSYS_000000
 00&REV_02\3&1070020&0&00

PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\2

Adaptec Processor Device (Pseudo) No
 SCSIADAPTER 1.10.608.818
 8/22/2005 Adaptec oem12.inf Not Available
 SCSI\PROCESSOR&VEN_ADAPTEC&PROD_
 HOSTRAID&REV_1.0\4&4963A81&0&77E0

Disk drive No DISKDRIVE 5.2.3790.1830
 10/1/2002 (Standard disk drives) disk.inf Not
 Available SCSI\DISK&VEN_IBM-
 ESXS&PROD_ST936701SS___F&REV_B512\4&4963A8
 1&0&220

Adaptec AIC-9410w SAS Controller No
 SCSIADAPTER 1.10.608.818
 8/22/2005 Adaptec oem12.inf Not Available
 PCI\VEN_9005&DEV_041E&SUBSYS_02E710
 14&REV_08\3&13C0B0C5&0&10

Broadcom NetXtreme Gigabit Ethernet No NET
 7.98.0.0 10/1/2002 Broadcom net57amd.inf
 Not Available
 PCI\VEN_14E4&DEV_1648&SUBSYS_02E710
 14&REV_10\3&13C0B0C5&0&09

Broadcom NetXtreme Gigabit Ethernet No NET
 7.98.0.0 10/1/2002 Broadcom net57amd.inf
 Not Available
 PCI\VEN_14E4&DEV_1648&SUBSYS_02E710
 14&REV_10\3&13C0B0C5&0&08

PCI standard host CPU bridge No SYSTEM
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 system devices) machine.inf Not Available
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PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\1

Memory Module No MEMORY
 5.2.3790.1830 10/1/2002 Microsoft
 memory.inf Not Available
 ACPI\PNP0C80\0

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\15

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\14

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\13

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\12

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\11

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\10

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\9

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\8

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\7

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel
 cpu.inf Not Available
 ACPI\GENUINEINTEL_-
 _EM64T_FAMILY_15_MODEL_4\6

Intel Processor No PROCESSOR
 5.2.3790.1830 10/1/2002 Intel

cpu.inf Not Available
ACPI\GENUINEINTEL_EM64T_FAMILY_15_MODEL_4\5

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_EM64T_FAMILY_15_MODEL_4\4

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_EM64T_FAMILY_15_MODEL_4\3

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_EM64T_FAMILY_15_MODEL_4\2

Intel Processor No PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_EM64T_FAMILY_15_MODEL_4\1

Intel Processor No 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 No SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\FIXEDBUTTON\2&DABA3FF&0

System board No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0C01\1

IBM Active PCI Device No SYSTEM
5.2.1.0 8/30/2005 IBM Corporation
oem11.inf Not Available
ACPI\IBM37D4\2&DABA3FF&0

Motherboard resources No SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0C02\3

Numeric data processor No SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0C04\4&13245C1&0

System speaker No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0800\4&13245C1&0

System CMOS/real time clock No SYSTEM
5.2.3790.1830 10/1/2002 (Standard

system devices) machine.inf Not Available
ACPI\PNP0B00\4&13245C1&0

System timer No SYSTEM 5.2.3790.1830
10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0100\4&13245C1&0

Direct memory access controller No SYSTEM
5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0200\4&13245C1&0

Advanced programmable interrupt controller No
SYSTEM 5.2.3790.1830 10/1/2002 (Standard system devices) machine.inf Not Available
ACPI\PNP0003\4&13245C1&0

Communications Port No PORTS 5.2.3790.1830
10/1/2002 (Standard port types) mspports.inf Not Available
ACPI\PNP0501\2

Communications Port No PORTS 5.2.3790.1830
10/1/2002 (Standard port types) mspports.inf Not Available
ACPI\PNP0501\1

PS/2 Compatible Mouse No MOUSE
5.2.3790.1830 10/1/2002 Microsoft
msmouse.inf Not Available
ACPI\PNP0F13\4&13245C1&0

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard No KEYBOARD 5.2.3790.1830
10/1/2002 (Standard keyboards) keyboard.inf Not Available
ACPI\PNP0303\4&13245C1&0

Serverworks Champion CSB6 - SouthBridge 6 LPC No
SYSTEM 5.2.3790.1830 10/1/2002
ServerWorks (RCC) machine.inf Not Available
Available
PCI\VEN_1166&DEV_0227&SUBSYS_00000000&REV_00\3&267A616A&0&7B

Secondary IDE Channel No HDC
5.2.3790.1830 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&101988B2&0&1

CD-ROM Drive No CDROM 5.2.3790.1830
10/1/2002 (Standard CD-ROM drives) cdrom.inf Not Available
IDE\CDROMMATSHITA_DVD-ROM_SR-8178____PJ22____\5&A8D2D22&0&0.0.0

Primary IDE Channel No HDC 5.2.3790.1830
10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&101988B2&0&0

Standard Dual Channel PCI IDE Controller No HDC
5.2.3790.1830 10/1/2002 (Standard IDE

ATA/ATAPI controllers) mshdc.inf Not Available
 PCI\VEN_1166&DEV_0213&SUBSYS_02121166&REV_A0\3&267A616A&0&79

ServerWorks Champion CSB6 - SouthBridge 6 No
 SYSTEM 5.2.3790.1830 10/1/2002
 ServerWorks (RCC) machine.inf Not Available

Available PCI\VEN_1166&DEV_0203&SUBSYS_00000000&REV_A0\3&267A616A&0&78

USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)
 usbport.inf Not Available
 USB\ROOT_HUB20\4&2B778F81&0

Standard Enhanced PCI to USB Host Controller No
 USB 5.2.3790.1830 10/1/2002
 (Standard USB Host Controller) usbport.inf Not Available

Available PCI\VEN_1033&DEV_00E0&SUBSYS_00E01033&REV_04\3&267A616A&0&1A

HID-compliant device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 HID\VID_04B3&PID_4001&MI_02\7&BB6D957&0&0000

USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_02\6&91D87B8&0&0002

HID-compliant mouse No MOUSE 5.2.3790.1830
 10/1/2002 Microsoft msmouse.inf Not Available

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USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_01\6&91D87B8&0&0001

HID Keyboard Device No KEYBOARD
 5.2.3790.1830 10/1/2002 (Standard
 keyboards) keyboard.inf Not Available
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USB Human Interface Device No HIDCLASS
 5.2.3790.1830 10/1/2002 (Standard
 system devices) input.inf Not Available
 USB\VID_04B3&PID_4001&MI_00\6&91D87B8&0&0000

USB Composite Device No USB
 5.2.3790.1830 10/1/2002 (Standard USB
 Host Controller) usb.inf Not Available
 USB\VID_04B3&PID_4001\000D6046D4BF

USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)

usbport.inf Not Available
 USB\ROOT_HUB\4&2DDBD7B&0

NEC PCI to USB Open Host Controller No USB
 5.2.3790.1830 10/1/2002 NEC
 usbport.inf Not Available
 PCI\VEN_1033&DEV_0035&SUBSYS_00351033&REV_43\3&267A616A&0&19

USB Root Hub No USB 5.2.3790.1830
 10/1/2002 (Standard USB Host Controller)
 usbport.inf Not Available
 USB\ROOT_HUB\4&15976E20&0

NEC PCI to USB Open Host Controller No USB
 5.2.3790.1830 10/1/2002 NEC
 usbport.inf Not Available
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Default Monitor No MONITOR
 5.2.3790.1830 10/1/2002 (Standard
 monitor types) monitor.inf Not Available
 DISPLAY\DEFAULT_MONITOR\4&36FA8DD8&0&10000000&00&01

Plug and Play Monitor No MONITOR
 5.2.3790.1830 10/1/2002 (Standard
 monitor types) monitor.inf Not Available
 DISPLAY\IBM029A\4&36FA8DD8&0&10000082&00&01

Radeon 7000 / RADEON VE Family (Microsoft Corporation)
 No DISPLAY 6.14.10.6508
 12/3/2004 ATI Technologies Inc.
 atiixpag.inf Not Available
 PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\3&267A616A&0&08

PCI standard host CPU bridge No SYSTEM
 5.2.3790.1830 10/1/2002 (Standard
 system devices) machine.inf Not Available
 PCI\VEN_1014&DEV_02A1&SUBSYS_00000000&REV_02\3&267A616A&0&00

PCI bus No SYSTEM 5.2.3790.1830
 10/1/2002 (Standard system devices)
 machine.inf Not Available
 ACPI\PNP0A03\0

Microsoft ACPI-Compliant System No
 SYSTEM 5.2.3790.1830 10/1/2002
 Microsoft acpi.inf Not Available
 ACPI_HAL\PNP0C08\0

ACPI Multiprocessor x64-based PC No
 COMPUTER 5.2.3790.1830
 10/1/2002 (Standard computers) hal.inf Not Available
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 Available Not Available Not Available Not Available
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[Environment Variables]

Variable	Value	User Name
ClusterLog	C:\WINDOWS\Cluster\cluster.log <SYSTEM>	
ComSpec	%SystemRoot%\system32\cmd.exe <SYSTEM>	
FP_NO_HOST_CHECK	NO	<SYSTEM>
lib	C:\Program Files\SQLXML 4.0\bin\ <SYSTEM>	
NUMBER_OF_PROCESSORS	32	<SYSTEM>
OS	Windows_NT	<SYSTEM>
Path	%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;C:\Program Files (x86)\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files (x86)\Microsoft SQL Server\90\Tools\bin\;C:\Program Files (x86)\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files (x86)\Microsoft SQL Server\90\Tools\Binn\VSShell\IDE\;C:\Program Files (x86)\Microsoft Visual Studio 8\Common7\IDE\PrivateAssemblies\;c:\x64_krate <SYSTEM>	
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH <SYSTEM>	
PROCESSOR_ARCHITECTURE	AMD64	<SYSTEM>
PROCESSOR_IDENTIFIER	EM64T Family 15 Model 4 Stepping 8, GenuineIntel	<SYSTEM>
PROCESSOR_LEVEL	15	<SYSTEM>
PROCESSOR_REVISION	0408	<SYSTEM>
TEMP	%SystemRoot%\TEMP	<SYSTEM>
TMP	%SystemRoot%\TEMP	<SYSTEM>
windir	%SystemRoot%	<SYSTEM>
TEMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\SYSTEM

TMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\SYSTEM
TEMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\LOCAL SERVICE
TMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\LOCAL SERVICE
TEMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\NETWORK SERVICE
TMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\NETWORK SERVICE
TEMP	%USERPROFILE%\Local Settings\Temp	IBMSERV4\Administrator
TMP	%USERPROFILE%\Local Settings\Temp	IBMSERV4\Administrator

[Print Jobs]

Document	Size	Owner	Notify	Status	Time
Submitted	Start Time	Until Time	Elapsed Time	Pages Printed	Job ID
Print Queue	Parameters	Driver	Print Processor	Priority	Host
	Data	Type	Name		

[Network Connections]

Local Name	Remote Name	Type
Status	User Name	
Z:	\\192.168.40.1\drive	Disk
Connection	IBMSERV4\Administrator	Current

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Working Set
Set	Max Working Set	Start Time	Version	Size	File Date
system	idle process	Not Available	0	0	0
Available	Not Available	Not Available	Not Available	Not Available	Not Available
Available	Available	Available	Available	Available	Available
system	1413120	Not Available	4	8	0
	Not Available	Not Available	Not Available	Not Available	Not Available

```

smss.exe Not Available 384 11
204800 1413120 5/30/2006 7:10 AM Not
Available Not Available Not Available

csrss.exe Not Available 432 13 Not
Available Not Available 5/30/2006 7:17 AM Not
Available Not Available Not Available

winlogon.exe c:\windows\system32\winlogon.exe
456 13 204800 1413120
5/30/2006 7:17 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 901.00 KB (922,624 bytes)
3/25/2005 7:00 AM

services.exe c:\windows\system32\services.exe
500 9 204800 1413120
5/30/2006 7:17 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 216.50 KB (221,696 bytes)
3/25/2005 7:00 AM

lsass.exe c:\windows\system32\lsass.exe 512 9
204800 1413120 5/30/2006 7:17 AM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/25/2005 7:00
AM

svchost.exe c:\windows\system32\svchost.exe
668 8 204800 1413120
5/30/2006 7:17 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM

svchost.exe Not Available 752 8
Not Available Not Available
5/30/2006 7:17 AM Not Available Not
Available Not Available

svchost.exe Not Available 816 8
Not Available Not Available
5/30/2006 7:17 AM Not Available Not
Available Not Available

svchost.exe c:\windows\system32\svchost.exe
844 8 204800 1413120
5/30/2006 7:17 AM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM

msdtc.exe Not Available 940 8 Not
Available Not Available 5/30/2006 7:17 AM Not
Available Not Available Not Available

ibmhpasv.exe c:\windows\system32\ibmhpasv.exe
1064 8 204800 1413120
5/30/2006 7:18 AM 5.2.1.0 17.50 KB
(17,920 bytes) 8/30/2005 11:48 AM

svchost.exe Not Available 1088 8
Not Available Not Available
5/30/2006 7:18 AM Not Available Not
Available Not Available

svchost.exe c:\windows\system32\svchost.exe
1488 8 204800 1413120
5/30/2006 7:18 AM 5.2.3790.1830

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(srv03_sp1_rtm.050324-1447) 24.50 KB (25,088 bytes)
3/25/2005 7:00 AM

wmiprvse.exe Not Available 1636 8
Not Available Not Available
5/30/2006 7:19 AM Not Available Not
Available Not Available

explorer.exe c:\windows\explorer.exe 340
8 204800 1413120 5/30/2006 9:41
AM 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,364,480 bytes) 3/25/2005 7:00
AM

cmd.exe c:\windows\system32\cmd.exe 2764 8
204800 1413120 5/30/2006 1:34 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
538.50 KB (551,424 bytes) 3/25/2005 7:00
AM

sqlservr.exe c:\program files\microsoft sql
server\mssql.1\mssql\bin\sqlservr.exe 1624 13
204800 1413120 5/30/2006 1:34 PM
2005.090.2047.00 37.44 MB (39,263,520
bytes) 4/14/2006 11:59 AM

cmd.exe c:\windows\system32\cmd.exe 2524 8
204800 1413120 5/30/2006 4:14 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
538.50 KB (551,424 bytes) 3/25/2005 7:00
AM

cscript.exe c:\windows\system32\cscript.exe 2608 8
204800 1413120 5/30/2006 4:14 PM
5.6.0.8827 127.50 KB (130,560 bytes)
3/25/2005 7:00 AM

osql.exe c:\program files\microsoft sql
server\90\tools\bin\osql.exe 2832 8
204800 1413120 5/30/2006 4:14 PM
2005.090.2047.00 81.78 KB (83,744 bytes)
4/14/2006 11:51 AM

helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe
2092 8 204800 1413120
5/30/2006 4:20 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.30 MB (1,363,456 bytes)
1/24/2006 10:02 AM

wmiprvse.exe Not Available 800 8
Not Available Not Available
5/30/2006 4:20 PM Not Available Not
Available Not Available

helpsvc.exe c:\windows\pchealth\helpctr\binaries\helpsvc.exe
2788 8 204800 1413120
5/30/2006 4:20 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 1.52 MB (1,591,296 bytes)
1/24/2006 10:02 AM

[Loaded Modules]

```

Name	Version	Size	File Date	Manufacturer	Path
winlogon	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	901.00 KB (922,624 bytes)	3/25/2005 7:00	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	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	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	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	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	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	Microsoft Corporation	c:\windows\system32\msasn1.dll
msvcr7	7.0.3790.1830 (srv03_sp1_rtm.050324-1447)	508.00 KB (520,192 bytes)	3/25/2005 7:00	Microsoft Corporation	c:\windows\system32\msvcr7.dll
user32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	1.04 MB (1,085,952 bytes)	3/25/2005 7:00	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	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	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	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	Microsoft Corporation	c:\windows\system32\netapi32.dll
AM	Microsoft Corporation				c:\windows\system32\netapi32.dll
AM	Microsoft Corporation				c:\windows\system32\userenv.dll
AM	Microsoft Corporation				c:\windows\system32\psapi.dll
AM	Microsoft Corporation				c:\windows\system32\regapi.dll
AM	Microsoft Corporation				c:\windows\system32\secur32.dll
AM	Microsoft Corporation				c:\windows\system32\setupapi.dll
AM	Microsoft Corporation				c:\windows\system32\version.dll
AM	Microsoft Corporation				c:\windows\system32\winsta.dll
AM	Microsoft Corporation				c:\windows\system32\ws2_32.dll
AM	Microsoft Corporation				c:\windows\system32\ws2help.dll
AM	Microsoft Corporation				c:\windows\system32\msgina.dll
AM	Microsoft Corporation				c:\windows\system32\shsvcs.dll
AM	Microsoft Corporation				c:\windows\system32\shlwapi.dll
AM	Microsoft Corporation				c:\windows\system32\sfc

Microsoft Corporation
c:\windows\system32\sfc.dll

sfc_os 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
183.50 KB (187,904 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\sfc_os.dll

wintrust 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
297.50 KB (304,640 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wintrust.dll

imagehlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
57.50 KB (58,880 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\imagehlp.dll

ole32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.43 MB (2,543,616 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\ole32.dll

comctl32 6.0 (srv03_sp1_rtm.050324-1447) 1.51
MB (1,584,128 bytes) 1/23/2006 1:14 PM Microsoft
Corporation
c:\windows\winsxs\amd64_microsoft.windows.co
mmon-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

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

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

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
151.50 KB (155,136 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
28.00 KB (28,672 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
148.00 KB (151,552 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\wlnotify.dll

mpr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
115.00 KB (117,760 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 1.06 MB (1,116,160 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
247.00 KB (252,928 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447)
934.50 KB (956,928 bytes) 1/23/2006 1:14
PM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.windows.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

adslsdp 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\adslsdp.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	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
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	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
clbeatq	2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 865.00 KB (885,760 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\clbeatq.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
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	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
wbemprox	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 38.00 KB (38,912 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\wbem\wbemprox.dll	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
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	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
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	umpnprmgr	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\umpnprmgr.dll
wbemsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 58.00 KB (59,392 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\wbem\wbemsvc.dll	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
fastprox	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 866.50 KB (887,296 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\wbem\fastprox.dll	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
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	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	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
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	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
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	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	scecli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 308.00 KB (315,392 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\scecli.dll
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	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
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	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
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	wshtcpip	5.2.3790.2657 (srv03_sp1_qfe.060309-1542) 29.00 KB (29,696 bytes) 3/13/2006 8:22 AM Microsoft Corporation c:\windows\system32\wshtcpip.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	pstorsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.00 KB (36,864 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\pstorsvc.dll
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	psbase	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 124.00 KB (126,976 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\psbase.dll
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	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
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	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
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	rpsvc	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\rpsvc.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	schedsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 308.50 KB (315,904 bytes) 1/24/2006 10:02 AM Microsoft Corporation c:\windows\system32\schedsvc.dll
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	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
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	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
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	wiarpc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 57.00 KB (58,368 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\wiarpc.dll

aelupsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\aelupsvc.dll

apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
241.00 KB (246,784 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\apphelp.dll

dmserver 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.50 KB (37,376 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\dmserver.dll

srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.50 KB (160,256 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\srvsvc.dll

seclogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
27.50 KB (28,160 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\seclogon.dll

trkwks 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
177.50 KB (181,760 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\trkwks.dll

wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
227.00 KB (232,448 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.dll

vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.26 MB (1,320,960 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\vssapi.dll

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) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\comsvcs.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.24 MB (1,299,968 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
626.50 KB (641,536 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
171.00 KB (175,104 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
353.50 KB (361,984 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
743.00 KB (760,832 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
532.50 KB (545,280 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\wbemess.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
73.00 KB (74,752 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\wbem\ncprov.dll

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	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
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	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
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	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
rasadhlp	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 12.00 KB (12,288 bytes) 3/25/2005 7:00 AM Microsoft Corporation c:\windows\system32\rasadhlp.dll	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
pchsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.00 KB (77,824 bytes) 1/24/2006 10:02 AM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchsvc.dll	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
wbemcons	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 65.50 KB (67,072 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\wbem\wbemcons.dll	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
ibmhpasv	5.2.1.0 17.50 KB (17,920 bytes) 8/30/2005 11:48 AM IBM Corporation c:\windows\system32\ibmhpasv.exe	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
termsrv	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 354.50 KB (363,008 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\termsrv.dll	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
icaapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 27.50 KB (28,160 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\icaapi.dll	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
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	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
rdpwsx	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 170.13 KB (174,216 bytes) 1/24/2006 10:00 AM Microsoft Corporation c:\windows\system32\rdpwsx.dll	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
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	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
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	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

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

browsecl 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\browsecl.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

netplwiz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
938.50 KB (961,024 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\netplwiz.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) 1/23/2006 1:14
PM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.windows.gd
iplus_6595b64144ccfd1_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

zipfldr 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
449.50 KB (460,288 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\zipfldr.dll

sendmail 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
64.00 KB (65,536 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\sendmail.dll

mydocs 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
101.00 KB (103,424 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mydocs.dll

cmd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
538.50 KB (551,424 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\cmd.exe

sqlservr 2005.090.2047.00 37.44 MB (39,263,520
bytes) 4/14/2006 11:59 AM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlservr.exe

msvcr80 8.00.50727.42 803.50 KB (822,784 bytes)
9/23/2005 12:26 AM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.vc80.crt_1f
c8b3b9a1e18e3b_8.0.50727.42_x-ww_3fea50ad\msvcr80.dll

msvcp80 8.00.50727.42 1.05 MB (1,097,728 bytes)
9/23/2005 12:28 AM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.vc80.crt_1f
c8b3b9a1e18e3b_8.0.50727.42_x-ww_3fea50ad\msvcp80.dll

opends60 2005.090.1399.00 22.21 KB (22,744 bytes)
10/14/2005 3:31 PM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\opends60.dll

instapi 2005.090.1399.00 40.71 KB (41,688 bytes)
10/14/2005 3:23 PM Microsoft Corporation
c:\program files\microsoft sql
server\90\shared\instapi.dll

sqllevn70 2005.090.2047.00 1.58 MB (1,652,512 bytes)
4/14/2006 11:53 AM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\resources\1033\sqllevn70.rll

sqlos 2005.090.1399.00 15.71 KB (16,088 bytes)
10/14/2005 3:35 PM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlos.dll

mscoree 2.0.50727.42 (RTM.050727-4200)
441.00 KB (451,584 bytes) 9/23/2005 12:37
AM Microsoft Corporation
c:\windows\system32\mscoree.dll

xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
10.50 KB (10,752 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\xolehlp.dll

msdteprx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
805.50 KB (824,832 bytes) 1/24/2006 10:00
AM Microsoft Corporation
c:\windows\system32\msdteprx.dll

mtxclu 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
141.50 KB (144,896 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\mtxclu.dll

resutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
98.50 KB (100,864 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\resutils.dll

winnr 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\winnr.dll

security 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\security.dll

msfte 12.0.6214.0 3.63 MB (3,805,904 bytes)
2/14/2006 3:19 AM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\bin\msfte.dll

dbghelp 6.6.0003.5 (vbl_core_fbrel(DrewB).051022-1733)
1.25 MB (1,312,032 bytes) 4/14/2006 11:51
AM Microsoft Corporation c:\program
files\microsoft sql server\90\shared\dbghelp.dll

sqlncli 2005.090.2047.00 2.72 MB (2,854,744 bytes)
4/14/2006 11:59 AM Microsoft Corporation
c:\windows\system32\sqlncli.dll

sqlnclir 2005.090.1399.00 201.21 KB (206,040 bytes)
10/14/2005 3:31 PM Microsoft Corporation
c:\windows\system32\sqlnclir.rll

xpstar90 2005.090.2047.00 527.28 KB (539,936 bytes)
4/14/2006 11:58 AM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\bin\xpstar90.dll

sqlscm90 2005.090.1399.00 38.21 KB (39,128 bytes)
10/14/2005 3:37 PM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\bin\sqlscm90.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
408.00 KB (417,792 bytes) 3/25/2005 7:00
AM Microsoft Corporation
c:\windows\system32\odbc32.dll

batchparser90 2005.090.2047.00 175.78 KB
(180,000 bytes) 4/14/2006 11:53 AM Microsoft

Corporation c:\program files\microsoft sql
server\mssql.1\mssql\bin\batchparser90.dll

atl80 8.00.50727.42 108.00 KB (110,592 bytes)
9/23/2005 12:30 AM Microsoft Corporation
c:\windows\winsxs\amd64_microsoft.vc80.atl_1fc
8b3b9a1e18e3b_8.0.50727.42_x-ww_a08a3e21\atl80.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 96.00
KB (98,304 bytes) 3/25/2005 7:00 AM Microsoft
Corporation c:\windows\system32\odbcint.dll

xpstar90 2005.090.2047.00 149.28 KB (152,864 bytes)
4/14/2006 11:52 AM Microsoft Corporation
c:\program files\microsoft sql
server\mssql.1\mssql\bin\resources\1033\xpstar90.rll

cscript 5.6.0.8827 127.50 KB (130,560 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\cscript.exe

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

vbscript 5.6.0.8827 646.50 KB (662,016 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\vbscript.dll

scrobj 5.6.0.8827 272.50 KB (279,040 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\scrobj.dll

wshom 5.6.0.8827 121.50 KB (124,416 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\wshom.ocx

serrun 5.6.0.8827 262.00 KB (268,288 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\serrun.dll

mfc42 6.50.9146.0 1.40 MB (1,470,464 bytes)
3/25/2005 7:00 AM Microsoft Corporation
c:\windows\system32\mfc42.dll

osql 2005.090.2047.00 81.78 KB (83,744 bytes)
4/14/2006 11:51 AM Microsoft Corporation
c:\program files\microsoft sql
server\90\tools\bin\osql.exe

osql 2005.090.1399.00 15.21 KB (15,576 bytes)
10/14/2005 3:31 PM Microsoft Corporation
c:\program files\microsoft sql
server\90\tools\bin\resources\1033\osql.rll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.30 MB (1,363,456 bytes) 1/24/2006 10:02
AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
7.50 KB (7,680 bytes) 1/24/2006 10:02 AM
Microsoft Corporation

```

c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss      5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
208.00 KB (212,992 bytes)    3/25/2005 7:00
AM      Microsoft Corporation
c:\windows\system32\itss.dll

msxml3    8.70.1104.0          2.04 MB (2,141,184 bytes)
3/25/2005 7:00 AM    Microsoft Corporation
c:\windows\system32\msxml3.dll

pchshell  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
155.00 KB (158,720 bytes)    1/24/2006 10:02
AM      Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang     6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
686.00 KB (702,464 bytes)    3/25/2005 7:00
AM      Microsoft Corporation
c:\windows\system32\mlang.dll

mshtml    6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
5.65 MB (5,928,448 bytes)    3/25/2005 7:00
AM      Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31    3.10.349.0 357.00 KB (365,568 bytes)
3/25/2005 7:00 AM    Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf    5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
380.50 KB (389,632 bytes)    3/25/2005 7:00
AM      Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
617.50 KB (632,320 bytes)    3/25/2005 7:00
AM      Microsoft Corporation
c:\windows\system32\msctf.dll

jscript   5.6.0.8827 974.50 KB (997,888 bytes)
3/25/2005 7:00 AM    Microsoft Corporation
c:\windows\system32\jscript.dll

mshtmlmled 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\mshtmlmled.dll

msinfo    5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
636.00 KB (651,264 bytes)    1/24/2006 10:02
AM      Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u    6.50.9146.0          1.39 MB (1,462,272 bytes)
3/25/2005 7:00 AM    Microsoft Corporation
c:\windows\system32\mfc42u.dll

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

```

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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

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helpsvc   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1.52 MB (1,591,296 bytes)    1/24/2006 10:02
AM      Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpsvc.exe

```

[Services]

Display Name	Name	State	Start Mode	Service Type	Path	Error Control	Start Name	Tag ID
Application Experience Lookup Service	AeLookupSvc	Running	Auto	Share Process	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0
Alerter	Alerter	Stopped	Disabled	Share Process	c:\windows\system32\svchost.exe -k localservice	Normal	NT AUTHORITY\LocalService	0
Application Layer Gateway Service	ALG	Stopped	Manual	Own Process	c:\windows\system32\alg.exe	Normal	NT AUTHORITY\LocalService	0
Application Management	AppMgmt	Stopped	Manual	Share Process	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0
ASP.NET State Service	aspnet_state	Stopped	Manual	Own Process	c:\windows\microsoft.net\framework64\v2.0.50727\aspnet_state.exe	Normal	NT AUTHORITY\NetworkService	0
Windows Audio	AudioSrv	Stopped	Disabled	Share Process	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0
Background Intelligent Transfer Service	BITS	Stopped	Manual	Share Process	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0
Computer Browser	Browser	Stopped	Manual	Share Process	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0
Indexing Service	CiSvc	Stopped	Disabled	Share Process	c:\windows\system32\cisvc.exe	Normal	LocalSystem	0
ClipBook	ClipSrv	Stopped	Disabled	Own Process	c:\windows\system32\clipsrv.exe	Normal	LocalSystem	0

.NET Runtime Optimization Service v2.0.50727_X86
 clr_optimization_v2.0.50727_32 Stopped
 Manual Own Process
 c:\windows\microsoft.net\framework\v2.0.50727\
 mscorsvw.exe Ignore LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_x64
 clr_optimization_v2.0.50727_64 Stopped
 Manual Own Process
 c:\windows\microsoft.net\framework64\v2.0.50727\
 7/mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp
 Stopped Manual Own Process
 c:\windows\system32\dlh.exe
 /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235}
 Normal LocalSystem 0

Cryptographic Services CryptSvc Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch
 Running Auto Share Process
 c:\windows\system32\svchost.exe -k dcomlaunch
 Normal LocalSystem 0

Distributed File System Dfs Stopped
 Manual Own Process
 c:\windows\system32\dfssvc.exe Normal
 LocalSystem 0

DHCP Client Dhcp Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k
 networkservice Normal NT
 AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service
 dmadmin Stopped Manual Share Process
 c:\windows\system32\dmadmin.exe /com
 Normal LocalSystem 0

Logical Disk Managerdmsrvr Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

DNS Client Dnscache Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k
 networkservice Normal NT
 AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k winerr
 Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process
 c:\windows\system32\services.exe
 Normal LocalSystem 0

COM+ Event System EventSystem Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Help and Support helpsvc Running Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Human Interface Device Access HidServ Stopped
 Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

HTTP 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 Running Auto
 Own Process
 c:\windows\system32\ibmhpsv.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\llsdrv.exe Normal NT
 AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k localservice
 Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
 Stopped Disabled Own Process
 c:\windows\system32\mnmsrvc.exe
 Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
 Running Auto Own Process
 c:\windows\system32\msdtc.exe Normal NT
 AUTHORITY\NetworkService 0

SQL Server FullText Search (MSSQLSERVER)
 msftesql Stopped Disabled Own Process
 "c:\program files\microsoft sql
 server\mssql.1\mssql\binn\msftesql.exe" -s:mssql.1 -
 f:mssqlserver Normal LocalSystem 0

Windows Installer MSIServer Stopped Manual
 Share Process
 c:\windows\system32\msiexec.exe /v
 Normal LocalSystem 0

SQL Server (MSSQLSERVER) MSSQLSERVER
 Stopped Manual Own Process
 "c:\program files\microsoft sql
 server\mssql.1\mssql\binn\sqlservr.exe" -smssqlserver
 Normal LocalSystem 0

SQL Server Active Directory Helper
 MSSQLServerADHelper Stopped
 Disabled Own Process "c:\program
 files\microsoft sql server\90\shared\sqladhlp90.exe"
 Normal NT AUTHORITY\NetworkService
 0

SQL Server Analysis Services (MSSQLSERVER)
 MSSQLServerOLAPService Stopped
 Manual Own Process "c:\program
 files\microsoft sql server\mssql.2\olap\bin\msmdsrv.exe" -s
 "c:\program files\microsoft sql server\mssql.2\olap\config"
 Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
 Share Process
 c:\windows\system32\netdde.exe Normal
 LocalSystem 0

Network DDE DSDMNetDDEdsdm Stopped
 Disabled Share Process
 c:\windows\system32\netdde.exe Normal
 LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Network Connections Netman Running Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Network Location Awareness (NLA) Nla
 Running Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own
 Process c:\windows\system32\ntfrs.exe Ignore
 LocalSystem 0

NT LM Security Support Provider NtLmSsp
 Stopped Manual Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own
 Process "c:\program files (x86)\common files\microsoft
 shared\source engine\ose.exe" Normal LocalSystem
 0

Plug and Play PlugPlay Running Auto
 Share Process
 c:\windows\system32\services.exe
 Normal LocalSystem 0

IPSEC Services PolicyAgent Stopped
 Manual Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Protected Storage ProtectedStorage Running Auto
 Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Remote Access Auto Connection Manager RasAuto
 Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Access Connection Manager RasMan
 Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
 Stopped Manual Own Process
 c:\windows\system32\sessmgr.exe
 Normal LocalSystem 0

Routing and Remote Access RemoteAccess
 Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k regsvc
 Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
 Stopped Manual Own Process
 c:\windows\system32\locator.exe Normal NT
 AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k rpcss
 Normal NT AUTHORITY\NetworkService
 0

Resultant Set of Policy Provider RSoPProv Stopped
 Manual Share Process
 c:\windows\system32\rsopprov.exe
 Normal LocalSystem 0

Special Administration Console Helper sacsvr
 Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
 Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

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

ServeRAID Manager Agent ServeRAIDManagerAgent
 Stopped Manual Own Process
 "c:\program files (x86)\raidman\raidserv.exe"
 Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
 SharedAccess Stopped Disabled
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
 Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own
 Process c:\windows\system32\spoolsv.exe
 Normal LocalSystem 0

SQL Server Browser SQLBrowser Stopped
 Disabled Own Process "c:\program
 files (x86)\microsoft sql server\90\shared\sqlbrowser.exe"
 Normal LocalSystem 0

SQL Server Agent (MSSQLSERVER)
 SQLSERVERAGENT Stopped
 Disabled Own Process "c:\program
 files\microsoft sql server\mssql.1\mssql\bin\sqlagent90.exe"
 -i mssqlserver Normal LocalSystem 0

SQL Server VSS Writer SQLWriter Stopped
 Disabled Own Process "c:\program
 files\microsoft sql server\90\shared\sqlwriter.exe"
 Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
 Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k imgsvc
 Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
 Stopped Manual Own Process
 c:\windows\system32\svchost.exe -k swprv
 Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
 Stopped Auto Own Process
 c:\windows\system32\smlogsvc.exe
 Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k tapisrv
 Normal LocalSystem 0

Terminal Services TermService Running
 Manual Share Process
 c:\windows\system32\svchost.exe -k termsvcs
 Normal LocalSystem 0

Themes Themes Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Telnet TlntSvr Stopped Disabled Own Process
 c:\windows\system32\tlntsvr.exe Normal NT
 AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped
 Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Distributed Link Tracking Client TrkWks Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Terminal Services Session Directory Tssdis
 Stopped Disabled Own Process
 c:\windows\system32\tssdis.exe Normal
 LocalSystem 0

Windows User Mode Driver Framework UMWdf
 Stopped Manual Own Process
 c:\windows\system32\wdmfr.exe
 Normal NT AUTHORITY\LocalService 0

Uninterruptible Power Supply UPS Stopped
 Manual Own Process
 c:\windows\system32\ups.exe Normal NT
 AUTHORITY\LocalService 0

Virtual Disk Service vds Stopped Manual Own
 Process c:\windows\system32\vds.exe Normal
 LocalSystem 0

Volume Shadow Copy VSS Stopped
 Manual Own Process
 c:\windows\system32\vssvc.exe Normal
 LocalSystem 0

Windows Time W32Time Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k localservice
 Normal NT AUTHORITY\LocalService 0

WebClient WebClient Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k localservice
 Normal NT AUTHORITY\LocalService 0

WinHTTP Web Proxy Auto-Discovery Service
 WinHttpAutoProxySvc Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k localservice
 Normal NT AUTHORITY\LocalService 0

Windows Management Instrumentation winmgmt
 Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Ignore LocalSystem 0

Portable Media Serial Number Service WndmPmSN
 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 wuauerv Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
 Manual Share Process

c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

[Program Groups]

Group Name	Name	User Name
Accessories	Default User:Accessories Default User	
Accessories\Accessibility	Default User:Accessories\Accessibility	Default User
Accessories\Entertainment	Default User:Accessories\Entertainment	Default User
Startup	Default User:Startup	Default User
Accessories	All Users:Accessories	All Users
Accessories\Accessibility	All Users:Accessories\Accessibility	All Users
Accessories\Communications	All Users:Accessories\Communications	All Users
Accessories\Entertainment	All Users:Accessories\Entertainment	All Users
Accessories\System Tools	All Users:Accessories\System Tools	All Users
Administrative Tools	All Users:Administrative Tools	All Users
Microsoft SQL Server 2005	All Users:Microsoft SQL Server 2005	All Users
Microsoft SQL Server 2005\Analysis Services	All Users:Microsoft SQL Server 2005\Analysis Services	All Users
Microsoft SQL Server 2005\Configuration Tools	All Users:Microsoft SQL Server 2005\Configuration Tools	All Users
Microsoft SQL Server 2005\Documentation and Tutorials	All Users:Microsoft SQL Server 2005\Documentation and Tutorials	All Users
Microsoft SQL Server 2005\Documentation and Tutorials\Tutorials	All Users:Microsoft SQL Server 2005\Documentation and Tutorials\Tutorials	All Users
Microsoft SQL Server 2005\Performance Tools	All Users:Microsoft SQL Server 2005\Performance Tools	All Users

Microsoft Visual Studio 2005 All Users:Microsoft Visual Studio 2005 All Users

Microsoft Visual Studio 2005\Visual Studio Tools All Users:Microsoft Visual Studio 2005\Visual Studio Tools All Users

ServeRAID Manager All Users:ServeRAID Manager All Users

Startup All Users:Startup All Users

Accessories NT
AUTHORITY\SYSTEM:Accessories NT
AUTHORITY\SYSTEM

Accessories\Accessibility NT
AUTHORITY\SYSTEM:Accessories\Accessibility NT
AUTHORITY\SYSTEM

Accessories\Entertainment NT
AUTHORITY\SYSTEM:Accessories\Entertainment NT
AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT
AUTHORITY\SYSTEM

Accessories
IBMSERV4\Administrator:Accessories
IBMSERV4\Administrator

Accessories\Accessibility
IBMSERV4\Administrator:Accessories\Accessibi
lity IBMSERV4\Administrator

Accessories\Entertainment
IBMSERV4\Administrator:Accessories\Entertain
ment IBMSERV4\Administrator

Administrative Tools
IBMSERV4\Administrator:Administrative Tools
IBMSERV4\Administrator

Startup IBMSERV4\Administrator:Startup
IBMSERV4\Administrator

[Startup Programs]

Program	Command	User Name	Location
---------	---------	-----------	----------

desktop	desktop.ini	NT AUTHORITY\SYSTEM	Startup
---------	-------------	---------------------	---------

desktop	desktop.ini	IBMSERV4\Administrator	Startup
---------	-------------	------------------------	---------

Shortcut to synchtime	shortcut to synchtime.lnk	IBMSERV4\Administrator	Startup
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desktop	desktop.ini	DEFAULT	Startup
---------	-------------	---------	---------

desktop	desktop.ini	All Users	Common Startup
---------	-------------	-----------	----------------

KernelFaultCheck %systemroot%\system32\dumprep 0 -
k All Users
HKLM\SOFTWARE\Microsoft\Windows\Curren
tVersion\Run

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clipmplay32.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
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[File Versions]

File	Version	Size	Date	Path
actxprxy.dll	6.0.3790.1830	221 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
advpack.dll	6.0.3790.1830	146 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
asctrls.ocx	6.0.3790.1830	147 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
browsecl.dll	6.0.3790.1830	63 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
browseui.dll	6.0.3790.1830	1,564 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
cdfview.dll	6.0.3790.1830	216 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
comctl32.dll	5.82.3790.1830	935 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
dxtrans.dll	6.3.3790.1830	320 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
dxtmsft.dll	6.3.3790.1830	549 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
iecont.dll	<File Missing>	Not Available	Not Available	Not Available
iecontle.dll	<File Missing>	Not Available	Not Available	Not Available
iedkcs32.dll	16.0.3790.1830	417 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
iepeers.dll	6.0.3790.1830	361 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
iesetup.dll	6.0.3790.1830	71 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation

ieunit.inf	Not Available	24 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Not Available
ieexplore.exe	6.0.3790.1830	94 KB	3/25/2005 8:00:00 AM	C:\Program Files\Internet Explorer Microsoft Corporation
imgutil.dll	6.0.3790.1830	61 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
inetcp.cpl	6.0.3790.1830	428 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
inetcpl.dll	6.0.3790.1830	110 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
inseng.dll	6.0.3790.1830	147 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
mlang.dll	6.0.3790.1830	686 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
msencode.dll	<File Missing>	Not Available	Not Available	Not Available
mshta.exe	6.0.3790.1830	38 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
mshtml.dll	6.0.3790.1830	5,790 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
mshtml.tlb	6.0.3790.1830	1,320 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
mshtmlmled.dll	6.0.3790.1830	906 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
mshtmlmler.dll	6.0.3790.1830	56 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
msident.dll	6.0.3790.1830	69 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation
msidntld.dll	6.0.3790.1830	16 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32 Microsoft Corporation

msieftp.dll	6.0.3790.1830	369 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msrating.dll	6.0.3790.1830	240 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mstime.dll	6.0.3790.1830	878 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
occache.dll	6.0.3790.1830	126 KB	3/25/2005 8:00:00 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 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shdoclc.dll	6.0.3790.1830	590 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shdocvw.dll	6.0.3790.1830	2,360 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shfolder.dll	6.0.3790.1830	34 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shlwapi.dll	6.0.3790.1830	607 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
tdc.ocx	1.3.0.3130	91 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
url.dll	6.0.3790.1830	40 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
urlmon.dll	6.0.3790.1830	1,049 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
webcheck.dll	6.0.3790.1830	439 KB	3/25/2005 8:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
wininet.dll	6.0.3790.1830	1,159 KB	3/25/2005 8:00:00 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

ServeRAID-6M Controller Configuration Parameters

June 10, 2006 7:38:26 AM EDT

Configuration summary

Server name.....ibmserv4
ServeRAID Manager agent.....6.10.26 (1253)
ServeRAID Manager console.....6.10.26 (1253)
Number of controllers.....2
Operating system.....Windows 2003

Configuration information for controller 1

Controller type.....ServeRAID-6M
SCSI backend type.....AIC-7902
SCSI backend revision.....16
Controller FRU.....02R0985
Battery FRU.....02R0986
Serial number.....00B772BF
Part number.....32P0033

Physical slot.....5
BIOS version.....7.10.18
Firmware version.....7.10.18
Device driver version.....7.10.53
Battery-backup cache.....Installed
Battery temperature.....Normal
Battery charge level.....100 %
Battery-backup cache size.....128 MB
Read-ahead cache mode.....Adaptive
Stripe-unit size.....64 KB
Rebuild rate.....High
Hot-swap rebuild.....Enabled
Copy back.....Enabled
Data scrubbing.....Enabled
Auto-synchronization.....Enabled
Clustering.....Disabled
Unattended mode.....Disabled
BIOS-compatibility mapping.....Limited
Number of arrays.....1
Number of logical drives.....1
Number of hot-spare drives.....0
Number of ready drives.....0

Spanned array 1

Array identifier.....1
Array size.....1960182 MB
Free space.....0 MB
Number of logical drives.....1
Number of physical drives.....14

Arrays in spanned array 1

Array identifier.....A
Array size.....280026 MB
Stripe order (channel/device)...2/0 1/14
Number of physical drives.....2

Array identifier.....B
Array size.....280026 MB
Stripe order (channel/device)...2/1 1/13
Number of physical drives.....2

Array identifier.....C
Array size.....280026 MB
Stripe order (channel/device)...2/2 1/12
Number of physical drives.....2

Array identifier.....D
Array size.....280026 MB

Stripe order (channel/device)...2/3 1/11
Number of physical drives.....2

Array identifier.....E
Array size.....280026 MB
Stripe order (channel/device)...2/4 1/10
Number of physical drives.....2

Array identifier.....F
Array size.....280026 MB
Stripe order (channel/device)...2/5 1/9
Number of physical drives.....2

Array identifier.....G
Array size.....280026 MB
Stripe order (channel/device)...2/6 1/8
Number of physical drives.....2

Physical drives in array A

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0ASER
Firmware level.....B86E
Channel.....2
SCSI ID.....0
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0A0NM
Firmware level.....B86E
Channel.....1
SCSI ID.....14
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Physical drives in array B

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2R2
Firmware level.....B86E
Channel.....2
SCSI ID.....1
Size.....140013 MB
State.....Online
Array letter.....B
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B6AP
Firmware level.....B86E
Channel.....1
SCSI ID.....13
Size.....140013 MB
State.....Online
Array letter.....B
PFA error.....No

Physical drives in array C

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B6TV
Firmware level.....B86E
Channel.....2
SCSI ID.....2
Size.....140013 MB
State.....Online
Array letter.....C
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN01TRX
Firmware level.....B86C
Channel.....1
SCSI ID.....12

Size.....140013 MB
State.....Online
Array letter.....C
PFA error.....No

Physical drives in array D

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B712
Firmware level.....B86E
Channel.....2
SCSI ID.....3
Size.....140013 MB
State.....Online
Array letter.....D
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2VT
Firmware level.....B86E
Channel.....1
SCSI ID.....11
Size.....140013 MB
State.....Online
Array letter.....D
PFA error.....No

Physical drives in array E

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B6N9
Firmware level.....B86E
Channel.....2
SCSI ID.....4
Size.....140013 MB
State.....Online
Array letter.....E
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0A3KQ
Firmware level.....B86E
Channel.....1
SCSI ID.....10
Size.....140013 MB
State.....Online
Array letter.....E
PFA error.....No

Physical drives in array F

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2W4
Firmware level.....B86E
Channel.....2
SCSI ID.....5
Size.....140013 MB
State.....Online
Array letter.....F
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B6SH
Firmware level.....B86E
Channel.....1
SCSI ID.....9
Size.....140013 MB
State.....Online
Array letter.....F
PFA error.....No

Physical drives in array G

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B77M

Firmware level.....B86E
 Channel.....2
 SCSI ID.....6
 Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B76L
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....8
 Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

Logical drives in spanned array 1

 Logical drive.....1
 Spanned array number1
 State.....Okay
 RAID level.....10
 Data space.....980091 MB
 Parity space.....980091 MB
 Date created.....05/25/2006
 Write-cache mode.....Write through
 Merge-group number.....207
 Merge-group state.....Non-shared

SCSI channel 1

 Number of drives.....7
 SCSI transfer speed.....Optimal
 SCSI initiator ID.....7

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B76L
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....8

Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B6SH
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....9
 Size.....140013 MB
 State.....Online
 Array letter.....F
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0A3KQ
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....10
 Size.....140013 MB
 State.....Online
 Array letter.....E
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B2VT
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....11
 Size.....140013 MB
 State.....Online
 Array letter.....D
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN01TRX
 Firmware level.....B86C

Channel.....1
 SCSI ID.....12
 Size.....140013 MB
 State.....Online
 Array letter.....C
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B6AP
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....13
 Size.....140013 MB
 State.....Online
 Array letter.....B
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0A0NM
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....14
 Size.....140013 MB
 State.....Online
 Array letter.....A
 PFA error.....No

 Type.....Enclosure
 Vendor.....IBM
 Product or model number.....EXP400
 Serial number.....23B1510
 Firmware level.....D110
 FRU type.....MIDPLANE
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4865
 FRU serial number.....13CX036
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4866
 FRU serial number.....1R0433CX035
 FRU type.....Power
 FRU vendor.....IBM

FRU date of manufacture.....11/2003
 FRU part number.....55P3200
 FRU serial number.....1R0453BF07M
 FRU type.....Power
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....14J0665
 FRU serial number.....1R0453CP0T9
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4869
 FRU serial number.....1R0443CX033
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4866
 FRU serial number.....1R0433CX035
 Channel.....1
 SCSI ID.....15
 Enclosure ID.....0
 Enclosure status.....Okay
 Fan 1 status.....Okay
 Fan 2 status.....Okay
 Power supply 1 status.....Okay
 Power supply 2 status.....Okay
 Temperature status.....Normal

 SCSI channel 2

 Number of drives.....7
 SCSI transfer speed.....Optimal
 SCSI initiator ID.....7

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0ASER
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....0
 Size.....140013 MB
 State.....Online
 Array letter.....A
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685

FRU part number.....90P1385
 Serial number.....3KN0B2R2
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....1
 Size.....140013 MB
 State.....Online
 Array letter.....B
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B6TV
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....2
 Size.....140013 MB
 State.....Online
 Array letter.....C
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B712
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....3
 Size.....140013 MB
 State.....Online
 Array letter.....D
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B6N9
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....4
 Size.....140013 MB
 State.....Online
 Array letter.....E
 PFA error.....No

 Type.....Hard disk drive

Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B2W4
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....5
 Size.....140013 MB
 State.....Online
 Array letter.....F
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B77M
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....6
 Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

 Type.....Enclosure
 Vendor.....IBM
 Product or model number.....EXP400
 Serial number.....23B1510
 Firmware level.....D110
 FRU type.....MIDPLANE
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4865
 FRU serial number.....13CX036
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....07/2003
 FRU part number.....59P4866
 FRU serial number.....1R043379009
 FRU type.....Power
 FRU vendor.....IBM
 FRU date of manufacture.....11/2003
 FRU part number.....55P3200
 FRU serial number.....1R0453BF07M
 FRU type.....Power
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....14J0665
 FRU serial number.....1R0453CP0T9

FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4869
 FRU serial number.....1R0443CX033
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....07/2003
 FRU part number.....59P4866
 FRU serial number.....1R043379009
 Channel.....2
 SCSI ID.....15
 Enclosure ID.....0
 Enclosure status.....Okay
 Fan 1 status.....Okay
 Fan 2 status.....Okay
 Power supply 1 status.....Okay
 Power supply 2 status.....Okay
 Temperature status.....Normal

End of the configuration information for controller 1

Configuration information for controller 2

Controller type.....ServeRAID-6M
 SCSI backend type.....AIC-7902
 SCSI backend revision.....3
 Controller FRU.....02R0985
 Battery FRU.....02R0986
 Serial number.....60B738F4
 Part number.....32P0033
 Physical slot.....11
 BIOS version.....7.10.18
 Firmware version.....7.10.18
 Device driver version.....7.10.53
 Battery-backup cache.....Installed
 Battery temperature.....Normal
 Battery charge level.....100 %
 Battery-backup cache size.....128 MB
 Read-ahead cache mode.....Adaptive
 Stripe-unit size.....64 KB
 Rebuild rate.....High
 Hot-swap rebuild.....Enabled
 Copy back.....Enabled
 Data scrubbing.....Enabled
 Auto-synchronization.....Enabled
 Clustering.....Disabled
 Unattended mode.....Disabled

BIOS-compatibility mapping.....Limited
 Number of arrays.....1
 Number of logical drives.....1
 Number of hot-spare drives.....0
 Number of ready drives.....0

Spanned array 1

Array identifier.....1
 Array size.....1960182 MB
 Free space.....0 MB
 Number of logical drives.....1
 Number of physical drives.....14

Arrays in spanned array 1

Array identifier.....A
 Array size.....280026 MB
 Stripe order (channel/device)...1/6 2/8
 Number of physical drives.....2

Array identifier.....B
 Array size.....280026 MB
 Stripe order (channel/device)...2/9 1/5
 Number of physical drives.....2

Array identifier.....C
 Array size.....280026 MB
 Stripe order (channel/device)...2/10 1/4
 Number of physical drives.....2

Array identifier.....D
 Array size.....280026 MB
 Stripe order (channel/device)...2/11 1/3
 Number of physical drives.....2

Array identifier.....E
 Array size.....280026 MB
 Stripe order (channel/device)...2/12 1/2
 Number of physical drives.....2

Array identifier.....F
 Array size.....280026 MB
 Stripe order (channel/device)...2/13 1/1
 Number of physical drives.....2

Array identifier.....G
 Array size.....280026 MB
 Stripe order (channel/device)...2/14 1/0
 Number of physical drives.....2

Physical drives in array A

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0ATJF
Firmware level.....B86E
Channel.....1
SCSI ID.....6
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B691
Firmware level.....B86E
Channel.....2
SCSI ID.....8
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Physical drives in array B

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B334
Firmware level.....B86E
Channel.....2
SCSI ID.....9
Size.....140013 MB
State.....Online
Array letter.....B
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385

Serial number.....3KN08VXM
Firmware level.....B86E
Channel.....1
SCSI ID.....5
Size.....140013 MB
State.....Online
Array letter.....B
PFA error.....No

Physical drives in array C

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN09RVL
Firmware level.....B86E
Channel.....2
SCSI ID.....10
Size.....140013 MB
State.....Online
Array letter.....C
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0AKSW
Firmware level.....B86E
Channel.....1
SCSI ID.....4
Size.....140013 MB
State.....Online
Array letter.....C
PFA error.....No

Physical drives in array D

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B72G
Firmware level.....B86E
Channel.....2
SCSI ID.....11
Size.....140013 MB

State.....Online
Array letter.....D
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2PS
Firmware level.....B86E
Channel.....1
SCSI ID.....3
Size.....140013 MB
State.....Online
Array letter.....D
PFA error.....No

Physical drives in array E

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2WB
Firmware level.....B86E
Channel.....2
SCSI ID.....12
Size.....140013 MB
State.....Online
Array letter.....E
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN09BR6
Firmware level.....B86E
Channel.....1
SCSI ID.....2
Size.....140013 MB
State.....Online
Array letter.....E
PFA error.....No

Physical drives in array F

Type.....Hard disk drive

Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B31F
Firmware level.....B86E
Channel.....2
SCSI ID.....13
Size.....140013 MB
State.....Online
Array letter.....F
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B6WB
Firmware level.....B86E
Channel.....1
SCSI ID.....1
Size.....140013 MB
State.....Online
Array letter.....F
PFA error.....No

Physical drives in array G

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B73H
Firmware level.....B86E
Channel.....2
SCSI ID.....14
Size.....140013 MB
State.....Online
Array letter.....G
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B2P9
Firmware level.....B86E
Channel.....1
SCSI ID.....0
Size.....140013 MB

State.....Online
 Array letter.....G
 PFA error.....No

Logical drives in spanned array 1

 Logical drive.....1
 Spanned array number1
 State.....Okay
 RAID level.....10
 Data space.....980091 MB
 Parity space.....980091 MB
 Date created.....05/25/2006
 Write-cache mode.....Write through
 Merge-group number.....207
 Merge-group state.....Non-shared

SCSI channel 1

 Number of drives.....7
 SCSI transfer speed.....Optimal
 SCSI initiator ID.....7

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B2P9
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....0
 Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B6WB
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....1
 Size.....140013 MB
 State.....Online
 Array letter.....F
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN09BR6
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....2
 Size.....140013 MB
 State.....Online
 Array letter.....E
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B2PS
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....3
 Size.....140013 MB
 State.....Online
 Array letter.....D
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0AKSW
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....4
 Size.....140013 MB
 State.....Online
 Array letter.....C
 PFA error.....No

Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN08VXM
 Firmware level.....B86E
 Channel.....1
 SCSI ID.....5
 Size.....140013 MB
 State.....Online

Array letter.....B
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0ATJF
Firmware level.....B86E
Channel.....1
SCSI ID.....6
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Type.....Enclosure
Vendor.....IBM
Product or model number.....EXP400
Serial number.....23B1428
Firmware level.....D110
FRU type.....MIDPLANE
FRU vendor.....IBM
FRU date of manufacture.....12/2003
FRU part number.....59P4865
FRU serial number.....13CP0TE
FRU type.....CARD
FRU vendor.....IBM
FRU date of manufacture.....08/2003
FRU part number.....59P4866
FRU serial number.....1R04338E365
FRU type.....Power
FRU vendor.....IBM
FRU date of manufacture.....12/2003
FRU part number.....14J0665
FRU serial number.....1R0453CP0TA
FRU type.....Power
FRU vendor.....IBM
FRU date of manufacture.....12/2004
FRU part number.....14J0665
FRU serial number.....1R1454CD03X
FRU type.....CARD
FRU vendor.....IBM
FRU date of manufacture.....12/2003
FRU part number.....59P4869
FRU serial number.....1R0443CP0TB
FRU type.....CARD
FRU vendor.....IBM
FRU date of manufacture.....08/2003
FRU part number.....59P4866

FRU serial number.....1R04338E365
Channel.....1
SCSI ID.....15
Enclosure ID.....0
Enclosure status.....Okay
Fan 1 status.....Okay
Fan 2 status.....Okay
Power supply 1 status.....Okay
Power supply 2 status.....Okay
Temperature status.....Normal

SCSI channel 2

Number of drives.....7
SCSI transfer speed.....Optimal
SCSI initiator ID.....7

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B691
Firmware level.....B86E
Channel.....2
SCSI ID.....8
Size.....140013 MB
State.....Online
Array letter.....A
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN0B334
Firmware level.....B86E
Channel.....2
SCSI ID.....9
Size.....140013 MB
State.....Online
Array letter.....B
PFA error.....No

Type.....Hard disk drive
Vendor.....IBM-ESXS
Product or model number.....ST314685
FRU part number.....90P1385
Serial number.....3KN09RVL
Firmware level.....B86E
Channel.....2

SCSI ID.....10
 Size.....140013 MB
 State.....Online
 Array letter.....C
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B72G
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....11
 Size.....140013 MB
 State.....Online
 Array letter.....D
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B2WB
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....12
 Size.....140013 MB
 State.....Online
 Array letter.....E
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B31F
 Firmware level.....B86E
 Channel.....2
 SCSI ID.....13
 Size.....140013 MB
 State.....Online
 Array letter.....F
 PFA error.....No

 Type.....Hard disk drive
 Vendor.....IBM-ESXS
 Product or model number.....ST314685
 FRU part number.....90P1385
 Serial number.....3KN0B73H

Firmware level.....B86E
 Channel.....2
 SCSI ID.....14
 Size.....140013 MB
 State.....Online
 Array letter.....G
 PFA error.....No

 Type.....Enclosure
 Vendor.....IBM
 Product or model number.....EXP400
 Serial number.....23B1428
 Firmware level.....D110
 FRU type.....MIDPLANE
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4865
 FRU serial number.....13CP0TE
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4866
 FRU serial number.....1R0433CP0TC
 FRU type.....Power
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....14J0665
 FRU serial number.....1R0453CP0TA
 FRU type.....Power
 FRU vendor.....IBM
 FRU date of manufacture.....12/2004
 FRU part number.....14J0665
 FRU serial number.....1R1454CD03X
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4869
 FRU serial number.....1R0443CP0TB
 FRU type.....CARD
 FRU vendor.....IBM
 FRU date of manufacture.....12/2003
 FRU part number.....59P4866
 FRU serial number.....1R0433CP0TC
 Channel.....2
 SCSI ID.....15
 Enclosure ID.....0
 Enclosure status.....Okay
 Fan 1 status.....Okay
 Fan 2 status.....Okay
 Power supply 1 status.....Okay

Power supply 2 status.....Okay
Temperature status.....Normal

End of the configuration information for controller 2

DS4500 Disk Controller Configuration Parameters

System Configuration File for Controllers 3 and 9

PROFILE FOR STORAGE SUBSYSTEM: FastT3_900
(5/30/06 3:46:14 PM)

SUMMARY-----

Number of controllers: 2
Number of arrays: 9
Total number of logical drives (includes an access logical drive): 10 of 2048 used
Number of standard logical drives: 9
Number of access logical drives: 1
Number of drives: 126
Supported drive types: Fibre (126)
Total hot spare drives: 0
Standby: 0
In use: 0
Access logical drive: None mapped
Default host type: Windows 2000/Server 2003 Non-Clustered (Host type index 2)
Current configuration
Firmware version: 06.12.16.00
NVS RAM version: N1742F900R912V06
Pending configuration
Staged firmware download supported?: Yes
Firmware version: None
NVS RAM version: None
Transferred on: None
NVS RAM configured for batteries?: Yes
Start cache flushing at (in percentage): 8
Stop cache flushing at (in percentage): 8
Cache block size (in KB): 16
Media scan frequency (in days): Disabled
Failover alert delay (in minutes): 5
Feature enable identifier:
3533363035003630363834003F33C840
Storage Subsystem worldwide name (ID):
600A0B80000F6F33000000003F5CBB35

CONTROLLERS-----

Number of controllers: 2

Controller in Slot A

Status: Online

Current configuration

Firmware version: 06.12.16.00

Appware version: 06.12.16.00

Bootware version: 06.10.06.00

NVS RAM version: N1742F900R912V06

Pending configuration

Firmware version: None

Appware version: None

Bootware version: None

NVS RAM version: None

Transferred on: None

Board ID: 5884

Product ID: 1742-900

Product revision: 0520

Serial number: 1T40667749

Date of manufacture: February 20, 2004

Cache/processor size (MB): 1024/128

Date/Time: Tue May 30 15:42:25 EDT 2006

Associated Logical Drives (* = Preferred Owner):

flute3_lun1*, flute3_lun2*, flute3_lun3*, flute3_lun4*,
flute3_lun9*

Ethernet port: 1

MAC address: 00:a0:b8:13:64:80

Host name: Fast3_900a

Network configuration: Static

IP address: 192.168.128.212

Subnet mask: 255.255.255.0

Gateway: 0.0.0.0

Remote login: Disabled

Drive interface: Fibre

Channel: 1

Current ID: 125/0x1

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Drive interface: Fibre

Channel: 2

Current ID: 125/0x1

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Drive interface: Fibre

Channel: 3

Current ID: 125/0x1

Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Drive interface: Fibre
Channel: 4
Current ID: 125/0x1
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Host interface: Fibre
Port: 1
Current ID: 0/0xEF
Preferred ID: 0/0xEF
NL-Port ID: 0x0000EF
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Topology: Arbitrated Loop - Private
World-wide port name: 20:04:00:a0:b8:13:64:81
World-wide node name: 20:04:00:a0:b8:13:64:80
Part type: HPFC-5400 revision 6
Host interface: Fibre
Port: 2
Current ID: Not applicable/0xFFFFFFFF
Preferred ID: 1/0xE8
NL-Port ID: 0x000000
Maximum data rate: 2 Gbps
Current data rate: 1 Gbps
Data rate control: Switch
Link status: Down
Topology: Not available
World-wide port name: 20:04:00:a0:b8:13:64:82
World-wide node name: 20:04:00:a0:b8:13:64:80
Part type: HPFC-5400 revision 6

Controller in Slot B
Status: Online
Current configuration
Firmware version: 06.12.16.00
Appware version: 06.12.16.00
Bootware version: 06.10.06.00
NVS RAM version: N1742F900R912V06
Pending configuration
Firmware version: None
Appware version: None
Bootware version: None
NVS RAM version: None

Transferred on: None
Board ID: 5884
Product ID: 1742-900
Product revision: 0520
Serial number: 1T40668547
Date of manufacture: February 20, 2004
Cache/processor size (MB): 1024/128
Date/Time: Tue May 30 15:42:26 EDT 2006
Associated Logical Drives (* = Preferred Owner):
flute3_lun5*, flute3_lun6*, flute3_lun7*, flute3_lun8*
Ethernet port: 1
MAC address: 00:a0:b8:13:60:81
Host name: Fast3_900B
Network configuration: Static
IP address: 192.168.128.213
Subnet mask: 255.255.255.0
Gateway: 0.0.0.0
Remote login: Disabled

Drive interface: Fibre
Channel: 1
Current ID: 124/0x2
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Drive interface: Fibre
Channel: 2
Current ID: 124/0x2
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Drive interface: Fibre
Channel: 3
Current ID: 124/0x2
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Drive interface: Fibre
Channel: 4
Current ID: 124/0x2
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Host interface: Fibre
Port: 1
Current ID: 2/0xE4

Preferred ID: 2/0xE4
NL-Port ID: 0x0000E4
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Topology: Arbitrated Loop - Private
World-wide port name: 20:05:00:a0:b8:13:64:81
World-wide node name: 20:05:00:a0:b8:13:64:80
Part type: HPFC-5400 revision 6
Host interface: Fibre
Port: 2
Current ID: Not applicable/0xFFFFFFFF
Preferred ID: 3/0xE2
NL-Port ID: 0x000000
Maximum data rate: 2 Gbps
Current data rate: 1 Gbps
Data rate control: Switch
Link status: Down
Topology: Not available
World-wide port name: 20:05:00:a0:b8:13:64:82
World-wide node name: 20:05:00:a0:b8:13:64:80
Part type: HPFC-5400 revision 6

ARRAYS-----

Number of arrays: 9

Array 1 (RAID 0)

Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
flute3_lun1 (467.619 GB)
Associated drives (in piece order):
Drive at Enclosure 30, Slot 1
Drive at Enclosure 30, Slot 2
Drive at Enclosure 30, Slot 3
Drive at Enclosure 30, Slot 4
Drive at Enclosure 30, Slot 5
Drive at Enclosure 30, Slot 6
Drive at Enclosure 30, Slot 7
Drive at Enclosure 30, Slot 8
Drive at Enclosure 30, Slot 9
Drive at Enclosure 30, Slot 10
Drive at Enclosure 30, Slot 11
Drive at Enclosure 30, Slot 12
Drive at Enclosure 30, Slot 13
Drive at Enclosure 30, Slot 14

Array 2 (RAID 0)

Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
flute3_lun2 (467.619 GB)
Associated drives (in piece order):
Drive at Enclosure 31, Slot 1
Drive at Enclosure 31, Slot 2
Drive at Enclosure 31, Slot 3
Drive at Enclosure 31, Slot 4
Drive at Enclosure 31, Slot 5
Drive at Enclosure 31, Slot 6
Drive at Enclosure 31, Slot 7
Drive at Enclosure 31, Slot 8
Drive at Enclosure 31, Slot 9
Drive at Enclosure 31, Slot 10
Drive at Enclosure 31, Slot 11
Drive at Enclosure 31, Slot 12
Drive at Enclosure 31, Slot 13
Drive at Enclosure 31, Slot 14

Array 3 (RAID 0)

Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
flute3_lun3 (467.619 GB)
Associated drives (in piece order):
Drive at Enclosure 32, Slot 1
Drive at Enclosure 32, Slot 2
Drive at Enclosure 32, Slot 3
Drive at Enclosure 32, Slot 4
Drive at Enclosure 32, Slot 5
Drive at Enclosure 32, Slot 6
Drive at Enclosure 32, Slot 7
Drive at Enclosure 32, Slot 8
Drive at Enclosure 32, Slot 9
Drive at Enclosure 32, Slot 10
Drive at Enclosure 32, Slot 11
Drive at Enclosure 32, Slot 12
Drive at Enclosure 32, Slot 13
Drive at Enclosure 32, Slot 14

Array 4 (RAID 0)

Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
flute3_lun4 (467.619 GB)

<p>Associated drives (in piece order):</p> <ul style="list-style-type: none"> Drive at Enclosure 33, Slot 1 Drive at Enclosure 33, Slot 2 Drive at Enclosure 33, Slot 3 Drive at Enclosure 33, Slot 4 Drive at Enclosure 33, Slot 5 Drive at Enclosure 33, Slot 6 Drive at Enclosure 33, Slot 7 Drive at Enclosure 33, Slot 8 Drive at Enclosure 33, Slot 9 Drive at Enclosure 33, Slot 10 Drive at Enclosure 33, Slot 11 Drive at Enclosure 33, Slot 12 Drive at Enclosure 33, Slot 13 Drive at Enclosure 33, Slot 14 <p>Array 5 (RAID 0)</p> <p>Status: Online</p> <p>Drive type: Fibre Channel</p> <p>Enclosure loss protection: No</p> <p>Current owner: Controller in slot B</p> <p>Associated logical drives and free capacities:</p> <ul style="list-style-type: none"> flute3_lun5 (467.619 GB) <p>Associated drives (in piece order):</p> <ul style="list-style-type: none"> Drive at Enclosure 34, Slot 1 Drive at Enclosure 34, Slot 2 Drive at Enclosure 34, Slot 3 Drive at Enclosure 34, Slot 4 Drive at Enclosure 34, Slot 5 Drive at Enclosure 34, Slot 6 Drive at Enclosure 34, Slot 7 Drive at Enclosure 34, Slot 8 Drive at Enclosure 34, Slot 9 Drive at Enclosure 34, Slot 10 Drive at Enclosure 34, Slot 11 Drive at Enclosure 34, Slot 12 Drive at Enclosure 34, Slot 13 Drive at Enclosure 34, Slot 14 <p>Array 6 (RAID 0)</p> <p>Status: Online</p> <p>Drive type: Fibre Channel</p> <p>Enclosure loss protection: No</p> <p>Current owner: Controller in slot B</p> <p>Associated logical drives and free capacities:</p> <ul style="list-style-type: none"> flute3_lun6 (467.619 GB) <p>Associated drives (in piece order):</p> <ul style="list-style-type: none"> Drive at Enclosure 35, Slot 3 Drive at Enclosure 35, Slot 4 Drive at Enclosure 35, Slot 5 Drive at Enclosure 35, Slot 6 Drive at Enclosure 35, Slot 7 	<ul style="list-style-type: none"> Drive at Enclosure 35, Slot 8 Drive at Enclosure 35, Slot 9 Drive at Enclosure 35, Slot 10 Drive at Enclosure 35, Slot 11 Drive at Enclosure 35, Slot 12 Drive at Enclosure 35, Slot 13 Drive at Enclosure 35, Slot 14 Drive at Enclosure 35, Slot 1 Drive at Enclosure 35, Slot 2 <p>Array 7 (RAID 0)</p> <p>Status: Online</p> <p>Drive type: Fibre Channel</p> <p>Enclosure loss protection: No</p> <p>Current owner: Controller in slot B</p> <p>Associated logical drives and free capacities:</p> <ul style="list-style-type: none"> flute3_lun7 (467.619 GB) <p>Associated drives (in piece order):</p> <ul style="list-style-type: none"> Drive at Enclosure 36, Slot 1 Drive at Enclosure 36, Slot 2 Drive at Enclosure 36, Slot 3 Drive at Enclosure 36, Slot 4 Drive at Enclosure 36, Slot 5 Drive at Enclosure 36, Slot 6 Drive at Enclosure 36, Slot 7 Drive at Enclosure 36, Slot 8 Drive at Enclosure 36, Slot 9 Drive at Enclosure 36, Slot 10 Drive at Enclosure 36, Slot 11 Drive at Enclosure 36, Slot 12 Drive at Enclosure 36, Slot 13 Drive at Enclosure 36, Slot 14 <p>Array 8 (RAID 0)</p> <p>Status: Online</p> <p>Drive type: Fibre Channel</p> <p>Enclosure loss protection: No</p> <p>Current owner: Controller in slot B</p> <p>Associated logical drives and free capacities:</p> <ul style="list-style-type: none"> flute3_lun8 (467.619 GB) <p>Associated drives (in piece order):</p> <ul style="list-style-type: none"> Drive at Enclosure 37, Slot 1 Drive at Enclosure 37, Slot 2 Drive at Enclosure 37, Slot 3 Drive at Enclosure 37, Slot 4 Drive at Enclosure 37, Slot 5 Drive at Enclosure 37, Slot 6 Drive at Enclosure 37, Slot 7 Drive at Enclosure 37, Slot 8 Drive at Enclosure 37, Slot 9 Drive at Enclosure 37, Slot 10 Drive at Enclosure 37, Slot 11
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Drive at Enclosure 37, Slot 12
 Drive at Enclosure 37, Slot 13
 Drive at Enclosure 37, Slot 14
 Array 9 (RAID 0)
 Status: Online
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Current owner: Controller in slot A
 Associated logical drives and free capacities:
 flute3_lun9 (467.619 GB)
 Associated drives (in piece order):
 Drive at Enclosure 23, Slot 1
 Drive at Enclosure 23, Slot 2
 Drive at Enclosure 23, Slot 3
 Drive at Enclosure 23, Slot 4
 Drive at Enclosure 23, Slot 5
 Drive at Enclosure 23, Slot 6
 Drive at Enclosure 23, Slot 7
 Drive at Enclosure 23, Slot 8
 Drive at Enclosure 23, Slot 9
 Drive at Enclosure 23, Slot 10
 Drive at Enclosure 23, Slot 11
 Drive at Enclosure 23, Slot 12
 Drive at Enclosure 23, Slot 13
 Drive at Enclosure 23, Slot 14

STANDARD LOGICAL DRIVES-----

SUMMARY

Number of standard logical drives: 9
 See other Logical Drives sub-tabs for premium feature information.

NAME	STATUS	CAPACITY	RAID LEVEL	ARRAY
flute3_lun1	Optimal	467.619 GB	0	1
flute3_lun2	Optimal	467.619 GB	0	2
flute3_lun3	Optimal	467.619 GB	0	3
flute3_lun4	Optimal	467.619 GB	0	4
flute3_lun5	Optimal	467.619 GB	0	5
flute3_lun6	Optimal	467.619 GB	0	6
flute3_lun7	Optimal	467.619 GB	0	7
flute3_lun8	Optimal	467.619 GB	0	8
flute3_lun9	Optimal	467.619 GB	0	9

DETAILS

Logical Drive name: flute3_lun1
 Logical Drive ID:
 60:0a:0b:80:00:13:64:80:00:00:00:1c:42:9d:c4:50
 Subsystem ID (SSID): 0
 Status: Optimal

Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot A
 Current owner: Controller in slot A
 Capacity: 467.619 GB
 RAID level: 0
 Segment size: 64 KB
 Modification priority: High
 Associated array: 1
 Read cache: Enabled
 Write cache: Enabled
 Write cache without batteries: Disabled
 Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun2
 Logical Drive ID:
 60:0a:0b:80:00:13:64:80:00:00:00:03:43:5d:f8:86

Subsystem ID (SSID): 1
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot A
 Current owner: Controller in slot A
 Capacity: 467.619 GB
 RAID level: 0
 Segment size: 64 KB
 Modification priority: High
 Associated array: 2
 Read cache: Enabled
 Write cache: Enabled
 Write cache without batteries: Disabled
 Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun3
 Logical Drive ID:
 60:0a:0b:80:00:13:64:80:00:00:00:16:41:de:86:c6

Subsystem ID (SSID): 2
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot A
 Current owner: Controller in slot A
 Capacity: 467.619 GB

RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 3
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun4
Logical Drive ID:
60:0a:0b:80:00:13:64:80:00:00:18:41:de:86:ea
Subsystem ID (SSID): 3
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot A
Current owner: Controller in slot A
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 4
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun5
Logical Drive ID:
60:0a:0b:80:00:13:60:81:00:00:21:42:9d:dc:1f
Subsystem ID (SSID): 4
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 5
Read cache: Enabled

Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun6
Logical Drive ID:
60:0a:0b:80:00:13:60:81:00:00:23:42:9d:dc:51
Subsystem ID (SSID): 5
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 6
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun7
Logical Drive ID:
60:0a:0b:80:00:13:60:81:00:00:25:42:9d:dc:71
Subsystem ID (SSID): 6
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 7
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0

Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun8
Logical Drive ID:
60:0a:0b:80:00:13:60:81:00:00:00:00:42:d7:66:cd
Subsystem ID (SSID): 7
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 8
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute3_lun9
Logical Drive ID:
60:0a:0b:80:00:13:64:80:00:00:00:07:44:5b:42:1a
Subsystem ID (SSID): 8
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot A
Current owner: Controller in slot A
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 9
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

MISSING LOGICAL DRIVES-----

Number of missing logical drives: 0

DRIVES-----

SUMMARY

Number of drives: 126
Supported drive types: Fibre (126)

BASIC:

TRAY,	SLOT	STATUS	CAPACITY	CURRENT
DATA	RATE	PRODUCT	ID	FIRMWARE
		ID		VERSION
23, 1	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 2	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 3	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 4	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 5	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 6	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 7	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 8	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 9	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 10	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 11	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 12	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 13	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
23, 14	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 1	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 2	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 3	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 4	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 5	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 6	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 7	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
30, 8	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				

30, 9	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	32, 10	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
30, 10	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		32, 11	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
30, 11	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		32, 12	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
30, 12	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		32, 13	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
30, 13	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		32, 14	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
30, 14	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		33, 1	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 1	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 2	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 2	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 3	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 3	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 4	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 4	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 5	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 5	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 6	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 6	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 7	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 7	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 8	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 8	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 9	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
31, 9	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	33, 10	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
31, 10	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		33, 11	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
31, 11	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		33, 12	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
31, 12	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		33, 13	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
31, 13	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		33, 14	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	
31, 14	Optimal 33.902 GB 2 Gbps ST336753FC F B95B		34, 1	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 1	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 2	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 2	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 3	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 3	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 4	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 4	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 5	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 5	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 6	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 6	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 7	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 7	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 8	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 8	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 9	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC
32, 9	Optimal 33.902 GB 2 Gbps F B95B	ST336753FC	34, 10	Optimal 33.902 GB 2 Gbps ST336753FC F B95B	

34, 11 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

34, 12 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

34, 13 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

34, 14 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

35, 1 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 2 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 3 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 4 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 5 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 6 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 7 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 8 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 9 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

35, 10 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

35, 11 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

35, 12 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

35, 13 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

35, 14 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

36, 1 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 2 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 3 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 4 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 5 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 6 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 7 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 8 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 9 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

36, 10 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

36, 11 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

36, 12 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

36, 13 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

36, 14 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

37, 1 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 2 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 3 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 4 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 5 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 6 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 7 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 8 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 9 Optimal 33.902 GB 2 Gbps ST336753FC
F B95B

37, 10 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

37, 11 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

37, 12 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

37, 13 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

37, 14 Optimal 33.902 GB 2 Gbps
ST336753FC F B95B

DRIVE CHANNELS:

TRAY, SLOT PREFERRED CHANNEL REDUNDANT CHANNEL

23, 1	2	1
23, 2	1	2
23, 3	2	1
23, 4	1	2
23, 5	2	1
23, 6	1	2
23, 7	2	1
23, 8	1	2
23, 9	2	1
23, 10	1	2
23, 11	2	1
23, 12	1	2
23, 13	2	1
23, 14	1	2
30, 1	4	3
30, 2	3	4

30, 3	4	3	33, 11	4	3
30, 4	3	4	33, 12	3	4
30, 5	4	3	33, 13	4	3
30, 6	3	4	33, 14	3	4
30, 7	4	3	34, 1	2	1
30, 8	3	4	34, 2	1	2
30, 9	4	3	34, 3	2	1
30, 10	3	4	34, 4	1	2
30, 11	4	3	34, 5	2	1
30, 12	3	4	34, 6	1	2
30, 13	4	3	34, 7	2	1
30, 14	3	4	34, 8	1	2
31, 1	4	3	34, 9	2	1
31, 2	3	4	34, 10	1	2
31, 3	4	3	34, 11	2	1
31, 4	3	4	34, 12	1	2
31, 5	4	3	34, 13	2	1
31, 6	3	4	34, 14	1	2
31, 7	4	3	35, 1	2	1
31, 8	3	4	35, 2	1	2
31, 9	4	3	35, 3	2	1
31, 10	3	4	35, 4	1	2
31, 11	4	3	35, 5	2	1
31, 12	3	4	35, 6	1	2
31, 13	4	3	35, 7	2	1
31, 14	3	4	35, 8	1	2
32, 1	4	3	35, 9	2	1
32, 2	3	4	35, 10	1	2
32, 3	4	3	35, 11	2	1
32, 4	3	4	35, 12	1	2
32, 5	4	3	35, 13	2	1
32, 6	3	4	35, 14	1	2
32, 7	4	3	36, 1	2	1
32, 8	3	4	36, 2	1	2
32, 9	4	3	36, 3	2	1
32, 10	3	4	36, 4	1	2
32, 11	4	3	36, 5	2	1
32, 12	3	4	36, 6	1	2
32, 13	4	3	36, 7	2	1
32, 14	3	4	36, 8	1	2
33, 1	4	3	36, 9	2	1
33, 2	3	4	36, 10	1	2
33, 3	4	3	36, 11	2	1
33, 4	3	4	36, 12	1	2
33, 5	4	3	36, 13	2	1
33, 6	3	4	36, 14	1	2
33, 7	4	3	37, 1	2	1
33, 8	3	4	37, 2	1	2
33, 9	4	3	37, 3	2	1
33, 10	3	4	37, 4	1	2

37, 5	2	1
37, 6	1	2
37, 7	2	1
37, 8	1	2
37, 9	2	1
37, 10	1	2
37, 11	2	1
37, 12	1	2
37, 13	2	1
37, 14	1	2

HOT SPARE COVERAGE:

The following arrays are not protected: 8, 2, 6, 3, 7, 5, 9, 1, 4

Total hot spare drives: 0
 Standby: 0
 In use: 0

DETAILS

Drive at Enclosure 23, Slot 1

Drive port: 1, Channel: 2, ID: 24/0xC3
 Drive port: 2, Channel: 1, ID: 24/0xC3
 Drive path redundancy: OK
 Status: Optimal
 Raw capacity: 33.902 GB
 Usable capacity: 33.402 GB
 Current data rate: 2 Gbps
 Product ID: ST336753FC F
 Firmware version: B95B
 Serial number: 3HX2E0B000007447LVXH
 Vendor: IBM-ESXS
 Date of manufacture: May 29, 2004
 World-wide name: 20:00:00:0c:50:d6:da:6f
 Drive type: Fibre Channel
 Speed: 15015 RPM
 Mode: Assigned
 Associated array: 9

Drive at Enclosure 23, Slot 2

Drive port: 1, Channel: 1, ID: 25/0xBC
 Drive port: 2, Channel: 2, ID: 25/0xBC
 Drive path redundancy: OK
 Status: Optimal
 Raw capacity: 33.902 GB
 Usable capacity: 33.402 GB
 Current data rate: 2 Gbps
 Product ID: ST336753FC F
 Firmware version: B95B
 Serial number: 3HX2DJW00007447PX7L
 Vendor: IBM-ESXS

Date of manufacture: May 26, 2004
 World-wide name: 20:00:00:0c:50:d6:d0:46
 Drive type: Fibre Channel
 Speed: 15015 RPM
 Mode: Assigned
 Associated array: 9

Drive at Enclosure 23, Slot 3

Drive port: 1, Channel: 2, ID: 26/0xBA
 Drive port: 2, Channel: 1, ID: 26/0xBA
 Drive path redundancy: OK
 Status: Optimal
 Raw capacity: 33.902 GB
 Usable capacity: 33.402 GB
 Current data rate: 2 Gbps
 Product ID: ST336753FC F
 Firmware version: B95B
 Serial number: 3HX2MZSJ00007502AZY8
 Vendor: IBM-ESXS
 Date of manufacture: July 20, 2004
 World-wide name: 20:00:00:0c:50:45:aa:cc
 Drive type: Fibre Channel
 Speed: 15015 RPM
 Mode: Assigned
 Associated array: 9

Drive at Enclosure 23, Slot 4

Drive port: 1, Channel: 1, ID: 27/0xB9
 Drive port: 2, Channel: 2, ID: 27/0xB9
 Drive path redundancy: OK
 Status: Optimal
 Raw capacity: 33.902 GB
 Usable capacity: 33.402 GB
 Current data rate: 2 Gbps
 Product ID: ST336753FC F
 Firmware version: B95B
 Serial number: 3HX2MY6J00007502AZZN
 Vendor: IBM-ESXS
 Date of manufacture: July 21, 2004
 World-wide name: 20:00:00:0c:50:45:ac:89
 Drive type: Fibre Channel
 Speed: 15015 RPM
 Mode: Assigned
 Associated array: 9

Drive at Enclosure 23, Slot 5

Drive port: 1, Channel: 2, ID: 28/0xB6
 Drive port: 2, Channel: 1, ID: 28/0xB6
 Drive path redundancy: OK
 Status: Optimal

Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2MXXM00007502B0HF
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004
World-wide name: 20:00:00:0c:50:45:ad:6d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 6

Drive port: 1, Channel: 1, ID: 29/0xB5
Drive port: 2, Channel: 2, ID: 29/0xB5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2DTF600007447LVSX
Vendor: IBM-ESXS
Date of manufacture: May 26, 2004
World-wide name: 20:00:00:0c:50:d6:d0:a3
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 7

Drive port: 1, Channel: 2, ID: 30/0xB4
Drive port: 2, Channel: 1, ID: 30/0xB4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2NEZ1000075029SAP
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004
World-wide name: 20:00:00:0c:50:45:aa:83
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned

Associated array: 9

Drive at Enclosure 23, Slot 8

Drive port: 1, Channel: 1, ID: 31/0xB3
Drive port: 2, Channel: 2, ID: 31/0xB3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2MQGF0000750293AX
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004
World-wide name: 20:00:00:0c:50:45:af:0b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 9

Drive port: 1, Channel: 2, ID: 83/0x52
Drive port: 2, Channel: 1, ID: 83/0x52
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2EB3N00007447NFFC
Vendor: IBM-ESXS
Date of manufacture: May 27, 2004
World-wide name: 20:00:00:0c:50:d6:d9:7a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 10

Drive port: 1, Channel: 1, ID: 99/0x35
Drive port: 2, Channel: 2, ID: 99/0x35
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B

Serial number: 3HX2DNNG00007447BW4F
Vendor: IBM-ESXS
Date of manufacture: May 27, 2004
World-wide name: 20:00:00:0c:50:d6:d9:4a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 11

Drive port: 1, Channel: 2, ID: 67/0x6D
Drive port: 2, Channel: 1, ID: 67/0x6D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2N17X00007502BTHC
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004
World-wide name: 20:00:00:0c:50:45:af:6b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 12

Drive port: 1, Channel: 1, ID: 75/0x63
Drive port: 2, Channel: 2, ID: 75/0x63
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2MZJ400007502BTZQ
Vendor: IBM-ESXS
Date of manufacture: July 20, 2004
World-wide name: 20:00:00:0c:50:45:a8:3a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 13

Drive port: 1, Channel: 2, ID: 91/0x47
Drive port: 2, Channel: 1, ID: 91/0x47

Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2E93D00007447RBL2
Vendor: IBM-ESXS
Date of manufacture: May 29, 2004
World-wide name: 20:00:00:0c:50:d6:db:42
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 23, Slot 14

Drive port: 1, Channel: 1, ID: 107/0x2B
Drive port: 2, Channel: 2, ID: 107/0x2B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2N17D000075029456
Vendor: IBM-ESXS
Date of manufacture: July 21, 2004
World-wide name: 20:00:00:0c:50:45:ad:03
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 9

Drive at Enclosure 30, Slot 1

Drive port: 1, Channel: 4, ID: 0/0xEF
Drive port: 2, Channel: 3, ID: 0/0xEF
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08LMS000073307YEZ
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:5d:d6
Drive type: Fibre Channel

Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 2

Drive port: 1, Channel: 3, ID: 1/0xE8
Drive port: 2, Channel: 4, ID: 1/0xE8
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09G6R000073306H7E
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:98
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 3

Drive port: 1, Channel: 4, ID: 2/0xE4
Drive port: 2, Channel: 3, ID: 2/0xE4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09K0N0000733050M7
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:99
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 4

Drive port: 1, Channel: 3, ID: 3/0xE2
Drive port: 2, Channel: 4, ID: 3/0xE2
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps

Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KQ5000073304Q9G
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a1:ac
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 5

Drive port: 1, Channel: 4, ID: 4/0xE1
Drive port: 2, Channel: 3, ID: 4/0xE1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09G6M00007331G4BU
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:8f
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 6

Drive port: 1, Channel: 3, ID: 5/0xE0
Drive port: 2, Channel: 4, ID: 5/0xE0
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09G7L00007331G4CR
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:6c
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 7

Drive port: 1, Channel: 4, ID: 6/0xDC
Drive port: 2, Channel: 3, ID: 6/0xDC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08Y1K000073318LRM
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003
World-wide name: 20:00:00:04:cf:eb:95:99
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 8

Drive port: 1, Channel: 3, ID: 7/0xDA
Drive port: 2, Channel: 4, ID: 7/0xDA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08Z9G000073306446
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003
World-wide name: 20:00:00:04:cf:eb:91:ec
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 9

Drive port: 1, Channel: 4, ID: 80/0x55
Drive port: 2, Channel: 3, ID: 80/0x55
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08ZNP000073304Q27
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003

World-wide name: 20:00:00:04:cf:eb:95:d2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 10

Drive port: 1, Channel: 3, ID: 96/0x3A
Drive port: 2, Channel: 4, ID: 96/0x3A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0AJZE00007335SYM6
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:59:65
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 11

Drive port: 1, Channel: 4, ID: 64/0x72
Drive port: 2, Channel: 3, ID: 64/0x72
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08ZNM000073304Q2J
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003
World-wide name: 20:00:00:04:cf:eb:95:c9
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 12

Drive port: 1, Channel: 3, ID: 72/0x67
Drive port: 2, Channel: 4, ID: 72/0x67
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB

Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX097WQ000073318LRB
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003
World-wide name: 20:00:00:04:cf:eb:95:68
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 13

Drive port: 1, Channel: 4, ID: 88/0x4B
Drive port: 2, Channel: 3, ID: 88/0x4B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX1CTZD00007410WSE3
Vendor: IBM-ESXS
Date of manufacture: September 3, 2003
World-wide name: 20:00:00:0e:50:58:cf:6a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 30, Slot 14

Drive port: 1, Channel: 3, ID: 104/0x2E
Drive port: 2, Channel: 4, ID: 104/0x2E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX097WA0000733050U1
Vendor: IBM-ESXS
Date of manufacture: February 2, 2003
World-wide name: 20:00:00:04:cf:eb:95:fc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 31, Slot 1

Drive port: 1, Channel: 4, ID: 8/0xD9
Drive port: 2, Channel: 3, ID: 8/0xD9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KLG0000733063SN
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a1:15
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 2

Drive port: 1, Channel: 3, ID: 9/0xD6
Drive port: 2, Channel: 4, ID: 9/0xD6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KBM00007330646T
Vendor: IBM-ESXS
Date of manufacture: February 3, 2003
World-wide name: 20:00:00:04:cf:eb:a1:26
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 3

Drive port: 1, Channel: 4, ID: 10/0xD5
Drive port: 2, Channel: 3, ID: 10/0xD5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KC3000073302P2Y

Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a1:cf
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 4
Drive port: 1, Channel: 3, ID: 11/0xD4
Drive port: 2, Channel: 4, ID: 11/0xD4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09K0K00007331G4A9
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:8d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 5
Drive port: 1, Channel: 4, ID: 12/0xD3
Drive port: 2, Channel: 3, ID: 12/0xD3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX34JAC00007517UXCG
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004
World-wide name: 20:00:00:11:c6:23:d4:f2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 6
Drive port: 1, Channel: 3, ID: 13/0xD2
Drive port: 2, Channel: 4, ID: 13/0xD2
Drive path redundancy: OK

Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09G5Y00007331G4CA
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:77
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 7
Drive port: 1, Channel: 4, ID: 14/0xD1
Drive port: 2, Channel: 3, ID: 14/0xD1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09JHS00007331G4A0
Vendor: IBM-ESXS
Date of manufacture: February 5, 2003
World-wide name: 20:00:00:04:cf:eb:a6:e1
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 8
Drive port: 1, Channel: 3, ID: 15/0xCE
Drive port: 2, Channel: 4, ID: 15/0xCE
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09EHL00007331G407
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:b8
Drive type: Fibre Channel
Speed: 15015 RPM

Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 9
Drive port: 1, Channel: 4, ID: 81/0x54
Drive port: 2, Channel: 3, ID: 81/0x54
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09JHV00007331G3QN
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:ce
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 10
Drive port: 1, Channel: 3, ID: 97/0x39
Drive port: 2, Channel: 4, ID: 97/0x39
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX341AM00007517WC1Q
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004
World-wide name: 20:00:00:11:c6:23:da:f3
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 11
Drive port: 1, Channel: 4, ID: 65/0x71
Drive port: 2, Channel: 3, ID: 65/0x71
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F

Firmware version: B95B
Serial number: 3HX09H97000073300YSC
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:a8
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 12
Drive port: 1, Channel: 3, ID: 73/0x66
Drive port: 2, Channel: 4, ID: 73/0x66
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KQF000073304Q7X
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a1:a4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 13
Drive port: 1, Channel: 4, ID: 89/0x4A
Drive port: 2, Channel: 3, ID: 89/0x4A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX08R2D00007331G4C9
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a6:ba
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 31, Slot 14
Drive port: 1, Channel: 3, ID: 105/0x2D

Drive port: 2, Channel: 4, ID: 105/0x2D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX09KPA0000733083WK
Vendor: IBM-ESXS
Date of manufacture: February 4, 2003
World-wide name: 20:00:00:04:cf:eb:a1:bb
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 32, Slot 1

Drive port: 1, Channel: 4, ID: 16/0xCD
Drive port: 2, Channel: 3, ID: 16/0xCD
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JZCM000073405AAF
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0a:39
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 2

Drive port: 1, Channel: 3, ID: 17/0xCC
Drive port: 2, Channel: 4, ID: 17/0xCC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMF300007340X4RC
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e5:ac

Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 3

Drive port: 1, Channel: 4, ID: 18/0xCB
Drive port: 2, Channel: 3, ID: 18/0xCB
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0GZEC000073409KWF
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:60
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 4

Drive port: 1, Channel: 3, ID: 19/0xCA
Drive port: 2, Channel: 4, ID: 19/0xCA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HCNK000073393FVE
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:d1:44
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 5

Drive port: 1, Channel: 4, ID: 20/0xC9
Drive port: 2, Channel: 3, ID: 20/0xC9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB

Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HJ1G000073393FTB
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e4:8e
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 6

Drive port: 1, Channel: 3, ID: 21/0xC7
Drive port: 2, Channel: 4, ID: 21/0xC7
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0GZJW00007339RG49
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e4:e5
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 7

Drive port: 1, Channel: 4, ID: 22/0xC6
Drive port: 2, Channel: 3, ID: 22/0xC6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT820000734058KN
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:58
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 8

Drive port: 1, Channel: 3, ID: 23/0xC5
Drive port: 2, Channel: 4, ID: 23/0xC5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSWB00007339RGJJ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e1:fa
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 9

Drive port: 1, Channel: 4, ID: 82/0x53
Drive port: 2, Channel: 3, ID: 82/0x53
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMXR000073409K9E
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:db:1a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 10

Drive port: 1, Channel: 3, ID: 98/0x36
Drive port: 2, Channel: 4, ID: 98/0x36
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HLZY000073409K31
Vendor: IBM-ESXS

Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dd:6f
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 11

Drive port: 1, Channel: 4, ID: 66/0x6E
Drive port: 2, Channel: 3, ID: 66/0x6E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K1FN00007339TYD8
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:02:ae
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 12

Drive port: 1, Channel: 3, ID: 74/0x65
Drive port: 2, Channel: 4, ID: 74/0x65
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K1PX00007339TYTS
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:02:47
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 13

Drive port: 1, Channel: 4, ID: 90/0x49
Drive port: 2, Channel: 3, ID: 90/0x49
Drive path redundancy: OK
Status: Optimal

Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K5TL00007340GTZ0
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fa:67
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 32, Slot 14

Drive port: 1, Channel: 3, ID: 106/0x2C
Drive port: 2, Channel: 4, ID: 106/0x2C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HNWV00007340X54J
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fa:ac
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 33, Slot 1

Drive port: 1, Channel: 4, ID: 24/0xC3
Drive port: 2, Channel: 3, ID: 24/0xC3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HND9000073409K39
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:c5
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned

Associated array: 4

Drive at Enclosure 33, Slot 2

Drive port: 1, Channel: 3, ID: 25/0xBC
Drive port: 2, Channel: 4, ID: 25/0xBC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRT800007339TYCP
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ea:ba
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 3

Drive port: 1, Channel: 4, ID: 26/0xBA
Drive port: 2, Channel: 3, ID: 26/0xBA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HTXF00007339SP0M
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:02:87
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 4

Drive port: 1, Channel: 3, ID: 27/0xB9
Drive port: 2, Channel: 4, ID: 27/0xB9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B

Serial number: 3HX0JZK7000073405A8L
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0e:72
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 5

Drive port: 1, Channel: 4, ID: 28/0xB6
Drive port: 2, Channel: 3, ID: 28/0xB6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0KBRT00007339TZ24
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:11:aa
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 6

Drive port: 1, Channel: 3, ID: 29/0xB5
Drive port: 2, Channel: 4, ID: 29/0xB5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRJ400007340X577
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:45
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 7

Drive port: 1, Channel: 4, ID: 30/0xB4
Drive port: 2, Channel: 3, ID: 30/0xB4

Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JR53000073409KHU
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:7d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 8

Drive port: 1, Channel: 3, ID: 31/0xB3
Drive port: 2, Channel: 4, ID: 31/0xB3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JLBR00007338W92U
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fb:5a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 9

Drive port: 1, Channel: 4, ID: 83/0x52
Drive port: 2, Channel: 3, ID: 83/0x52
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT3K000073405G9F
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e5:a0
Drive type: Fibre Channel

Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 10

Drive port: 1, Channel: 3, ID: 99/0x35
Drive port: 2, Channel: 4, ID: 99/0x35
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K43N00007340GTWD
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f5:d3
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 11

Drive port: 1, Channel: 4, ID: 67/0x6D
Drive port: 2, Channel: 3, ID: 67/0x6D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM1B000073409K94
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:ad
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 12

Drive port: 1, Channel: 3, ID: 75/0x63
Drive port: 2, Channel: 4, ID: 75/0x63
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps

Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRPC00007339TYA7
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:eb:16
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 13

Drive port: 1, Channel: 4, ID: 91/0x47
Drive port: 2, Channel: 3, ID: 91/0x47
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0SZGN00007346NN5X
Vendor: IBM-ESXS
Date of manufacture: May 17, 2003
World-wide name: 20:00:00:0c:50:20:a1:9a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 33, Slot 14

Drive port: 1, Channel: 3, ID: 107/0x2B
Drive port: 2, Channel: 4, ID: 107/0x2B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX34J0V00007517GV53
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004
World-wide name: 20:00:00:11:c6:23:d3:f2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 34, Slot 1

Drive port: 1, Channel: 2, ID: 32/0xB2
Drive port: 2, Channel: 1, ID: 32/0xB2
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HX0R00007339RGMG
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:08:30
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 2

Drive port: 1, Channel: 1, ID: 33/0xB1
Drive port: 2, Channel: 2, ID: 33/0xB1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMP100007340WVK5
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ed:62
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 3

Drive port: 1, Channel: 2, ID: 34/0xAE
Drive port: 2, Channel: 1, ID: 34/0xAE
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K6FK000073392DV2
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:ea:78
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 4

Drive port: 1, Channel: 1, ID: 35/0xAD
Drive port: 2, Channel: 2, ID: 35/0xAD
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX33MBP00007516LQES
Vendor: IBM-ESXS
Date of manufacture: October 25, 2004
World-wide name: 20:00:00:11:c6:23:92:cb
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 5

Drive port: 1, Channel: 2, ID: 36/0xAC
Drive port: 2, Channel: 1, ID: 36/0xAC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JZBL000073405A5E
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0d:7d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 6

Drive port: 1, Channel: 1, ID: 37/0xAB
Drive port: 2, Channel: 2, ID: 37/0xAB
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB

Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K63300007339N0KC
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:f9:fb:50
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 7

Drive port: 1, Channel: 2, ID: 38/0xAA
Drive port: 2, Channel: 1, ID: 38/0xAA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K7NX000073405G2Z
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ed:5b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 8

Drive port: 1, Channel: 1, ID: 39/0xA9
Drive port: 2, Channel: 2, ID: 39/0xA9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX1D6JB000074101TMT
Vendor: IBM-ESXS
Date of manufacture: September 3, 2003
World-wide name: 20:00:00:0c:50:58:c6:16
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 9

Drive port: 1, Channel: 2, ID: 84/0x51
Drive port: 2, Channel: 1, ID: 84/0x51
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRLR00007340X5HZ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e9:73
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 10

Drive port: 1, Channel: 1, ID: 100/0x34
Drive port: 2, Channel: 2, ID: 100/0x34
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRMS00007340X5J8
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:aa
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 11

Drive port: 1, Channel: 2, ID: 68/0x6C
Drive port: 2, Channel: 1, ID: 68/0x6C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D47S000073368NX0

Vendor: IBM-ESXS

Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5b:53
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 12

Drive port: 1, Channel: 1, ID: 76/0x5C
Drive port: 2, Channel: 2, ID: 76/0x5C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K786000073392DXP
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e3:b2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 13

Drive port: 1, Channel: 2, ID: 92/0x46
Drive port: 2, Channel: 1, ID: 92/0x46
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRE400007335MBA1
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f9:df
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 34, Slot 14

Drive port: 1, Channel: 1, ID: 108/0x2A
Drive port: 2, Channel: 2, ID: 108/0x2A
Drive path redundancy: OK

Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HLXJ00007340WVN1
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ec:08
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 35, Slot 1

Drive port: 1, Channel: 2, ID: 40/0xA7
Drive port: 2, Channel: 1, ID: 40/0xA7
Drive path redundancy: OK
Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B

Serial number: 3HX0JLLQ00007340WVLB

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:ed:11

Drive type: Fibre Channel

Speed: 15015 RPM

Mode: Assigned

Associated array: 6

Drive at Enclosure 35, Slot 2

Drive port: 1, Channel: 1, ID: 41/0xA6

Drive port: 2, Channel: 2, ID: 41/0xA6

Drive path redundancy: OK

Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B

Serial number: 3HX0K7EG00007340X5BR

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:e6:79

Drive type: Fibre Channel

Speed: 15015 RPM

Mode: Assigned

Associated array: 6

Drive at Enclosure 35, Slot 3

Drive port: 1, Channel: 2, ID: 42/0xA5

Drive port: 2, Channel: 1, ID: 42/0xA5

Drive path redundancy: OK

Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B

Serial number: 3HX0J8ZD00007322EUHS

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:fb:22

Drive type: Fibre Channel

Speed: 15015 RPM

Mode: Assigned

Associated array: 6

Drive at Enclosure 35, Slot 4

Drive port: 1, Channel: 1, ID: 43/0xA3

Drive port: 2, Channel: 2, ID: 43/0xA3

Drive path redundancy: OK

Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B

Serial number: 3HX0JT7H000073392DTL

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:e3:a9

Drive type: Fibre Channel

Speed: 15015 RPM

Mode: Assigned

Associated array: 6

Drive at Enclosure 35, Slot 5

Drive port: 1, Channel: 2, ID: 44/0x9F

Drive port: 2, Channel: 1, ID: 44/0x9F

Drive path redundancy: OK

Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B
Serial number: 3HX0J36P000073405FTB
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e5:68
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 6

Drive port: 1, Channel: 1, ID: 45/0x9E
Drive port: 2, Channel: 2, ID: 45/0x9E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K08C00007340WEUA
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:02:2c
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 7

Drive port: 1, Channel: 2, ID: 46/0x9D
Drive port: 2, Channel: 1, ID: 46/0x9D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX3JANQ00007527937U
Vendor: IBM-ESXS
Date of manufacture: January 20, 2005
World-wide name: 20:00:00:11:c6:63:5f:e1
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 8

Drive port: 1, Channel: 1, ID: 47/0x9B

Drive port: 2, Channel: 2, ID: 47/0x9B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMQ700007340WVMS
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ec:18
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 9

Drive port: 1, Channel: 2, ID: 85/0x4F
Drive port: 2, Channel: 1, ID: 85/0x4F
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K0V8000073405A89
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0a:38
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 10

Drive port: 1, Channel: 1, ID: 101/0x33
Drive port: 2, Channel: 2, ID: 101/0x33
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K76Q000073405AA3
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:07:be

Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 11

Drive port: 1, Channel: 2, ID: 69/0x6B
Drive port: 2, Channel: 1, ID: 69/0x6B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JSFZ00007339SNN7
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fb:f4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 12

Drive port: 1, Channel: 1, ID: 77/0x5A
Drive port: 2, Channel: 2, ID: 77/0x5A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRS1000073392DQP
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ea:7b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 13

Drive port: 1, Channel: 2, ID: 93/0x45
Drive port: 2, Channel: 1, ID: 93/0x45
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB

Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRN600007340X5A5
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:57
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 35, Slot 14

Drive port: 1, Channel: 1, ID: 109/0x29
Drive port: 2, Channel: 2, ID: 109/0x29
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM3D000073409KNQ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:8b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 36, Slot 1

Drive port: 1, Channel: 2, ID: 48/0x98
Drive port: 2, Channel: 1, ID: 48/0x98
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT1B00007336AH06
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e3:bf
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 2

Drive port: 1, Channel: 1, ID: 49/0x97
Drive port: 2, Channel: 2, ID: 49/0x97
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMGZ00007339TYL4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e2:c2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 3

Drive port: 1, Channel: 2, ID: 50/0x90
Drive port: 2, Channel: 1, ID: 50/0x90
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0GFXW00007339GN1Z
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fc:49
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 4

Drive port: 1, Channel: 1, ID: 51/0x8F
Drive port: 2, Channel: 2, ID: 51/0x8F
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HF2H00007339EG58
Vendor: IBM-ESXS

Date of manufacture: March 31, 2003
World-wide name: 20:00:00:04:cf:f9:37:eb
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 5

Drive port: 1, Channel: 2, ID: 52/0x88
Drive port: 2, Channel: 1, ID: 52/0x88
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HL5G00007339SP4X
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fc:41
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 6

Drive port: 1, Channel: 1, ID: 53/0x84
Drive port: 2, Channel: 2, ID: 53/0x84
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM5E000073409KQK
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:83
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 7

Drive port: 1, Channel: 2, ID: 54/0x82
Drive port: 2, Channel: 1, ID: 54/0x82
Drive path redundancy: OK
Status: Optimal

Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HNNM00007340X50W
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:db:f4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 8
Drive port: 1, Channel: 1, ID: 55/0x81
Drive port: 2, Channel: 2, ID: 55/0x81
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT9L0000734059N4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:e0
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 9
Drive port: 1, Channel: 2, ID: 86/0x4D
Drive port: 2, Channel: 1, ID: 86/0x4D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JA65000073405FZS
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:f9:fb:c5
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned

Associated array: 7

Drive at Enclosure 36, Slot 10
Drive port: 1, Channel: 1, ID: 102/0x32
Drive port: 2, Channel: 2, ID: 102/0x32
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HH7G00007339GMU6
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:d1:63
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 11
Drive port: 1, Channel: 2, ID: 70/0x6A
Drive port: 2, Channel: 1, ID: 70/0x6A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT6F00007340WVGB
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:bc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 12
Drive port: 1, Channel: 1, ID: 78/0x59
Drive port: 2, Channel: 2, ID: 78/0x59
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B

Serial number: 3HX0J1CW00007339TYG5
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:d1:01
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 13

Drive port: 1, Channel: 2, ID: 94/0x43
Drive port: 2, Channel: 1, ID: 94/0x43
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM7X00007339RG53
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e1:8d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 14

Drive port: 1, Channel: 1, ID: 110/0x27
Drive port: 2, Channel: 2, ID: 110/0x27
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K56900007339N10R
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fc:4d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 37, Slot 1

Drive port: 1, Channel: 2, ID: 56/0x80
Drive port: 2, Channel: 1, ID: 56/0x80

Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRK900007340X5K0
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:53
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 2

Drive port: 1, Channel: 1, ID: 57/0x7C
Drive port: 2, Channel: 2, ID: 57/0x7C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K78M00007340X5JC
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:80
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 3

Drive port: 1, Channel: 2, ID: 58/0x7A
Drive port: 2, Channel: 1, ID: 58/0x7A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HH3S00007340YESY
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:db:e3
Drive type: Fibre Channel

Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 4

Drive port: 1, Channel: 1, ID: 59/0x79
Drive port: 2, Channel: 2, ID: 59/0x79
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX2DX9H000074478XRJ
Vendor: IBM-ESXS
Date of manufacture: May 26, 2004
World-wide name: 20:00:00:0c:50:d6:ce:67
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 5

Drive port: 1, Channel: 2, ID: 60/0x76
Drive port: 2, Channel: 1, ID: 60/0x76
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K77500007339TYPM
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:5d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 6

Drive port: 1, Channel: 1, ID: 61/0x75
Drive port: 2, Channel: 2, ID: 61/0x75
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps

Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K2AS00007339TYXR
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fa:ab
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 7

Drive port: 1, Channel: 2, ID: 62/0x74
Drive port: 2, Channel: 1, ID: 62/0x74
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HLY7000073392E29
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:eb:a7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 8

Drive port: 1, Channel: 1, ID: 63/0x73
Drive port: 2, Channel: 2, ID: 63/0x73
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT5S0000734058EC
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:84
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 9

Drive port: 1, Channel: 2, ID: 87/0x4C
Drive port: 2, Channel: 1, ID: 87/0x4C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HNN4000073409K9K
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:1f
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 10

Drive port: 1, Channel: 1, ID: 103/0x31
Drive port: 2, Channel: 2, ID: 103/0x31
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K7DL0000734058BV
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:70
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 11

Drive port: 1, Channel: 2, ID: 71/0x69
Drive port: 2, Channel: 1, ID: 71/0x69
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K87M0000734058DR
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:e8:12
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 12

Drive port: 1, Channel: 1, ID: 79/0x56
Drive port: 2, Channel: 2, ID: 79/0x56
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMG10000734058D8
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:78
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 13

Drive port: 1, Channel: 2, ID: 95/0x3C
Drive port: 2, Channel: 1, ID: 95/0x3C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX345KE00007517WBQW
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004
World-wide name: 20:00:00:11:c6:23:dd:7c
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 37, Slot 14

Drive port: 1, Channel: 1, ID: 111/0x26
Drive port: 2, Channel: 2, ID: 111/0x26
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB

Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JKNP00007339SNUY
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:03:3b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

DRIVE CHANNEL INFORMATION - Channel 1

SUMMARY-----

Channel 1 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 5/11/06 11:05:22 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:17
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 158441798
Controller B Cumulative Error Counts
Baseline time set: 5/11/06 11:05:22 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:17
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 624789004

DRIVE CHANNEL INFORMATION - Channel 2

SUMMARY-----

Channel 2 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 5/11/06 11:05:25 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:14

Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 157999571
Controller B Cumulative Error Counts
Baseline time set: 5/11/06 11:05:25 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:14
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 3
Total I/O count: 628555747

DRIVE CHANNEL INFORMATION - Channel 3

SUMMARY-----

Channel 3 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 5/11/06 11:05:25 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:14
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 2
Total I/O count: 623244891
Controller B Cumulative Error Counts
Baseline time set: 5/11/06 11:05:25 AM
Sample period (days, hh:mm:ss): 19 days, 04:38:14
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 2
Total I/O count: 2414683

DRIVE CHANNEL INFORMATION - Channel 4

SUMMARY-----

Channel 4 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 5/11/06 11:05:25 AM

Sample period (days, hh:mm:ss): 19 days, 04:38:14
 Controller detected errors: 0
 Drive detected errors: 0
 Timeout errors: 0
 Link down errors: 2
 Total I/O count: 625710817

Controller B Cumulative Error Counts
 Baseline time set: 5/11/06 11:05:25 AM
 Sample period (days, hh:mm:ss): 19 days, 04:38:14
 Controller detected errors: 0
 Drive detected errors: 0
 Timeout errors: 0
 Link down errors: 2
 Total I/O count: 3447521

MAPPINGS (Storage Partitioning - Disabled)-----

VOLUME NAME LUN CONTROLLER ACCESSIBLE
 BY VOLUME STATUS

VOLUME NAME	LUN	CONTROLLER	ACCESSIBLE BY	STATUS
flute3_lun1	0	A	Default Group	Optimal
flute3_lun2	1	A	Default Group	Optimal
flute3_lun3	2	A	Default Group	Optimal
flute3_lun4	3	A	Default Group	Optimal
flute3_lun5	4	B	Default Group	Optimal
flute3_lun6	5	B	Default Group	Optimal
flute3_lun7	6	B	Default Group	Optimal
flute3_lun8	7	B	Default Group	Optimal
flute3_lun9	8	A	Default Group	Optimal

TOPOLOGY DEFINITIONS

DEFAULT GROUP

Default type: Windows 2000/Server 2003 Non-Clustered
 Host Port: 21:01:00:e0:8b:b5:b5:14
 Host Port: 21:00:00:e0:8b:95:b5:14
 Host Port: 21:00:00:e0:8b:95:0e:16

NVSRAM HOST TYPE INDEX DEFINITIONS

INDEX	ADT STATUS	TYPE
0	Disabled	Windows NT Non-Clustered (SP5 or higher)
1	Disabled	Windows NT Clustered (SP5 or higher)
2 (Default)	Disabled	Windows 2000/Server 2003 Non-Clustered
3	Disabled	Windows 2000/Server 2003 Clustered
4	Disabled	NetWare-IBMSAN
5	Disabled	Linux
6	Disabled	AIX
7	Disabled	HP-UX

8	Disabled	Solaris
9	Disabled	Windows 2000/Server 2003 Non-Clustered (supports DMP)
10	Disabled	Irix
11	Disabled	Netware Failover
12	Disabled	IBM TS SAN VCE
13	Disabled	LNXCL
14	Disabled	Solaris (with Veritas DMP)
15	Disabled	Windows 2000/Server 2003 Clustered (supports DMP)

**System Configuration File for
 Controllers 2, 4, 5, 6 and 7**

PROFILE FOR STORAGE SUBSYSTEM: Flute2_900
 (5/30/06 3:48:46 PM)

SUMMARY-----

Number of controllers: 2
 Number of arrays: 8
 Total number of logical drives (includes an access logical drive): 9 of 2048 used
 Number of standard logical drives: 8
 Number of access logical drives: 1
 Number of drives: 112
 Supported drive types: Fibre (112)
 Total hot spare drives: 0
 Standby: 0
 In use: 0
 Access logical drive: None mapped
 Default host type: Windows 2000/Server 2003 Non-Clustered (Host type index 2)
 Current configuration
 Firmware version: 06.12.16.00
 NVSRAM version: N1742F900R912V06
 Pending configuration
 Staged firmware download supported?: Yes
 Firmware version: None
 NVSRAM version: None
 Transferred on: None
 NVSRAM configured for batteries?: Yes
 Start cache flushing at (in percentage): 8
 Stop cache flushing at (in percentage): 8
 Cache block size (in KB): 16
 Media scan frequency (in days): Disabled
 Failover alert delay (in minutes): 5
 Feature enable identifier:
 3936323531003936323537003D786B6B
 Storage Subsystem worldwide name (ID):
 600A0B8000135CC40000000041DD89D8

CONTROLLERS-----

Number of controllers: 2

Controller in Slot A

Status: Online

Current configuration

Firmware version: 06.12.16.00

Appware version: 06.12.16.00

Bootware version: 06.10.06.00

NVSRAM version: N1742F900R912V06

Pending configuration

Firmware version: None

Appware version: None

Bootware version: None

NVSRAM version: None

Transferred on: None

Board ID: 5884

Product ID: 1742-900

Product revision: 0520

Serial number: 1T40562074

Date of manufacture: February 10, 2004

Cache/processor size (MB): 1024/128

Date/Time: Tue May 30 15:48:59 EDT 2006

Associated Logical Drives (* = Preferred Owner):

Flute2_lun1*, flute2_lun2*, flute2_lun3*, flute2_lun4*

Ethernet port: 1

MAC address: 00:a0:b8:13:5c:c4

Host name: Fast2_900A

Network configuration: Static

IP address: 192.168.128.210

Subnet mask: 255.255.255.0

Gateway: 0.0.0.0

Remote login: Disabled

Drive interface: Fibre

Channel: 1

Current ID: 123/0x4

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Drive interface: Fibre

Channel: 2

Current ID: 123/0x4

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Drive interface: Fibre

Channel: 3

Current ID: 125/0x1

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Drive interface: Fibre

Channel: 4

Current ID: 125/0x1

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Host interface: Fibre

Port: 1

Current ID: 0/0xEF

Preferred ID: 0/0xEF

NL-Port ID: 0x0000EF

Maximum data rate: 2 Gbps

Current data rate: 2 Gbps

Data rate control: Switch

Link status: Up

Topology: Arbitrated Loop - Private

World-wide port name: 20:02:00:a0:b8:13:5c:c5

World-wide node name: 20:02:00:a0:b8:13:5c:c4

Part type: HPFC-5400 revision 6

Host interface: Fibre

Port: 2

Current ID: Not applicable/0xFFFFFFFF

Preferred ID: 1/0xE8

NL-Port ID: 0x000000

Maximum data rate: 2 Gbps

Current data rate: 1 Gbps

Data rate control: Switch

Link status: Down

Topology: Not available

World-wide port name: 20:02:00:a0:b8:13:5c:c6

World-wide node name: 20:02:00:a0:b8:13:5c:c4

Part type: HPFC-5400 revision 6

Controller in Slot B

Status: Online

Current configuration

Firmware version: 06.12.16.00

Appware version: 06.12.16.00

Bootware version: 06.10.06.00

NVSRAM version: N1742F900R912V06

Pending configuration

Firmware version: None

Appware version: None

Bootware version: None

NVSRAM version: None

Transferred on: None

Board ID: 5884
Product ID: 1742-900
Product revision: 0520
Serial number: 1T40561980
Date of manufacture: February 10, 2004
Cache/processor size (MB): 1024/128
Date/Time: Tue May 30 15:49:21 EDT 2006
Associated Logical Drives (* = Preferred Owner):
 flute2_lun5*, flute2_lun6*, flute2_lun7*, flute2_lun8*
Ethernet port: 1
 MAC address: 00:a0:b8:13:5b:e3
 Host name: Fast2_900B
 Network configuration: Static
 IP address: 192.168.128.211
 Subnet mask: 255.255.255.0
 Gateway: 0.0.0.0
 Remote login: Disabled

Drive interface: Fibre
 Channel: 1
 Current ID: 124/0x2
 Maximum data rate: 2 Gbps
 Current data rate: 2 Gbps
 Data rate control: Switch
 Link status: Up
Drive interface: Fibre
 Channel: 2
 Current ID: 124/0x2
 Maximum data rate: 2 Gbps
 Current data rate: 2 Gbps
 Data rate control: Switch
 Link status: Up
Drive interface: Fibre
 Channel: 3
 Current ID: 124/0x2
 Maximum data rate: 2 Gbps
 Current data rate: 2 Gbps
 Data rate control: Switch
 Link status: Up
Drive interface: Fibre
 Channel: 4
 Current ID: 124/0x2
 Maximum data rate: 2 Gbps
 Current data rate: 2 Gbps
 Data rate control: Switch
 Link status: Up
Host interface: Fibre
 Port: 1
 Current ID: Not applicable/0xFFFFFFFF
 Preferred ID: 126/0x0

NL-Port ID: 0x0000E8
Maximum data rate: 2 Gbps
Current data rate: 2 Gbps
Data rate control: Switch
Link status: Up
Topology: Point-to-Point
World-wide port name: 20:03:00:a0:b8:13:5c:e5
World-wide node name: 20:03:00:a0:b8:13:5c:e4
Part type: HPFC-5400 revision 6
Host interface: Fibre
 Port: 2
 Current ID: Not applicable/0xFFFFFFFF
 Preferred ID: 3/0xE2
 NL-Port ID: 0x000000
 Maximum data rate: 2 Gbps
 Current data rate: 1 Gbps
 Data rate control: Switch
 Link status: Down
 Topology: Not available
 World-wide port name: 20:03:00:a0:b8:13:5c:c6
 World-wide node name: 20:03:00:a0:b8:13:5c:c4
 Part type: HPFC-5400 revision 6

ARRAYS-----

Number of arrays: 8

Array 1 (RAID 0)

Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
 Flute2_lun1 (467.619 GB)
Associated drives (in piece order):
 Drive at Enclosure 20, Slot 1
 Drive at Enclosure 20, Slot 2
 Drive at Enclosure 20, Slot 3
 Drive at Enclosure 20, Slot 4
 Drive at Enclosure 20, Slot 5
 Drive at Enclosure 20, Slot 6
 Drive at Enclosure 20, Slot 7
 Drive at Enclosure 20, Slot 8
 Drive at Enclosure 20, Slot 9
 Drive at Enclosure 20, Slot 10
 Drive at Enclosure 20, Slot 11
 Drive at Enclosure 20, Slot 12
 Drive at Enclosure 20, Slot 13
 Drive at Enclosure 20, Slot 14

Array 2 (RAID 0)

Status: Online

Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
 flute2_lun2 (467.619 GB)
Associated drives (in piece order):
 Drive at Enclosure 21, Slot 1
 Drive at Enclosure 21, Slot 2
 Drive at Enclosure 21, Slot 3
 Drive at Enclosure 21, Slot 4
 Drive at Enclosure 21, Slot 5
 Drive at Enclosure 21, Slot 6
 Drive at Enclosure 21, Slot 7
 Drive at Enclosure 21, Slot 8
 Drive at Enclosure 21, Slot 9
 Drive at Enclosure 21, Slot 10
 Drive at Enclosure 21, Slot 11
 Drive at Enclosure 21, Slot 12
 Drive at Enclosure 21, Slot 13
 Drive at Enclosure 21, Slot 14
Array 3 (RAID 0)
Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
 flute2_lun3 (467.619 GB)
Associated drives (in piece order):
 Drive at Enclosure 22, Slot 1
 Drive at Enclosure 22, Slot 2
 Drive at Enclosure 22, Slot 3
 Drive at Enclosure 22, Slot 4
 Drive at Enclosure 22, Slot 5
 Drive at Enclosure 22, Slot 6
 Drive at Enclosure 22, Slot 7
 Drive at Enclosure 22, Slot 8
 Drive at Enclosure 22, Slot 9
 Drive at Enclosure 22, Slot 10
 Drive at Enclosure 22, Slot 11
 Drive at Enclosure 22, Slot 12
 Drive at Enclosure 22, Slot 13
 Drive at Enclosure 22, Slot 14
Array 4 (RAID 0)
Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot A
Associated logical drives and free capacities:
 flute2_lun4 (467.619 GB)
Associated drives (in piece order):

 Drive at Enclosure 23, Slot 1
 Drive at Enclosure 23, Slot 2
 Drive at Enclosure 23, Slot 3
 Drive at Enclosure 23, Slot 4
 Drive at Enclosure 23, Slot 5
 Drive at Enclosure 23, Slot 6
 Drive at Enclosure 23, Slot 7
 Drive at Enclosure 23, Slot 8
 Drive at Enclosure 23, Slot 9
 Drive at Enclosure 23, Slot 10
 Drive at Enclosure 23, Slot 11
 Drive at Enclosure 23, Slot 12
 Drive at Enclosure 23, Slot 13
 Drive at Enclosure 23, Slot 14
Array 5 (RAID 0)
Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot B
Associated logical drives and free capacities:
 flute2_lun5 (467.619 GB)
Associated drives (in piece order):
 Drive at Enclosure 24, Slot 1
 Drive at Enclosure 24, Slot 2
 Drive at Enclosure 24, Slot 3
 Drive at Enclosure 24, Slot 4
 Drive at Enclosure 24, Slot 5
 Drive at Enclosure 24, Slot 6
 Drive at Enclosure 24, Slot 7
 Drive at Enclosure 24, Slot 8
 Drive at Enclosure 24, Slot 9
 Drive at Enclosure 24, Slot 10
 Drive at Enclosure 24, Slot 11
 Drive at Enclosure 24, Slot 12
 Drive at Enclosure 24, Slot 13
 Drive at Enclosure 24, Slot 14
Array 6 (RAID 0)
Status: Online
Drive type: Fibre Channel
Enclosure loss protection: No
Current owner: Controller in slot B
Associated logical drives and free capacities:
 flute2_lun6 (467.619 GB)
Associated drives (in piece order):
 Drive at Enclosure 25, Slot 1
 Drive at Enclosure 25, Slot 2
 Drive at Enclosure 25, Slot 3
 Drive at Enclosure 25, Slot 4
 Drive at Enclosure 25, Slot 5
 Drive at Enclosure 25, Slot 6

Drive at Enclosure 25, Slot 7
 Drive at Enclosure 25, Slot 8
 Drive at Enclosure 25, Slot 9
 Drive at Enclosure 25, Slot 10
 Drive at Enclosure 25, Slot 11
 Drive at Enclosure 25, Slot 12
 Drive at Enclosure 25, Slot 13
 Drive at Enclosure 25, Slot 14

Array 7 (RAID 0)

Status: Online
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Current owner: Controller in slot B
 Associated logical drives and free capacities:

flute2_lun7 (467.619 GB)

Associated drives (in piece order):

Drive at Enclosure 36, Slot 1
 Drive at Enclosure 36, Slot 2
 Drive at Enclosure 36, Slot 3
 Drive at Enclosure 36, Slot 4
 Drive at Enclosure 36, Slot 5
 Drive at Enclosure 36, Slot 6
 Drive at Enclosure 36, Slot 7
 Drive at Enclosure 36, Slot 8
 Drive at Enclosure 36, Slot 9
 Drive at Enclosure 36, Slot 10
 Drive at Enclosure 36, Slot 11
 Drive at Enclosure 36, Slot 12
 Drive at Enclosure 36, Slot 13
 Drive at Enclosure 36, Slot 14

Array 8 (RAID 0)

Status: Online
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Current owner: Controller in slot B
 Associated logical drives and free capacities:

flute2_lun8 (467.619 GB)

Associated drives (in piece order):

Drive at Enclosure 27, Slot 1
 Drive at Enclosure 27, Slot 2
 Drive at Enclosure 27, Slot 3
 Drive at Enclosure 27, Slot 4
 Drive at Enclosure 27, Slot 5
 Drive at Enclosure 27, Slot 6
 Drive at Enclosure 27, Slot 7
 Drive at Enclosure 27, Slot 8
 Drive at Enclosure 27, Slot 9
 Drive at Enclosure 27, Slot 10
 Drive at Enclosure 27, Slot 11
 Drive at Enclosure 27, Slot 12

Drive at Enclosure 27, Slot 13
 Drive at Enclosure 27, Slot 14

STANDARD LOGICAL DRIVES-----

SUMMARY

Number of standard logical drives: 8
 See other Logical Drives sub-tabs for premium feature information.

NAME	STATUS	CAPACITY	RAID LEVEL
Flute2_lun1	Optimal	467.619 GB	0
flute2_lun2	Optimal	467.619 GB	0
flute2_lun3	Optimal	467.619 GB	0
flute2_lun4	Optimal	467.619 GB	0
flute2_lun5	Optimal	467.619 GB	0
flute2_lun6	Optimal	467.619 GB	0
flute2_lun7	Optimal	467.619 GB	0
flute2_lun8	Optimal	467.619 GB	0

DETAILS

Logical Drive name: Flute2_lun1
 Logical Drive ID:
 60:0a:0b:80:00:13:5c:c4:00:00:00:00:44:47:1a:10
 Subsystem ID (SSID): 0
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot A
 Current owner: Controller in slot A
 Capacity: 467.619 GB
 RAID level: 0
 Segment size: 64 KB
 Modification priority: High
 Associated array: 1
 Read cache: Enabled
 Write cache: Enabled
 Write cache without batteries: Disabled
 Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun2
 Logical Drive ID:
 60:0a:0b:80:00:13:5c:c4:00:00:00:16:41:de:87:c8
 Subsystem ID (SSID): 1
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No

Preferred owner: Controller in slot A
Current owner: Controller in slot A
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 2
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun3
Logical Drive ID:
60:0a:0b:80:00:13:5c:c4:00:00:00:18:41:de:87:ec
Subsystem ID (SSID): 2
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot A
Current owner: Controller in slot A
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 3
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun4
Logical Drive ID:
60:0a:0b:80:00:13:5c:c4:00:00:00:1a:41:de:88:0c
Subsystem ID (SSID): 3
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot A
Current owner: Controller in slot A
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB

Modification priority: High
Associated array: 4
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun5
Logical Drive ID:
60:0a:0b:80:00:13:5b:e3:00:00:00:44:0c:41:41
Subsystem ID (SSID): 4
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 5
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled
Write cache with mirroring: Disabled
Flush write cache after (in seconds): 10.00
Cache read ahead multiplier: 0
Enable background media scan: Disabled
Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun6
Logical Drive ID:
60:0a:0b:80:00:13:5b:e3:00:00:00:0e:41:de:89:19
Subsystem ID (SSID): 5
Status: Optimal
Drive type: Fibre Channel
Enclosure loss protection: No
Preferred owner: Controller in slot B
Current owner: Controller in slot B
Capacity: 467.619 GB
RAID level: 0
Segment size: 64 KB
Modification priority: High
Associated array: 6
Read cache: Enabled
Write cache: Enabled
Write cache without batteries: Disabled

Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun7
 Logical Drive ID:
 60:0a:0b:80:00:13:5b:e3:00:00:00:10:41:de:89:37
 Subsystem ID (SSID): 6
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot B
 Current owner: Controller in slot B
 Capacity: 467.619 GB
 RAID level: 0
 Segment size: 64 KB
 Modification priority: High
 Associated array: 7
 Read cache: Enabled
 Write cache: Enabled
 Write cache without batteries: Disabled
 Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

Logical Drive name: flute2_lun8
 Logical Drive ID:
 60:0a:0b:80:00:13:5b:e3:00:00:00:12:41:de:89:59
 Subsystem ID (SSID): 7
 Status: Optimal
 Drive type: Fibre Channel
 Enclosure loss protection: No
 Preferred owner: Controller in slot B
 Current owner: Controller in slot B
 Capacity: 467.619 GB
 RAID level: 0
 Segment size: 64 KB
 Modification priority: High
 Associated array: 8
 Read cache: Enabled
 Write cache: Enabled
 Write cache without batteries: Disabled
 Write cache with mirroring: Disabled
 Flush write cache after (in seconds): 10.00
 Cache read ahead multiplier: 0
 Enable background media scan: Disabled
 Media scan with redundancy check: Disabled

MISSING LOGICAL DRIVES-----

Number of missing logical drives: 0

DRIVES-----

SUMMARY

Number of drives: 112
 Supported drive types: Fibre (112)

BASIC:

TRAY,	SLOT	STATUS	CAPACITY	CURRENT
DATA	RATE	PRODUCT	ID	FIRMWARE
				VERSION
20, 1	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 2	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 3	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 4	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 5	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 6	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 7	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 8	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 9	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 10	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 11	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 12	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 13	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
20, 14	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 1	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 2	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 3	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 4	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 5	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 6	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				
21, 7	Optimal	33.902 GB	2 Gbps	ST336753FC
F B95B				

21, 8	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 9	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 9	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 10	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 10	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 11	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 11	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 12	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 12	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 13	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 13	Optimal 33.902 GB 2 Gbps	ST336753FC	23, 14	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
21, 14	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 1	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 1	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 2	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 2	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 3	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 3	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 4	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 4	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 5	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 5	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 6	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 6	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 7	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 7	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 8	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 8	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 9	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 9	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 10	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 10	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 11	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 11	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 12	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 12	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 13	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 13	Optimal 33.902 GB 2 Gbps	ST336753FC	24, 14	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
22, 14	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 1	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 1	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 2	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 2	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 3	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 3	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 4	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 4	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 5	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 5	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 6	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 6	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 7	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 7	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 8	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		
23, 8	Optimal 33.902 GB 2 Gbps	ST336753FC	25, 9	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B			F B95B		

25, 10	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
25, 11	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
25, 12	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
25, 13	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
25, 14	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
27, 1	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 2	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 3	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 4	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 5	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 6	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 7	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 8	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 9	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
27, 10	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
27, 11	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
27, 12	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
27, 13	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
27, 14	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	
36, 1	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 2	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 3	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 4	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 5	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 6	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 7	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 8	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 9	Optimal 33.902 GB 2 Gbps	ST336753FC
F B95B		
36, 10	Optimal 33.902 GB 2 Gbps	
ST336753FC	F B95B	

36, 11	Optimal 33.902 GB 2 Gbps
ST336753FC	F B95B
36, 12	Optimal 33.902 GB 2 Gbps
ST336753FC	F B95B
36, 13	Optimal 33.902 GB 2 Gbps
ST336753FC	F B95B
36, 14	Optimal 33.902 GB 2 Gbps
ST336753FC	F B95B

DRIVE CHANNELS:

TRAY, SLOT PREFERRED CHANNEL REDUNDANT CHANNEL

20, 1	4	3
20, 2	3	4
20, 3	4	3
20, 4	3	4
20, 5	4	3
20, 6	3	4
20, 7	4	3
20, 8	3	4
20, 9	4	3
20, 10	3	4
20, 11	4	3
20, 12	3	4
20, 13	4	3
20, 14	3	4
21, 1	4	3
21, 2	3	4
21, 3	4	3
21, 4	3	4
21, 5	4	3
21, 6	3	4
21, 7	4	3
21, 8	3	4
21, 9	4	3
21, 10	3	4
21, 11	4	3
21, 12	3	4
21, 13	4	3
21, 14	3	4
22, 1	4	3
22, 2	3	4
22, 3	4	3
22, 4	3	4
22, 5	4	3
22, 6	3	4
22, 7	4	3
22, 8	3	4
22, 9	4	3
22, 10	3	4
22, 11	4	3

22, 12	3	4
22, 13	4	3
22, 14	3	4
23, 1	4	3
23, 2	3	4
23, 3	4	3
23, 4	3	4
23, 5	4	3
23, 6	3	4
23, 7	4	3
23, 8	3	4
23, 9	4	3
23, 10	3	4
23, 11	4	3
23, 12	3	4
23, 13	4	3
23, 14	3	4
24, 1	2	1
24, 2	1	2
24, 3	2	1
24, 4	1	2
24, 5	2	1
24, 6	1	2
24, 7	2	1
24, 8	1	2
24, 9	2	1
24, 10	1	2
24, 11	2	1
24, 12	1	2
24, 13	2	1
24, 14	1	2
25, 1	2	1
25, 2	1	2
25, 3	2	1
25, 4	1	2
25, 5	2	1
25, 6	1	2
25, 7	2	1
25, 8	1	2
25, 9	2	1
25, 10	1	2
25, 11	2	1
25, 12	1	2
25, 13	2	1
25, 14	1	2
27, 1	2	1
27, 2	1	2
27, 3	2	1
27, 4	1	2
27, 5	2	1

27, 6	1	2
27, 7	2	1
27, 8	1	2
27, 9	2	1
27, 10	1	2
27, 11	2	1
27, 12	1	2
27, 13	2	1
27, 14	1	2
36, 1	2	1
36, 2	1	2
36, 3	2	1
36, 4	1	2
36, 5	2	1
36, 6	1	2
36, 7	2	1
36, 8	1	2
36, 9	2	1
36, 10	1	2
36, 11	2	1
36, 12	1	2
36, 13	2	1
36, 14	1	2

HOT SPARE COVERAGE:

The following arrays are not protected: 6, 5, 3, 4, 1, 7, 8, 2

Total hot spare drives: 0

Standby: 0

In use: 0

DETAILS

Drive at Enclosure 20, Slot 1

Drive port: 1, Channel: 4, ID: 0/0xEF

Drive port: 2, Channel: 3, ID: 0/0xEF

Drive path redundancy: OK

Status: Optimal

Raw capacity: 33.902 GB

Usable capacity: 33.402 GB

Current data rate: 2 Gbps

Product ID: ST336753FC F

Firmware version: B95B

Serial number: 3HX0HM51000073392DTW

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003

World-wide name: 20:00:00:04:cf:f9:e8:5b

Drive type: Fibre Channel

Speed: 15015 RPM

Mode: Assigned

Associated array: 1

Drive at Enclosure 20, Slot 2

Drive port: 1, Channel: 3, ID: 1/0xE8
Drive port: 2, Channel: 4, ID: 1/0xE8
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K79200007339TZ0V
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:0d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 3

Drive port: 1, Channel: 4, ID: 2/0xE4
Drive port: 2, Channel: 3, ID: 2/0xE4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX34E9S000075338DXA
Vendor: IBM-ESXS
Date of manufacture: May 12, 2005
World-wide name: 20:00:00:04:cf:f4:b3:b6
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 4

Drive port: 1, Channel: 3, ID: 3/0xE2
Drive port: 2, Channel: 4, ID: 3/0xE2
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMOB000073405A36

Vendor: IBM-ESXS

Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:0a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 5

Drive port: 1, Channel: 4, ID: 4/0xE1
Drive port: 2, Channel: 3, ID: 4/0xE1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMC4000073392DYQ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e2:bc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 6

Drive port: 1, Channel: 3, ID: 5/0xE0
Drive port: 2, Channel: 4, ID: 5/0xE0
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT550000734058BL
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:b8
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 7

Drive port: 1, Channel: 4, ID: 6/0xDC
Drive port: 2, Channel: 3, ID: 6/0xDC
Drive path redundancy: OK

Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT250000734058G2
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e7:dc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 8
Drive port: 1, Channel: 3, ID: 7/0xDA
Drive port: 2, Channel: 4, ID: 7/0xDA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HNNP000073409KC2
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:db:04
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 9
Drive port: 1, Channel: 4, ID: 80/0x55
Drive port: 2, Channel: 3, ID: 80/0x55
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRPB0000734058BX
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:04
Drive type: Fibre Channel
Speed: 15015 RPM

Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 10
Drive port: 1, Channel: 3, ID: 96/0x3A
Drive port: 2, Channel: 4, ID: 96/0x3A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT7500007339TYEX
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:46
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 11
Drive port: 1, Channel: 4, ID: 64/0x72
Drive port: 2, Channel: 3, ID: 64/0x72
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMSN000073392DXB
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:58
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 12
Drive port: 1, Channel: 3, ID: 72/0x67
Drive port: 2, Channel: 4, ID: 72/0x67
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F

Firmware version: B95B
Serial number: 3HX0K6CQ00007339TYB4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:ea:93
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 13

Drive port: 1, Channel: 4, ID: 88/0x4B
Drive port: 2, Channel: 3, ID: 88/0x4B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT1T000073405A7Z
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e4:a9
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 20, Slot 14

Drive port: 1, Channel: 3, ID: 104/0x2E
Drive port: 2, Channel: 4, ID: 104/0x2E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMF00007339RG9V
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e4:fd
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 1

Drive at Enclosure 21, Slot 1

Drive port: 1, Channel: 4, ID: 8/0xD9

Drive port: 2, Channel: 3, ID: 8/0xD9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMFC00007340X558
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e5:a6
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 2

Drive port: 1, Channel: 3, ID: 9/0xD6
Drive port: 2, Channel: 4, ID: 9/0xD6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT2C000073409KW6
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:4a
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 3

Drive port: 1, Channel: 4, ID: 10/0xD5
Drive port: 2, Channel: 3, ID: 10/0xD5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT5600007340X4YT
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e5:57

Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 4

Drive port: 1, Channel: 3, ID: 11/0xD4
Drive port: 2, Channel: 4, ID: 11/0xD4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMF00007340WVGM
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e6:c8
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 5

Drive port: 1, Channel: 4, ID: 12/0xD3
Drive port: 2, Channel: 3, ID: 12/0xD3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMAV00007340WVVFY
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:de
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 6

Drive port: 1, Channel: 3, ID: 13/0xD2
Drive port: 2, Channel: 4, ID: 13/0xD2
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB

Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSTJ00007339TYY5
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:34
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 7

Drive port: 1, Channel: 4, ID: 14/0xD1
Drive port: 2, Channel: 3, ID: 14/0xD1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRJN0000734058EY
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e8:13
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 8

Drive port: 1, Channel: 3, ID: 15/0xCE
Drive port: 2, Channel: 4, ID: 15/0xCE
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K7K20000734058GD
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:0e
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 9
Drive port: 1, Channel: 4, ID: 81/0x54
Drive port: 2, Channel: 3, ID: 81/0x54
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K6VE00007339TYA3
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:eb:0e
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 10
Drive port: 1, Channel: 3, ID: 97/0x39
Drive port: 2, Channel: 4, ID: 97/0x39
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT93000073392DZ2
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:5d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 11
Drive port: 1, Channel: 4, ID: 65/0x71
Drive port: 2, Channel: 3, ID: 65/0x71
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSSP00007339TZ10
Vendor: IBM-ESXS

Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e4:92
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 12
Drive port: 1, Channel: 3, ID: 73/0x66
Drive port: 2, Channel: 4, ID: 73/0x66
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRN00000734058BZ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:ad
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 13
Drive port: 1, Channel: 4, ID: 89/0x4A
Drive port: 2, Channel: 3, ID: 89/0x4A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT0M00007338WARU
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e3:d3
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 21, Slot 14
Drive port: 1, Channel: 3, ID: 105/0x2D
Drive port: 2, Channel: 4, ID: 105/0x2D
Drive path redundancy: OK
Status: Optimal

Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JCYF000073409K0V
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:db:63
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 2

Drive at Enclosure 22, Slot 1
Drive port: 1, Channel: 4, ID: 16/0xCD
Drive port: 2, Channel: 3, ID: 16/0xCD
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMEZ00007339TYP8
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:71
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 2
Drive port: 1, Channel: 3, ID: 17/0xCC
Drive port: 2, Channel: 4, ID: 17/0xCC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K67N00007340WW1C
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:03:e5
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned

Associated array: 3

Drive at Enclosure 22, Slot 3
Drive port: 1, Channel: 4, ID: 18/0xCB
Drive port: 2, Channel: 3, ID: 18/0xCB
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K7JP00007339TYP5
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:05:22
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 4
Drive port: 1, Channel: 3, ID: 19/0xCA
Drive port: 2, Channel: 4, ID: 19/0xCA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K1A300007339FG7E
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:03:08
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 5
Drive port: 1, Channel: 4, ID: 20/0xC9
Drive port: 2, Channel: 3, ID: 20/0xC9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B

Serial number: 3HX0HNC2000073409K6Y
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:da:d0
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 6

Drive port: 1, Channel: 3, ID: 21/0xC7
Drive port: 2, Channel: 4, ID: 21/0xC7
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HLZ4000073409KSK
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:c8
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 7

Drive port: 1, Channel: 4, ID: 22/0xC6
Drive port: 2, Channel: 3, ID: 22/0xC6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HCT8000073409KWS
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:49
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 8

Drive port: 1, Channel: 3, ID: 23/0xC5
Drive port: 2, Channel: 4, ID: 23/0xC5

Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0H0EB00007339TYNH
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:28
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 9

Drive port: 1, Channel: 4, ID: 82/0x53
Drive port: 2, Channel: 3, ID: 82/0x53
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRHT0000734058BR
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:de
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 10

Drive port: 1, Channel: 3, ID: 98/0x36
Drive port: 2, Channel: 4, ID: 98/0x36
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JNTB00007340WVZR
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:03:e4
Drive type: Fibre Channel

Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 11

Drive port: 1, Channel: 4, ID: 66/0x6E
Drive port: 2, Channel: 3, ID: 66/0x6E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM2S000073409KEW
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:ed
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 12

Drive port: 1, Channel: 3, ID: 74/0x65
Drive port: 2, Channel: 4, ID: 74/0x65
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0H0F700007339TYGM
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:d0:fc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 13

Drive port: 1, Channel: 4, ID: 90/0x49
Drive port: 2, Channel: 3, ID: 90/0x49
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps

Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRM30000734058G3
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e8:19
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 22, Slot 14

Drive port: 1, Channel: 3, ID: 106/0x2C
Drive port: 2, Channel: 4, ID: 106/0x2C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K48000073405FZ5
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fb:78
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 3

Drive at Enclosure 23, Slot 1

Drive port: 1, Channel: 4, ID: 24/0xC3
Drive port: 2, Channel: 3, ID: 24/0xC3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT7M0000734058E3
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:90
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 2

Drive port: 1, Channel: 3, ID: 25/0xBC
Drive port: 2, Channel: 4, ID: 25/0xBC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K89N0000734058CP
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:96
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 3

Drive port: 1, Channel: 4, ID: 26/0xBA
Drive port: 2, Channel: 3, ID: 26/0xBA
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HQEV00007340WVZW
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:03:d7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 4

Drive port: 1, Channel: 3, ID: 27/0xB9
Drive port: 2, Channel: 4, ID: 27/0xB9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT1C000073393G3J
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003

World-wide name: 20:00:00:04:cf:f9:e4:9b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 5

Drive port: 1, Channel: 4, ID: 28/0xB6
Drive port: 2, Channel: 3, ID: 28/0xB6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSZB00007340X4RW
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:96
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 6

Drive port: 1, Channel: 3, ID: 29/0xB5
Drive port: 2, Channel: 4, ID: 29/0xB5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0J6PV000073409KLW
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:6d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 7

Drive port: 1, Channel: 4, ID: 30/0xB4
Drive port: 2, Channel: 3, ID: 30/0xB4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB

Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HT17000073409KWG
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:69
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 8

Drive port: 1, Channel: 3, ID: 31/0xB3
Drive port: 2, Channel: 4, ID: 31/0xB3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRLF0000734058BQ
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e7:f6
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 9

Drive port: 1, Channel: 4, ID: 83/0x52
Drive port: 2, Channel: 3, ID: 83/0x52
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K7K500007340WVF4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:e2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 10

Drive port: 1, Channel: 3, ID: 99/0x35
Drive port: 2, Channel: 4, ID: 99/0x35
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMOJ000073409K2F
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dc:d7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 11

Drive port: 1, Channel: 4, ID: 67/0x6D
Drive port: 2, Channel: 3, ID: 67/0x6D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K1KZ000073393FTN
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:02:f1
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 12

Drive port: 1, Channel: 3, ID: 75/0x63
Drive port: 2, Channel: 4, ID: 75/0x63
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSX400007340X5HP

Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:54
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 13
Drive port: 1, Channel: 4, ID: 91/0x47
Drive port: 2, Channel: 3, ID: 91/0x47
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HRGS00007339TYCC
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:49
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 23, Slot 14
Drive port: 1, Channel: 3, ID: 107/0x2B
Drive port: 2, Channel: 4, ID: 107/0x2B
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JMNR00007340X5J1
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0d:43
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 4

Drive at Enclosure 24, Slot 1
Drive port: 1, Channel: 2, ID: 32/0xB2
Drive port: 2, Channel: 1, ID: 0/0xEF
Drive path redundancy: OK

Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JXZN000073409KB8
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0d:50
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 2
Drive port: 1, Channel: 1, ID: 1/0xE8
Drive port: 2, Channel: 2, ID: 33/0xB1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K2FX00007339PQ5Q
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:ff:02:80
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 3
Drive port: 1, Channel: 2, ID: 34/0xAE
Drive port: 2, Channel: 1, ID: 2/0xE4
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0KCK1000073410HPD
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:12:ac
Drive type: Fibre Channel
Speed: 15015 RPM

Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 4
Drive port: 1, Channel: 1, ID: 3/0xE2
Drive port: 2, Channel: 2, ID: 35/0xAD
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0JRG00007339RGE9
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:da:a7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 5
Drive port: 1, Channel: 2, ID: 36/0xAC
Drive port: 2, Channel: 1, ID: 4/0xE1
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0KCLD000073405FW1
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0d:61
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 6
Drive port: 1, Channel: 1, ID: 5/0xE0
Drive port: 2, Channel: 2, ID: 37/0xAB
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F

Firmware version: B95B
Serial number: 3HX0KCLS000073405G61
Vendor: IBM-ESXS
Date of manufacture: April 6, 2003
World-wide name: 20:00:00:04:cf:ff:0d:83
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 7
Drive port: 1, Channel: 2, ID: 38/0xAA
Drive port: 2, Channel: 1, ID: 6/0xDC
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0C7QW000073393FS8
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fc:1e
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 8
Drive port: 1, Channel: 1, ID: 7/0xDA
Drive port: 2, Channel: 2, ID: 39/0xA9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K5BE00007339TYM4
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f5:aa
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 9
Drive port: 1, Channel: 2, ID: 84/0x51

Drive port: 2, Channel: 1, ID: 8/0xD9
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0J3HV00007340X5K3
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e6:db
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 10

Drive port: 1, Channel: 1, ID: 100/0x34
Drive port: 2, Channel: 2, ID: 100/0x34
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0J6VY0000734058DK
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e7:d3
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 11

Drive port: 1, Channel: 2, ID: 68/0x6C
Drive port: 2, Channel: 1, ID: 10/0xD5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HLYF00007340WVG0
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:dd:95

Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 12

Drive port: 1, Channel: 1, ID: 11/0xD4
Drive port: 2, Channel: 2, ID: 76/0x5C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSZ6000073392DZJ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e2:e8
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 13

Drive port: 1, Channel: 2, ID: 92/0x46
Drive port: 2, Channel: 1, ID: 12/0xD3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSJE00007339LXHR
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e4:a7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 24, Slot 14

Drive port: 1, Channel: 1, ID: 13/0xD2
Drive port: 2, Channel: 2, ID: 108/0x2A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB

Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSVN00007339TYG3
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e4:6d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 5

Drive at Enclosure 25, Slot 1

Drive port: 1, Channel: 2, ID: 40/0xA7
Drive port: 2, Channel: 1, ID: 40/0xA7
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMAY00007340X5K6
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:e5:88
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 2

Drive port: 1, Channel: 1, ID: 41/0xA6
Drive port: 2, Channel: 2, ID: 41/0xA6
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0H0J000007339TYGH
Vendor: IBM-ESXS
Date of manufacture: April 4, 2003
World-wide name: 20:00:00:04:cf:f9:d0:ec
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 3

Drive port: 1, Channel: 2, ID: 42/0xA5
Drive port: 2, Channel: 1, ID: 42/0xA5
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K50Q00007340GTTB
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f5:fc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 4

Drive port: 1, Channel: 1, ID: 43/0xA3
Drive port: 2, Channel: 2, ID: 43/0xA3
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K89500007339TYJJ
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e2:a0
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 5

Drive port: 1, Channel: 2, ID: 44/0x9F
Drive port: 2, Channel: 1, ID: 44/0x9F
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HQVZ000073392DX6
Vendor: IBM-ESXS

Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e2:73
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 6

Drive port: 1, Channel: 1, ID: 45/0x9E
Drive port: 2, Channel: 2, ID: 45/0x9E
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HMPG00007339SNY2
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f5:1f
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 7

Drive port: 1, Channel: 2, ID: 46/0x9D
Drive port: 2, Channel: 1, ID: 46/0x9D
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HSNH00007339RGSB
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e1:f2
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 8

Drive port: 1, Channel: 1, ID: 47/0x9B
Drive port: 2, Channel: 2, ID: 47/0x9B
Drive path redundancy: OK
Status: Optimal

Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HJCC00007339GMHM
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:e1:fc
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 9

Drive port: 1, Channel: 2, ID: 85/0x4F
Drive port: 2, Channel: 1, ID: 85/0x4F
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0HM1L000073405A6T
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:fc:04
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 6

Drive at Enclosure 25, Slot 10

Drive port: 1, Channel: 1, ID: 101/0x33
Drive port: 2, Channel: 2, ID: 101/0x33
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0K54W00007339SP69
Vendor: IBM-ESXS
Date of manufacture: April 5, 2003
World-wide name: 20:00:00:04:cf:f9:f5:17
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned

<p>Associated array: 6</p> <p>Drive at Enclosure 25, Slot 11</p> <p>Drive port: 1, Channel: 2, ID: 69/0x6B</p> <p>Drive port: 2, Channel: 1, ID: 69/0x6B</p> <p>Drive path redundancy: OK</p> <p>Status: Optimal</p> <p>Raw capacity: 33.902 GB</p> <p>Usable capacity: 33.402 GB</p> <p>Current data rate: 2 Gbps</p> <p>Product ID: ST336753FC F</p> <p>Firmware version: B95B</p> <p>Serial number: 3HX0HRK00000734058EG</p> <p>Vendor: IBM-ESXS</p> <p>Date of manufacture: April 5, 2003</p> <p>World-wide name: 20:00:00:04:cf:f9:e7:a9</p> <p>Drive type: Fibre Channel</p> <p>Speed: 15015 RPM</p> <p>Mode: Assigned</p> <p>Associated array: 6</p> <p>Drive at Enclosure 25, Slot 12</p> <p>Drive port: 1, Channel: 1, ID: 77/0x5A</p> <p>Drive port: 2, Channel: 2, ID: 77/0x5A</p> <p>Drive path redundancy: OK</p> <p>Status: Optimal</p> <p>Raw capacity: 33.902 GB</p> <p>Usable capacity: 33.402 GB</p> <p>Current data rate: 2 Gbps</p> <p>Product ID: ST336753FC F</p> <p>Firmware version: B95B</p> <p>Serial number: 3HX0K78N00007340X5JU</p> <p>Vendor: IBM-ESXS</p> <p>Date of manufacture: April 5, 2003</p> <p>World-wide name: 20:00:00:04:cf:f9:e6:ae</p> <p>Drive type: Fibre Channel</p> <p>Speed: 15015 RPM</p> <p>Mode: Assigned</p> <p>Associated array: 6</p> <p>Drive at Enclosure 25, Slot 13</p> <p>Drive port: 1, Channel: 2, ID: 93/0x45</p> <p>Drive port: 2, Channel: 1, ID: 93/0x45</p> <p>Drive path redundancy: OK</p> <p>Status: Optimal</p> <p>Raw capacity: 33.902 GB</p> <p>Usable capacity: 33.402 GB</p> <p>Current data rate: 2 Gbps</p> <p>Product ID: ST336753FC F</p> <p>Firmware version: B95B</p>	<p>Serial number: 3HX0JRKD00007340GTWU</p> <p>Vendor: IBM-ESXS</p> <p>Date of manufacture: April 5, 2003</p> <p>World-wide name: 20:00:00:04:cf:f9:f5:f2</p> <p>Drive type: Fibre Channel</p> <p>Speed: 15015 RPM</p> <p>Mode: Assigned</p> <p>Associated array: 6</p> <p>Drive at Enclosure 25, Slot 14</p> <p>Drive port: 1, Channel: 1, ID: 109/0x29</p> <p>Drive port: 2, Channel: 2, ID: 109/0x29</p> <p>Drive path redundancy: OK</p> <p>Status: Optimal</p> <p>Raw capacity: 33.902 GB</p> <p>Usable capacity: 33.402 GB</p> <p>Current data rate: 2 Gbps</p> <p>Product ID: ST336753FC F</p> <p>Firmware version: B95B</p> <p>Serial number: 3HX0JR9S00007340GTX7</p> <p>Vendor: IBM-ESXS</p> <p>Date of manufacture: April 5, 2003</p> <p>World-wide name: 20:00:00:04:cf:f9:f5:d5</p> <p>Drive type: Fibre Channel</p> <p>Speed: 15015 RPM</p> <p>Mode: Assigned</p> <p>Associated array: 6</p> <p>Drive at Enclosure 27, Slot 1</p> <p>Drive port: 1, Channel: 2, ID: 56/0x80</p> <p>Drive port: 2, Channel: 1, ID: 56/0x80</p> <p>Drive path redundancy: OK</p> <p>Status: Optimal</p> <p>Raw capacity: 33.902 GB</p> <p>Usable capacity: 33.402 GB</p> <p>Current data rate: 2 Gbps</p> <p>Product ID: ST336753FC F</p> <p>Firmware version: B95B</p> <p>Serial number: 3HX0DCPL000073368NYJ</p> <p>Vendor: IBM-ESXS</p> <p>Date of manufacture: March 4, 2003</p> <p>World-wide name: 20:00:00:04:cf:42:60:2a</p> <p>Drive type: Fibre Channel</p> <p>Speed: 15015 RPM</p> <p>Mode: Assigned</p> <p>Associated array: 8</p> <p>Drive at Enclosure 27, Slot 2</p> <p>Drive port: 1, Channel: 1, ID: 57/0x7C</p> <p>Drive port: 2, Channel: 2, ID: 57/0x7C</p>
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Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D814000073356JYR
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5d:b5
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 3

Drive port: 1, Channel: 2, ID: 58/0x7A
Drive port: 2, Channel: 1, ID: 58/0x7A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0DLM700007335MFX2
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:62:eb
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 4

Drive port: 1, Channel: 1, ID: 59/0x79
Drive port: 2, Channel: 2, ID: 59/0x79
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CT2000007335SYUH
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5b:39
Drive type: Fibre Channel

Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 5

Drive port: 1, Channel: 2, ID: 60/0x76
Drive port: 2, Channel: 1, ID: 60/0x76
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0DLVB000073368NWE
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:64:2b
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 6

Drive port: 1, Channel: 1, ID: 61/0x75
Drive port: 2, Channel: 2, ID: 61/0x75
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D89E00007335SYRL
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5b:3e
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 7

Drive port: 1, Channel: 2, ID: 62/0x74
Drive port: 2, Channel: 1, ID: 62/0x74
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps

Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0841S0000733524LX
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:4f
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 8

Drive port: 1, Channel: 1, ID: 63/0x73
Drive port: 2, Channel: 2, ID: 63/0x73
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CSRV000073368NVY
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:59:68
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 9

Drive port: 1, Channel: 2, ID: 87/0x4C
Drive port: 2, Channel: 1, ID: 87/0x4C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0DLX700007335MG0S
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:62:ee
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 10

Drive port: 1, Channel: 1, ID: 103/0x31
Drive port: 2, Channel: 2, ID: 103/0x31
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CNRE000073368HX3
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:64:87
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 11

Drive port: 1, Channel: 2, ID: 71/0x69
Drive port: 2, Channel: 1, ID: 71/0x69
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0DC04000073340TQD
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:bf
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 12

Drive port: 1, Channel: 1, ID: 79/0x56
Drive port: 2, Channel: 2, ID: 79/0x56
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D9AY000073368HTG
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003

World-wide name: 20:00:00:04:cf:42:60:a1
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 13

Drive port: 1, Channel: 2, ID: 95/0x3C
Drive port: 2, Channel: 1, ID: 95/0x3C
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0T9SW00007345DYU4
Vendor: IBM-ESXS
Date of manufacture: May 16, 2003
World-wide name: 20:00:00:0c:50:20:9b:52
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 27, Slot 14

Drive port: 1, Channel: 1, ID: 111/0x26
Drive port: 2, Channel: 2, ID: 111/0x26
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX33WLK000075173S80
Vendor: IBM-ESXS
Date of manufacture: October 29, 2004
World-wide name: 20:00:00:11:c6:23:db:ec
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 8

Drive at Enclosure 36, Slot 1

Drive port: 1, Channel: 2, ID: 48/0x98
Drive port: 2, Channel: 1, ID: 48/0x98
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB

Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D60V000073368HZC
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:80
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 2

Drive port: 1, Channel: 1, ID: 49/0x97
Drive port: 2, Channel: 2, ID: 49/0x97
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CVJA000073341F89
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:57:f4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 3

Drive port: 1, Channel: 2, ID: 50/0x90
Drive port: 2, Channel: 1, ID: 50/0x90
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0H46B000073393G4Y
Vendor: IBM-ESXS
Date of manufacture: March 31, 2003
World-wide name: 20:00:00:04:cf:f9:47:1d
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 4

Drive port: 1, Channel: 1, ID: 51/0x8F
Drive port: 2, Channel: 2, ID: 51/0x8F
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0ALFK00007335SYN0
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:93
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 5

Drive port: 1, Channel: 2, ID: 52/0x88
Drive port: 2, Channel: 1, ID: 52/0x88
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CSYB00007335SYMN
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5d:73
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 6

Drive port: 1, Channel: 1, ID: 53/0x84
Drive port: 2, Channel: 2, ID: 53/0x84
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D92W00007335SYKE

Vendor: IBM-ESXS

Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:f4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 7

Drive port: 1, Channel: 2, ID: 54/0x82
Drive port: 2, Channel: 1, ID: 54/0x82
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D7SA000073368NXX
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5b:b4
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 8

Drive port: 1, Channel: 1, ID: 55/0x81
Drive port: 2, Channel: 2, ID: 55/0x81
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CVBA00007335SYFE
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5c:09
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 9

Drive port: 1, Channel: 2, ID: 86/0x4D
Drive port: 2, Channel: 1, ID: 86/0x4D
Drive path redundancy: OK

Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CTGE00007335SYBX
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5b:c7
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 10
Drive port: 1, Channel: 1, ID: 102/0x32
Drive port: 2, Channel: 2, ID: 102/0x32
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0C62H00007335SYJU
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5d:ff
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 11
Drive port: 1, Channel: 2, ID: 70/0x6A
Drive port: 2, Channel: 1, ID: 70/0x6A
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0D60W000073368NWZ
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:5c
Drive type: Fibre Channel
Speed: 15015 RPM

Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 12
Drive port: 1, Channel: 1, ID: 78/0x59
Drive port: 2, Channel: 2, ID: 78/0x59
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0CV5D00007335SY9K
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:5c:08
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 13
Drive port: 1, Channel: 2, ID: 94/0x43
Drive port: 2, Channel: 1, ID: 94/0x43
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F
Firmware version: B95B
Serial number: 3HX0ALF900007335SYJ6
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:60:67
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

Drive at Enclosure 36, Slot 14
Drive port: 1, Channel: 1, ID: 110/0x27
Drive port: 2, Channel: 2, ID: 110/0x27
Drive path redundancy: OK
Status: Optimal
Raw capacity: 33.902 GB
Usable capacity: 33.402 GB
Current data rate: 2 Gbps
Product ID: ST336753FC F

Firmware version: B95B
Serial number: 3HX08GQ000007335SY7J
Vendor: IBM-ESXS
Date of manufacture: March 4, 2003
World-wide name: 20:00:00:04:cf:42:59:d9
Drive type: Fibre Channel
Speed: 15015 RPM
Mode: Assigned
Associated array: 7

DRIVE CHANNEL INFORMATION - Channel 1

SUMMARY-----

Channel 1 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 3/6/06 3:43:27 PM
Sample period (days, hh:mm:ss): 84 days, 23:05:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 2
Total I/O count: 14289346
Controller B Cumulative Error Counts
Baseline time set: 3/6/06 3:42:23 PM
Sample period (days, hh:mm:ss): 84 days, 23:06:46
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 2
Total I/O count: 1833624009

DRIVE CHANNEL INFORMATION - Channel 2

SUMMARY-----

Channel 2 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 3/6/06 3:43:27 PM
Sample period (days, hh:mm:ss): 84 days, 23:05:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0

Link down errors: 40
Total I/O count: 10819865
Controller B Cumulative Error Counts
Baseline time set: 3/6/06 3:42:23 PM
Sample period (days, hh:mm:ss): 84 days, 23:06:46
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 40
Total I/O count: 1835848325

DRIVE CHANNEL INFORMATION - Channel 3

SUMMARY-----

Channel 3 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 3/6/06 3:43:27 PM
Sample period (days, hh:mm:ss): 84 days, 23:05:42
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 0
Link down errors: 13
Total I/O count: -1955115332
Controller B Cumulative Error Counts
Baseline time set: 3/6/06 3:42:23 PM
Sample period (days, hh:mm:ss): 84 days, 23:06:46
Controller detected errors: 0
Drive detected errors: 0
Timeout errors: 1
Link down errors: 13
Total I/O count: 39001215

DRIVE CHANNEL INFORMATION - Channel 4

SUMMARY-----

Channel 4 status: Optimal
Controller A link status: Up
Controller B link status: Up

CUMULATIVE ERROR COUNTS-----

--

Controller A Cumulative Error Counts
Baseline time set: 3/6/06 3:43:27 PM
Sample period (days, hh:mm:ss): 84 days, 23:05:42
Controller detected errors: 0
Drive detected errors: 0

Timeout errors: 0
 Link down errors: 45
 Total I/O count: -1961514884
 Controller B Cumulative Error Counts
 Baseline time set: 3/6/06 3:42:23 PM
 Sample period (days, hh:mm:ss): 84 days, 23:06:46
 Controller detected errors: 0
 Drive detected errors: 0
 Timeout errors: 1
 Link down errors: 45
 Total I/O count: 41107817

MAPPINGS (Storage Partitioning - Disabled)-----

VOLUME NAME	LUN	CONTROLLER	ACCESSIBLE BY	VOLUME STATUS
Flute2_lun1	0	A	Default Group	Optimal
flute2_lun2	1	A	Default Group	Optimal
flute2_lun3	2	A	Default Group	Optimal
flute2_lun4	3	A	Default Group	Optimal
flute2_lun5	4	B	Default Group	Optimal
flute2_lun6	5	B	Default Group	Optimal
flute2_lun7	6	B	Default Group	Optimal
flute2_lun8	7	B	Default Group	Optimal

TOPOLOGY DEFINITIONS

DEFAULT GROUP

Default type: Windows 2000/Server 2003 Non-Clustered
 Host Port: 21:01:00:e0:8b:b5:7d:15
 Host Port: 21:00:00:e0:8b:95:93:14
 Host Port: 21:00:00:e0:8b:95:ef:14
 Host Port: 21:00:00:e0:8b:95:7d:15
 Host Port: 21:01:00:e0:8b:b5:93:14

NVSRAM HOST TYPE INDEX DEFINITIONS

INDEX	ADT STATUS	TYPE
0	Disabled	Windows NT Non-Clustered (SP5 or higher)
1	Disabled	Windows NT Clustered (SP5 or higher)
2 (Default)	Disabled	Windows 2000/Server 2003 Non-Clustered
3	Disabled	Windows 2000/Server 2003 Clustered
4	Disabled	NetWare-IBMSAN
5	Disabled	Linux
6	Disabled	AIX
7	Disabled	HP-UX
8	Disabled	Solaris

9	Disabled	Windows 2000/Server 2003 Non-Clustered (supports DMP)
10	Disabled	Irix
11	Disabled	Netware Failover
12	Disabled	IBM TS SAN VCE
13	Disabled	LNXCL
14	Disabled	Solaris (with Veritas DMP)
15	Disabled	Windows 2000/Server 2003 Clustered (supports DMP)

Microsoft Windows Server 2003

Client System Information Report

Following is the system information report for Client 1. The reports for Clients 2, 3, 5, 6 and 7 are basically identical. These six clients used 3.2GHz processors and 15K RPM drives.

System Information report written at: 05/30/06 16:04:19

System Name: FCLIENT10

[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	FCLIENT10
System Manufacturer	IBM
System Model	IBM eServer x226-[86482BU]-
System Type	X86-based PC
Processor	x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz
Processor	x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz
Processor	x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3200 Mhz
BIOS Version/Date	IBM IBM BIOS Version 1.51-[PME151AUS-1.51]-, 6/3/2005
SMBIOS Version	2.33
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
Boot Device	\Device\HarddiskVolume1
Locale	United States
Hardware Abstraction Layer	Version = "5.2.3790.1830 (srv03_sp1_rtm.050324-1447)"
User Name	FCLIENT10\Administrator
Time Zone	Eastern Daylight Time
Total Physical Memory	2,558.87 MB

Available Physical Memory 2.21 GB
 Total Virtual Memory 362.93 MB
 Available Virtual Memory 228.62 MB
 Page File Space 2.00 GB
 Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource	Device
I/O Port 0x00000000-0x00000CF7	PCI bus
I/O Port 0x00000000-0x00000CF7	Direct memory access controller
Memory Address 0xD0300000-0xD03FFFFFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
Memory Address 0xD0300000-0xD03FFFFFF	Adaptec AIC-7902B - Ultra320 SCSI
I/O Port 0x00002000-0x00004FFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596
I/O Port 0x00002000-0x00004FFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
Memory Address 0xD0200000-0xD04FFFFFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596
Memory Address 0xD0200000-0xD04FFFFFF	Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326
Memory Address 0xD0100000-0xD01FFFFFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595
Memory Address 0xD0100000-0xD01FFFFFF	Broadcom NetXtreme Gigabit Ethernet #2
Memory Address 0xD0400000-0xD04FFFFFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
Memory Address 0xD0400000-0xD04FFFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3
IRQ 16	Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595
IRQ 16	Broadcom NetXtreme Gigabit Ethernet #2
IRQ 16	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596
IRQ 16	Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2
 IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE

Memory Address 0xA0000-0xBFFFF PCI bus
 Memory Address 0xA0000-0xBFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation)

[DMA]

Resource	Device	Status
Channel 4	Direct memory access controller	OK
Channel 2	Standard floppy disk controller	OK
Channel 3	ECP Printer Port (LPT1)	OK

[Forced Hardware]

Device	PNP Device ID
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[I/O]

Resource	Device	Status
0x00000000-0x00000CF7	PCI bus	OK
0x00000000-0x00000CF7	Direct memory access controller	OK
0x0000D00-0x0000FFFF	PCI bus	OK
0x00002000-0x00004FFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596	OK
0x00002000-0x00004FFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329	OK
0x00002800-0x000028FF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0x00002400-0x000024FF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0x00003000-0x000030FF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0x00002C00-0x00002CFF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0x00004000-0x00004FFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A	OK
0x00001400-0x0000141F	Intel(R) 82801EB USB Universal Host Controller - 24D2	OK
0x00001420-0x0000143F	Intel(R) 82801EB USB Universal Host Controller - 24D4	OK
0x00001440-0x0000145F	Intel(R) 82801EB USB Universal Host Controller - 24D7	OK
0x00001460-0x0000147F	Intel(R) 82801EB USB Universal Host Controller - 24DE	OK
0x00005000-0x000050FF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK
0x000003B0-0x000003BB	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK

0x000003C0-0x000003DF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK	0x00000800-0x0000082F	Motherboard resources	OK
0x00000A79-0x00000A79	ISAPNP Read Data Port	OK	0x0000FE00-0x0000FE00	Motherboard resources	OK
0x00000279-0x00000279	ISAPNP Read Data Port	OK	0x00000081-0x0000008F	Direct memory access controller	OK
0x00000274-0x00000277	ISAPNP Read Data Port	OK	0x000000C0-0x000000DF	Direct memory access controller	OK
0x00000010-0x0000001F	Motherboard resources	OK	0x000000F0-0x000000FE	Numeric data processor	OK
0x00000024-0x00000025	Motherboard resources	OK	0x00000020-0x00000021	Programmable interrupt controller	OK
0x00000028-0x00000029	Motherboard resources	OK	0x000000A0-0x000000A1	Programmable interrupt controller	OK
0x0000002C-0x0000002D	Motherboard resources	OK	0x00000070-0x00000071	System CMOS/real time clock	OK
0x0000002E-0x0000002F	Motherboard resources	OK	0x00000061-0x00000061	System speaker	OK
0x00000030-0x00000031	Motherboard resources	OK	0x00000040-0x00000043	System timer	OK
0x00000034-0x00000035	Motherboard resources	OK	0x0000118E-0x0000118E		OK
0x00000038-0x00000039	Motherboard resources	OK	0x000003F0-0x000003F5	Standard floppy disk controller	OK
0x0000003C-0x0000003D	Motherboard resources	OK	0x000003F7-0x000003F7	Standard floppy disk controller	OK
0x00000050-0x00000053	Motherboard resources	OK	0x00000378-0x0000037F	ECP Printer Port (LPT1)	OK
0x00000072-0x00000077	Motherboard resources	OK	0x00000778-0x0000077F	ECP Printer Port (LPT1)	OK
0x00000080-0x00000080	Motherboard resources	OK	0x000003F8-0x000003FF	Communications Port (COM1)	OK
0x00000090-0x0000009F	Motherboard resources	OK	0x000002F8-0x000002FF	Communications Port (COM2)	OK
0x000000A4-0x000000A5	Motherboard resources	OK	0x00000060-0x00000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x000000A8-0x000000A9	Motherboard resources	OK	0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x000000AC-0x000000AD	Motherboard resources	OK	0x000014A0-0x000014AF	Intel(R) 82801EB Ultra ATA Storage Controllers	OK
0x000000B0-0x000000B5	Motherboard resources	OK	0x000001F0-0x000001F7	Primary IDE Channel	OK
0x000000B8-0x000000B9	Motherboard resources	OK	0x000003F6-0x000003F6	Primary IDE Channel	OK
0x000000BC-0x000000BD	Motherboard resources	OK	0x00000170-0x00000177	Secondary IDE Channel	OK
0x000004D0-0x000004D1	Motherboard resources	OK	0x00000376-0x00000376	Secondary IDE Channel	OK
0x00001000-0x0000107F	Motherboard resources	OK	0x00001100-0x0000111F	Intel(R) 82801EB SMBus Controller - 24D3	OK
0x00001180-0x0000118C	Motherboard resources	OK		[IRQs]	
0x0000118D-0x0000118D	Motherboard resources	OK		Resource Device Status	
0x0000118F-0x0000118F	Motherboard resources	OK		IRQ 9 Microsoft ACPI-Compliant System	OK
0x00001190-0x000011BF	Motherboard resources	OK		IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595	OK

IRQ 16 Broadcom NetXtreme Gigabit Ethernet #2 OK

IRQ 16 Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

IRQ 16 Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24D2 OK

IRQ 16 Intel(R) 82801EB USB Universal Host Controller - 24DE OK

IRQ 28 Intel(R) PRO/1000 MT Dual Port Server Adapter OK

IRQ 29 Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

IRQ 30 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 31 Adaptec AIC-7902B - Ultra320 SCSI OK

IRQ 48 Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

IRQ 49 Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK

IRQ 19 Intel(R) 82801EB USB Universal Host Controller - 24D4 OK

IRQ 18 Intel(R) 82801EB USB Universal Host Controller - 24D7 OK

IRQ 23 Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

IRQ 22 RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

IRQ 13 Numeric data processor OK

IRQ 8 System CMOS/real time clock OK

IRQ 0 System timer OK

IRQ 6 Standard floppy disk controller OK

IRQ 4 Communications Port (COM1) OK

IRQ 3 Communications Port (COM2) OK

IRQ 12 PS/2 Compatible Mouse OK

IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK

IRQ 14 Primary IDE Channel OK

IRQ 15 Secondary IDE Channel OK

IRQ 10 Intel(R) 82801EB SMBus Controller - 24D3 OK

[Memory]

Resource	Device	Status
0xA0000-0xBFFFF	PCI bus	OK
0xA0000-0xBFFFF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK
0xD8000-0xDBFFF	PCI bus	OK
0xDC000-0xDFFFF	PCI bus	OK
0xA0000000-0xFEBFFFF	PCI bus	OK
0xD0100000-0xD01FFFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595	OK

0xD0100000-0xD01FFFF Broadcom NetXtreme Gigabit Ethernet #2 OK

0xD0200000-0xD04FFFF Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596 OK

0xD0200000-0xD04FFFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326 OK

0xD0300000-0xD03FFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 OK

0xD0300000-0xD03FFFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0320000-0xD033FFF Intel(R) PRO/1000 MT Dual Port Server Adapter OK

0xD0340000-0xD037FFF Intel(R) PRO/1000 MT Dual Port Server Adapter OK

0xD0380000-0xD039FFF Intel(R) PRO/1000 MT Dual Port Server Adapter #2 OK

0xD0302000-0xD0303FFF Adaptec AIC-7902B - Ultra320 SCSI OK

0xD0400000-0xD04FFFF Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A OK

0xD0400000-0xD04FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xD0440000-0xD045FFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK

0xD0460000-0xD047FFF Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK

0xD0201000-0xD0201FFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 OK

0xD0000000-0xD00003FF Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK

0xD8000000-0xDFFFFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xD0500000-0xD050FFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK

0xE0000000-0xEFFFFFFF Motherboard resources OK

0xFEE00000-0xFEE0FFFF Motherboard resources OK

0xFEC81000-0xFEC81FFF Motherboard resources OK

0xFEC81400-0xFEC823FF Motherboard resources OK

0xFEBFFC00-0xFEBFFFF Intel(R) 82801EB Ultra ATA Storage Controllers OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description	Status	File	Version	Size
				Creation Date		
c:\windows\system32\sl_anet.acm	Sipro Lab Telecom Inc.	Sipro Lab Telecom Audio Codec	OK	C:\WINDOWS\system32\SL_ANET.ACM	3.02	84.00 KB (86,016 bytes)
						3/25/2003 7:00 AM
c:\windows\system32\msaud32.acm	Microsoft Corporation	Windows Media Audio Codec	OK	C:\WINDOWS\system32\MSAUD32.ACM	8.00.00.4487	288.00 KB (294,912 bytes)
						3/25/2003 7:00 AM
c:\windows\system32\msadp32.acm	Microsoft Corporation		OK	C:\WINDOWS\system32\MSADP32.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	14.50 KB (14,848 bytes)
						3/25/2003 7:00 AM
c:\windows\system32\msg723.acm	Microsoft Corporation		OK	C:\WINDOWS\system32\MSG723.ACM	5.2.3790.1830	120.00 KB (122,880 bytes)
						3/6/2006 5:23 PM
c:\windows\system32\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\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\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\l3codeca.acm	Fraunhofer Institut Integrierte Schaltungen IIS	Fraunhofer IIS MPEG Layer-3 Codec	OK	C:\WINDOWS\system32\L3CODECA.ACM	1, 9, 0, 0305	284.00 KB (290,816 bytes)
						3/25/2003 7:00 AM

[Video Codecs]

CODEC	Manufacturer	Description	Status	File	Version	Size
				Creation Date		
c:\windows\system32\tsbyuv.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\TSBYUV.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	8.00 KB (8,192 bytes)
						3/24/2003 8:50 PM
c:\windows\system32\msh261.drv	Microsoft Corporation		OK	C:\WINDOWS\system32\MSH261.DRV	5.2.3790.1830	184.00 KB (188,416 bytes)
						3/6/2006 5:23 PM

c:\windows\system32\iyuv_32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\IYUV_32.DLL	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	46.50 KB (47,616 bytes)
						3/6/2006 5:23 PM
c:\windows\system32\msyuv.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSYUV.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	16.50 KB (16,896 bytes)
						3/24/2003 8:49 PM
c:\windows\system32\msvidc32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSVIDC32.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	26.50 KB (27,136 bytes)
						3/25/2003 7:00 AM
c:\windows\system32\msh263.drv	Microsoft Corporation		OK	C:\WINDOWS\system32\MSH263.DRV	5.2.3790.1830	288.00 KB (294,912 bytes)
						3/6/2006 5:23 PM
c:\windows\system32\mrle32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MRLE32.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	10.50 KB (10,752 bytes)
						3/25/2003 7:00 AM

[CD-ROM]

Item	Value
Drive	D:
Description	CD-ROM Drive
Media Loaded	No
Media Type	CD-ROM
Name	SAMSUNG CD-ROM SC-148A
Manufacturer	(Standard CD-ROM drives)
Status	OK
Transfer Rate	Not Available
SCSI Target ID	0
PNP Device ID	IDE\CDROMSAMSUNG_CD-ROM_SC-148A_____B401____\5&25B98AF5&0&0.0.0
Driver	c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 51.00 KB (52,224 bytes), 3/25/2003 7:00 AM)

[Sound Device]

Item	Value
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[Display]

Item	Value
Name	RADEON 7000 RADEON VE Family (Microsoft Corporation)
PNP Device ID	PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0

Adapter Type Radeon 7000 (QY), ATI Technologies Inc. compatible
 Adapter Description RADEON 7000 RADEON VE Family (Microsoft Corporation)
 Adapter RAM 16.00 MB (16,777,216 bytes)
 Installed Drivers ati2dvag.dll
 Driver Version 5.1.2600.0
 INF File atiixpag.inf (ati2mtag_RV100 section)
 Color Planes 1
 Color Table Entries 4294967296
 Resolution 1024 x 768 x 75 hertz
 Bits/Pixel 32
 Memory Address 0xD8000000-0xDFFFFFFF
 I/O Port 0x00005000-0x000050FF
 Memory Address 0xD0500000-0xD050FFFF
 IRQ Channel IRQ 22
 I/O Port 0x000003B0-0x000003BB
 I/O Port 0x000003C0-0x000003DF
 Memory Address 0xA0000-0xBFFFF
 Driver c:\windows\system32\drivers\ati2mtag.sys (6.13.10.6153, 439.63 KB (450,176 bytes), 3/1/2006 8:25 AM)

[Infrared]

Item	Value
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[Input]

[Keyboard]

Item	Value
Description	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
Name	Enhanced (101- or 102-key)
Layout	00000409
PNP Device ID	ACPI\PNP0303\5&9583612&0
Number of Function Keys	12
I/O Port	0x00000060-0x00000060
I/O Port	0x00000064-0x00000064
IRQ Channel	IRQ 1
Driver	c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item	Value
Hardware Type	PS/2 Compatible Mouse
Number of Buttons	3

Status OK
 PNP Device ID ACPI\PNP0F13\5&9583612&0
 Power Management Supported No
 Double Click Threshold 6
 Handedness Right Handed Operation
 IRQ Channel IRQ 12
 Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Modem]

Item	Value
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[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	5/30/2006 1:31 PM
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	5/30/2006 1:31 PM
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_PPTP\Miniport\0000

Last Reset 5/30/2006 1:31 PM
 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_PPPOE\Miniport\0000

Last Reset 5/30/2006 1:31 PM
 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\rasppoe.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_PT\Miniport\0000

Last Reset 5/30/2006 1:31 PM
 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_NDIS\WANIP\0000

Last Reset 5/30/2006 1:31 PM
 Index 6
 Service Name NdisWan
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\ndiswan.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB
 (93,184 bytes), 3/25/2003 7:00 AM)

Name [00000007] Broadcom NetXtreme Gigabit
 Ethernet
 Adapter Type Not Available
 Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
 PNP Device ID Not Available
 Last Reset 5/30/2006 1:31 PM
 Index 7
 Service Name b57w2k
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No

DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

Name [00000008] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Ethernet 802.3
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&080018
Last Reset 5/30/2006 1:31 PM
Index 8
Service Name E1000
IP Address 192.168.112.99
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:0E:0C:36:7A:C4
Memory Address 0xD0320000-0xD033FFFF
Memory Address 0xD0340000-0xD037FFFF
IRQ Channel IRQ 28
Driver c:\windows\system32\drivers\le1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000009] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Ethernet 802.3
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&1EA3B137&0&090018
Last Reset 5/30/2006 1:31 PM
Index 9
Service Name E1000
IP Address 192.168.40.10
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:0E:0C:36:7A:C5
Memory Address 0xD0380000-0xD039FFFF

IRQ Channel IRQ 29
Driver c:\windows\system32\drivers\le1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000010] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Ethernet 802.3
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&080218
Last Reset 5/30/2006 1:31 PM
Index 10
Service Name E1000
IP Address 192.168.110.99
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:0E:0C:35:80:30
Memory Address 0xD0440000-0xD045FFFF
Memory Address 0xD0400000-0xD04FFFFF
IRQ Channel IRQ 48
Driver c:\windows\system32\drivers\le1000325.sys (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes), 3/7/2006 12:18 PM)

Name [00000011] Intel(R) PRO/1000 MT Dual Port Server Adapter
Adapter Type Ethernet 802.3
Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
Installed Yes
PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_117A8086&REV_03\5&A4D5A19&0&090218
Last Reset 5/30/2006 1:31 PM
Index 11
Service Name E1000
IP Address 192.168.111.99
IP Subnet 255.255.255.0
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 00:0E:0C:35:80:31
Memory Address 0xD0460000-0xD047FFFF
IRQ Channel IRQ 49

Driver c:\windows\system32\drivers\le1000325.sys
 (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes),
 3/7/2006 12:18 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_1659&SUBSYS_02C61014&REV_10\4&1855300&0&0010
 Last Reset 5/30/2006 1:31 PM

Index 12
 Service Name b57w2k
 IP Address 0.0.0.0
 IP Subnet 0.0.0.0
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0D:60:15:03:F5
 Memory Address 0xD0100000-0xD01FFFFF
 IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\b57xp32.sys
 (8.48.0.0 built by: WinDDK, 139.38 KB (142,720 bytes),
 10/26/2005 11:01 AM)

[Protocol]

Item	Value
Name	MSAFD Tcip [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 Tcip [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_{60D27B17-20B8-407C-8C58-42D9B332F00B}] 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_{60D27B17-20B8-407C-8C58-42D9B332F00B}] DATAGRAM 7

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] SEQPACKET 6

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] DATAGRAM 6

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] SEQPACKET 5

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No

Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] DATAGRAM 5

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] SEQPACKE T 4

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] DATAGRAM 4

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] SEQPACKE T 3

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] DATAGRAM 3

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No

Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] SEQPACKET 0
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] DATAGRAM 0
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] SEQPACKET 1
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes

Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] DATAGRAM 1
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] SEQPACKET 2
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No

Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] DATAGRAM 2

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

[WinSock]

Item	Value
File	c:\windows\system32\winsock.dll
Size	2.80 KB (2,864 bytes)
Version	3.10
File	c:\windows\system32\wsock32.dll
Size	22.00 KB (22,528 bytes)
Version	5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item	Value
Name	Communications Port (COM1)
Status	OK
PNP Device ID	ACPI\PNP0501\1
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes

Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes
Supports 16 Bit Mode	No
Supports Special Characters	No
Baud Rate	9600
Bits/Byte	8
Stop Bits	1
Parity	None
Busy	No
Abort Read/Write on Error	No
Binary Mode Enabled	Yes
Continue XMit on XOff	No
CTS Outflow Control	No
Discard NULL Bytes	No
DSR Outflow Control	0
DSR Sensitivity	0
DTR Flow Control Type	Enable
EOF Character	0
Error Replace Character	0
Error Replacement Enabled	No
Event Character	0
Parity Check Enabled	No
RTS Flow Control Type	Enable
XOff Character	19
XOffXMit Threshold	512
XOn Character	17
XOnXMit Threshold	2048
XOnXOff InFlow Control	0
XOnXOff OutFlow Control	0
I/O Port	0x000003F8-0x000003FF
IRQ Channel	IRQ 4
Driver	c:\windows\system32\drivers\serial.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB (65,536 bytes), 3/25/2003 7:00 AM)

Name	Communications Port (COM2)
Status	OK
PNP Device ID	ACPI\PNP0501\2
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes
Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes

Supports 16 Bit Mode No
 Supports Special Characters No
 Baud Rate 9600
 Bits/Byte 8
 Stop Bits 1
 Parity None
 Busy No
 Abort Read/Write on Error No
 Binary Mode Enabled Yes
 Continue XMit on XOff No
 CTS Outflow Control No
 Discard NULL Bytes No
 DSR Outflow Control 0
 DSR Sensitivity 0
 DTR Flow Control Type Enable
 EOF Character 0
 Error Replace Character 0
 Error Replacement Enabled No
 Event Character 0
 Parity Check Enabled No
 RTS Flow Control Type Enable
 XOff Character 19
 XOffXMit Threshold 512
 XOn Character 17
 XOnXMit Threshold 2048
 XOnXOff InFlow Control 0
 XOnXOff OutFlow Control 0
 I/O Port 0x000002F8-0x000002FF
 IRQ Channel IRQ 3
 Driver c:\windows\system32\drivers\serial.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB
 (65,536 bytes), 3/25/2003 7:00 AM)

[Parallel]

Item	Value
Name	LPT1
PNP Device ID	ACPI\PNP0401\5&9583612&0
I/O Port	0x00000378-0x0000037F
I/O Port	0x00000778-0x0000077F
DMA Channel	Channel 3
Driver	c:\windows\system32\drivers\parport.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 79.50 KB (81,408 bytes), 3/24/2003 6:04 PM)

[Storage]

[Drives]

Item	Value
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Drive A:
 Description 3 1/2 Inch Floppy Drive

Drive C:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 33.90 GB (36,396,830,720 bytes)
 Free Space 26.06 GB (27,981,815,808 bytes)
 Volume Name
 Volume Serial Number ECA3EB0F

Drive D:
 Description CD-ROM Disc

[Disks]

Item	Value
Description	Disk drive
Manufacturer	(Standard disk drives)
Model	IBM-ESXS ST336753LC FN SCSI Disk Device
Bytes/Sector	512
Media Loaded	Yes
Media Type	Fixed hard disk
Partitions	1
SCSI Bus	0
SCSI Logical Unit	0
SCSI Port	3
SCSI Target ID	1
Sectors/Track	63
Size	33.90 GB (36,396,864,000 bytes)
Total Cylinders	4,425
Total Sectors	71,087,625
Total Tracks	1,128,375
Tracks/Cylinder	255
Partition	Disk #0, Partition #0
Partition Size	33.90 GB (36,396,831,744 bytes)
Partition Starting Offset	32,256 bytes

[SCSI]

Item	Value
Name	Adaptec AIC-7902B - Ultra320 SCSI
Manufacturer	Adaptec
Status	OK
PNP Device ID	PCI\VEN_9005&DEV_801D&SUBSYS_02CC1 014&REV_10\5&1EA3B137&0&180018
I/O Port	0x00002800-0x000028FF
Memory Address	0xD0300000-0xD03FFFFF

I/O Port 0x00002400-0x000024FF
 IRQ Channel IRQ 30
 Driver c:\windows\system32\drivers\adpu320.sys
 (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes),
 3/1/2006 8:18 AM)

Name Adaptec AIC-7902B - Ultra320 SCSI
 Manufacturer Adaptec
 Status OK

PNP Device ID
 PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
 014&REV_10\5&1EA3B137&0&190018

I/O Port 0x00003000-0x000030FF
 Memory Address 0xD0302000-0xD0303FFF

I/O Port 0x00002C00-0x00002CFF
 IRQ Channel IRQ 31

Driver c:\windows\system32\drivers\adpu320.sys
 (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes),
 3/1/2006 8:18 AM)

[IDE]

Item Value
 Name Intel(R) 82801EB Ultra ATA Storage Controllers

Manufacturer Intel
 Status OK
 PNP Device ID

PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&F9

I/O Port 0x000014A0-0x000014AF
 Memory Address 0xFEBFFC00-0xFEBFFFFF

Driver c:\windows\system32\drivers\pciide.sys
 (5.2.3790.0 (srv03_rtm.030324-2048), 5.50 KB (5,632 bytes),
 3/6/2006 4:43 PM)

Name Primary IDE Channel
 Manufacturer (Standard IDE ATA/ATAPI
 controllers)

Status OK
 PNP Device ID
 PCIIDE\IDECHANNEL\4&2FA43749&0&0

I/O Port 0x000001F0-0x000001F7

I/O Port 0x000003F6-0x000003F6

IRQ Channel IRQ 14

Driver c:\windows\system32\drivers\atapi.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB
 (95,744 bytes), 3/6/2006 4:43 PM)

Name Secondary IDE Channel
 Manufacturer (Standard IDE ATA/ATAPI
 controllers)

Status OK

PNP Device ID
 PCIIDE\IDECHANNEL\4&2FA43749&0&1

I/O Port 0x00000170-0x00000177

I/O Port 0x00000376-0x00000376

IRQ Channel IRQ 15

Driver c:\windows\system32\drivers\atapi.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB
 (95,744 bytes), 3/6/2006 4:43 PM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device	PNP Device ID	Error Code
Not Available	ACPI\ASF0001\2&DABA3FF&0	The drivers for this device are not installed.
Not Available	ACPI\IBM3737\4&369939D9&0	The drivers for this device are not installed.

[USB]

Device	PNP Device ID
Intel(R) 82801EB USB Universal Host Controller - 24D2	PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1 014&REV_02\3&61AAA01&0&E8
Intel(R) 82801EB USB Universal Host Controller - 24D4	PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1 014&REV_02\3&61AAA01&0&E9
Intel(R) 82801EB USB Universal Host Controller - 24D7	PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1 014&REV_02\3&61AAA01&0&EA
Intel(R) 82801EB USB Universal Host Controller - 24DE	PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1 014&REV_02\3&61AAA01&0&EB
Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD	PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1 014&REV_02\3&61AAA01&0&EF

[Software Environment]

[System Drivers]

Name	Description	File	Type	Error
Control	Accept Pause	Accept Stop	Status	
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	Boot
		Yes		

	Running	OK	Normal	No	Yes
acpiec	ACPIEC c:\windows\system32\drivers\acpiec.sys Kernel Driver Stopped	OK	No	Disabled	No
adpu160m	adpu160m	Not Available	Kernel Driver		
	No	Disabled	Stopped	OK	
	Normal	No	No		
adpu320	adpu320 c:\windows\system32\drivers\adpu320.sys Kernel Driver Running	OK	Yes	Boot	Yes
	OK	Normal	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 Running	OK	Yes	System	Yes
	OK	Normal	No		
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		
asynmac	RAS Asynchronous Media Driver c:\windows\system32\drivers\asynmac.sys Kernel Driver Stopped	OK	No	Manual	No
	OK	Normal	No		
atapi	Standard IDE/ESDI Hard Disk Controller c:\windows\system32\drivers\atapi.sys Kernel Driver Running	OK	Yes	Boot	Yes
	OK	Normal	No		
atdisk	Atdisk	Not Available	Kernel Driver		
	No	Disabled	Stopped	OK	
	Ignore	No	No		
ati2mtag	ati2mtag c:\windows\system32\drivers\ati2mtag.sys Kernel Driver Running	OK	Yes	Manual	Yes
	OK	Ignore	No		
atmarpc	ATM ARP Client Protocol c:\windows\system32\drivers\atmarpc.sys Kernel Driver Stopped	OK	No	Manual	No
	OK	Normal	No		
audstub	Audio Stub Driver c:\windows\system32\drivers\audstub.sys Kernel Driver Running	OK	Yes	Manual	Yes
	OK	Normal	No		

b57w2k	Broadcom NetXtreme Gigabit Ethernet c:\windows\system32\drivers\b57xp32.sys Kernel Driver Running	OK	Yes	Manual	Yes
	OK	Normal	No		
beep	Beep	c:\windows\system32\drivers\beep.sys Kernel Driver Running	OK	Yes	System
	OK	Normal	No		Yes
cbidf2k	cbidf2k c:\windows\system32\drivers\cbidf2k.sys Kernel Driver Stopped	OK	No	Disabled	No
	OK	Normal	No		
cd20xrmt	cd20xrmt	Not Available	Kernel Driver		
	No	Disabled	Stopped	OK	
	Normal	No	No		
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys File System Driver Running	OK	Yes	Disabled
	OK	Normal	No		Yes
cdrom	CD-ROM Driver c:\windows\system32\drivers\cdrom.sys Kernel Driver Running	OK	Yes	System	Yes
	OK	Normal	No		
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 Stopped	OK	No	Disabled	No
	OK	Normal	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		
credisk	CRC Disk Filter Driver c:\windows\system32\drivers\credisk.sys Kernel Driver Running	OK	Yes	Boot	Yes
	OK	Normal	No		
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 Running	OK	Yes	Boot
	OK	Normal	No		Yes

disk	Disk Driver c:\windows\system32\drivers\disk.sys Kernel Driver Yes Boot Running OK Normal No Yes
dmboot	dmboot c:\windows\system32\drivers\dmboot.sys Kernel Driver No Disabled Stopped OK Normal No No
dmio	Logical Disk Manager Driver c:\windows\system32\drivers\dmio.sys Kernel Driver Yes Boot Running OK Normal No Yes
dmload	dmload c:\windows\system32\drivers\dmload.sys Kernel Driver Yes Boot Running OK Normal No Yes
dpti2o	dpti2o Not Available Kernel Driver No Disabled Stopped OK Normal No No
e1000	Intel(R) PRO/1000 Network Connection Driver c:\windows\system32\drivers\le1000325.sys Kernel Driver Yes Manual Running OK Normal No Yes
fastfat	Fastfat c:\windows\system32\drivers\fastfat.sys File System Driver No Disabled Stopped OK Normal No No
fdc	Floppy Disk Controller Driver c:\windows\system32\drivers\fdc.sys Kernel Driver Yes Manual Running OK Normal No Yes
fips	Fips c:\windows\system32\drivers\fips.sys Kernel Driver Yes System Running OK Normal No Yes
flpydisk	Floppy Disk Driver c:\windows\system32\drivers\flpydisk.sys Kernel Driver Yes Manual Running OK Normal No Yes
fltMgr	FltMgr c:\windows\system32\drivers\fltMgr.sys File System Driver Yes Boot Running OK Normal No Yes
ftdisk	Volume Manager Driver c:\windows\system32\drivers\ftdisk.sys Kernel Driver Yes Boot Running OK Normal No Yes
gpc	Generic Packet Classifier c:\windows\system32\drivers\msgpc.sys Kernel Driver Yes Manual Running OK Normal No Yes
hpn	hpn Not Available Kernel Driver No Disabled Stopped OK Normal No No

hpt3xx	hpt3xx Not Available Kernel Driver No Disabled Stopped OK Normal No No
http	HTTP c:\windows\system32\drivers\http.sys Kernel Driver Yes Manual Running OK Normal No Yes
i2omgmt	i2omgmt Not Available Kernel Driver No System Stopped OK Normal No No
i2omp	i2omp Not Available Kernel Driver No Disabled Stopped OK Normal No No
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver c:\windows\system32\drivers\i8042prt.sys Kernel Driver Yes System Running OK Normal No Yes
iirsp	iirsp Not Available Kernel Driver No Disabled Stopped OK Normal No No
imapi	CD-Burning Filter Driver c:\windows\system32\drivers\imapi.sys Kernel Driver No System Stopped OK Normal No No
intelide	IntelIde c:\windows\system32\drivers\intelide.sys Kernel Driver Yes Boot Running OK Normal No Yes
intelppm	Intel Processor Driver c:\windows\system32\drivers\intelppm.sys Kernel Driver Yes Manual Running OK Normal No Yes
ip6fw	IPv6 Windows Firewall Driver c:\windows\system32\drivers\ip6fw.sys Kernel Driver No Manual Stopped OK Normal No No
ipfilterdriver	IP Traffic Filter Driver c:\windows\system32\drivers\ipfltdrv.sys Kernel Driver No Manual Stopped OK Normal No No
ipinip	IP in IP Tunnel Driver c:\windows\system32\drivers\ipinip.sys Kernel Driver No Disabled Stopped OK Normal No No
ipnat	IP Network Address Translator c:\windows\system32\drivers\ipnat.sys Kernel Driver No Manual Stopped OK Normal No No
ipsec	IPSEC driver c:\windows\system32\drivers\ipsec.sys Kernel Driver Yes System Running OK Normal No Yes
ipsraidn	ipsraidn Not Available Kernel Driver No Disabled Stopped OK Normal No No

irenum	IR Enumerator Service c:\windows\system32\drivers\irenum.sys Kernel Driver Stopped OK	No Manual Normal	No No	No	
isapnp	PnP ISA/EISA Bus Driver c:\windows\system32\drivers\isapnp.sys Kernel Driver Running OK	Yes Boot Critical	No	Yes	
kbdclass	Keyboard Class Driver c:\windows\system32\drivers\kbdclass.sys Kernel Driver Running OK	Yes System Normal	No	Yes	
ksecdd	KSecDD c:\windows\system32\drivers\ksecdd.sys Kernel Driver Running OK	Yes Boot Normal	No	Yes	
lp6nds35	lp6nds35 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
mmdd	mmdd c:\windows\system32\drivers\mmdd.sys Kernel Driver Running OK	Yes System Ignore	No	Yes	
modem	Modem c:\windows\system32\drivers\modem.sys Kernel Driver Stopped OK	No Manual Ignore	No	No	
mouclass	Mouse Class Driver c:\windows\system32\drivers\mouclass.sys Kernel Driver Running OK	Yes System Normal	No	Yes	
mountmgr	Mount Point Manager c:\windows\system32\drivers\mountmgr.sys Kernel Driver Running OK	Yes Boot Normal	No	Yes	
mraid35x	mraid35x No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
mrxdav	WebDav Client Redirector c:\windows\system32\drivers\mrxdav.sys System Driver Normal	No Manual No	Stopped OK	File	
mrx smb	MRXSMB c:\windows\system32\drivers\mrx smb.sys System Driver Normal	Yes System Yes	Running OK	File	
msfs	Msfs c:\windows\system32\drivers\msfs.sys File System Driver Running OK	Yes System Normal	No	Yes	
mssmbios	Microsoft System Management BIOS Driver c:\windows\system32\drivers\mssmbios.sys Kernel Driver Running OK	Yes Manual Normal	No	Yes	
mup	Mup c:\windows\system32\drivers\mup.sys File System Driver Running OK	Yes Boot Normal	No	Yes	
nal	Nal Service \??\c:\windows\system32\drivers\iqvw32.sys Kernel Driver Stopped OK	No Manual Normal	No	No	
ndis	NDIS System Driver c:\windows\system32\drivers\ndis.sys Kernel Driver Running OK	Yes Boot Normal	No	Yes	
ndistapi	Remote Access NDIS TAPI Driver c:\windows\system32\drivers\ndistapi.sys Kernel Driver Running OK	Yes Manual Normal	No	Yes	
ndisuio	NDIS Usermode I/O Protocol c:\windows\system32\drivers\ndisuio.sys Kernel Driver Stopped OK	No Manual Normal	No	No	
ndiswan	Remote Access NDIS WAN Driver c:\windows\system32\drivers\ndiswan.sys Kernel Driver Running OK	Yes Manual Normal	No	Yes	
ndproxy	NDIS Proxy c:\windows\system32\drivers\ndproxy.sys Kernel Driver Running OK	Yes Manual Normal	No	Yes	
netbios	NetBIOS Interface c:\windows\system32\drivers\netbios.sys System Driver Normal	Yes System Yes	Running OK	File	
netbt	NetBios over Tcpip c:\windows\system32\drivers\netbt.sys Kernel Driver Running OK	Yes System Normal	No	Yes	
nfrd960	nfrd960 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
npfs	Npfs c:\windows\system32\drivers\npfs.sys File System Driver Running OK	Yes System Normal	No	Yes	
ntfs	Ntfs c:\windows\system32\drivers\ntfs.sys File System Driver Running OK	Yes Disabled Normal	No	Yes	
null	Null c:\windows\system32\drivers\null.sys Kernel Driver Running OK	Yes System Normal	No	Yes	
parport	Parallel port driver c:\windows\system32\drivers\parport.sys Kernel Driver Running OK	Yes Manual Normal	No	Yes	

partmgr	Partition Manager c:\windows\system32\drivers\partmgr.sys Kernel Driver Running	OK	Yes	Normal	No	Boot	Yes
parvdm	Parvdm c:\windows\system32\drivers\parvdm.sys Kernel Driver Running	OK	Yes	Ignore	No	Auto	Yes
pci	PCI Bus Driver c:\windows\system32\drivers\pci.sys Kernel Driver Running	OK	Yes	Critical	No	Boot	Yes
pciide	PCIide c:\windows\system32\drivers\pciide.sys Kernel Driver Running	OK	Yes	Normal	No	Boot	Yes
pcmcia	Pcmcia c:\windows\system32\drivers\pcmcia.sys Kernel Driver Stopped	OK	No	Normal	No	Disabled	No
pdcomp	PDCOMP No Ignore	Not Available	Manual	Stopped	No	Kernel Driver	OK
pdframe	PDFRAME Kernel Driver Stopped	OK	Not Available	No	Manual	Ignore	No
pdreli	PDRELI No Ignore	Not Available	Manual	Stopped	No	Kernel Driver	OK
pdrframe	PDRFRAME Kernel Driver Stopped	OK	Not Available	No	Manual	Ignore	No
perc2	perc2 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
perc2hib	perc2hib No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
pptpminiport	WAN Miniport (PPTP) c:\windows\system32\drivers\raspptp.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
processor	Processor Driver c:\windows\system32\drivers\processr.sys Kernel Driver Stopped	OK	No	Normal	No	Manual	No
ptilink	Direct Parallel Link Driver c:\windows\system32\drivers\ptilink.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
ql1080	ql1080 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK

ql10wnt	Ql10wnt No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql12160	ql12160 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql1240	ql1240 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql1280	ql1280 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql2100	ql2100 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql2200	ql2200 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
ql2300	ql2300 No Normal	Not Available	Disabled	Stopped	No	Kernel Driver	OK
rasacd	Remote Access Auto Connection Driver c:\windows\system32\drivers\rasacd.sys Kernel Driver Running	OK	Yes	Normal	No	System	Yes
rasl2tp	WAN Miniport (L2TP) c:\windows\system32\drivers\rasl2tp.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
rasppoe	Remote Access PPPOE Driver c:\windows\system32\drivers\rasppoe.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
raspti	Direct Parallel c:\windows\system32\drivers\raspti.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
rdbss	Rdbss c:\windows\system32\drivers\rdbss.sys File System Driver Running	OK	Yes	Normal	No	System	Yes
rdpcdd	RDPCDD c:\windows\system32\drivers\rdpcdd.sys Kernel Driver Running	OK	Yes	Ignore	No	System	Yes
rdpdr	Terminal Server Device Redirector Driver c:\windows\system32\drivers\rdpdr.sys Kernel Driver Running	OK	Yes	Normal	No	Manual	Yes
rdpwd	RDPWD c:\windows\system32\drivers\rdpwd.sys Kernel Driver Running	OK	Yes	Ignore	No	Manual	Yes
redbook	Digital CD Audio Playback Filter Driver c:\windows\system32\drivers\redbook.sys Kernel Driver	Yes	System				

	Running	OK	Normal	No	Yes		Running	OK	Normal	No	Yes	
serenum	Serenum Filter Driver c:\windows\system32\drivers\serenum.sys Kernel Driver Yes Manual Running OK Normal No Yes						toside	TosIde Not Available Kernel Driver No Disabled Stopped OK Normal No No				
serial	Serial port driver c:\windows\system32\drivers\serial.sys Kernel Driver Yes System Running OK Ignore No Yes						udfs	Udfs c:\windows\system32\drivers\udfs.sys File System Driver No Disabled Stopped OK Normal No No				
sfloppy	Sfloppy c:\windows\system32\drivers\sfloppy.sys Kernel Driver No System Stopped OK Ignore No No						ultra	ultra Not Available Kernel Driver No Disabled Stopped OK Normal No No				
simbad	Simbad 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				
sparrow	Sparrow Not Available Kernel Driver No Disabled Stopped OK Normal No No						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				
srv	Srv c:\windows\system32\drivers\srsv.sys File System 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				
swenum	Software Bus Driver c:\windows\system32\drivers\swenum.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				
symc810	symc810 Not Available Kernel Driver No Disabled Stopped OK Normal No No						usbuhci	Microsoft USB Universal Host Controller Miniport Driver c:\windows\system32\drivers\usbuhci.sys Kernel Driver Yes Manual Running OK Normal No Yes				
symc8xx	symc8xx Not Available Kernel Driver No Disabled Stopped OK Normal No No						vgasave	VGA Display Controller. c:\windows\system32\drivers\vga.sys Kernel Driver Yes System Running OK Ignore No Yes				
symmpi	symmpi Not Available Kernel Driver No Disabled Stopped OK Normal No No						viaide	ViaIde 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						volsnap	Storage volumes c:\windows\system32\drivers\volsnap.sys Kernel Driver Yes Boot Running OK Normal No Yes				
sym_u3	sym_u3 Not Available Kernel Driver No Disabled Stopped OK Normal No No						wanarp	Remote Access IP ARP Driver c:\windows\system32\drivers\wanarp.sys Kernel Driver Yes Manual Running OK Normal No Yes				
tcpip	TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel Driver Yes System Running OK Normal No Yes						wdica	WDICA Not Available Kernel Driver No Manual Stopped OK Ignore No No				
tdpipe	TDPIPE c:\windows\system32\drivers\tdpipe.sys Kernel Driver No Manual Stopped OK Ignore No No						wlbs	Network Load Balancing c:\windows\system32\drivers\wlbs.sys Kernel Driver No Manual				
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											

Stopped	OK	Normal	No	No
[Signed Drivers]				
Device Name	Signed	Device Class		
Driver Version		Driver Date		
Manufacturer		INF Name	Driver Name	
Device ID				
Microsoft System Management BIOS Driver	Yes	SYSTEM		
SYSTEM 5.2.3790.1830		10/1/2002		
(Standard system devices)		machine.inf		
Not Available		ROOT\SYSTEM\0002		
Microcode Update Device	Yes	SYSTEM		
5.2.3790.0 10/1/2002		(Standard system devices)		
machine.inf		Not Available		
ROOT\SYSTEM\0001				
Plug and Play Software Device Enumerator	Yes	SYSTEM		
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		
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		
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_PTMINIPORT\0000				
WAN Miniport (PPTP)	Yes	NET	5.2.3790.0	
10/1/2002		Microsoft netrasa.inf	Not Available	
Available		ROOT\MS_PPTPMINIPORT\0000		
WAN Miniport (PPPOE)	Yes	NET	5.2.3790.0	
10/1/2002		Microsoft netrasa.inf	Not Available	
Available		ROOT\MS_PPPOEMINIPORT\0000		
WAN Miniport (IP)	Yes	NET	5.2.3790.0	
10/1/2002		Microsoft netrasa.inf	Not Available	
Available		ROOT\MS_NDISWANIP\0000		
WAN Miniport (L2TP)	Yes	NET	5.2.3790.0	
10/1/2002		Microsoft netrasa.inf	Not Available	
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	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	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	Not Available	ROOT\LEGACY_TCPIP\0000	
RDPWD	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available	ROOT\LEGACY_RDPWD\0000	
RDPCCD	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available	ROOT\LEGACY_RDPCCD\0000	
Remote Access Auto Connection Driver	Not Available		
LEGACYDRIVER	Not Available		Not
Available	Not Available	Not Available	Not
Available	Not Available	ROOT\LEGACY_RASACD\0000	
Parvdm	Not Available	LEGACYDRIVER	Not
Available	Not Available	Not Available	Not
Available	Not Available	ROOT\LEGACY_PARVDM\0000	
Partition Manager	Not Available		
LEGACYDRIVER	Not Available		Not
Available	Not Available	Not Available	Not
Available	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	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	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_NDIS\0000		
NDIS System Driver Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_NDIS\0000		
Nal Service Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_NAL\0000		
mountmgr Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_MOUNTMGR\0000		
mmdd Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_MNMDD\0000		
ksecdd Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_KSECDD\0000		
IPSEC driver Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_IPSEC\0000		
IntelIde Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_INTELIDE\0000		
HTTP Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_HTTP\0000		
Generic Packet Classifier Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_GPC\0000		
Fips Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_FIPS\0000		
dmload Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_DMLOAD\0000		
dmboot Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_DMBOOT\0000		
CRC Disk Filter Driver Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_CRCDISK\0000		
Beep Not Available LEGACYDRIVER Not			
Available	Not Available	Not Available	Not
Available	Not Available		
	ROOT\LEGACY_BEEP\0000		
AFD Networking Support Environment Not Available			
	LEGACYDRIVER	Not Available	Not
Available	Not Available	Not Available	Not
Available	ROOT\LEGACY_AFD\0000		
Generic volume Yes VOLUME 5.2.3790.1830			
	10/1/2002 Microsoft	volume.inf	Not Available

STORAGE\VOLUME1&30A96598&0&SIGNATURED1FFD1FFOFFSET7E00LENGTH8796B9400

Volume Manager Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\FTDISK\0000

Logical Disk Manager Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ROOT\DMIO\0000

ACPI Fixed Feature Button Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\FIXEDBUTTON\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C0C\3&61AAA01&0

Intel(R) 82801EB SMBus Controller - 24D3 Yes
SYSTEM 5.1.0.1009 3/25/2004 Intel
ich5core.inf Not Available
PCI\VEN_8086&DEV_24D3&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&FB

Secondary IDE Channel Yes HDC
5.2.3790.0 10/1/2002 (Standard IDE
ATA/ATAPI controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&2FA43749&0&1

CD-ROM Drive Yes CDROM 5.2.3790.0
10/1/2002 (Standard CD-ROM drives)
cdrom.inf Not Available
IDE\CDROMSAMSUNG_CD-ROM_SC-
148A_____B401____\5&25B98AF5&0&0.0

Primary IDE Channel Yes HDC 5.2.3790.0
10/1/2002 (Standard IDE ATA/ATAPI
controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&2FA43749&0&0

Intel(R) 82801EB Ultra ATA Storage Controllers Yes
HDC 5.1.0.1009 3/25/2004 Intel
ich5ide.inf Not Available
PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&F9

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
Yes KEYBOARD 5.2.3790.0
10/1/2002 (Standard keyboards) keyboard.inf
Not Available
ACPI\PNP0303\5&9583612&0

PS/2 Compatible Mouse Yes MOUSE
5.2.3790.0 10/1/2002 Microsoft msmouse.inf
Not Available
ACPI\PNP0F13\5&9583612&0

Communications Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) mspports.inf
Not Available ACPI\PNP0501\2

Communications Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) mspports.inf
Not Available ACPI\PNP0501\1

Printer Port Logical Interface Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
LPTENUM\MICROSOFTRAWPORT\6&2A460
501&0&LPT1

ECP Printer Port Yes PORTS 5.2.3790.0
10/1/2002 (Standard port types) msports.inf
Not Available
ACPI\PNP0401\5&9583612&0

Floppy disk drive Yes FLOPPYDISK
5.2.3790.0 10/1/2002 (Standard floppy disk
drives) floppydisk.inf Not Available
FDC\GENERIC_FLOPPY_DRIVE\6&6A032C4
&0&0

Standard floppy disk controller Yes FDC
5.2.3790.0 10/1/2002 (Standard floppy disk
controllers) fdc.inf Not Available
ACPI\PNP0700\1

Generic Bus Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0A05\1

Not Available Not Available Not Available
Not Available Not Available Not Available Not

Available Not Available Not Available
ACPI\IBM3737\4&369939D9&0

System timer Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0100\4&369939D9&0

System speaker Yes SYSTEM 5.2.3790.0
10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0800\4&369939D9&0

System CMOS/real time clock Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0B00\4&369939D9&0

Programmable interrupt controller Yes
SYSTEM 5.2.3790.0 10/1/2002 (Standard
system devices) machine.inf Not Available
ACPI\PNP0000\4&369939D9&0

Numeric data processor Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C04\4&369939D9&0

Direct memory access controller Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0200\4&369939D9&0

Motherboard resources Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ACPI\PNP0C02\1F

ISAPNP Read Data Port Yes SYSTEM
5.2.3790.0 10/1/2002 (Standard system devices)
machine.inf Not Available
ISAPNP\READDATAPORT\0

Intel(R) 82801EB LPC Interface Controller - 24D0 Yes
SYSTEM 5.1.0.1009 3/25/2004 Intel
ich5core.inf Not Available
PCI\VEN_8086&DEV_24D0&SUBSYS_000000
00&REV_02\3&61AAA01&0&F8

Default Monitor Yes MONITOR
5.1.2001.0 6/6/2001 (Standard monitor types)
monitor.inf Not Available
DISPLAY\DEFAULT_MONITOR\5&10D13A3
F&0&10000000&06&04

RADEON 7000 RADEON VE Family (Microsoft
Corporation) Yes DISPLAY 6.13.10.6153
8/8/2002 ATI Technologies Inc.
atiixpag.inf Not Available
PCI\VEN_1002&DEV_5159&SUBSYS_02C810
14&REV_00\4&3A321F38&0&20F0

Intel(R) 82801 PCI Bridge - 244E Yes
SYSTEM 6.0.0.1013 4/1/2004 Intel
ich6core.inf Not Available
PCI\VEN_8086&DEV_244E&SUBSYS_000000
00&REV_C2\3&61AAA01&0&F0

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB2\0\4&34B50607&0

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&EF

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&CAEE98E&0

Intel(R) 82801EB USB Universal Host Controller - 24DE
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&EB

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&206D9F09&0

Intel(R) 82801EB USB Universal Host Controller - 24D7
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&EA

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&31D97CBA&0

Intel(R) 82801EB USB Universal Host Controller - 24D4
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&E9

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB\4&39460DFB&0

Intel(R) 82801EB USB Universal Host Controller - 24D2
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&E8

Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_3597&SUBSYS_000000
00&REV_0A\3&61AAA01&0&20

Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available

```

PCI\VEN_8086&DEV_0327&SUBSYS_000000
00&REV_09\4&75520AF&0&0318
Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&A4D5A19&0&090218
Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&A4D5A19&0&080218
Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_032A&SUBSYS_000000
00&REV_09\4&75520AF&0&0218
Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_0326&SUBSYS_000000
00&REV_09\4&75520AF&0&0118
SCSI Processor Device Yes SYSTEM
5.2.3790.0 10/1/2002 IBM scsidev.inf Not
Available
SCSI\PROCESSOR&VEN_IBM&PROD_02R09
80A_S320_1&REV_1\6&1E796AF&0&080
Disk drive Yes DISKDRIVE 5.2.3790.0
10/1/2002 (Standard disk drives) disk.inf Not
Available SCSI\DISK&VEN_IBM-
ESXS&PROD_ST336753LC___FN&REV_B85E\6&1E79
6AF&0&010
Adaptec AIC-7902B - Ultra320 SCSI Yes
SCSIADAPTER 3.0.0.0 8/28/2003
Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
014&REV_10\5&1EA3B137&0&190018
Adaptec AIC-7902B - Ultra320 SCSI Yes
SCSIADAPTER 3.0.0.0 8/28/2003
Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
014&REV_10\5&1EA3B137&0&180018
Fibre Channel Controller Not Available Not
Available Not Available Not Available Not
Available Not Available Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_010C10
77&REV_02\5&1EA3B137&0&100018
Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&1EA3B137&0&090018
Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&1EA3B137&0&080018
Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_0329&SUBSYS_000000
00&REV_09\4&75520AF&0&0018
Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 -
3596 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available

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PCI\VEN_8086&DEV_3596&SUBSYS_000000
00&REV_0A\3&61AAA01&0&18
Broadcom NetXtreme Gigabit Ethernet Yes NET
8.48.0.0 10/31/2005 Broadcom
oem3.inf Not Available
PCI\VEN_14E4&DEV_1659&SUBSYS_02C610
14&REV_10\4&1855300&0&0010
Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 -
3595 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_3595&SUBSYS_000000
00&REV_0A\3&61AAA01&0&10
Intel(R) E7525 Memory Controller Hub - 359E Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_359E&SUBSYS_000000
00&REV_0A\3&61AAA01&0&00
PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002
(Standard system devices) machine.inf
Not Available
ACPI\PNP0A03\2&DABA3FF&0
Not Available Not Available Not Available
Not Available Not Available Not Available Not
Available Not Available Not Available
ACPI\ASF0001\2&DABA3FF&0
Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_3\3
Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_3\2
Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_3\1
Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_3\0
Microsoft ACPI-Compliant System Yes
SYSTEM 5.2.3790.0 10/1/2002 Microsoft
acpi.inf Not Available
ACPI_HAL\PNP0C08\0
ACPI Multiprocessor PC Yes COMPUTER
5.2.3790.0 10/1/2002 (Standard computers)
hal.inf Not Available
ROOT\ACPI_HAL\0000
Not Available Not Available Not Available
Not Available Not Available Not Available Not
Available Not Available Not Available
HTREE\ROOT\0

```

[Environment Variables]

```

Variable Value User Name
ClusterLogC:\WINDOWS\Cluster\cluster.log
<SYSTEM>

```

```

ComSpec %SystemRoot%\system32\cmd.exe
<SYSTEM>
NUMBER_OF_PROCESSORS 4 <SYSTEM>

OS Windows_NT <SYSTEM>
Path
%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;c:\tools;c:\tools\util;c:\Program Files\Intel\DMIX;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\
<SYSTEM>
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH
<SYSTEM>
PROCESSOR_ARCHITECTURE x86
<SYSTEM>
PROCESSOR_IDENTIFIER x86 Family 15 Model 3 Stepping 4, GenuineIntel
<SYSTEM>
PROCESSOR_LEVEL 15 <SYSTEM>
PROCESSOR_REVISION 0304 <SYSTEM>
TEMP %SystemRoot%\TEMP <SYSTEM>
TMP %SystemRoot%\TEMP <SYSTEM>
windir %SystemRoot% <SYSTEM>
FP_NO_HOST_CHECK NO <SYSTEM>

TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM
TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM
TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE
TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE
TEMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE
TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE
TEMP %USERPROFILE%\Local Settings\Temp FCLIENT10\Administrator
TMP %USERPROFILE%\Local Settings\Temp FCLIENT10\Administrator

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[Print Jobs]

Document Size	Owner	Notify	Status	Time
Submitted	Start Time	Until Time	Elapsed Time	
Pages Printed	Job ID	Priority		
Parameters	Driver	Print Processor	Host	
Print Queue	Data Type	Name		

[Network Connections]

Local Name	Remote Name	Type
Status	User Name	
Z:	\\192.168.40.1\drive	Disk Persistent
Connection	FCLIENT10\Administrator	

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Max Working Set	Start Time	Version	Size
Set	File Date							
system idle process	Not Available	Not Available	0	0				
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
system	Not Available	1413120	4	8	0			
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available			
smss.exe	Not Available	204800	1413120	716	11	5/30/2006 1:31 PM		Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
csrss.exe	Not Available	900	13	Not Available	Not Available	5/30/2006 1:31 PM		Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
winlogon.exe	c:\windows\system32\winlogon.exe	1036	13	204800	1413120	5/30/2006 1:31 PM	5.2.3790.1830	(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes) 3/6/2006 5:23 PM
services.exe	c:\windows\system32\services.exe	1080	9	204800	1413120	5/30/2006 1:31 PM	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	204800	1413120	1092	9	5/30/2006 1:31 PM	5.2.3790.0 (srv03_rtm.030324-2048)	13.00 KB (13,312 bytes) 3/25/2003 7:00 AM
svchost.exe	c:\windows\system32\svchost.exe	1288	8	204800	1413120	5/30/2006 1:31 PM	5.2.3790.1830	(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM
svchost.exe	Not Available	Not Available	1356	8				
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
svchost.exe	Not Available	Not Available	1412	8				
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
svchost.exe	Not Available	1484	8					
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available			
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
svchost.exe	c:\windows\system32\svchost.exe	1528	8	204800	1413120	5/30/2006 1:31 PM	5.2.3790.1830	(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM
msdte.exe	Not Available	1504	8	Not Available	Not Available	5/30/2006 1:31 PM		Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available			
Available	Not Available	Not Available	Not Available	Not Available	Not Available			

```

inetinfo.exe
c:\windows\system32\inetrv\inetinfo.exe 1840
8 204800 1413120 5/30/2006 1:31
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:26
PM
svchost.exe Not Available 332 8
Not Available Not Available
5/30/2006 1:31 PM Not Available Not
Available Not Available
svchost.exe c:\windows\system32\svchost.exe
512 8 204800 1413120
5/30/2006 1:31 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM
explorer.exe c:\windows\explorer.exe 920
8 204800 1413120 5/30/2006 1:31
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 3/6/2006 5:24
PM
svchost.exe c:\windows\system32\svchost.exe
2032 8 204800 1413120
5/30/2006 1:32 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM
bmlisten.exe c:\slave\bmlisten.exe 360 8
204800 1413120 5/30/2006 1:32 PM 2, 1,
0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32
PM
wmiprvse.exe Not Available 1668 8
Not Available Not Available
5/30/2006 1:33 PM Not Available Not
Available Not Available
dllhost.exe c:\windows\system32\dllhost.exe 1332 8
204800 1413120 5/30/2006 2:44 PM
5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM
csrss.exe Not Available 1128 13 Not
Available Not Available 5/30/2006 3:53 PM Not
Available Not Available Not Available
winlogon.exe c:\windows\system32\winlogon.exe
940 13 204800 1413120
5/30/2006 3:53 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
3/6/2006 5:23 PM
rdpclip.exe c:\windows\system32\rdpclip.exe 1560 8
204800 1413120 5/30/2006 3:53 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
68.00 KB (69,632 bytes) 3/6/2006 5:23
PM
explorer.exe c:\windows\explorer.exe 796
8 204800 1413120 5/30/2006 3:53
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 3/6/2006 5:24
PM
bmlisten.exe c:\slave\bmlisten.exe 856 8
204800 1413120 5/30/2006 3:53 PM 2, 1,
0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32
PM
wmiprvse.exe Not Available 3704 8
Not Available Not Available
5/30/2006 3:54 PM Not Available Not
Available Not Available

```

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helpctr.exe c:\windows\pchealth\helpctr\binaries\helpctr.exe
2960 8 204800 1413120
5/30/2006 4:00 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes)
3/6/2006 5:24 PM
helpsvc.exe
c:\windows\pchealth\helpctr\binaries\helpsvc.exe
2556 8 204800 1413120
5/30/2006 4:00 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes)
3/6/2006 5:24 PM

[Loaded Modules]

Name Version Size File Date Manufacturer
Path
winlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
497.00 KB (508,928 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winlogon.exe
ntdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
748.50 KB (766,464 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\ntdll.dll
kernel32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1,014.00 KB (1,038,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\kernel32.dll
advapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
605.50 KB (620,032 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\advapi32.dll
rpert4 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
627.00 KB (642,048 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rpert4.dll
crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)
582.00 KB (595,968 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\crypt32.dll
msasn1 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
56.50 KB (57,856 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msasn1.dll
msvcrt 7.0.3790.1830 (srv03_sp1_rtm.050324-1447)
340.50 KB (348,672 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msvcrt.dll
user32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
574.50 KB (588,288 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\user32.dll
gdi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
273.00 KB (279,552 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\gdi32.dll
nddeapi 5.2.3790.0 (srv03_rtm.030324-2048) 16.00
KB (16,384 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\nddeapi.dll
profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
22.50 KB (23,040 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\profmap.dll

```

netapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 3/6/2006 5:23			imagehlp	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 145.50 KB (148,992 bytes) 3/25/2003 7:00		
PM	Microsoft Corporation c:\windows\system32\netapi32.dll			AM	Microsoft Corporation c:\windows\system32\imagehlp.dll		
userenv	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 771.00 KB (789,504 bytes) 3/25/2003 7:00			ole32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,245,184 bytes) 3/6/2006 5:23		
AM	Microsoft Corporation c:\windows\system32\userenv.dll			PM	Microsoft Corporation c:\windows\system32\ole32.dll		
psapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.00 KB (20,480 bytes) 3/6/2006 5:23			comctl32	6.0 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,051,136 bytes) 3/24/2005 8:41 PM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.com mon-controls_6595b64144ccf1df_6.0.3790.1830_x- ww_7ae38ccf\comctl32.dll		
PM	Microsoft Corporation c:\windows\system32\psapi.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		
regapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 3/6/2006 5:23			wtsapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\regapi.dll			PM	Microsoft Corporation c:\windows\system32\wtsapi32.dll		
secur32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 3/6/2006 5:23			sxs	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 743.50 KB (761,344 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\secur32.dll			PM	Microsoft Corporation c:\windows\system32\sxs.dll		
setupapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.03 MB (1,079,808 bytes) 3/25/2003 7:00			winmm	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:23		
AM	Microsoft Corporation c:\windows\system32\setupapi.dll			PM	Microsoft Corporation c:\windows\system32\winmm.dll		
version	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.00 KB (18,432 bytes) 3/6/2006 5:23			shell32	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 7.99 MB (8,379,392 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\version.dll			PM	Microsoft Corporation c:\windows\system32\shell32.dll		
winsta	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 3/6/2006 5:23			wldap32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 174.50 KB (178,688 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\winsta.dll			PM	Microsoft Corporation c:\windows\system32\wldap32.dll		
ws2_32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 3/6/2006 5:23			rsaenh	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 183.98 KB (188,392 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\ws2_32.dll			PM	Microsoft Corporation c:\windows\system32\rsaenh.dll		
ws2help	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 3/6/2006 5:23			csdll	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 100.00 KB (102,400 bytes) 3/6/2006 5:24		
PM	Microsoft Corporation c:\windows\system32\ws2help.dll			PM	Microsoft Corporation c:\windows\system32\csdll.dll		
msgina	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.16 MB (1,211,904 bytes) 3/6/2006 5:23			dimsntfy	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:28		
PM	Microsoft Corporation c:\windows\system32\msgina.dll			PM	Microsoft Corporation c:\windows\system32\dimsntfy.dll		
shsvcs	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 131.50 KB (134,656 bytes) 3/6/2006 5:23			wlnotify	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 94.50 KB (96,768 bytes) 3/6/2006 5:23		
PM	Microsoft Corporation c:\windows\system32\shsvcs.dll			PM	Microsoft Corporation c:\windows\system32\wlnotify.dll		
shlwapi	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 313.50 KB (321,024 bytes) 3/6/2006 5:23			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		
PM	Microsoft Corporation c:\windows\system32\shlwapi.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		
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			winspool	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 147.00 KB (150,528 bytes) 3/25/2003 7:00		
sfc_os	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 138.00 KB (141,312 bytes) 3/6/2006 5:23			AM	Microsoft Corporation c:\windows\system32\winspool.dr		
PM	Microsoft Corporation c:\windows\system32\sfc_os.dll						
wintrust	5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:23						
PM	Microsoft Corporation c:\windows\system32\wintrust.dll						

comctl32 5.82 (srv03_sp1_rtm.050324-1447)
585.00 KB (599,040 bytes) 3/24/2005 8:41
PM Microsoft Corporation
c:\windows\winsxs\x86_microsoft.windows.com
mon-controls_6595b64144ccf1df_5.82.3790.1830_x-
ww_1b6f474a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
202.00 KB (206,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\uxtheme.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\samlib.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
319.50 KB (327,168 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cscui.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
502.50 KB (514,560 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048)
778.00 KB (796,672 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\comres.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntmarta.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.76 MB (2,897,920 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
20.50 KB (20,992 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 221.00 KB (226,304 bytes)
3/6/2006 5:24 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50
KB (43,520 bytes) 3/1/2006 1:38 PM Microsoft
Corporation
c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
471.00 KB (482,304 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll

msvcp60 6.05.2144.0 388.00 KB (397,312 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msvcp60.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
71.00 KB (72,704 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
153.50 KB (157,184 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\dnsapi.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
107.50 KB (110,080 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
66.50 KB (68,096 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpmgr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
126.50 KB (129,536 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\umpnpmgr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\eventlog.dll

lsass 5.2.3790.0 (srv03_rtm.030324-2048) 13.00
KB (13,312 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
803.00 KB (822,272 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\lsasrv.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
450.50 KB (461,312 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\samsrv.dll

cryptdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
32.00 KB (32,768 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\cryptdll.dll

msprivs 5.2.3790.0 (srv03_rtm.030324-2048) 46.50
KB (47,616 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\msprivs.dll

kerberos 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
340.50 KB (348,672 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\kerberos.dll

msv1_0 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msv1_0.dll

iphlpapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
92.50 KB (94,720 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\iphlpapi.dll

netlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
409.50 KB (419,328 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\netlogon.dll

w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
222.00 KB (227,328 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\w32time.dll

schannel 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
141.00 KB (144,384 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\schannel.dll

wdigest	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 74.00 KB (75,776 bytes) 3/6/2006 5:23	dssenh	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 139.98 KB (143,336 bytes) 3/6/2006 5:23
PM	Microsoft Corporation c:\windows\system32\wdigest.dll	PM	Microsoft Corporation c:\windows\system32\dssenh.dll
rassfm	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 23.00 KB (23,552 bytes) 3/6/2006 5:24	wlbcctrl	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 3/6/2006 5:23
PM	Microsoft Corporation c:\windows\system32\rassfm.dll	PM	Microsoft Corporation c:\windows\system32\wlbcctrl.dll
kdcsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 213.50 KB (218,624 bytes) 3/6/2006 5:23	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
PM	Microsoft Corporation c:\windows\system32\kdcsvc.dll	strmfilt	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 84.00 KB (86,016 bytes) 3/6/2006 5:23
ntdsa	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.45 MB (1,516,032 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\strmfilt.dll
PM	Microsoft Corporation c:\windows\system32\ntdsa.dll	httpapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 24.00 KB (24,576 bytes) 3/6/2006 5:23
esent	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1,022.50 KB (1,047,040 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\httpapi.dll
PM	Microsoft Corporation c:\windows\system32\esent.dll	svchost	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23
ntdsatq	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 29.50 KB (30,208 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\svchost.exe
PM	Microsoft Corporation c:\windows\system32\ntdsatq.dll	rpsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 406.00 KB (415,744 bytes) 3/6/2006 5:23
msock	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.50 KB (256,512 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\rpsvc.dll
PM	Microsoft Corporation c:\windows\system32\msock.dll	schedsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 197.50 KB (202,240 bytes) 3/6/2006 5:23
scecli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 186.50 KB (190,976 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\schedsvc.dll
PM	Microsoft Corporation c:\windows\system32\scecli.dll	wiarpc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 32.50 KB (33,280 bytes) 3/6/2006 5:23
ws03res	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 793.50 KB (812,544 bytes) 3/6/2006 5:28	PM	Microsoft Corporation c:\windows\system32\wiarpc.dll
PM	Microsoft Corporation c:\windows\system32\ws03res.dll	msidle	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 6.50 KB (6,656 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msidle.dll
hnetcfg	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 343.50 KB (351,744 bytes) 3/6/2006 5:23	audiosrv	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 40.50 KB (41,472 bytes) 3/6/2006 5:24
PM	Microsoft Corporation c:\windows\system32\hnetcfg.dll	PM	Microsoft Corporation c:\windows\system32\audiosrv.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	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
ipsecsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 180.50 KB (184,832 bytes) 3/6/2006 5:23	aelupsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 26.00 KB (26,624 bytes) 3/6/2006 5:28
PM	Microsoft Corporation c:\windows\system32\ipsecsvc.dll	PM	Microsoft Corporation c:\windows\system32\aelupsvc.dll
oakley	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 264.00 KB (270,336 bytes) 3/6/2006 5:23	apphelp	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.50 KB (150,016 bytes) 3/6/2006 5:24
PM	Microsoft Corporation c:\windows\system32\oakley.dll	PM	Microsoft Corporation c:\windows\system32\apphelp.dll
winipsec	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 35.50 KB (36,352 bytes) 3/6/2006 5:23	cryptsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.50 KB (56,832 bytes) 3/6/2006 5:24
PM	Microsoft Corporation c:\windows\system32\winipsec.dll	PM	Microsoft Corporation c:\windows\system32\cryptsvc.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	certcli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 227.00 KB (232,448 bytes) 3/6/2006 5:24
psbase	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 84.00 KB (86,016 bytes) 3/6/2006 5:23	PM	Microsoft Corporation c:\windows\system32\certcli.dll
PM	Microsoft Corporation c:\windows\system32\psbase.dll		

atl	3.05.2283 83.00 KB (84,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\atl.dll	credui	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\credui.dll
vssapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 548.00 KB (561,152 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\vssapi.dll	rtutils	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 34.50 KB (35,328 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\rtutils.dll
dmserver	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 25.50 KB (26,112 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\dmserver.dll	netshell	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.73 MB (1,812,992 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\netshell.dll
es	2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 233.00 KB (238,592 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\es.dll	clusapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 60.00 KB (61,440 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\clusapi.dll
pchsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 39.00 KB (39,936 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchsvc.dll	rasapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.50 KB (245,248 bytes) 3/25/2003 7:00 Microsoft Corporation c:\windows\system32\rasapi32.dll
srvsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/25/2003 7:00 Microsoft Corporation c:\windows\system32\srvsvc.dll	rasman	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 61.50 KB (62,976 bytes) 3/25/2003 7:00 Microsoft Corporation c:\windows\system32\rasman.dll
seclogon	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.50 KB (18,944 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\seclogon.dll	tapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 179.50 KB (183,808 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\tapi32.dll
sens	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.50 KB (37,376 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\sens.dll	wininet	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 646.00 KB (661,504 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\wininet.dll
wmisvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\wbem\wmisvc.dll	wzcsapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 41.00 KB (41,984 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\wzcsapi.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	wzcsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 364.50 KB (373,248 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\wzcsvc.dll
comsvcs	2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,248,256 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\comsvcs.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
browser	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.50 KB (78,336 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\browser.dll	dhcpcsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 113.50 KB (116,224 bytes) 3/25/2003 7:00 Microsoft Corporation c:\windows\system32\dhcpcsvc.dll
netman	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 258.50 KB (264,704 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\netman.dll	wbemcore	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.50 KB (509,440 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\wbem\wbemcore.dll
mprapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 89.00 KB (91,136 bytes) 3/6/2006 5:23 Microsoft Corporation c:\windows\system32\mprapi.dll	esscli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.00 KB (256,000 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\wbem\esscli.dll
activeds	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 194.00 KB (198,656 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\activeds.dll	wmiutils	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\wbem\wmiutils.dll
adslrpc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.00 KB (149,504 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\adslrpc.dll	repdrvfs	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:24 Microsoft Corporation c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 404.00 KB (413,696 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.50 KB (278,016 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemess.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 663.00 KB (678,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.50 KB (7,680 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rasadhlp.dll

netrap 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netrap.dll

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\ncprov.dll

ntlsapi 5.2.3790.0 (srv03_rtm.030324-2048) 8.00 KB (8,192 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\ntlsapi.dll

actxprxy 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\actxprxy.dll

netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 763.00 KB (781,312 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netcfgx.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 164.00 KB (167,936 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\inetsrv\iisutil.dll

rpref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 4.00 KB (4,096 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetsrv\rpref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 138.50 KB (141,824 bytes) 3/6/2006 5:25 PM Microsoft Corporation c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 21.00 KB (21,504 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetsrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 62.50 KB (64,000 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetsrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\admwprox.dll

iiscfg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1.08 MB (1,133,056 bytes) 3/6/2006 5:26

PM Microsoft Corporation c:\windows\system32\inetsrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 229.00 KB (234,496 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msxml3.dll

svcxext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\svcxext.dll

security 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\security.dll

iismap 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 58.50 KB (59,904 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 211.00 KB (216,064 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:25 PM Microsoft Corporation c:\windows\system32\inetsrv\w3cache.dll

w3tp 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\inetsrv\w3tp.dll

lonsint 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\lonsint.dll

explorer 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\explorer.exe

browseui 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1,009.00 KB (1,033,216 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browseui.dll

shdocvw 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1.43 MB (1,502,720 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shdocvw.dll

cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 496.50 KB (508,416 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cryptui.dll

themeui 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 377.50 KB (386,560 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\themeui.dll

msimg32 5.2.3790.0 (srv03_rtm.030324-2048) 4.50 KB (4,608 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\msimg32.dll

linkinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\linkinfo.dll

ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
140.00 KB (143,360 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntshrui.dll

urlmon 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
673.00 KB (689,152 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\urlmon.dll

webcheck 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
272.50 KB (279,040 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\webcheck.dll

wsock32 5.2.3790.0 (srv03_rtm.030324-2048) 22.00
KB (22,528 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\wsock32.dll

stobject 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\stobject.dll

batmeter 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
31.50 KB (32,256 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\batmeter.dll

powrprof 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
16.50 KB (16,896 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\powrprof.dll

drprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\drprov.dll

ntlanman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
43.50 KB (44,544 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\ntlanman.dll

netui0 5.2.3790.0 (srv03_rtm.030324-2048) 75.50
KB (77,312 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\netui0.dll

netui1 5.2.3790.0 (srv03_rtm.030324-2048)
184.00 KB (188,416 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\netui1.dll

davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 23.50
KB (24,064 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\davclnt.dll

termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
239.00 KB (244,736 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\termsrv.dll

icaapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
12.50 KB (12,800 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\icaapi.dll

mstlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
116.00 KB (118,784 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mstlsapi.dll

rdpwsx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
101.63 KB (104,072 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\rdpwsx.dll

bmlisten 2, 1, 0, 2 156.00 KB (159,744 bytes)
3/7/2006 12:32 PM IBM xSeries Server
Performance c:\slave\bmlisten.exe

dllhost 5.2.3790.0 (srv03_rtm.030324-2048) 5.50
KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\dllhost.exe

txflog 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
96.50 KB (98,816 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\txflog.dll

xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
10.50 KB (10,752 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\xolehlp.dll

msdtcprx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
455.50 KB (466,432 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msdtcprx.dll

mtxclu 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
77.00 KB (78,848 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mtxclu.dll

resutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
63.50 KB (65,024 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\resutils.dll

winnr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
17.00 KB (17,408 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winnr.dll

catsrv 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
273.00 KB (279,552 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\catsrv.dll

catsrvps 2001.12.4720.0 (srv03_rtm.030324-2048) 23.50
KB (24,064 bytes) 3/1/2006 1:39 PM Microsoft
Corporation c:\windows\system32\catsrvps.dll

catsrvut 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
608.00 KB (622,592 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\catsrvut.dll

mfcsubs 2001.12.4720.0 (srv03_rtm.030324-2048) 21.50
KB (22,016 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\mfcsubs.dll

clbcatx 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
102.50 KB (104,960 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\system32\clbcatx.dll

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) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\scredir.dll

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
68.00 KB (69,632 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\rdpclip.exe

msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
69.50 KB (71,168 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msacm32.dll

browsec 6.00.3790.0 (srv03_rtm.030324-2048) 62.00
KB (63,488 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\browsec.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
577.50 KB (591,360 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mlang.dll

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

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

netplwiz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
855.00 KB (875,520 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\netplwiz.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 3/1/2006 1:42 PM Microsoft
Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
133.50 KB (136,704 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
2.96 MB (3,108,864 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\msctf.dll

jscrip 5.6.0.8827 448.00 KB (458,752 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\jscrip.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\imm32.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\mshtml.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
376.00 KB (385,024 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
240.00 KB (245,760 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00
KB (94,208 bytes) 3/6/2006 5:23 PM Microsoft
Corporation c:\windows\system32\odbcint.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 3.50
KB (3,584 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\riched32.dll

riched20 5.31.23.1224 439.00 KB (449,536 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\riched20.dll

audiodev 5.2.3790.3700 (srv03_sp1_rtm.050324-1447)
470.00 KB (481,280 bytes) 3/6/2006 5:28
PM Microsoft Corporation
c:\windows\system32\audiodev.dll

wmvcore 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
2.21 MB (2,314,240 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wmvcore.dll

wmasf 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\wmasf.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
745.00 KB (762,880 bytes) 3/6/2006 5:24
PM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpsvc.exe

[Services]

Display Name	Name	State	Start Mode	Start Name	Service Type	Path	Error Control	Tag ID
Application Experience Lookup Service	AeLookupSvc	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Alerter	Alerter	Stopped	Disabled	Share Process	Normal	c:\windows\system32\svchost.exe -k localservice	NT AUTHORITY\LocalService	0
Application Layer Gateway Service	ALG	Stopped	Manual	Own Process	Normal	c:\windows\system32\alg.exe	NT AUTHORITY\LocalService	0
Application Management	AppMgmt	Stopped	Manual	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
ASP.NET State Service	aspnet_state	Stopped	Manual	Own Process	Normal	c:\windows\microsoft.net\framework\v2.0.50727\aspnet_state.exe	NT AUTHORITY\NetworkService	0
Windows Audio	AudioSrv	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Background Intelligent Transfer Service	BITS	Stopped	Manual	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Computer Browser	Browser	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Indexing Service	CiSvc	Stopped	Disabled	Share Process	Normal	c:\windows\system32\cisvc.exe	LocalSystem	0
ClipBook	ClipSrv	Stopped	Disabled	Own Process	Normal	c:\windows\system32\clipsrv.exe	LocalSystem	0
.NET Runtime Optimization Service v2.0.50727_X86	clr_optimization_v2.0.50727_32	Stopped	Manual	Own Process	Normal	c:\windows\microsoft.net\framework\v2.0.50727\mscorlib.exe	LocalSystem	0
COM+ System Application	COMSysApp	Running	Manual	Own Process	Normal	c:\windows\system32\dlhhost.exe	{02d4b3f1-fd88-11d1-960d-00805fc79235}	0
Cryptographic Services	CryptSvc	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
DCOM Server Process Launcher	DcomLaunch	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k dcomlaunch	LocalSystem	0
Distributed File System	Dfs	Stopped	Manual	Own Process				
						c:\windows\system32\dfsrv.exe	LocalSystem	0
DHCP Client	Dhcp	Stopped	Manual	Share Process	Normal	c:\windows\system32\svchost.exe -k networkservice	NT AUTHORITY\NetworkService	0
Logical Disk Manager Administrative Service	dmadmin	Stopped	Manual	Share Process	Normal	c:\windows\system32\dmadmin.exe /com	LocalSystem	0
Logical Disk Manager dmserver	dmserver	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
DNS Client	Dnscache	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k networkservice	NT AUTHORITY\NetworkService	0
Error Reporting Service	ERSvc	Stopped	Manual	Share Process	Normal	c:\windows\system32\svchost.exe -k winerr	LocalSystem	0
Event Log	Eventlog	Running	Auto	Share Process	Normal	c:\windows\system32\services.exe	LocalSystem	0
COM+ Event System	EventSystem	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Help and Support	helpsvc	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Human Interface Device Access	HidServ	Stopped	Disabled	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
HTTP SSLHTTPFilter		Running	Manual	Share Process	Normal	c:\windows\system32\lsass.exe	LocalSystem	0
IIS Admin Service	IISADMIN	Running	Auto	Share Process	Normal	c:\windows\system32\inetrv\inetinfo.exe	LocalSystem	0
IMAPI CD-Burning COM Service	ImapiService	Stopped	Disabled	Own Process	Normal	c:\windows\system32\imapi.exe	LocalSystem	0
Intersite Messaging	IsmServ	Stopped	Disabled	Own Process	Normal	c:\windows\system32\ismssrv.exe	LocalSystem	0
Kerberos Key Distribution Center	kdc	Stopped	Disabled	Share Process	Normal	c:\windows\system32\lsass.exe	LocalSystem	0
Server	lanmanserver	Running	Auto	Share Process	Normal	c:\windows\system32\svchost.exe -k netsvcs	LocalSystem	0
Workstation	lanmanworkstation	Running	Auto	Share Process				

```

c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0
License Logging LicenseService Stopped
Disabled Own Process
c:\windows\system32\llssrv.exe Normal NT
AUTHORITY\NetworkService 0
TCP/IP NetBIOS Helper LmHosts Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
Stopped Disabled Own Process
c:\windows\system32\mnmsrvc.exe
Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
Running Auto Own Process
c:\windows\system32\msdtc.exe Normal NT
AUTHORITY\NetworkService 1

Windows Installer MSIServer Stopped Manual
Share Process
c:\windows\system32\msiexec.exe /v
Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Network DDE DSDMNetDDEdsdm Stopped
Disabled Share Process
c:\windows\system32\netdde.exe Normal
LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Network Connections Netman Running Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Network Location Awareness (NLA) Nla
Running Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own
Process c:\windows\system32\ntfrs.exe Ignore
LocalSystem 0

NT LM Security Support Provider NtLmSsp
Stopped Manual Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own
Process "c:\program files\common files\microsoft
shared\source engine\ose.exe" Normal LocalSystem
0

Plug and Play PlugPlay Running Auto
Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

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IPSEC Services PolicyAgent Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Protected Storage ProtectedStorage Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Remote Access Auto Connection Manager RasAuto
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Access Connection Manager RasMan
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
Stopped Manual Own Process
c:\windows\system32\sessmgr.exe
Normal LocalSystem 0

Routing and Remote Access RemoteAccess
Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
Share Process
c:\windows\system32\svchost.exe -k regsvc
Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
Stopped Manual Own Process
c:\windows\system32\locator.exe Normal NT
AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
Share Process
c:\windows\system32\svchost.exe -k rpcss
Normal NT Authority\NetworkService 0

Resultant Set of Policy Provider RSoPProv Stopped
Manual Share Process
c:\windows\system32\rsopprov.exe
Normal LocalSystem 0

Special Administration Console Helper sacsvr
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

Smart Card SCardSvr Stopped Manual
Share Process
c:\windows\system32\scardsvr.exe
Ignore NT AUTHORITY\LocalService 0

Task Scheduler Schedule Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Secondary Logon seclogon Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Ignore LocalSystem 0

```


System Event Notification SENS Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
 SharedAccess Stopped Disabled
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
 Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Ignore LocalSystem 0

Print Spooler Spooler Stopped Manual Own
 Process c:\windows\system32\spoolsv.exe
 Normal LocalSystem 0

Windows Image Acquisition (WIA) stisvc
 Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k imgsvc
 Normal NT AUTHORITY\LocalService 0

Microsoft Software Shadow Copy Provider swprv
 Stopped Manual Own Process
 c:\windows\system32\svchost.exe -k swprv
 Normal LocalSystem 0

Performance Logs and Alerts SysmonLog
 Stopped Manual Own Process
 c:\windows\system32\smlogsvc.exe
 Normal NT Authority\NetworkService 0

Telephony TapiSrv Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k tapisrv
 Normal LocalSystem 0

Terminal Services TermService Running
 Manual Share Process
 c:\windows\system32\svchost.exe -k termsvc
 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 TrkSrv 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\wdmfr.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 iissvc
 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 wuauerv Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Wireless Configuration WZCSVC Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Network Provisioning Service xmlprov Stopped
 Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

[Program Groups]

Group Name Name User Name

Accessories	Default User:Accessories	
	Default User	
Accessories\Accessibility	Default	
User:Accessories\Accessibility	Default User	
Accessories\Entertainment	Default	
User:Accessories\Entertainment	Default User	
Startup	Default User:Startup	Default User
Accessories	All Users:Accessories	All Users
Accessories\Accessibility	All	
Users:Accessories\Accessibility	All Users	
Accessories\Communications	All	
Users:Accessories\Communications	All Users	
Accessories\Entertainment	All	
Users:Accessories\Entertainment	All Users	
Accessories\System Tools	All	
Users:Accessories\System Tools	All Users	
Administrative Tools	All Users:Administrative Tools	All Users
Microsoft SQL Server 2005	All Users:Microsoft SQL Server 2005	All Users
Microsoft SQL Server 2005\Analysis Services	All Users:Microsoft SQL Server 2005\Analysis Services	All Users
Microsoft SQL Server 2005\Configuration Tools	All Users:Microsoft SQL Server 2005\Configuration Tools	All Users
Microsoft SQL Server 2005\Performance Tools	All Users:Microsoft SQL Server 2005\Performance Tools	All Users
Startup	All Users:Startup	All Users
Accessories	NT	
AUTHORITY\SYSTEM:Accessories	NT	
AUTHORITY\SYSTEM		
Accessories\Accessibility	NT	
AUTHORITY\SYSTEM:Accessories\Accessibility	NT	
AUTHORITY\SYSTEM		
Accessories\Entertainment	NT	
AUTHORITY\SYSTEM:Accessories\Entertainment	NT	
AUTHORITY\SYSTEM		
Startup	NT AUTHORITY\SYSTEM:Startup	NT AUTHORITY\SYSTEM
Accessories	FCLIENT10\Administrator:Accessories	
	FCLIENT10\Administrator	
Accessories\Accessibility	FCLIENT10\Administrator:Accessories\Accessibility	
lity	FCLIENT10\Administrator	
Accessories\Entertainment	FCLIENT10\Administrator:Accessories\Entertainment	
ment	FCLIENT10\Administrator	
Administrative Tools	FCLIENT10\Administrator:Administrative Tools	
	FCLIENT10\Administrator	
Startup	FCLIENT10\Administrator:Startup	
	FCLIENT10\Administrator	

[Startup Programs]

Program	Command	User Name	Location
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desktop	desktop.ini	NT AUTHORITY\SYSTEM	Startup
desktop	desktop.ini	FCLIENT10\Administrator	Startup
Shortcut to	BMListen shortcut to bmlisten.lnk	FCLIENT10\Administrator	Startup
Shortcut to	synctime shortcut to synctime.lnk	FCLIENT10\Administrator	Startup
desktop	desktop.ini	.DEFAULT	Startup
desktop	desktop.ini	All Users	Common Startup

[OLE Registration]

Object	Local Server	
Sound (OLE2)	sndrec32.exe	
Media Clip	mplay32.exe	
Video Clip	mplay32.exe /avi	
MIDI Sequence	mplay32.exe /mid	
Sound	Not Available	
Media Clip	Not Available	
WordPad Document	"%programfiles%\windows nt\accessories\wordpad.exe"	
Windows Media Services DRM Storage object		Not Available
Bitmap Image	mspaint.exe	

[Windows Error Reporting]

Time	Type	Details
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[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
actxprxy.dll	6.0.3790.1830	97 KB	3/24/2005 6:55:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
advpack.dll	6.0.3790.1830	98 KB	3/24/2005 6:55:28 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
asctrls.ocx	6.0.3790.0	90 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
browselc.dll	6.0.3790.0	62 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
browseui.dll	6.0.3790.1830	1,009 KB	3/24/2005 6:56:10 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
cdfview.dll	6.0.3790.1830	149 KB	3/24/2005 6:56:32 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
comctl32.dll	5.82.3790.1830	585 KB	3/24/2005 6:57:56 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
dxtrans.dll	6.3.3790.1830	205 KB	3/24/2005 7:00:58 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
dxtmsft.dll	6.3.3790.1830	355 KB	3/24/2005 7:00:58 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
iecont.dll	<File Missing>	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
iecontlc.dll	<File Missing>	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
iedkcs32.dll	16.0.3790.1830	324 KB	3/24/2005 7:04:58 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
iepeers.dll	6.0.3790.1830	248 KB	3/24/2005 7:04:58 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
iesetup.dll	6.0.3790.1830	61 KB	3/24/2005 7:04:58 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
ieunit.inf	Not Available	24 KB	3/24/2005 7:04:58 PM	C:\WINDOWS\system32
Available	Not Available	Not Available	Not Available	Not Available
ieexplore.exe	6.0.3790.1830	92 KB	3/24/2005 7:04:58 PM	C:\Program Files\Internet Explorer
Corporation	Microsoft Corporation			
imgutil.dll	6.0.3790.1830	38 KB	3/24/2005 7:05:04 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
inetpl.cpl	6.0.3790.1830	358 KB	3/24/2005 7:05:06 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			

inetcpic.dll	6.0.3790.0	109 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
inseng.dll	6.0.3790.1830	94 KB	3/24/2005 7:05:06 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mlang.dll	6.0.3790.1830	578 KB	3/24/2005 7:07:20 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
msencode.dll	2002.10.4.0	112 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
物				吴呈口口 口口
mshta.exe	6.0.3790.1830	30 KB	3/24/2005 7:07:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mshtml.dll	6.0.3790.1830	3,036 KB	3/24/2005 7:07:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mshtml.tlb	6.0.3790.1830	1,320 KB	3/24/2005 7:07:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mshtmlled.dll	6.0.3790.1830	455 KB	3/24/2005 7:07:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mshtmlr.dll	6.0.3790.1830	56 KB	3/24/2005 7:07:26 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
msident.dll	6.0.3790.1830	48 KB	3/24/2005 7:07:28 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
msidntld.dll	6.0.3790.0	15 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
msieftp.dll	6.0.3790.1830	244 KB	3/24/2005 7:07:28 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
msrating.dll	6.0.3790.1830	144 KB	3/24/2005 7:07:36 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
mstime.dll	6.0.3790.1830	523 KB	3/24/2005 7:07:38 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
occache.dll	6.0.3790.1830	94 KB	3/24/2005 7:08:34 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
proctexe.ocx	6.3.3790.1830	83 KB	3/24/2005 7:12:26 PM	C:\WINDOWS\system32
Corporation	Intel Corporation			
sendmail.dll	6.0.3790.1830	56 KB	3/24/2005 7:13:36 PM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
shdoclc.dll	6.0.3790.0	589 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32
Corporation	Microsoft Corporation			
shdocvw.dll	6.0.3790.1830	1,468 KB	3/24/2005 7:13:36 PM	

C:\WINDOWS\system32 Microsoft Corporation
shfolder.dll 6.0.3790.1830 25 KB
3/24/2005 7:13:36 PM C:\WINDOWS\system32 Microsoft Corporation
shlwapi.dll 6.0.3790.1830 314 KB 3/24/2005 7:13:40 PM C:\WINDOWS\system32 Microsoft Corporation
tdc.ocx 1.3.0.3130 58 KB 3/25/2003 8:00:00 AM C:\WINDOWS\system32 Microsoft Corporation
url.dll 6.0.3790.1830 37 KB 3/24/2005 7:26:12 PM C:\WINDOWS\system32 Microsoft Corporation
urlmon.dll 6.0.3790.1830 673 KB 3/24/2005 7:26:12 PM C:\WINDOWS\system32 Microsoft Corporation
webcheck.dll 6.0.3790.1830 273 KB 3/24/2005 7:26:16 PM C:\WINDOWS\system32 Microsoft Corporation
wininet.dll 6.0.3790.1830 646 KB 3/24/2005 7:26:18 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 4

Clients 4 and 8 used 3.4GHz processors and 15K RPM drives. They were configured identically for the benchmark measurements. These clients were the basis for the pricing.

System Information report written at: 05/30/06 16:12:38

System Name: FCLIENT40

[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 FCLIENT40
 System Manufacturer IBM
 System Model IBM eServer x226-[86486AU]-
 System Type X86-based PC
 Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz
 Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz
 Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz
 Processor x86 Family 15 Model 4 Stepping 3 GenuineIntel ~3400 Mhz
 BIOS Version/Date IBM IBM BIOS Version 1.62-[PME162BUS-1.62]-, 5/9/2006
 SMBIOS Version 2.33
 Windows Directory C:\WINDOWS
 System Directory C:\WINDOWS\system32
 Boot Device \Device\HarddiskVolume1
 Locale United States
 Hardware Abstraction Layer Version = "5.2.3790.1830 (srv03_sp1_rtm.050324-1447)"
 User Name FCLIENT40\Administrator
 Time Zone Eastern Daylight Time
 Total Physical Memory 2,558.87 MB
 Available Physical Memory 2.21 GB
 Total Virtual Memory 357.57 MB
 Available Virtual Memory 230.68 MB
 Page File Space 2.00 GB
 Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource	Device	
I/O Port 0x00000000-0x00000CF7		PCI bus
I/O Port 0x00000000-0x00000CF7		Direct memory access controller
Memory Address 0xD0300000-0xD03FFFFFF		Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
Memory Address 0xD0300000-0xD03FFFFFF		Adaptec AIC-7902B - Ultra320 SCSI
I/O Port 0x00002000-0x00004FFF		Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596

I/O Port 0x00002000-0x00004FFF		Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
Memory Address 0xD0200000-0xD04FFFFFF		Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596
Memory Address 0xD0200000-0xD04FFFFFF		Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326
Memory Address 0xD0100000-0xD01FFFFFF		Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595
Memory Address 0xD0100000-0xD01FFFFFF		Broadcom NetXtreme Gigabit Ethernet #2
Memory Address 0xD0400000-0xD04FFFFFF		Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
Memory Address 0xD0400000-0xD04FFFFFF		Intel(R) PRO/1000 MT Dual Port Server Adapter #3
IRQ 16		Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595
IRQ 16		Broadcom NetXtreme Gigabit Ethernet #2
IRQ 16		Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596
IRQ 16		Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597
IRQ 16		Intel(R) 82801EB USB Universal Host Controller - 24D2
IRQ 16		Intel(R) 82801EB USB Universal Host Controller - 24DE
Memory Address 0xA0000-0xBFFFF		PCI bus
Memory Address 0xA0000-0xBFFFF		RADEON 7000 RADEON VE Family (Microsoft Corporation)

[DMA]

Resource	Device	Status
Channel 4	Direct memory access controller	OK
Channel 2	Standard floppy disk controller	OK
Channel 3	ECP Printer Port (LPT1)	OK

[Forced Hardware]

Device	PNP Device ID
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[I/O]

Resource	Device	Status
0x00000000-0x00000CF7	PCI bus	OK

0x00000000-0x0000CF7	Direct memory access controller	OK	0x00000072-0x00000077	Motherboard resources	OK
0x00000D00-0x0000FFFF	PCI bus	OK	0x00000080-0x00000080	Motherboard resources	
0x00002000-0x00004FFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596	OK	0x00000090-0x0000009F	Motherboard resources	OK
0x00002000-0x00004FFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329	OK	0x000000A4-0x000000A5	Motherboard resources	OK
0x00002800-0x000028FF	Adaptec AIC-7902B - Ultra320 SCSI	OK	0x000000A8-0x000000A9	Motherboard resources	OK
0x00002400-0x000024FF	Adaptec AIC-7902B - Ultra320 SCSI	OK	0x000000AC-0x000000AD	Motherboard resources	OK
0x00003000-0x000030FF	Adaptec AIC-7902B - Ultra320 SCSI	OK	0x000000B0-0x000000B5	Motherboard resources	OK
0x00002C00-0x00002CFF	Adaptec AIC-7902B - Ultra320 SCSI	OK	0x000000B8-0x000000B9	Motherboard resources	OK
0x00004000-0x00004FFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A	OK	0x000000BC-0x000000BD	Motherboard resources	OK
0x00001400-0x0000141F	Intel(R) 82801EB USB Universal Host Controller - 24D2	OK	0x000004D0-0x000004D1	Motherboard resources	OK
0x00001420-0x0000143F	Intel(R) 82801EB USB Universal Host Controller - 24D4	OK	0x00000900-0x0000090F	Motherboard resources	OK
0x00001440-0x0000145F	Intel(R) 82801EB USB Universal Host Controller - 24D7	OK	0x00001000-0x0000107F	Motherboard resources	OK
0x00001460-0x0000147F	Intel(R) 82801EB USB Universal Host Controller - 24DE	OK	0x00001180-0x0000118C	Motherboard resources	OK
0x00005000-0x000050FF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK	0x0000118D-0x0000118D	Motherboard resources	OK
0x000003B0-0x000003BB	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK	0x0000118F-0x0000118F	Motherboard resources	OK
0x000003C0-0x000003DF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK	0x00001190-0x000011BF	Motherboard resources	OK
0x00000A79-0x00000A79	ISAPNP Read Data Port	OK	0x00000800-0x0000082F	Motherboard resources	OK
0x00000279-0x00000279	ISAPNP Read Data Port	OK	0x0000FE00-0x0000FE00	Motherboard resources	OK
0x00000274-0x00000277	ISAPNP Read Data Port	OK	0x00000081-0x0000008F	Direct memory access controller	OK
0x00000010-0x0000001F	Motherboard resources	OK	0x000000C0-0x000000DF	Direct memory access controller	OK
0x00000024-0x00000025	Motherboard resources	OK	0x000000F0-0x000000FE	Numeric data processor	OK
0x00000028-0x00000029	Motherboard resources	OK	0x00000020-0x00000021	Programmable interrupt controller	OK
0x0000002C-0x0000002D	Motherboard resources	OK	0x000000A0-0x000000A1	Programmable interrupt controller	OK
0x0000002E-0x0000002F	Motherboard resources	OK	0x00000070-0x00000071	System CMOS/real time clock	OK
0x00000030-0x00000031	Motherboard resources	OK	0x00000061-0x00000061	System speaker	OK
0x00000034-0x00000035	Motherboard resources	OK	0x00000040-0x00000043	System timer	OK
0x00000038-0x00000039	Motherboard resources	OK	0x0000118E-0x0000118E		OK
0x0000003C-0x0000003D	Motherboard resources	OK	0x000003F0-0x000003F5	Standard floppy disk controller	OK
0x00000050-0x00000053	Motherboard resources	OK	0x000003F7-0x000003F7	Standard floppy disk controller	OK
			0x00000378-0x0000037F	ECP Printer Port (LPT1)	OK

0x00000778-0x0000077F OK	ECP Printer Port (LPT1)	
0x000003F8-0x000003FF (COM1) OK	Communications Port	
0x000002F8-0x000002FF (COM2) OK	Communications Port	
0x00000060-0x00000060 Microsoft Natural PS/2 Keyboard	Standard 101/102-Key or OK	
0x00000064-0x00000064 Microsoft Natural PS/2 Keyboard	Standard 101/102-Key or OK	
0x000014A0-0x000014AF ATA Storage Controllers	Intel(R) 82801EB Ultra OK	
0x000001F0-0x000001F7	Primary IDE Channel	OK
0x000003F6-0x000003F6	Primary IDE Channel	OK
0x00000170-0x00000177 OK	Secondary IDE Channel	
0x00000376-0x00000376 OK	Secondary IDE Channel	
0x00001100-0x0000111F Controller - 24D3	Intel(R) 82801EB SMBus OK	

[IRQs]

Resource	Device	Status
IRQ 9	Microsoft ACPI-Compliant System	OK
IRQ 16	Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595	OK
IRQ 16	Broadcom NetXtreme Gigabit Ethernet #2	OK
IRQ 16	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596	OK
IRQ 16	Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597	OK
IRQ 16	Intel(R) 82801EB USB Universal Host Controller - 24D2	OK
IRQ 16	Intel(R) 82801EB USB Universal Host Controller - 24DE	OK
IRQ 28	Intel(R) PRO/1000 MT Dual Port Server Adapter	OK
IRQ 29	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK
IRQ 30	Adaptec AIC-7902B - Ultra320 SCSI	OK
IRQ 31	Adaptec AIC-7902B - Ultra320 SCSI	OK
IRQ 48	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
IRQ 49	Intel(R) PRO/1000 MT Dual Port Server Adapter #4	OK
IRQ 19	Intel(R) 82801EB USB Universal Host Controller - 24D4	OK
IRQ 18	Intel(R) 82801EB USB Universal Host Controller - 24D7	OK
IRQ 23	Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD	OK

IRQ 22	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK
IRQ 13	Numeric data processor	OK
IRQ 8	System CMOS/real time clock	OK
IRQ 0	System timer	OK
IRQ 6	Standard floppy disk controller	OK
IRQ 4	Communications Port (COM1)	OK
IRQ 3	Communications Port (COM2)	OK
IRQ 12	PS/2 Compatible Mouse	OK
IRQ 1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
IRQ 14	Primary IDE Channel	OK
IRQ 15	Secondary IDE Channel	OK
IRQ 10	Intel(R) 82801EB SMBus Controller - 24D3	OK

[Memory]

Resource	Device	Status
0xA0000-0xBFFFF	PCI bus	OK
0xA0000-0xBFFFF	RADEON 7000 RADEON VE Family (Microsoft Corporation)	OK
0xD8000-0xDBFFF	PCI bus	OK
0xDC000-0xDFFFF	PCI bus	OK
0xA0000000-0xFEBFFFFF	PCI bus	OK
0xD0100000-0xD01FFFFFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595	OK
0xD0100000-0xD01FFFFFF	Broadcom NetXtreme Gigabit Ethernet #2	OK
0xD0200000-0xD04FFFFF	Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 - 3596	OK
0xD0200000-0xD04FFFFF	Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326	OK
0xD0300000-0xD03FFFFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329	OK
0xD0300000-0xD03FFFFF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0xD0320000-0xD033FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter	OK
0xD0340000-0xD037FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter	OK
0xD0380000-0xD039FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK
0xD0302000-0xD0303FFF	Adaptec AIC-7902B - Ultra320 SCSI	OK
0xD0400000-0xD04FFFFF	Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A	OK
0xD0400000-0xD04FFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0xD0440000-0xD045FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0xD0460000-0xD047FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #4	OK

0xD0201000-0xD0201FFF Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327 OK
 0xD0000000-0xD00003FF Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD OK
 0xD8000000-0xDFFFFFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK
 0xD0500000-0xD050FFFF RADEON 7000 RADEON VE Family (Microsoft Corporation) OK
 0xE0000000-0xEFFFFFFF Motherboard resources OK
 0xFEE00000-0xFEE0FFFF Motherboard resources OK
 0xFEC81000-0xFEC81FFF Motherboard resources OK
 0xFEC81400-0xFEC823FF Motherboard resources OK
 0xFEBFFC00-0xFEBFFFFFFF Intel(R) 82801EB Ultra ATA Storage Controllers OK

[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description	Status	File	Version	Size	Creation Date
c:\windows\system32\msaud32.acm	Microsoft Corporation	Windows Media Audio Codec	OK	C:\WINDOWS\system32\MSAUD32.ACM	8.00.00.4487	288.00 KB (294,912 bytes)	3/25/2003 7:00 AM
c:\windows\system32\sl_anet.acm	Sipro Lab Telecom Inc.	Sipro Lab Telecom Audio Codec	OK	C:\WINDOWS\system32\SL_ANET.ACM	84.00 KB (86,016 bytes)	3/25/2003 7:00 AM	
c:\windows\system32\tsssoft32.acm	INC.	DSP GROUP,	OK	C:\WINDOWS\system32\TSSOFT32.ACM	1.01	9.50 KB (9,728 bytes)	3/25/2003 7:00 AM
c:\windows\system32\msg723.acm	Microsoft Corporation		OK	C:\WINDOWS\system32\MSG723.ACM	5.2.3790.1830	120.00 KB (122,880 bytes)	3/6/2006 5:23 PM
c:\windows\system32\msg711.acm	Microsoft Corporation		OK	C:\WINDOWS\system32\MSG711.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	10.00 KB (10,240 bytes)	3/25/2003 7:00 AM
c:\windows\system32\imaadp32.acm	Microsoft Corporation		OK	C:\WINDOWS\system32\IMAADP32.ACM			

5.2.3790.0 (srv03_rtm.030324-2048) 15.50 KB (15,872 bytes) 3/25/2003 7:00 AM
 c:\windows\system32\msadp32.acm Microsoft Corporation OK
 C:\WINDOWS\system32\MSADP32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 14.50 KB (14,848 bytes) 3/25/2003 7:00 AM
 c:\windows\system32\msgsm32.acm Microsoft Corporation OK
 C:\WINDOWS\system32\MSGSM32.ACM 5.2.3790.0 (srv03_rtm.030324-2048) 20.50 KB (20,992 bytes) 3/25/2003 7:00 AM
 c:\windows\system32\l3codeca.acm Fraunhofer Institut Integrierte Schaltungen IIS Fraunhofer IIS MPEG Layer-3 CodecOK
 C:\WINDOWS\system32\L3CODECA.ACM 1, 9, 0, 0305 284.00 KB (290,816 bytes) 3/25/2003 7:00 AM

[Video Codecs]

CODEC	Manufacturer	Description	Status	File	Version	Size	Creation Date
c:\windows\system32\msrle32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSRLE32.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	10.50 KB (10,752 bytes)	3/25/2003 7:00 AM
c:\windows\system32\msh261.drv	Microsoft Corporation		OK	C:\WINDOWS\system32\MSH261.DRV	5.2.3790.1830	184.00 KB (188,416 bytes)	3/6/2006 5:23 PM
c:\windows\system32\msyuv.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSYUV.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	16.50 KB (16,896 bytes)	3/24/2003 8:49 PM
c:\windows\system32\msvidc32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSVIDC32.DLL	5.2.3790.0 (srv03_rtm.030324-2048)	26.50 KB (27,136 bytes)	3/25/2003 7:00 AM
c:\windows\system32\msh263.drv	Microsoft Corporation		OK	C:\WINDOWS\system32\MSH263.DRV	5.2.3790.1830	288.00 KB (294,912 bytes)	3/6/2006 5:23 PM
c:\windows\system32\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\iyuv_32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\IYUV_32.DLL	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	46.50 KB (47,616 bytes)	3/6/2006 5:23 PM

[CD-ROM]

Item Value
 Drive D:
 Description CD-ROM Drive
 Media Loaded No
 Media Type CD-ROM
 Name SAMSUNG CD-ROM SC-148A
 Manufacturer (Standard CD-ROM drives)
 Status OK
 Transfer Rate Not Available
 SCSI Target ID 0
 PNP Device ID IDE\CDROMSAMSUNG_CD-ROM_SC-148A\B401____\5&25B98AF5&0&0.0.0
 Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 51.00 KB (52,224 bytes), 3/25/2003 7:00 AM)

[Sound Device]

Item Value

[Display]

Item Value
 Name RADEON 7000 RADEON VE Family (Microsoft Corporation)
 PNP Device ID PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0
 Adapter Type Radeon 7000 (QY), ATI Technologies Inc. compatible
 Adapter Description RADEON 7000 RADEON VE Family (Microsoft Corporation)
 Adapter RAM 16.00 MB (16,777,216 bytes)
 Installed Drivers ati2dvag.dll
 Driver Version 5.1.2600.0
 INF File atiiixpag.inf (ati2mtag_RV100 section)
 Color Planes 1
 Color Table Entries 4294967296
 Resolution 1024 x 768 x 75 hertz
 Bits/Pixel 32
 Memory Address 0xD8000000-0xDFFFFFFF
 I/O Port 0x00005000-0x000050FF
 Memory Address 0xD0500000-0xD050FFFF
 IRQ Channel IRQ 22
 I/O Port 0x000003B0-0x000003BB
 I/O Port 0x000003C0-0x000003DF
 Memory Address 0xA0000-0xBFFFF
 Driver c:\windows\system32\drivers\ati2mtag.sys (6.13.10.6153, 439.63 KB (450,176 bytes), 3/1/2006 8:25 AM)

[Infrared]

Item Value

[Input]

[Keyboard]

Item Value
 Description Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
 Name Enhanced (101- or 102-key)
 Layout 00000409
 PNP Device ID ACPI\PNP0303\5&9583612&0
 Number of Function Keys 12
 I/O Port 0x00000060-0x00000060
 I/O Port 0x00000064-0x00000064
 IRQ Channel IRQ 1
 Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Pointing Device]

Item Value
 Hardware Type PS/2 Compatible Mouse
 Number of Buttons 3
 Status OK
 PNP Device ID ACPI\PNP0F13\5&9583612&0
 Power Management Supported No
 Double Click Threshold 6
 Handedness Right Handed Operation
 IRQ Channel IRQ 12
 Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 54.50 KB (55,808 bytes), 3/25/2003 7:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value
 Name [00000001] RAS Async Adapter
 Adapter Type Not Available
 Product Type RAS Async Adapter

Installed Yes
 PNP Device ID Not Available
 Last Reset 5/30/2006 1:31 PM
 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 5/30/2006 1:31 PM
 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 5/30/2006 1:31 PM
 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\raspppt.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_PPPOEMINIPOINT\0000

 Last Reset 5/30/2006 1:31 PM
 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\rasppoe.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_PTMINIPORT\0000

 Last Reset 5/30/2006 1:31 PM
 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 5/30/2006 1:31 PM
 Index 6

Service Name NdisWan
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\ndiswan.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 91.00 KB
 (93,184 bytes), 3/25/2003 7:00 AM)

Name [00000007] Broadcom NetXtreme Gigabit
 Ethernet
 Adapter Type Not Available
 Product Type Broadcom NetXtreme Gigabit Ethernet

Installed Yes
 PNP Device ID Not Available
 Last Reset 5/30/2006 1:31 PM
 Index 7
 Service Name b57w2k
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available

Name [00000008] Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Adapter Type 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_117A80
 86&REV_03\5&1EA3B137&0&080018
 Last Reset 5/30/2006 1:31 PM
 Index 8
 Service Name E1000
 IP Address 192.168.142.99
 IP Subnet 255.255.255.0
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0E:0C:35:80:8C
 Memory Address 0xD0320000-0xD033FFFF

Memory Address 0xD0340000-0xD037FFFF
 IRQ Channel IRQ 28
 Driver c:\windows\system32\drivers\et1000325.sys
 (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes),
 3/7/2006 12:18 PM)

Name [00000009] Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Adapter Type Ethernet 802.3
 Product Type Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Installed Yes
 PNP Device ID
 PCI\VEN_8086&DEV_1079&SUBSYS_117A80
 86&REV_03\5&1EA3B137&0&090018
 Last Reset 5/30/2006 1:31 PM
 Index 9
 Service Name E1000
 IP Address 192.168.40.40
 IP Subnet 255.255.255.0
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0E:0C:35:80:8D
 Memory Address 0xD0380000-0xD039FFFF
 IRQ Channel IRQ 29
 Driver c:\windows\system32\drivers\et1000325.sys
 (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes),
 3/7/2006 12:18 PM)

Name [00000010] Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Adapter Type Ethernet 802.3
 Product Type Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Installed Yes
 PNP Device ID
 PCI\VEN_8086&DEV_1079&SUBSYS_117A80
 86&REV_03\5&A4D5A19&0&080218
 Last Reset 5/30/2006 1:31 PM
 Index 10
 Service Name E1000
 IP Address 192.168.140.99
 IP Subnet 255.255.255.0
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0E:0C:35:80:04
 Memory Address 0xD0440000-0xD045FFFF
 Memory Address 0xD0400000-0xD04FFFFF

IRQ Channel IRQ 48
 Driver c:\windows\system32\drivers\le1000325.sys
 (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes),
 3/7/2006 12:18 PM)

Name [00000011] Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Adapter Type Ethernet 802.3
 Product Type Intel(R) PRO/1000 MT Dual Port
 Server Adapter
 Installed Yes
 PNP Device ID
 PCI\VEN_8086&DEV_1079&SUBSYS_117A80
 86&REV_03\5&A4D5A19&0&090218
 Last Reset 5/30/2006 1:31 PM
 Index 11
 Service Name E1000
 IP Address 192.168.141.99
 IP Subnet 255.255.255.0
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0E:0C:35:80:05
 Memory Address 0xD0460000-0xD047FFFF
 IRQ Channel IRQ 49
 Driver c:\windows\system32\drivers\le1000325.sys
 (8.6.17.0 built by: WinDDK, 160.00 KB (163,840 bytes),
 3/7/2006 12:18 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_1659&SUBSYS_02C610
 14&REV_10\4&1855300&0&0010
 Last Reset 5/30/2006 1:31 PM
 Index 12
 Service Name b57w2k
 IP Address 0.0.0.0
 IP Subnet 0.0.0.0
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 00:0D:60:15:04:3E
 Memory Address 0xD0100000-0xD01FFFFF
 IRQ Channel IRQ 16

Driver c:\windows\system32\drivers\b57xp32.sys
 (8.48.0.0 built by: WinDDK, 139.38 KB (142,720 bytes),
 10/26/2005 11:01 AM)

[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_{27297CB9-3EA8-4108-A71F-04C89601F8DE}] 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_{27297CB9-3EA8-4108-A71F-04C89601F8DE}] DATAGRAM 7
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] SEQPACKET 6
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{6C0225AD-0503-42B3-BFF3-89CDE807C04B}] DATAGRAM 6
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes

Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] SEQPACKET 5
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{4116081A-9B37-407D-9D3B-BFC9B40E430C}] DATAGRAM 5
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] SEQPACKET 4
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{DD429202-9882-47DD-9C6E-8978ECB8D54D}] DATAGRAM 4
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] SEQPACKET 3
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes

Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{47C01396-6157-40C8-8068-CF5846DAD12B}] DATAGRAM 3
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] SEQPACKET 0
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{2CD07424-EAB2-42E4-BE23-5885E54695EB}] DATAGRAM 0
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] SEQPACKET 1
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{B2256D5C-0193-4204-9FBC-E38EFAAB1589}] DATAGRAM 1
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes

Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] SEQPACKET 2

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS
 [\Device\NetBT_Tcpip_{E87155C5-5A9B-4455-BDAA-4C99AD535FD3}] DATAGRAM 2

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)

Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

[WinSock]

Item	Value
File	c:\windows\system32\winsock.dll
Size	2.80 KB (2,864 bytes)
Version	3.10
File	c:\windows\system32\wsock32.dll
Size	22.00 KB (22,528 bytes)
Version	5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item	Value
Name	Communications Port (COM1)
Status	OK
PNP Device ID	ACPI\PNP0501\1
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes
Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes
Supports 16 Bit Mode	No
Supports Special Characters	No
Baud Rate	9600
Bits/Byte	8
Stop Bits	1
Parity	None
Busy	No
Abort Read/Write on Error	No
Binary Mode Enabled	Yes
Continue Xmit on XOff	No
CTS Outflow Control	No
Discard NULL Bytes	No
DSR Outflow Control	0
DSR Sensitivity	0
DTR Flow Control Type	Enable
EOF Character	0
Error Replace Character	0
Error Replacement Enabled	No
Event Character	0

Parity Check Enabled No
 RTS Flow Control Type Enable
 XOff Character 19
 XOffXMit Threshold 512
 XOn Character 17
 XOnXMit Threshold 2048
 XOnXOff InFlow Control 0
 XOnXOff OutFlow Control 0
 I/O Port 0x000003F8-0x000003FF
 IRQ Channel IRQ 4
 Driver c:\windows\system32\drivers\serial.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB
 (65,536 bytes), 3/25/2003 7:00 AM)

Name Communications Port (COM2)
 Status OK

PNP Device ID ACPI\PNP0501\2
 Maximum Input Buffer Size 0
 Maximum Output Buffer Size No
 Settable Baud Rate Yes
 Settable Data Bits Yes
 Settable Flow Control Yes
 Settable Parity Yes
 Settable Parity Check Yes
 Settable Stop Bits Yes
 Settable RLSA Yes
 Supports RLSA Yes
 Supports 16 Bit Mode No
 Supports Special Characters No
 Baud Rate 9600
 Bits/Byte 8
 Stop Bits 1
 Parity None
 Busy No
 Abort Read/Write on Error No
 Binary Mode Enabled Yes
 Continue XMit on XOff No
 CTS Outflow Control No
 Discard NULL Bytes No
 DSR Outflow Control 0
 DSR Sensitivity 0
 DTR Flow Control Type Enable
 EOF Character 0
 Error Replace Character 0
 Error Replacement Enabled No
 Event Character 0
 Parity Check Enabled No
 RTS Flow Control Type Enable
 XOff Character 19
 XOffXMit Threshold 512
 XOn Character 17

XOnXMit Threshold 2048
 XOnXOff InFlow Control 0
 XOnXOff OutFlow Control 0
 I/O Port 0x000002F8-0x000002FF
 IRQ Channel IRQ 3
 Driver c:\windows\system32\drivers\serial.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 64.00 KB
 (65,536 bytes), 3/25/2003 7:00 AM)

[Parallel]

Item Value
 Name LPT1
 PNP Device ID ACPI\PNP0401\5&9583612&0
 I/O Port 0x00000378-0x0000037F
 I/O Port 0x00000778-0x0000077F
 DMA Channel Channel 3
 Driver c:\windows\system32\drivers\parport.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 79.50 KB
 (81,408 bytes), 3/24/2003 6:04 PM)

[Storage]

[Drives]

Item Value
 Drive A:
 Description 3 1/2 Inch Floppy Drive

 Drive C:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 33.90 GB (36,396,830,720 bytes)
 Free Space 26.06 GB (27,980,861,440 bytes)
 Volume Name
 Volume Serial Number ECA3EB0F

Drive D:
 Description CD-ROM Disc

[Disks]

Item Value
 Description Disk drive
 Manufacturer (Standard disk drives)
 Model IBM-ESXS ST336753LC FN SCSI Disk Device

 Bytes/Sector 512
 Media Loaded Yes

Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 3
 SCSI Target ID 1
 Sectors/Track 63
 Size 33.90 GB (36,396,864,000 bytes)
 Total Cylinders 4,425
 Total Sectors 71,087,625
 Total Tracks 1,128,375
 Tracks/Cylinder 255
 Partition Disk #0, Partition #0
 Partition Size 33.90 GB (36,396,831,744 bytes)
 Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
 Name Adaptec AIC-7902B - Ultra320 SCSI
 Manufacturer Adaptec
 Status OK
 PNP Device ID
 PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
 014&REV_10\5&1EA3B137&0&180018
 I/O Port 0x00002800-0x000028FF
 Memory Address 0xD0300000-0xD03FFFFF
 I/O Port 0x00002400-0x000024FF
 IRQ Channel IRQ 30
 Driver c:\windows\system32\drivers\adpu320.sys
 (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes),
 3/1/2006 8:18 AM)

Name Adaptec AIC-7902B - Ultra320 SCSI
 Manufacturer Adaptec
 Status OK
 PNP Device ID
 PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
 014&REV_10\5&1EA3B137&0&190018
 I/O Port 0x00003000-0x000030FF
 Memory Address 0xD0302000-0xD0303FFF
 I/O Port 0x00002C00-0x00002CFF
 IRQ Channel IRQ 31
 Driver c:\windows\system32\drivers\adpu320.sys
 (3.0.000.000 built by: WinDDK, 129.50 KB (132,608 bytes),
 3/1/2006 8:18 AM)

[IDE]

Item Value
 Name Intel(R) 82801EB Ultra ATA Storage Controllers
 Manufacturer Intel

Status OK
 PNP Device ID
 PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&F9
 I/O Port 0x000014A0-0x000014AF
 Memory Address 0xFEBFFC00-0xFEBFFFFF
 Driver c:\windows\system32\drivers\pciide.sys
 (5.2.3790.0 (srv03_rtm.030324-2048), 5.50 KB (5,632 bytes),
 3/6/2006 4:43 PM)

Name Primary IDE Channel
 Manufacturer (Standard IDE ATA/ATAPI
 controllers)
 Status OK
 PNP Device ID
 PCIIDE\IDECHANNEL\4&2FA43749&0&0

I/O Port 0x000001F0-0x000001F7
 I/O Port 0x000003F6-0x000003F6
 IRQ Channel IRQ 14
 Driver c:\windows\system32\drivers\atapi.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB
 (95,744 bytes), 3/6/2006 4:43 PM)

Name Secondary IDE Channel
 Manufacturer (Standard IDE ATA/ATAPI
 controllers)
 Status OK
 PNP Device ID
 PCIIDE\IDECHANNEL\4&2FA43749&0&1

I/O Port 0x00000170-0x00000177
 I/O Port 0x00000376-0x00000376
 IRQ Channel IRQ 15
 Driver c:\windows\system32\drivers\atapi.sys
 (5.2.3790.1830 (srv03_sp1_rtm.050324-1447), 93.50 KB
 (95,744 bytes), 3/6/2006 4:43 PM)

[Printing]

Name	Driver	Port Name	Server Name
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[Problem Devices]

Device	PNP Device ID	Error Code
Not Available	ACPI\ASF0001\2&DABA3FF&0	The drivers for this device are not installed.
Not Available	ACPI\IBM3737\4&369939D9&0	The drivers for this device are not installed.

[USB]

Device	PNP Device ID
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Intel(R) 82801EB USB Universal Host Controller - 24D2
 PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&E8

Intel(R) 82801EB USB Universal Host Controller - 24D4
 PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&E9

Intel(R) 82801EB USB Universal Host Controller - 24D7
 PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&EA

Intel(R) 82801EB USB Universal Host Controller - 24DE
 PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&EB

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD
 PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1
 014&REV_02\3&61AAA01&0&EF

[Software Environment]

[System Drivers]

Name	Description	File	Type	Started	Start Mode	State	Status	Error
Control	Accept Pause	Accept Stop						
abiosdsk	Abiosdsk	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Running	OK	Normal	No	Yes
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel Driver	Stopped	OK	Normal	No	No
adpu160m	adpu160m	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
adpu320	adpu320	c:\windows\system32\drivers\adpu320.sys	Kernel Driver	Running	OK	Normal	No	Yes
afcnt	afcnt	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
afd	AFD Networking Support Environment	c:\windows\system32\drivers\afd.sys	Kernel Driver	Running	OK	Normal	No	Yes
aha154x	Aha154x	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
aic78u2	aic78u2	Not Available	Kernel Driver	No	Disabled	Stopped	OK	

aic78xx	aic78xx	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
aliide	AliIde	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
asynmac	RAS Asynchronous Media Driver	c:\windows\system32\drivers\asynmac.sys	Kernel Driver	Stopped	OK	Normal	No	No
atapi	Standard IDE/ESDI Hard Disk Controller	c:\windows\system32\drivers\atapi.sys	Kernel Driver	Running	OK	Normal	No	Yes
atdisk	Atdisk	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
ati2mtag	ati2mtag	c:\windows\system32\drivers\ati2mtag.sys	Kernel Driver	Running	OK	Ignore	No	Yes
atmarpc	ATM ARP Client Protocol	c:\windows\system32\drivers\atmarpc.sys	Kernel Driver	Stopped	OK	Normal	No	No
audstub	Audio Stub Driver	c:\windows\system32\drivers\audstub.sys	Kernel Driver	Running	OK	Normal	No	Yes
b57w2k	Broadcom NetXtreme Gigabit Ethernet	c:\windows\system32\drivers\b57xp32.sys	Kernel Driver	Running	OK	Normal	No	Yes
beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel Driver	Running	OK	Normal	No	Yes
cbidf2k	cbidf2k	c:\windows\system32\drivers\cbidf2k.sys	Kernel Driver	Stopped	OK	Normal	No	No
cd20xrnt	cd20xrnt	Not Available	Kernel Driver	No	Disabled	Stopped	OK	
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File System Driver	Running	OK	Normal	No	Yes
cdrom	CD-ROM Driver	c:\windows\system32\drivers\cdrom.sys	Kernel Driver	Running	OK	Normal	No	Yes
changer	Changer	Not Available	Kernel Driver	No	System	Stopped	OK	

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
cpqarray2	cpqarray2 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
credisk	CRC Disk Filter Driver c:\windows\system32\drivers\credisk.sys Kernel Driver Yes Boot Running OK Normal No Yes
dac960nt	dac960nt Not Available Kernel Driver No Disabled Stopped OK Normal No No
dellcerc	dellcerc Not Available Kernel Driver No Disabled Stopped OK Normal No No
dfsdriver	DfsDriver c:\windows\system32\drivers\dfs.sys File System Driver Yes Boot Running OK Normal No Yes
disk	Disk Driver c:\windows\system32\drivers\disk.sys Kernel Driver Yes Boot Running OK Normal No Yes
dmboot	dmboot c:\windows\system32\drivers\dmboot.sys Kernel Driver No Disabled Stopped OK Normal No No
dmio	Logical Disk Manager Driver c:\windows\system32\drivers\dmio.sys Kernel Driver Yes Boot Running OK Normal No Yes
dmload	dmload c:\windows\system32\drivers\dmload.sys Kernel Driver Yes Boot Running OK Normal No Yes
dpti2o	dpti2o Not Available Kernel Driver No Disabled Stopped OK Normal No No
e1000	Intel(R) PRO/1000 Network Connection Driver c:\windows\system32\drivers\e1000325.sys Kernel Driver Yes Manual Running OK Normal No Yes

fastfat	Fastfat c:\windows\system32\drivers\fastfat.sys File System Driver No Disabled Stopped OK Normal No No
fdc	Floppy Disk Controller Driver c:\windows\system32\drivers\fdc.sys Kernel Driver Yes Manual Running OK Normal No Yes
fips	Fips c:\windows\system32\drivers\fips.sys Kernel Driver Yes System Running OK Normal No Yes
flpydisk	Floppy Disk Driver c:\windows\system32\drivers\flpydisk.sys Kernel Driver Yes Manual Running OK Normal No Yes
fltmgr	FltMgr c:\windows\system32\drivers\fltmgr.sys File System Driver Yes Boot Running OK Normal No Yes
ftdisk	Volume Manager Driver c:\windows\system32\drivers\ftdisk.sys Kernel Driver Yes Boot Running OK Normal No Yes
gpc	Generic Packet Classifier c:\windows\system32\drivers\msgpc.sys Kernel Driver Yes Manual Running OK Normal No Yes
hpn	hpn Not Available Kernel Driver No Disabled Stopped OK Normal No No
hpt3xx	hpt3xx Not Available Kernel Driver No Disabled Stopped OK Normal No No
http	HTTP c:\windows\system32\drivers\http.sys Kernel Driver Yes Manual Running OK Normal No Yes
i2omgmt	i2omgmt Not Available Kernel Driver No System Stopped OK Normal No No
i2omp	i2omp Not Available Kernel Driver No Disabled Stopped OK Normal No No
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver c:\windows\system32\drivers\i8042prt.sys Kernel Driver Yes System Running OK Normal No Yes
iirsp	iirsp Not Available Kernel Driver No Disabled Stopped OK Normal No No
imapi	CD-Burning Filter Driver c:\windows\system32\drivers\imapi.sys Kernel Driver No System Stopped OK Normal No No
intelide	IntelIde c:\windows\system32\drivers\intelide.sys Kernel Driver Yes Boot

	Running	OK	Normal	No	Yes							
intelppm	Intel Processor Driver c:\windows\system32\drivers\intelppm.sys Kernel Driver Yes Manual Running OK Normal No Yes						modem	Modem c:\windows\system32\drivers\modem.sys Kernel Driver No Manual Stopped OK Ignore No No				
ip6fw	IPv6 Windows Firewall Driver c:\windows\system32\drivers\ip6fw.sys Kernel Driver No Manual Stopped OK Normal No No						mouclass	Mouse Class Driver c:\windows\system32\drivers\mouclass.sys Kernel Driver Yes System Running OK Normal No Yes				
ipfilterdriver	IP Traffic Filter Driver c:\windows\system32\drivers\ipfltdrv.sys Kernel Driver No Manual Stopped OK Normal No No						mountmgr	Mount Point Manager c:\windows\system32\drivers\mountmgr.sys Kernel Driver Yes Boot Running OK Normal No Yes				
ipinip	IP in IP Tunnel Driver c:\windows\system32\drivers\ipinip.sys Kernel Driver No Disabled Stopped OK Normal No No						mraid35x	mraid35x Not Available Kernel Driver No Disabled Stopped OK Normal No No				
ipnat	IP Network Address Translator c:\windows\system32\drivers\ipnat.sys Kernel Driver No Manual Stopped OK Normal No No						mrxdav	WebDav Client Redirector c:\windows\system32\drivers\mrxdav.sys File System 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						mrxsmb	MRXSMB c:\windows\system32\drivers\mrxsmb.sys File System Driver Yes System Running OK Normal No Yes				
ipsraidn	ipsraidn Not Available Kernel Driver No Disabled Stopped OK Normal No No						msfs	Msfs c:\windows\system32\drivers\msfs.sys File System Driver Yes System Running OK Normal No Yes				
irenum	IR Enumerator Service c:\windows\system32\drivers\irenum.sys Kernel Driver No Manual Stopped OK Normal No No						mssmbios	Microsoft System Management BIOS Driver c:\windows\system32\drivers\mssmbios.sys Kernel Driver Yes Manual 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						mup	Mup c:\windows\system32\drivers\mup.sys File System Driver Yes Boot Running OK Normal No Yes				
kbdclass	Keyboard Class Driver c:\windows\system32\drivers\kbdclass.sys Kernel Driver Yes System Running OK Normal No Yes						nal	Nal Service \\?c:\windows\system32\drivers\iqvw32.sys Kernel Driver No Manual Stopped OK Normal No No				
ksecdd	KSecDD c:\windows\system32\drivers\ksecdd.sys Kernel 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				
lp6nds35	lp6nds35 Not Available Kernel Driver No Disabled Stopped OK Normal No No						ndistapi	Remote Access NDIS TAPI Driver c:\windows\system32\drivers\ndistapi.sys Kernel Driver Yes Manual Running OK Normal No Yes				
mnmdd	mnmdd c:\windows\system32\drivers\mnmdd.sys Kernel Driver Yes System Running OK Ignore 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 Running	Yes OK	Manual Normal	No	Yes
netbios	NetBIOS Interface c:\windows\system32\drivers\netbios.sys	File System Driver Running	Yes Normal	System Yes	OK
netbt	NetBios over Tcpip c:\windows\system32\drivers\netbt.sys Kernel Driver Running	OK	Yes Normal	System No	Yes
nfrd960	nfrd960 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver OK	
npfs	Npfs c:\windows\system32\drivers\npfs.sys File System Driver Running	OK	Yes Normal	System No	Yes
ntfs	Ntfs c:\windows\system32\drivers\ntfs.sys File System Driver Running	OK	Yes Normal	Disabled No	Yes
null	Null c:\windows\system32\drivers\null.sys Kernel Driver Running	OK	Yes Normal	System No	Yes
parport	Parallel port driver c:\windows\system32\drivers\parport.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes
partmgr	Partition Manager c:\windows\system32\drivers\partmgr.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes
parvdm	Parvdm c:\windows\system32\drivers\parvdm.sys Kernel Driver Running	OK	Yes Ignore	Auto No	Yes
pci	PCI Bus Driver c:\windows\system32\drivers\pci.sys Kernel Driver Running	OK	Yes Critical	Boot No	Yes
pciide	PCIide c:\windows\system32\drivers\pciide.sys Kernel Driver Running	OK	Yes Normal	Boot No	Yes
pemcia	Pemcia c:\windows\system32\drivers\pemcia.sys Kernel Driver Stopped	OK	No Normal	Disabled No	No
pdcomp	PDCOMP No Ignore	Not Available Manual No	Stopped No	Kernel Driver OK	
pdframe	PDFRAME Kernel Driver		Not Available No	Manual	

	Stopped	OK	Ignore	No	No
pdreli	PDRELI No Ignore	Not Available Manual No	Stopped OK	Kernel Driver	
pdrframe	PDRFRAME Kernel Driver Stopped		Not Available No Ignore	Manual No	No
perc2	perc2 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
perc2hib	perc2hib No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
pptpminiport		WAN Miniport (PPTP) c:\windows\system32\drivers\rasppptp.sys Kernel Driver Running	Yes Normal	Manual No	Yes
processor	Processor Driver c:\windows\system32\drivers\processr.sys Kernel Driver Stopped	OK	No Normal	Manual No	No
ptilink	Direct Parallel Link Driver c:\windows\system32\drivers\ptilink.sys Kernel Driver Running	OK	Yes Normal	Manual No	Yes
ql1080	ql1080 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql10wnt	Ql10wnt No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql12160	ql12160 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql1240	ql1240 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql1280	ql1280 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql2100	ql2100 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql2200	ql2200 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
ql2300	ql2300 No Normal	Not Available Disabled No	Stopped OK	Kernel Driver	
rasacd	Remote Access Auto Connection Driver c:\windows\system32\drivers\rasacd.sys Kernel Driver Running	OK	Yes Normal	System No	Yes
rasl2tp	WAN Miniport (L2TP) c:\windows\system32\drivers\rasl2tp.sys Kernel Driver		Yes	Manual	

	Running	OK	Normal	No	Yes		Running	OK	Normal	No	Yes
rasppoe	Remote Access PPOE Driver c:\windows\system32\drivers\rasppoe.sys Kernel Driver Yes Manual Running OK Normal No Yes						symc810 symc810 Not Available Kernel Driver No Disabled Stopped OK Normal No No				
raspti	Direct Parallel c:\windows\system32\drivers\raspti.sys Kernel Driver Yes Manual Running OK Normal No Yes						symc8xx symc8xx Not Available Kernel Driver No Disabled Stopped OK Normal No No				
rdbss	Rdbss	c:\windows\system32\drivers\rdbss.sys	File System Driver	Yes	System		symmpi symmpi Not Available Kernel Driver No Disabled Stopped OK Normal No No				
rdpcdd	RDPCDD c:\windows\system32\drivers\rdpcdd.sys Kernel Driver Yes System Running OK Ignore No Yes						sym_hi sym_hi Not Available Kernel Driver No Disabled Stopped OK Normal No No				
rdpdr	Terminal Server Device Redirector Driver c:\windows\system32\drivers\rdpdr.sys Kernel Driver Yes Manual Running OK Normal No Yes						sym_u3 sym_u3 Not Available Kernel Driver No Disabled Stopped OK Normal No No				
rdpwd	RDPWD c:\windows\system32\drivers\rdpwd.sys Kernel Driver Yes Manual Running OK Ignore No Yes						tcpip TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel Driver Yes System Running OK Normal No Yes				
redbook	Digital CD Audio Playback Filter Driver c:\windows\system32\drivers\redbook.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				
serenum	Serenum Filter Driver c:\windows\system32\drivers\serenum.sys Kernel Driver Yes Manual Running OK Normal No Yes						tdtcp TDTCP c:\windows\system32\drivers\tdtcp.sys Kernel Driver Yes Manual Running OK Ignore No Yes				
serial	Serial port driver c:\windows\system32\drivers\serial.sys Kernel Driver Yes System Running OK Ignore No Yes						termdd Terminal Device Driver c:\windows\system32\drivers\termdd.sys Kernel Driver Yes System Running OK Normal No Yes				
sfloppy	Sfloppy c:\windows\system32\drivers\sfloppy.sys Kernel Driver No System Stopped OK Ignore No No						toside TosIde Not Available Kernel Driver No Disabled Stopped OK Normal No No				
simbad	Simbad 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				
sparrow	Sparrow Not Available Kernel Driver No Disabled Stopped OK Normal No No						ultra ultra 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						update Microcode Update Driver c:\windows\system32\drivers\update.sys Kernel Driver Yes Manual Running OK Normal No Yes				
swenum	Software Bus Driver c:\windows\system32\drivers\swenum.sys Kernel Driver Yes Manual						usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver c:\windows\system32\drivers\usbehci.sys Kernel Driver Yes Manual Running OK Normal No Yes				
							usbhub USB2 Enabled Hub c:\windows\system32\drivers\usbhub.sys Kernel Driver Yes Manual Running OK Normal No Yes				
							usbstor USB Mass Storage Driver c:\windows\system32\drivers\usbstor.sys				

	Kernel Driver	No	Manual		
	Stopped	OK	Normal	No	No
usbuhci	Microsoft USB Universal Host Controller Miniport Driver				
	c:\windows\system32\drivers\usbuhci.sys				
	Kernel Driver	Yes	Manual		
	Running	OK	Normal	No	Yes
vgasave	VGA Display Controller.				
	c:\windows\system32\drivers\vga.sys				
	Kernel Driver	Yes	System		
	Running	OK	Ignore	No	Yes
viaide	Vialde	Not Available		Kernel Driver	
	No	Disabled	Stopped	OK	
	Normal	No	No		
volsnap	Storage volumes				
	c:\windows\system32\drivers\volsnap.sys				
	Kernel Driver	Yes	Boot		
	Running	OK	Normal	No	Yes
wanarp	Remote Access IP ARP Driver				
	c:\windows\system32\drivers\wanarp.sys				
	Kernel Driver	Yes	Manual		
	Running	OK	Normal	No	Yes
wdica	WDICA	Not Available		Kernel Driver	
	No	Manual	Stopped	OK	
	Ignore	No	No		
wlbs	Network Load Balancing				
	c:\windows\system32\drivers\wlbs.sys				
	Kernel Driver	No	Manual		
	Stopped	OK	Normal	No	No

[Signed Drivers]

Device Name	Signed	Device Class	Driver Version	Driver Date	Manufacturer	INF Name	Driver Name	Device ID
Microsoft System Management BIOS Driver	Yes	SYSTEM	5.2.3790.1830	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\SYSTEM\0002
Microcode Update Device	Yes	SYSTEM	5.2.3790.0	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\SYSTEM\0001
Plug and Play Software Device Enumerator	Yes	SYSTEM	5.2.3790.0	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\SYSTEM\0000
Terminal Server Mouse Driver	Yes	SYSTEM	5.2.3790.0	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\RDP_MOU\0000
Terminal Server Keyboard Driver	Yes	SYSTEM	5.2.3790.0	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\RDP_KBD\0000

Terminal Server Device Redirector	Yes	SYSTEM	5.2.3790.0	10/1/2002	(Standard system devices)	machine.inf	Not Available	ROOT\RDPDR\0000
Direct Parallel	Yes	NET	5.2.3790.0	10/1/2002	Microsoft	netrasa.inf	Not Available	ROOT\MS_PTMINIPORT\0000
WAN Miniport (PPTP)	Yes	NET	5.2.3790.0	10/1/2002	Microsoft	netrasa.inf	Not Available	ROOT\MS_PPTPMINIPORT\0000
WAN Miniport (PPPOE)	Yes	NET	5.2.3790.0	10/1/2002	Microsoft	netrasa.inf	Not Available	ROOT\MS_PPPOEMINIPORT\0000
WAN Miniport (IP)	Yes	NET	5.2.3790.0	10/1/2002	Microsoft	netrasa.inf	Not Available	ROOT\MS_NDISWANIP\0000
WAN Miniport (L2TP)	Yes	NET	5.2.3790.0	10/1/2002	Microsoft	netrasa.inf	Not Available	ROOT\MS_L2TPMINIPORT\0000
Video Codecs	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	wave.inf	Not Available	ROOT\MEDIA\MS_MMVID
Legacy Video Capture Devices	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	wave.inf	Not Available	ROOT\MEDIA\MS_MMVCD
Media Control Devices	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	wave.inf	Not Available	ROOT\MEDIA\MS_MMMCI
Legacy Audio Drivers	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	wave.inf	Not Available	ROOT\MEDIA\MS_MMDRV
Audio Codecs	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	wave.inf	Not Available	ROOT\MEDIA\MS_MMACM
Remote Access IP ARP Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_WANARP\0000
volsnap	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_VOLSNAP\0000
VGA Display Controller.	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_VGASAVE\0000
TDTCP	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_TDTCP\0000
TCP/IP Protocol Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_TCPIP\0000
RDPWD	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_RDPWD\0000

RDPcdd	Not Available	LEGACYDRIVER	Not Available	HTTP	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_RDPcdd\0000				ROOT\LEGACY_HTTP\0000	
Remote Access Auto Connection Driver	Not Available			Generic Packet Classifier	Not Available		
Available	Not Available	LEGACYDRIVER	Not Available	Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_RASAcD\0000		Available	ROOT\LEGACY_GPC\0000		
Parvdm	Not Available	LEGACYDRIVER	Not Available	Fips	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_PARVDM\0000				ROOT\LEGACY_FIPS\0000	
Partition Manager	Not Available			dmload	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	LEGACYDRIVER	Not Available	Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_PARTMGR\0000				ROOT\LEGACY_DMLOAD\0000	
Null	Not Available	LEGACYDRIVER	Not Available	dmboot	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_NULL\0000				ROOT\LEGACY_DMBOOT\0000	
NetBios over Tcpip	Not Available			CRC Disk Filter Driver	Not Available		
Available	Not Available	LEGACYDRIVER	Not Available	Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_NETBT\0000		Available	ROOT\LEGACY_CRCDISK\0000		
NDProxy	Not Available	LEGACYDRIVER	Not Available	Beep	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_NDPROXY\0000				ROOT\LEGACY_BEEP\0000	
NDIS Usermode I/O Protocol	Not Available			AFD Networking Support Environment	Not Available		
Available	Not Available	LEGACYDRIVER	Not Available	Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Available	Not Available	Not Available	Not Available
		ROOT\LEGACY_NDISUIO\0000		Available	ROOT\LEGACY_AFD\0000		
Remote Access NDIS TAPI Driver	Not Available			Generic volume	Yes	VOLUME 5.2.3790.1830	
Available	Not Available	LEGACYDRIVER	Not Available		10/1/2002 Microsoft	volume.inf	Not Available
Available	Not Available	Not Available	Not Available		STORAGE\VOLUME\1&30A96598&0&SIGNA		
		ROOT\LEGACY_NDISTAPI\0000			TURED26CD26COFFSET7E00LENGTH8796B9400		
NDIS System Driver	Not Available			Volume Manager	Yes	SYSTEM 5.2.3790.0	
Available	Not Available	LEGACYDRIVER	Not Available		10/1/2002 (Standard system devices)		
Available	Not Available	Not Available	Not Available		machine.inf	Not Available	
		ROOT\LEGACY_NDIS\0000			ROOT\FTDISK\0000		
Nal Service	Not Available			Logical Disk Manager	Yes	SYSTEM 5.2.3790.0	
Available	Not Available	LEGACYDRIVER	Not Available		10/1/2002 (Standard system devices)		
Available	Not Available	Not Available	Not Available		machine.inf	Not Available	
		ROOT\LEGACY_NAL\0000			ROOT\DMIO\0000		
mountmgr	Not Available	LEGACYDRIVER	Not Available	ACPI Fixed Feature Button	Yes	SYSTEM 5.2.3790.0	
Available	Not Available	Not Available	Not Available		10/1/2002 (Standard system devices)		
Available	Not Available	Not Available	Not Available		machine.inf	Not Available	
		ROOT\LEGACY_MOUNTMGR\0000			ACPI\FIXEDBUTTON\2&DABA3FF&0		
mnmdd	Not Available	LEGACYDRIVER	Not Available	ACPI Power Button	Yes	SYSTEM 5.2.3790.0	
Available	Not Available	Not Available	Not Available		10/1/2002 (Standard system devices)		
Available	Not Available	Not Available	Not Available		machine.inf	Not Available	
		ROOT\LEGACY_MNMDD\0000			ACPI\PNP0C0C\3&61AAA01&0		
ksecdd	Not Available	LEGACYDRIVER	Not Available	Intel(R) 82801EB SMBus Controller - 24D3	Yes	SYSTEM 5.1.0.1009	
Available	Not Available	Not Available	Not Available		3/25/2004 Intel		
Available	Not Available	Not Available	Not Available		ich5score.inf	Not Available	
		ROOT\LEGACY_KSECDD\0000			PCI\VEN_8086&DEV_24D3&SUBSYS_02ED1		
IPSEC driver	Not Available				014&REV_02\3&61AAA01&0&FB		
Available	Not Available	LEGACYDRIVER	Not Available	Secondary IDE Channel	Yes	HDC 5.2.3790.0	
Available	Not Available	Not Available	Not Available		10/1/2002 (Standard IDE		
		ROOT\LEGACY_IPSEC\0000			ATA/ATAPI controllers)	mshdc.inf	Not Available
Intellde	Not Available	LEGACYDRIVER	Not Available		PCIIDE\IDECHANNEL\4&2FA43749&0&1		
Available	Not Available	Not Available	Not Available				
Available	Not Available	Not Available	Not Available	CD-ROM Drive	Yes	CDROM 5.2.3790.0	
		ROOT\LEGACY_INTELIDE\0000			10/1/2002 (Standard CD-ROM drives)		

cdrom.inf Not Available
 IDE\CDROMSAMSUNG_CD-ROM_SC-148A_____B401____\5&25B98AF5&0&0.0

Primary IDE Channel Yes HDC 5.2.3790.0
 10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available
 PCIIDE\IDECHANNEL\4&2FA43749&0&0

Intel(R) 82801EB Ultra ATA Storage Controllers Yes
 HDC 5.1.0.1009 3/25/2004 Intel
 ich5ide.inf Not Available
 PCI\VEN_8086&DEV_24DB&SUBSYS_02ED1014&REV_02\3&61AAA01&0&F9

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard Yes KEYBOARD 5.2.3790.0
 10/1/2002 (Standard keyboards) keyboard.inf Not Available
 ACPI\PNP0303\5&9583612&0

PS/2 Compatible Mouse Yes MOUSE 5.2.3790.0 10/1/2002 Microsoft msmouse.inf Not Available
 ACPI\PNP0F13\5&9583612&0

Communications Port Yes PORTS 5.2.3790.0
 10/1/2002 (Standard port types) msports.inf Not Available
 ACPI\PNP0501\2

Communications Port Yes PORTS 5.2.3790.0
 10/1/2002 (Standard port types) msports.inf Not Available
 ACPI\PNP0501\1

Printer Port Logical Interface Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 LPTENUM\MICROSOFTRAWPORT\6&2A460501&0&LPT1

ECP Printer Port Yes PORTS 5.2.3790.0
 10/1/2002 (Standard port types) msports.inf Not Available
 ACPI\PNP0401\5&9583612&0

Floppy disk drive Yes FLOPPYDISK 5.2.3790.0 10/1/2002 (Standard floppy disk drives) floppydisk.inf Not Available
 FDC\GENERIC_FLOPPY_DRIVE\6&6A032C4&0&0

Standard floppy disk controller Yes FDC 5.2.3790.0 10/1/2002 (Standard floppy disk controllers) fdcc.inf Not Available
 ACPI\PNP0700\1

Generic Bus Yes SYSTEM 5.2.3790.0
 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0A05\1

Not Available Not Available Not Available
 Not Available Not Available Not Available Not Available
 Available Not Available Not Available Not Available
 ACPI\IBM3737\4&369939D9&0

System timer Yes SYSTEM 5.2.3790.0
 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0100\4&369939D9&0

System speaker Yes SYSTEM 5.2.3790.0
 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0800\4&369939D9&0

System CMOS/real time clock Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0B00\4&369939D9&0

Programmable interrupt controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0000\4&369939D9&0

Numeric data processor Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0C04\4&369939D9&0

Direct memory access controller Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0200\4&369939D9&0

Motherboard resources Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ACPI\PNP0C02\1F

ISAPNP Read Data Port Yes SYSTEM 5.2.3790.0 10/1/2002 (Standard system devices) machine.inf Not Available
 ISAPNP\READDATAPORT\0

Intel(R) 82801EB LPC Interface Controller - 24D0 Yes SYSTEM 5.1.0.1009 3/25/2004 Intel
 ich5score.inf Not Available
 PCI\VEN_8086&DEV_24D0&SUBSYS_00000000&REV_02\3&61AAA01&0&F8

Default Monitor Yes MONITOR 5.1.2001.0 6/6/2001 (Standard monitor types) monitor.inf Not Available
 DISPLAY\DEFAULT_MONITOR\5&10D13A3F&0&10000000&06&04

RADEON 7000 RADEON VE Family (Microsoft Corporation) Yes DISPLAY 6.13.10.6153
 8/8/2002 ATI Technologies Inc. atiixpag.inf Not Available
 PCI\VEN_1002&DEV_5159&SUBSYS_02C81014&REV_00\4&3A321F38&0&20F0

Intel(R) 82801 PCI Bridge - 244E Yes SYSTEM 6.0.0.1013 4/1/2004 Intel
 ich6core.inf Not Available
 PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_C2\3&61AAA01&0&F0

USB Root Hub Yes USB 5.2.3790.0
 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available
 USB\ROOT_HUB20\4&34B50607&0

Intel(R) 82801EB USB2 Enhanced Host Controller - 24DD Yes USB 5.1.0.1009 4/1/2004 Intel
 ich5usb.inf Not Available
 PCI\VEN_8086&DEV_24DD&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EF

USB Root Hub Yes USB 5.2.3790.0
 10/1/2002 (Standard USB Host Controller) usbport.inf Not Available
 USB\ROOT_HUB\4&CAEE98E&0

Intel(R) 82801EB USB Universal Host Controller - 24DE Yes USB 5.1.0.1009 4/1/2004 Intel
 ich5usb.inf Not Available
 PCI\VEN_8086&DEV_24DE&SUBSYS_02ED1014&REV_02\3&61AAA01&0&EB

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB4&206D9F09&0

Intel(R) 82801EB USB Universal Host Controller - 24D7
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D7&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&EA

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB4&31D97CBA&0

Intel(R) 82801EB USB Universal Host Controller - 24D4
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D4&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&E9

USB Root Hub Yes USB 5.2.3790.0
10/1/2002 (Standard USB Host Controller)
usbport.inf Not Available
USB\ROOT_HUB4&39460DFB&0

Intel(R) 82801EB USB Universal Host Controller - 24D2
Yes USB 5.1.0.1009 4/1/2004 Intel
ich5usb.inf Not Available
PCI\VEN_8086&DEV_24D2&SUBSYS_02ED1
014&REV_02\3&61AAA01&0&E8

Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_3597&SUBSYS_000000
00&REV_0A\3&61AAA01&0&20

Intel(R) 6700PXH I/OxAPIC Interrupt Controller B - 0327
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_0327&SUBSYS_000000
00&REV_09\4&75520AF&0&0318

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&A4D5A19&0&090218

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&A4D5A19&0&080218

Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_032A&SUBSYS_000000
00&REV_09\4&75520AF&0&0218

Intel(R) 6700PXH I/OxAPIC Interrupt Controller A - 0326
Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_0326&SUBSYS_000000
00&REV_09\4&75520AF&0&0118

SCSI Processor Device Yes SYSTEM
5.2.3790.0 10/1/2002 IBM scsudev.inf Not
Available
SCSI\PROCESSOR&VEN_IBM&PROD_02R09
80A_S320_1&REV_1\6&1E796AF&0&080

Disk drive Yes DISKDRIVE 5.2.3790.0
10/1/2002 (Standard disk drives) disk.inf Not
Available SCSI\DISK&VEN_IBM-

ESXS&PROD_ST336753LC___FN&REV_B85B6&1E79
6AF&0&010

Adaptec AIC-7902B - Ultra320 SCSI Yes
SCSIADAPTER 3.0.0.0 8/28/2003
Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
014&REV_10\5&1EA3B137&0&190018

Adaptec AIC-7902B - Ultra320 SCSI Yes
SCSIADAPTER 3.0.0.0 8/28/2003
Adaptec oem0.inf Not Available
PCI\VEN_9005&DEV_801D&SUBSYS_02CC1
014&REV_10\5&1EA3B137&0&180018

Fibre Channel Controller Not Available Not
Available Not Available Not Available Not
Available Not Available Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_010C10
77&REV_02\5&1EA3B137&0&100018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&1EA3B137&0&090018

Intel(R) PRO/1000 MT Dual Port Server Adapter Yes
NET 8.6.17.0 1/6/2006 Intel
oem2.inf Not Available
PCI\VEN_8086&DEV_1079&SUBSYS_117A80
86&REV_03\5&1EA3B137&0&080018

Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329 Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_0329&SUBSYS_000000
00&REV_09\4&75520AF&0&0018

Intel(R) E7525/E7520/E7320 PCI Express Root Port A1 -
3596 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_3596&SUBSYS_000000
00&REV_0A\3&61AAA01&0&18

Broadcom NetXtreme Gigabit Ethernet Yes NET
8.48.0.0 10/31/2005 Broadcom
oem3.inf Not Available
PCI\VEN_14E4&DEV_1659&SUBSYS_02C610
14&REV_10\4&1855300&0&0010

Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 -
3595 Yes SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_3595&SUBSYS_000000
00&REV_0A\3&61AAA01&0&10

Intel(R) E7525 Memory Controller Hub - 359E Yes
SYSTEM 6.0.1.1001 4/29/2004 Intel
e7520.inf Not Available
PCI\VEN_8086&DEV_359E&SUBSYS_000000
00&REV_0A\3&61AAA01&0&00

PCI bus Yes SYSTEM 5.2.3790.0 10/1/2002
(Standard system devices) machine.inf
Not Available
ACPI\PNP0A03\2&DABA3FF&0

Not Available Not Available Not Available
Not Available Not Available Not Available
Available Not Available Not Available
ACPI\ASF0001\2&DABA3FF&0

Intel Processor Yes PROCESSOR
5.2.3790.1830 10/1/2002 Intel
cpu.inf Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_4_3

```

Intel Processor      Yes      PROCESSOR
5.2.3790.1830      10/1/2002 Intel
cpu.inf             Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_4_2
Intel Processor      Yes      PROCESSOR
5.2.3790.1830      10/1/2002 Intel
cpu.inf             Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_4_1
Intel Processor      Yes      PROCESSOR
5.2.3790.1830      10/1/2002 Intel
cpu.inf             Not Available
ACPI\GENUINEINTEL_-
_X86_FAMILY_15_MODEL_4_0
Microsoft ACPI-Compliant System      Yes
SYSTEM 5.2.3790.0 10/1/2002 Microsoft
acpi.inf            Not Available
ACPI_HAL\PNP0C08\0
ACPI Multiprocessor PC      Yes      COMPUTER
5.2.3790.0 10/1/2002 (Standard computers)
hal.inf             Not Available
ROOT\ACPI_HAL\0000
Not Available        Not Available        Not Available
Not Available        Not Available        Not Available
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>
NUMBER_OF_PROCESSORS 4      <SYSTEM>
OS        Windows_NT      <SYSTEM>
Path
%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;c:\tools;c:\tools\util;c:\Program Files\Intel\DMIX;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\;C:\Program Files\Microsoft SQL Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\
<SYSTEM>
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH
<SYSTEM>
PROCESSOR_ARCHITECTURE      x86
<SYSTEM>
PROCESSOR_IDENTIFIER        x86 Family 15 Model 4 Stepping 3, GenuineIntel
<SYSTEM>
PROCESSOR_LEVEL              15      <SYSTEM>
PROCESSOR_REVISION          0403   <SYSTEM>
TEMP                          %SystemRoot%\TEMP      <SYSTEM>
TMP                           %SystemRoot%\TEMP      <SYSTEM>

```

```

windir   %SystemRoot%      <SYSTEM>
FP_NO_HOST_CHECK      NO      <SYSTEM>
TEMP     %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM
TMP      %USERPROFILE%\Local Settings\Temp NT AUTHORITY\SYSTEM
TEMP     %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE
TMP      %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL SERVICE
TEMP     %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE
TMP      %USERPROFILE%\Local Settings\Temp NT AUTHORITY\NETWORK SERVICE
TEMP     %USERPROFILE%\Local Settings\Temp FCLIENT40\Administrator
TMP      %USERPROFILE%\Local Settings\Temp FCLIENT40\Administrator

```

[Print Jobs]

Document Submitted	Size	Owner	Notify	Status	Time
	Pages Printed	Job ID	Priority		
	Parameters	Driver	Print Processor		Host
Print Queue		Data Type	Name		

[Network Connections]

Local Name	Remote Name	Type
Status	User Name	
Z:	\\192.168.40.1\edrive	Disk Persistent
Connection	FCLIENT40\Administrator	

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Max Working Set	Start Time	Version	Working Size
system idle process	Not Available	Not Available	Not Available	0	Not Available	Not Available	Not Available	0
Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
system	Not Available	1413120	4	8	Not Available	Not Available	Not Available	0
smss.exe	Not Available	204800	716	11	5/30/2006 1:31 PM	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
csrss.exe	Not Available	Not Available	900	13	5/30/2006 1:31 PM	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
winlogon.exe	c:\windows\system32\winlogon.exe	1036	13	204800	1413120	5/30/2006 1:31 PM	5.2.3790.1830	(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	3/6/2006 5:23 PM

```

services.exe      c:\windows\system32\services.exe
1080 9 204800 1413120
5/30/2006 1:31 PM 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 1100 9
204800 1413120 5/30/2006 1:31 PM
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
1292 8 204800 1413120
5/30/2006 1:31 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

svchost.exe      Not Available 1372 8
Not Available Not Available
5/30/2006 1:31 PM Not Available Not
Available Not Available

svchost.exe      Not Available 1428 8
Not Available Not Available
5/30/2006 1:31 PM Not Available Not
Available Not Available

svchost.exe      Not Available 1468 8
Not Available Not Available
5/30/2006 1:31 PM Not Available Not
Available Not Available

svchost.exe      c:\windows\system32\svchost.exe
1544 8 204800 1413120
5/30/2006 1:31 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

msdtc.exe        Not Available 1520 8 Not
Available Not Available 5/30/2006 1:32 PM Not
Available Not Available Not Available

inetinfo.exe     c:\windows\system32\inetrv\inetinfo.exe 1832
8 204800 1413120 5/30/2006 1:32
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
14.00 KB (14,336 bytes) 3/6/2006 5:26
PM

svchost.exe      Not Available 352 8
Not Available Not Available
5/30/2006 1:32 PM Not Available Not
Available Not Available

svchost.exe      c:\windows\system32\svchost.exe
544 8 204800 1413120
5/30/2006 1:32 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

explorer.exe     c:\windows\explorer.exe 936
8 204800 1413120 5/30/2006 1:32
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 3/6/2006 5:24
PM

svchost.exe      c:\windows\system32\svchost.exe
188 8 204800 1413120
5/30/2006 1:32 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes)
3/6/2006 5:23 PM

bmlisten.exe     c:\slave\bmlisten.exe 608 8
204800 1413120 5/30/2006 1:32 PM 2, 1,
0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32
PM

```

```

wmiprvse.exe     Not Available 1740 8
Not Available Not Available
5/30/2006 1:33 PM Not Available Not
Available Not Available

csrss.exe        Not Available 1908 13 Not
Available Not Available 5/30/2006 4:10 PM Not
Available Not Available Not Available

winlogon.exe     c:\windows\system32\winlogon.exe
1300 13 204800 1413120
5/30/2006 4:10 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 497.00 KB (508,928 bytes)
3/6/2006 5:23 PM

rdpclip.exe      c:\windows\system32\rdpclip.exe 1952 8
204800 1413120 5/30/2006 4:10 PM
5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
68.00 KB (69,632 bytes) 3/6/2006 5:23
PM

explorer.exe     c:\windows\explorer.exe 896
8 204800 1413120 5/30/2006 4:10
PM 6.0.3790.1830 (srv03_sp1_rtm.050324-1447)
1.00 MB (1,050,624 bytes) 3/6/2006 5:24
PM

bmlisten.exe     c:\slave\bmlisten.exe 376 8
204800 1413120 5/30/2006 4:10 PM 2, 1,
0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32
PM

helpctr.exe      c:\windows\pchealth\helpctr\binaries\helpctr.exe
784 8 204800 1413120
5/30/2006 4:11 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 778.00 KB (796,672 bytes)
3/6/2006 5:24 PM

helpsvc.exe      c:\windows\pchealth\helpctr\binaries\helpsvc.exe
1480 8 204800 1413120
5/30/2006 4:11 PM 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 745.00 KB (762,880 bytes)
3/6/2006 5:24 PM

wmiprvse.exe     Not Available 980 8
Not Available Not Available
5/30/2006 4:11 PM Not Available Not
Available Not Available

[Loaded Modules]

Name Version Size File Date Manufacturer
Path
winlogon 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
497.00 KB (508,928 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\winlogon.exe
ntdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
748.50 KB (766,464 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\ntdll.dll
kernel32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
1,014.00 KB (1,038,336 bytes) 3/6/2006 5:23
PM Microsoft Corporation
c:\windows\system32\kernel32.dll
advapi32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
605.50 KB (620,032 bytes) 3/25/2003 7:00
AM Microsoft Corporation
c:\windows\system32\advapi32.dll

```

rpert4	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 627.00 KB (642,048 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rpert4.dll	ws2_32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 82.00 KB (83,968 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ws2_32.dll
crypt32	5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 582.00 KB (595,968 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\crypt32.dll	ws2help	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.50 KB (19,968 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ws2help.dll
msasn1	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 56.50 KB (57,856 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msasn1.dll	msgina	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.16 MB (1,211,904 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msgina.dll
msvcr7	7.0.3790.1830 (srv03_sp1_rtm.050324-1447) 340.50 KB (348,672 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msvcr7.dll	shsvcs	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 131.50 KB (134,656 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shsvcs.dll
user32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 574.50 KB (588,288 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\user32.dll	shlwapi	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 313.50 KB (321,024 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shlwapi.dll
gdi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 273.00 KB (279,552 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\gdi32.dll	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
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	sfc_os	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 138.00 KB (141,312 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sfc_os.dll
profmap	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 22.50 KB (23,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\profmap.dll	wintrust	5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wintrust.dll
netapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 341.50 KB (349,696 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netapi32.dll	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
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	ole32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,245,184 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ole32.dll
psapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 20.00 KB (20,480 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\psapi.dll	comctl32	6.0 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,051,136 bytes) 3/24/2005 8:41 PM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.com mon-controls_6595b64144ccf1df_6.0.3790.1830_x- ww_7ae38ccf\comctl32.dll
regapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.00 KB (56,320 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\regapi.dll	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
secur32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 64.00 KB (65,536 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\secur32.dll	wtsapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wtsapi32.dll
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	sxs	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 743.50 KB (761,344 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sxs.dll
version	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.00 KB (18,432 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\version.dll	winmm	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winmm.dll
winsta	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\winsta.dll	shell32	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 7.99 MB (8,379,392 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\shell32.dll

wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
174.50 KB (178,688 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\wldap32.dll

rsaenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
183.98 KB (188,392 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\rsaenh.dll

cscdll 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
100.00 KB (102,400 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
19.00 KB (19,456 bytes) 3/6/2006 5:28

PM Microsoft Corporation
c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
94.50 KB (96,768 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\wlnotify.dll

mpr 5.2.3790.0 (srv03_rtm.030324-2048) 56.00
KB (57,344 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1830 543.00 KB (556,032 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\oleaut32.dll

winspool 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
147.00 KB (150,528 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\winspool.drv

comctl32 5.82 (srv03_sp1_rtm.050324-1447)
585.00 KB (599,040 bytes) 3/24/2005 8:41

PM Microsoft Corporation
c:\windows\winsxs\x86_microsoft.windows.com
mon-controls_6595b64144ccf1df_5.82.3790.1830_x-
ww_1b6f474a\comctl32.dll

uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
202.00 KB (206,848 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\uxtheme.dll

samlib 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
46.50 KB (47,616 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\samlib.dll

cscui 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
319.50 KB (327,168 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\cscui.dll

clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)
502.50 KB (514,560 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048)
778.00 KB (796,672 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\comres.dll

ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
120.50 KB (123,392 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\ntmarta.dll

xpsp2res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
2.76 MB (2,897,920 bytes) 3/6/2006 5:28

PM Microsoft Corporation
c:\windows\system32\xpsp2res.dll

wbemprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
20.50 KB (20,992 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1830
(srv03_sp1_rtm.050324-1447) 221.00 KB (226,304 bytes)
3/6/2006 5:24 PM Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 42.50
KB (43,520 bytes) 3/1/2006 1:38 PM Microsoft
Corporation
c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
471.00 KB (482,304 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll

msvcpx60 6.05.2144.0 388.00 KB (397,312 bytes)
3/25/2003 7:00 AM Microsoft Corporation
c:\windows\system32\msvcpx60.dll

ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
71.00 KB (72,704 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
153.50 KB (157,184 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\dnsapi.dll

services 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
107.50 KB (110,080 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\services.exe

ncobjapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
36.00 KB (36,864 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\ncobjapi.dll

scesrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
327.00 KB (334,848 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\scesrv.dll

authz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
66.50 KB (68,096 bytes) 3/6/2006 5:24

PM Microsoft Corporation
c:\windows\system32\authz.dll

umpnpgmr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
126.50 KB (129,536 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\umpnpgmr.dll

eventlog 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
67.50 KB (69,120 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\eventlog.dll

lsass 5.2.3790.0 (srv03_rtm.030324-2048) 13.00
KB (13,312 bytes) 3/25/2003 7:00 AM Microsoft
Corporation c:\windows\system32\lsass.exe

lsasrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
803.00 KB (822,272 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\lsasrv.dll

samsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
450.50 KB (461,312 bytes) 3/25/2003 7:00

AM Microsoft Corporation
c:\windows\system32\samsrv.dll

cryptdll	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	32.00 KB (32,768 bytes)	3/6/2006 5:24	ws03res	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	793.50 KB (812,544 bytes)	3/6/2006 5:28
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\cryptdll.dll				c:\windows\system32\ws03res.dll		
msprivs	5.2.3790.0 (srv03_rtm.030324-2048)	46.50 KB (47,616 bytes)	3/25/2003 7:00 AM	hnetcfg	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	343.50 KB (351,744 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\msprivs.dll				c:\windows\system32\hnetcfg.dll		
kerberos	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	340.50 KB (348,672 bytes)	3/6/2006 5:23	wshtcpip	5.2.3790.0 (srv03_rtm.030324-2048)	18.00 KB (18,432 bytes)	3/25/2003 7:00 AM
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\kerberos.dll				c:\windows\system32\wshtcpip.dll		
msv1_0	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	141.00 KB (144,384 bytes)	3/6/2006 5:23	ipsecsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	180.50 KB (184,832 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\msv1_0.dll				c:\windows\system32\ipsecsvc.dll		
iphlpapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	92.50 KB (94,720 bytes)	3/6/2006 5:23	oakley	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	264.00 KB (270,336 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\iphlpapi.dll				c:\windows\system32\oakley.dll		
netlogon	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	409.50 KB (419,328 bytes)	3/6/2006 5:23	winipsec	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	35.50 KB (36,352 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\netlogon.dll				c:\windows\system32\winipsec.dll		
w32time	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	222.00 KB (227,328 bytes)	3/6/2006 5:23	pstorsvc	5.2.3790.0 (srv03_rtm.030324-2048)	24.00 KB (24,576 bytes)	3/25/2003 7:00 AM
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\w32time.dll				c:\windows\system32\pstorsvc.dll		
schannel	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	141.00 KB (144,384 bytes)	3/6/2006 5:23	psbase	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	84.00 KB (86,016 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\schannel.dll				c:\windows\system32\psbase.dll		
wdigest	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	74.00 KB (75,776 bytes)	3/6/2006 5:23	dssenh	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	139.98 KB (143,336 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\wdigest.dll				c:\windows\system32\dssenh.dll		
rassfm	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	23.00 KB (23,552 bytes)	3/6/2006 5:24	wlbsctrl	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	82.00 KB (83,968 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\rassfm.dll				c:\windows\system32\wlbsctrl.dll		
kdcsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	213.50 KB (218,624 bytes)	3/6/2006 5:23	w3ssl	6.0.3790.0 (srv03_rtm.030324-2048)	15.00 KB (15,360 bytes)	3/25/2003 7:00 AM
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\kdcsvc.dll				c:\windows\system32\w3ssl.dll		
ntdsa	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	1.45 MB (1,516,032 bytes)	3/6/2006 5:23	strmfilt	6.0.3790.1830 (srv03_sp1_rtm.050324-1447)	84.00 KB (86,016 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\ntdsa.dll				c:\windows\system32\strmfilt.dll		
esent	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	1,022.50 KB (1,047,040 bytes)	3/6/2006 5:23	httpapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	24.00 KB (24,576 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\esent.dll				c:\windows\system32\httpapi.dll		
ntdsatq	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	29.50 KB (30,208 bytes)	3/6/2006 5:23	svchost	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	14.00 KB (14,336 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\ntdsatq.dll				c:\windows\system32\svchost.exe		
mswsock	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	250.50 KB (256,512 bytes)	3/6/2006 5:23	rpess	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	406.00 KB (415,744 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\mswsock.dll				c:\windows\system32\rpess.dll		
scecli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	186.50 KB (190,976 bytes)	3/6/2006 5:23	schedsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447)	197.50 KB (202,240 bytes)	3/6/2006 5:23
PM	Microsoft Corporation			PM	Microsoft Corporation		
	c:\windows\system32\scecli.dll				c:\windows\system32\schedsvc.dll		

wiarpc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 32.50 KB (33,280 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wiarpc.dll	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
msidle	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 6.50 KB (6,656 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msidle.dll	wmisvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmisvc.dll
audiosrv	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 40.50 KB (41,472 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\audiosrv.dll	comsvcs	2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 1.19 MB (1,248,256 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\comsvcs.dll
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	browser	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 76.50 KB (78,336 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browser.dll
aelupsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 26.00 KB (26,624 bytes) 3/6/2006 5:28 PM Microsoft Corporation c:\windows\system32\aelupsvc.dll	netman	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 258.50 KB (264,704 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netman.dll
apphelp	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.50 KB (150,016 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\apphelp.dll	mprapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 89.00 KB (91,136 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mprapi.dll
cryptsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 55.50 KB (56,832 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cryptsvc.dll	activeds	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 194.00 KB (198,656 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\activeds.dll
certcli	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 227.00 KB (232,448 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\certcli.dll	adslrpc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 146.00 KB (149,504 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\adslrpc.dll
atl	3.05.2283 83.00 KB (84,992 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\atl.dll	credui	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 162.00 KB (165,888 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\credui.dll
vssapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 548.00 KB (561,152 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\vssapi.dll	rtutils	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 34.50 KB (35,328 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rtutils.dll
dmserver	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 25.50 KB (26,112 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\dmserver.dll	netshell	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 1.73 MB (1,812,992 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netshell.dll
pchsvc	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 39.00 KB (39,936 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchsvc.dll	clusapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 60.00 KB (61,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\clusapi.dll
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	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
es	2001.12.4720.1830 (srv03_sp1_rtm.050324-1447) 233.00 KB (238,592 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\es.dll	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
seclogon	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 18.50 KB (18,944 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\seclogon.dll	tapi32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 179.50 KB (183,808 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\tapi32.dll
sens	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 36.50 KB (37,376 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\sens.dll	wininet	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 646.00 KB (661,504 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wininet.dll

wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 41.00 KB (41,984 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsapi.dll

wzcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 364.50 KB (373,248 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\wzcsvc.dll

wmi 5.2.3790.0 (srv03_rtm.030324-2048) 6.50 KB (6,656 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 113.50 KB (116,224 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\dhcpcsvc.dll

wbemcore 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 497.50 KB (509,440 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 250.00 KB (256,000 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 93.50 KB (95,744 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 172.50 KB (176,640 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 404.00 KB (413,696 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 271.50 KB (278,016 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\wbemess.dll

rasdlg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 663.00 KB (678,912 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\rasdlg.dll

rasadhlp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 7.50 KB (7,680 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rasadhlp.dll

netrap 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\netrap.dll

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

ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 46.50 KB (47,616 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\wbem\ncprov.dll

netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 763.00 KB (781,312 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\netcfgx.dll

actxprxy 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 96.50 KB (98,816 bytes) 3/6/2006 5:24

PM Microsoft Corporation c:\windows\system32\actxprxy.dll

inetinfo 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetinfo.exe

iisutil 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 164.00 KB (167,936 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\inetrv\iisutil.dll

rpref 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 4.00 KB (4,096 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetrv\rpref.dll

iisrtl 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 138.50 KB (141,824 bytes) 3/6/2006 5:25 PM Microsoft Corporation c:\windows\system32\iisrtl.dll

iisadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 21.00 KB (21,504 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetrv\iisadmin.dll

coadmin 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 62.50 KB (64,000 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\inetrv\coadmin.dll

admwprox 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 47.00 KB (48,128 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\admwprox.dll

iiscfg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 1.08 MB (1,133,056 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetrv\iiscfg.dll

metadata 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 229.00 KB (234,496 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetrv\metadata.dll

msxml3 8.70.1104.0 1.06 MB (1,107,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msxml3.dll

svcxext 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetrv\svcxext.dll

security 5.2.3790.0 (srv03_rtm.030324-2048) 5.50 KB (5,632 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\security.dll

iismap 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 58.50 KB (59,904 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\iismap.dll

wamreg 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 54.50 KB (55,808 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetrv\wamreg.dll

iisw3adm 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 211.00 KB (216,064 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetrv\iisw3adm.dll

w3cache 6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:25 PM Microsoft Corporation c:\windows\system32\inetrv\w3cache.dll

w3tp	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 3/6/2006 5:27 PM Microsoft Corporation c:\windows\system32\inetsrv\w3tp.dll	drprov	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 14.00 KB (14,336 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\drprov.dll
lonsint	6.0.3790.1830 (srv03_sp1_rtm.050324-1447) 13.00 KB (13,312 bytes) 3/6/2006 5:26 PM Microsoft Corporation c:\windows\system32\inetsrv\lonsint.dll	ntlanman	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 43.50 KB (44,544 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntlanman.dll
explorer	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.00 MB (1,050,624 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\explorer.exe	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
browseui	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1,009.00 KB (1,033,216 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\browseui.dll	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
shdocvw	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 1.43 MB (1,502,720 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\shdocvw.dll	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
cryptui	5.131.3790.1830 (srv03_sp1_rtm.050324-1447) 496.50 KB (508,416 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\cryptui.dll	termsrv	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 239.00 KB (244,736 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\termsrv.dll
themeui	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 377.50 KB (386,560 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\themeui.dll	icaapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 12.50 KB (12,800 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\icaapi.dll
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	mstlsapi	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 116.00 KB (118,784 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\mstlsapi.dll
linkinfo	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 19.00 KB (19,456 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\linkinfo.dll	rdpwsx	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 101.63 KB (104,072 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rdpwsx.dll
ntshrui	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 140.00 KB (143,360 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\ntshrui.dll	bmlisten	2, 1, 0, 2 156.00 KB (159,744 bytes) 3/7/2006 12:32 PM IBM xSeries Server Performance c:\slave\bmlisten.exe
urlmon	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 673.00 KB (689,152 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\urlmon.dll	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
webcheck	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 272.50 KB (279,040 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\webcheck.dll	scredir	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 28.00 KB (28,672 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\scredir.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	rdpclip	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 68.00 KB (69,632 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\rdpclip.exe
stobject	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 120.50 KB (123,392 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\stobject.dll	msacm32	5.2.3790.1830 (srv03_sp1_rtm.050324-1447) 69.50 KB (71,168 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\msacm32.dll
batmeter	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 31.50 KB (32,256 bytes) 3/6/2006 5:24 PM Microsoft Corporation c:\windows\system32\batmeter.dll	browsecl	6.00.3790.0 (srv03_rtm.030324-2048) 62.00 KB (63,488 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\browsecl.dll
powrprof	6.00.3790.1830 (srv03_sp1_rtm.050324-1447) 16.50 KB (16,896 bytes) 3/6/2006 5:23 PM Microsoft Corporation c:\windows\system32\powrprof.dll	shdoclc	6.00.3790.0 (srv03_rtm.030324-2048) 588.50 KB (602,624 bytes) 3/25/2003 7:00 AM Microsoft Corporation c:\windows\system32\shdoclc.dll
		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

netplwiz 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
855.00 KB (875,520 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\netplwiz.dll

helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
778.00 KB (796,672 bytes) 3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe

hcappres 5.2.3790.0 (srv03_rtm.030324-2048) 6.50
KB (6,656 bytes) 3/1/2006 1:42 PM Microsoft
Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll

itss 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
133.50 KB (136,704 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\itss.dll

pchshell 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
104.50 KB (107,008 bytes) 3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll

mlang 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
577.50 KB (591,360 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\mlang.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
2.96 MB (3,108,864 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\mshtml.dll

msls31 3.10.349.0 142.00 KB (145,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\msls31.dll

msimtf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
156.00 KB (159,744 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\msimtf.dll

msctf 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
311.00 KB (318,464 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\msctf.dll

jscrip 5.6.0.8827 448.00 KB (458,752 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\jscrip.dll

imm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
108.00 KB (110,592 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\imm32.dll

mshtml 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)
454.50 KB (465,408 bytes) 3/6/2006 5:23

PM Microsoft Corporation
c:\windows\system32\mshtml.dll

vbscript 5.6.0.8827 392.00 KB (401,408 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
376.00 KB (385,024 bytes) 3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll

mfc42u 6.06.8063.0 1.11 MB (1,163,776 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\mfc42u.dll

odbc32 3.526.1830.0 (srv03_sp1_rtm.050324-1447)
240.00 KB (245,760 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\odbc32.dll

odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447) 92.00
KB (94,208 bytes) 3/6/2006 5:23 PM Microsoft
Corporation
c:\windows\system32\odbcint.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 3.50
KB (3,584 bytes) 3/25/2003 7:00 AM Microsoft
Corporation
c:\windows\system32\riched32.dll

riched20 5.31.23.1224 439.00 KB (449,536 bytes)
3/6/2006 5:23 PM Microsoft Corporation
c:\windows\system32\riched20.dll

audiodev 5.2.3790.3700 (srv03_sp1_rtm.050324-1447)
470.00 KB (481,280 bytes) 3/6/2006 5:28 PM
Microsoft Corporation
c:\windows\system32\audiodev.dll

wmvc core 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
2.21 MB (2,314,240 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\wmvc core.dll

wmasf 10.00.00.3700 (srv03_sp1_rtm.050324-1447)
220.50 KB (225,792 bytes) 3/6/2006 5:23 PM
Microsoft Corporation
c:\windows\system32\wmasf.dll

helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
745.00 KB (762,880 bytes) 3/6/2006 5:24 PM
Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpsvc.exe

[Services]

Display Name	Name	State	Start Mode
Service Type	Path	Error Control	
Start Name	Tag ID		
Application Experience Lookup Service	AeLookupSvc	Running	Auto
Share Process			
c:\windows\system32\svchost.exe -k netsvcs			
Normal	LocalSystem	0	
Alerter	Alerter	Stopped	Disabled
Share Process			
c:\windows\system32\svchost.exe -k localservice			
Normal	NT AUTHORITY\LocalService	0	
Application Layer Gateway Service	ALG	Stopped	Manual
Own Process			
c:\windows\system32\alg.exe			
Normal	NT AUTHORITY\LocalService	0	

Application Management AppMgmt Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

ASP.NET State Service aspnet_state
Stopped Manual Own Process
c:\windows\microsoft.net\framework\v2.0.50727\
aspnet_state.exe Normal NT
AUTHORITY\NetworkService 0

Windows Audio AudioSrv Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Background Intelligent Transfer Service BITS
Stopped Manual Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Computer Browser Browser Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Indexing Service CiSvc Stopped Disabled
Share Process
c:\windows\system32\cisvc.exe Normal
LocalSystem 0

ClipBook ClipSrv Stopped Disabled Own Process
c:\windows\system32\clipsrv.exe Normal
LocalSystem 0

.NET Runtime Optimization Service v2.0.50727_X86
clr_optimization_v2.0.50727_32 Stopped
Manual Own Process
c:\windows\microsoft.net\framework\v2.0.50727\
mscorsvw.exe Ignore LocalSystem 0

COM+ System Application COMSysApp
Stopped Manual Own Process
c:\windows\system32\dlhhost.exe
/processid:{02d4b3f1-fd88-11d1-960d-00805fc79235}
Normal LocalSystem 0

Cryptographic Services CryptSvc Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

DCOM Server Process Launcher DcomLaunch
Running Auto Share Process
c:\windows\system32\svchost.exe -k dcomlaunch
Normal LocalSystem 0

Distributed File System Dfs Stopped
Manual Own Process
c:\windows\system32\dfssvc.exe Normal
LocalSystem 0

DHCP Client Dhcp Stopped Manual
Share Process
c:\windows\system32\svchost.exe -k
networkservice Normal NT
AUTHORITY\NetworkService 0

Logical Disk Manager Administrative Service
dmadmin Stopped Manual Share Process
c:\windows\system32\dmadmin.exe /com
Normal LocalSystem 0

Logical Disk Managerdmserver Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

DNS Client Dnscache Running Auto
Share Process
c:\windows\system32\svchost.exe -k
networkservice Normal NT
AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped
Manual Share Process
c:\windows\system32\svchost.exe -k winerr
Ignore LocalSystem 0

Event Log Eventlog Running Auto Share Process
c:\windows\system32\services.exe
Normal LocalSystem 0

COM+ Event System EventSystem Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Help and Support helpsvc Running Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

Human Interface Device Access HidServ Stopped
Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

HTTP SSLHTTPFilter Running Manual
Share Process
c:\windows\system32\lsass.exe Normal
LocalSystem 0

IIS Admin Service IISADMIN Running Auto
Share Process
c:\windows\system32\inetrv\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\ismsserv.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\llsdrv.exe Normal NT
AUTHORITY\NetworkService 0

TCP/IP NetBIOS Helper LmHosts Running Auto
Share Process
c:\windows\system32\svchost.exe -k localservice
Normal NT AUTHORITY\LocalService 0

Messenger Messenger Stopped Disabled Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal LocalSystem 0

NetMeeting Remote Desktop Sharing mnmsrvc
 Stopped Disabled Own Process
 c:\windows\system32\mnmsrvc.exe
 Normal LocalSystem 0

Distributed Transaction Coordinator MSDTC
 Running Auto Own Process
 c:\windows\system32\msdtc.exe Normal NT
 AUTHORITY\NetworkService 1

Windows Installer MSIServer Stopped Manual
 Share Process
 c:\windows\system32\msiexec.exe /v
 Normal LocalSystem 0

Network DDE NetDDE Stopped Disabled
 Share Process
 c:\windows\system32\netdde.exe Normal
 LocalSystem 0

Network DDE DSDMNetDDEdsdm Stopped
 Disabled Share Process
 c:\windows\system32\netdde.exe Normal
 LocalSystem 0

Net Logon Netlogon Stopped Manual Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Network Connections Netman Running Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Network Location Awareness (NLA) Nla
 Running Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own
 Process c:\windows\system32\ntfrs.exe Ignore
 LocalSystem 0

NT LM Security Support Provider NtLmSsp
 Stopped Manual Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Removable Storage NtmsSvc Stopped Manual
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Office Source Engine ose Stopped Manual Own
 Process "c:\program files\common files\microsoft
 shared\source engine\ose.exe" Normal LocalSystem
 0

Plug and Play PlugPlay Running Auto
 Share Process
 c:\windows\system32\services.exe
 Normal LocalSystem 0

IPSEC Services PolicyAgent Running Auto
 Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Protected Storage ProtectedStorage Running Auto
 Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Remote Access Auto Connection Manager RasAuto
 Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Access Connection Manager RasMan
 Stopped Manual Share Process

c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr
 Stopped Manual Own Process
 c:\windows\system32\sessmgr.exe
 Normal LocalSystem 0

Routing and Remote Access RemoteAccess
 Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k regsvc
 Normal NT AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator
 Stopped Manual Own Process
 c:\windows\system32\locator.exe Normal NT
 AUTHORITY\NetworkService 0

Remote Procedure Call (RPC) RpcSs Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k rpcss
 Normal NT Authority\NetworkService 0

Resultant Set of Policy Provider RSoPProv Stopped
 Manual Share Process
 c:\windows\system32\rsopprov.exe
 Normal LocalSystem 0

Special Administration Console Helper sacsvr
 Stopped Manual Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Security Accounts Manager SamSs Running Auto
 Share Process
 c:\windows\system32\lsass.exe Normal
 LocalSystem 0

Smart Card SCardSvr Stopped Manual
 Share Process
 c:\windows\system32\scardsvr.exe
 Ignore NT AUTHORITY\LocalService 0

Task Scheduler Schedule Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Secondary Logon seclogon Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Ignore LocalSystem 0

System Event Notification SENS Running Auto
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Windows Firewall/Internet Connection Sharing (ICS)
 SharedAccess Stopped Disabled
 Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Normal LocalSystem 0

Shell Hardware Detection ShellHWDetection
 Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs
 Ignore LocalSystem 0

```

Print Spooler      Spooler  Stopped  Manual  Own
Process  c:\windows\system32\spoolsv.exe
          Normal  LocalSystem  0

Windows Image Acquisition (WIA)  stisvc
Stopped  Disabled  Share Process
c:\windows\system32\svchost.exe -k imgsvc
Normal  NT AUTHORITY\LocalService  0

Microsoft Software Shadow Copy Provider  swprv
Stopped  Manual  Own Process
c:\windows\system32\svchost.exe -k swprv
Normal  LocalSystem  0

Performance Logs and Alerts  SysmonLog
Stopped  Manual  Own Process
c:\windows\system32\smlogsvc.exe
Normal  NT Authority\NetworkService  0

Telephony TapiSrv  Stopped  Manual  Share Process
c:\windows\system32\svchost.exe -k tapisrv
Normal  LocalSystem  0

Terminal Services  TermService  Running
Manual  Share Process
c:\windows\system32\svchost.exe -k termsvcs
Normal  LocalSystem  0

Themes  Themes  Stopped  Disabled  Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

Telnet  TlntSvr  Stopped  Disabled  Own Process
c:\windows\system32\tlntsvr.exe  Normal  NT
AUTHORITY\LocalService  0

Distributed Link Tracking Server  TrkSvr  Stopped
Disabled  Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

Distributed Link Tracking Client  TrkWks  Running  Auto
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

Terminal Services Session Directory  Tssdis
Stopped  Disabled  Own Process
c:\windows\system32\tssdis.exe  Normal
LocalSystem  0

Windows User Mode Driver Framework  UMWdf
Stopped  Manual  Own Process
c:\windows\system32\wdfmgvr.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  wuauerv  Stopped  Manual
Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

Wireless Configuration  WZCSVC  Stopped
Manual  Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

Network Provisioning Service  xmlprov  Stopped
Manual  Share Process
c:\windows\system32\svchost.exe -k netsvcs
Normal  LocalSystem  0

```

[Program Groups]

```

Group Name      Name      User Name
Accessories     Default User:Accessories
                Default User
Accessories\Accessibility  Default
User:Accessories\Accessibility  Default User
Accessories\Entertainment  Default
User:Accessories\Entertainment  Default User
Startup  Default User:Startup  Default User
Accessories     All Users:Accessories  All Users
Accessories\Accessibility  All
Users:Accessories\Accessibility  All Users
Accessories\Communications  All
Users:Accessories\Communications  All Users

```

Accessories\Entertainment All Users:Accessories\Entertainment All Users

Accessories\System Tools All Users:Accessories\System Tools All Users

Administrative Tools All Users:Administrative Tools All Users

Microsoft SQL Server 2005 All Users:Microsoft SQL Server 2005 All Users

Microsoft SQL Server 2005\Analysis Services All Users:Microsoft SQL Server 2005\Analysis Services All Users

Microsoft SQL Server 2005\Configuration Tools All Users:Microsoft SQL Server 2005\Configuration Tools All Users

Microsoft SQL Server 2005\Performance Tools All Users:Microsoft SQL Server 2005\Performance Tools All Users

Startup All Users:Startup All Users

Accessories NT
AUTHORITY\SYSTEM:Accessories NT
AUTHORITY\SYSTEM

Accessories\Accessibility NT
AUTHORITY\SYSTEM:Accessories\Accessibility NT
AUTHORITY\SYSTEM

Accessories\Entertainment NT
AUTHORITY\SYSTEM:Accessories\Entertainment NT
AUTHORITY\SYSTEM

Startup NT AUTHORITY\SYSTEM:Startup NT
AUTHORITY\SYSTEM

Accessories
FCLIENT40\Administrator:Accessories
FCLIENT40\Administrator

Accessories\Accessibility
FCLIENT40\Administrator:Accessories\Accessibi
lity FCLIENT40\Administrator

Accessories\Entertainment
FCLIENT40\Administrator:Accessories\Entertain
ment FCLIENT40\Administrator

Administrative Tools
FCLIENT40\Administrator:Administrative Tools
FCLIENT40\Administrator

Startup FCLIENT40\Administrator:Startup
FCLIENT40\Administrator

[Startup Programs]

Program	Command	User Name	Location
desktop	desktop.ini	NT AUTHORITY\SYSTEM	Startup
desktop	desktop.ini	FCLIENT40\Administrator	Startup
Shortcut to BMListen	shortcut to bmlisten.lnk	FCLIENT40\Administrator	Startup
Shortcut to synctime	shortcut to synctime.lnk	FCLIENT40\Administrator	Startup
desktop	desktop.ini	DEFAULT	Startup
desktop	desktop.ini	All Users	Common Startup

[OLE Registration]

Object Local Server

Sound (OLE2) sndrec32.exe

Media Clip mplay32.exe

Video Clip mplay32.exe /avi

MIDI Sequence mplay32.exe /mid

Sound Not Available

Media Clip Not Available

WordPad Document "%programfiles%\windows nt\accessories\wordpad.exe"

Windows Media Services DRM Storage object Not Available

Bitmap Image mspaint.exe

[Windows Error Reporting]

Time	Type	Details
[Internet Settings]		
[Internet Explorer]		
[Following are sub-categories of this main category]		
[Summary]		
Item	Value	
Version	6.0.3790.1830	
Build	63790.1830	
Application Path	C:\Program Files\Internet Explorer	
Language	English (United States)	
Active Printer	Not Available	
Cipher Strength	128-bit	
Content Advisor	Disabled	
IEAK Install	No	

[File Versions]

File	Version	Size	Date	Path
actxprxy.dll	6.0.3790.1830	97 KB	3/24/2005 6:55:26 PM	C:\WINDOWS\system32
advpack.dll	6.0.3790.1830	98 KB	3/24/2005 6:55:28 PM	C:\WINDOWS\system32
asctrls.ocx	6.0.3790.0	90 KB	3/25/2003 8:00:00 AM	C:\WINDOWS\system32

browsecl.dll	6.0.3790.0	62 KB	3/25/2003	
8:00:00 AM	C:\WINDOWS\system32			
	Microsoft Corporation			
browseui.dll	6.0.3790.1830	1,009 KB		
3/24/2005 6:56:10 PM	C:\WINDOWS\system32			Microsoft Corporation
cdview.dll	6.0.3790.1830	149 KB		
3/24/2005 6:56:32 PM	C:\WINDOWS\system32			Microsoft Corporation
comctl32.dll	5.82.3790.1830	585 KB		
3/24/2005 6:57:56 PM	C:\WINDOWS\system32			Microsoft Corporation
dxtrans.dll	6.3.3790.1830	205 KB	3/24/2005	
7:00:58 PM	C:\WINDOWS\system32			Microsoft Corporation
dxtmsft.dll	6.3.3790.1830	355 KB	3/24/2005	
7:00:58 PM	C:\WINDOWS\system32			Microsoft Corporation
iecont.dll	<File Missing>	Not Available		Not Available
Available	Not Available	Not Available		Not Available
iecontlc.dll	<File Missing>	Not Available		Not Available
Available	Not Available	Not Available		Not Available
iedkcs32.dll	16.0.3790.1830	324 KB		
3/24/2005 7:04:58 PM	C:\WINDOWS\system32			Microsoft Corporation
iepeers.dll	6.0.3790.1830	248 KB	3/24/2005	
7:04:58 PM	C:\WINDOWS\system32			Microsoft Corporation
iesetup.dll	6.0.3790.1830	61 KB	3/24/2005	
7:04:58 PM	C:\WINDOWS\system32			Microsoft Corporation
ieunit.inf	Not Available	24 KB	3/24/2005	
7:04:58 PM	C:\WINDOWS\system32			Not Available
ieexplore.exe	6.0.3790.1830	92 KB		
3/24/2005 7:04:58 PM	C:\Program Files\Internet Explorer			Microsoft Corporation
imgutil.dll	6.0.3790.1830	38 KB	3/24/2005	
7:05:04 PM	C:\WINDOWS\system32			Microsoft Corporation
inetcp.cpl	6.0.3790.1830	358 KB	3/24/2005	
7:05:06 PM	C:\WINDOWS\system32			Microsoft Corporation
inetcpl.dll	6.0.3790.0	109 KB	3/25/2003	8:00:00 AM
	C:\WINDOWS\system32			Microsoft Corporation
inseng.dll	6.0.3790.1830	94 KB	3/24/2005	
7:05:06 PM	C:\WINDOWS\system32			Microsoft Corporation
mlang.dll	6.0.3790.1830	578 KB	3/24/2005	
7:07:20 PM	C:\WINDOWS\system32			Microsoft Corporation
msencode.dll	2002.10.4.0	112 KB		
	3/25/2003 8:00:00 AM			
	C:\WINDOWS\system32			Microsoft Corporation

mshta.exe	6.0.3790.1830	30 KB	3/24/2005	
7:07:26 PM	C:\WINDOWS\system32			Microsoft Corporation
mshtml.dll	6.0.3790.1830	3,036 KB	3/24/2005	
7:07:26 PM	C:\WINDOWS\system32			Microsoft Corporation
mshtml.tlb	6.0.3790.1830	1,320 KB	3/24/2005	
7:07:26 PM	C:\WINDOWS\system32			Microsoft Corporation
mshtml.dll	6.0.3790.1830	455 KB		
3/24/2005 7:07:26 PM	C:\WINDOWS\system32			Microsoft Corporation
mshtml.dll	6.0.3790.1830	56 KB		
3/24/2005 7:07:26 PM	C:\WINDOWS\system32			Microsoft Corporation
msident.dll	6.0.3790.1830	48 KB	3/24/2005	
7:07:28 PM	C:\WINDOWS\system32			Microsoft Corporation
msidntld.dll	6.0.3790.0	15 KB	3/25/2003	
8:00:00 AM	C:\WINDOWS\system32			Microsoft Corporation
msieftp.dll	6.0.3790.1830	244 KB	3/24/2005	
7:07:28 PM	C:\WINDOWS\system32			Microsoft Corporation
msrating.dll	6.0.3790.1830	144 KB		
3/24/2005 7:07:36 PM	C:\WINDOWS\system32			Microsoft Corporation
mstime.dll	6.0.3790.1830	523 KB	3/24/2005	
7:07:38 PM	C:\WINDOWS\system32			Microsoft Corporation
occache.dll	6.0.3790.1830	94 KB		
3/24/2005 7:08:34 PM	C:\WINDOWS\system32			Microsoft Corporation
proctexe.ocx	6.3.3790.1830	83 KB		
3/24/2005 7:12:26 PM	C:\WINDOWS\system32			Intel Corporation
sendmail.dll	6.0.3790.1830	56 KB		
3/24/2005 7:13:36 PM	C:\WINDOWS\system32			Microsoft Corporation
shdoclc.dll	6.0.3790.0	589 KB	3/25/2003	8:00:00 AM
	C:\WINDOWS\system32			Microsoft Corporation
shdocvw.dll	6.0.3790.1830	1,468 KB		
3/24/2005 7:13:36 PM	C:\WINDOWS\system32			Microsoft Corporation
shfolder.dll	6.0.3790.1830	25 KB		
3/24/2005 7:13:36 PM	C:\WINDOWS\system32			Microsoft Corporation
shlwapi.dll	6.0.3790.1830	314 KB	3/24/2005	
7:13:40 PM	C:\WINDOWS\system32			Microsoft Corporation
tdc.ocx	1.3.0.3130	58 KB	3/25/2003	8:00:00 AM
	C:\WINDOWS\system32			Microsoft Corporation

url.dll 6.0.3790.1830 37 KB 3/24/2005
 7:26:12 PM C:\WINDOWS\system32
 Microsoft Corporation

urlmon.dll 6.0.3790.1830 673 KB 3/24/2005
 7:26:12 PM C:\WINDOWS\system32
 Microsoft Corporation

webcheck.dll 6.0.3790.1830 273 KB
 3/24/2005 7:26:16 PM
 C:\WINDOWS\system32 Microsoft
 Corporation

wininet.dll 6.0.3790.1830 646 KB 3/24/2005
 7:26:18 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

Registry for Client 1

The registry file for clients 2-8 are identical to the following file.

Client Configuration Parameters

COM+ Settings

TPCC.AllTxns:

Activation:
 Enable Object Pooling selected
 Minimum Pool Size: 90
 Maximum Pool Size: 90
 Creating Timeout: 300,000
 Enable Object Construction
 Enable Just in Time Activation
 Concurrency:
 Concurrency Required

TPCC Application Registry Parameters

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\TPC
C]

"Path"="c:\inetpub\wwwroot\
"NumberOfDeliveryThreads"=dword:0x11
"MaxConnections"=dword:0x34bc
"MaxPendingDeliveries"=dword:0x546
"DB_Protocol"="ODBC"
"TxnMonitor"="COM"
"DbServer"="tpcc-3way"
"DbName"="tpcc"
"DbUser"="sa"
"DbPassword"=""
"COM_SinglePool"="YES"

Microsoft Internet Information Service Registry Parameters

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\InetInfo]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\InetInfo\Parameters]
"ListenBackLog"=dword:0x19
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,00,56,
00,43,00,00,00,00,
"PoolThreadLimit"=dword:0xbe
"ThreadTimeout"=dword:0x15180

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\InetInfo\Performance]

"Library"="infectrs.dll"
"Open"="OpenINFOPerformanceData"
"Close"="CloseINFOPerformanceData"
"Collect"="CollectINFOPerformanceData"
"Last Counter"=dword:0x842
"Last Help"=dword:0x843
"First Counter"=dword:0x802

World Wide Web Service Registry Parameters

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC]

"Type"=dword:0x20
"Start"=dword:0x2
"ErrorControl"=dword:0x1
"ImagePath"=hex(2):43,00,3a,00,5c,00,57,00,49,00,4e,00,4e,
00,54,00,5c,00,53,00,
79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,69,00,6e,00,
65,00,74,00,73,
00,72,00,76,00,5c,00,69,00,6e,00,65,00,74,00,69,00,6e,00,66,
00,6f,00,2e,00,
65,00,78,00,65,00,00,00
"DisplayName"="World Wide Web Publishing Service"

"DependOnService"=hex(7):49,00,49,00,53,00,41,00,44,00,4
d,00,49,00,4e,00,00,00,
00,00

"DependOnGroup"=hex(7):00,00
"ObjectName"="LocalSystem"
"Description"="Provides Web connectivity and
administration through the Internet Information Services
snap-in."

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\ASP]

"NOTE"="This is for backward compatibility only."

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\ASP\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters]

"MajorVersion"=dword:00000005
"MinorVersion"=dword:00000000
"InstallPath"="C:\WINNT\System32\inetrv"
"CertMapList"="C:\WINNT\System32\inetrv\iisrmap.dll"
"AccessDeniedMessage"="Error: Access is Denied."
"Filter DLLs"=""
"LogFileDirectory"="C:\WINNT\System32\LogFiles"
"AcceptExOutstanding"=dword:00000028

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters\ADCLaunch]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters\ADCLaunch\AdvancedDataFa
ctory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters\ADCLaunch\RDSServer.DataFa
ctory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters\Script Map]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\
Services\W3SVC\Parameters\Virtual Roots]

"/"="c:\inetpub\wwwroot,,205"
"/Scripts"="c:\inetpub\scripts,,1"
"/IISAdmin"="C:\WINNT\System32\inetrv\iisadmin,,1"
"/IISamples"="c:\inetpub\iissamples,,1"
"/MSADC"="c:\program files\common
files\system\msadc,,1"
"/IISHelp"="c:\winnt\help\iishelp,,1"
"/_vti_bin"="C:\Program Files\Common Files\Microsoft
Shared\Web Server Extensions\40\isapi,,1"
"/Rpc"="C:\WINNT\System32\RpcProxy,,1"
"/Printers"="C:\WINNT\web\printers,,201"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Performance]

"Library"="w3ctrs.dll"

"Open"="OpenW3PerformanceData"

"Close"="CloseW3PerformanceData"

"Collect"="CollectW3PerformanceData"

"Last Counter"=dword:000008f2

"Last Help"=dword:000008f3

"First Counter"=dword:00000850

"First Help"=dword:00000851

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Security]

"Security"=hex:01,00,14,80,a0,00,00,00,ac,00,00,00,14,00,0,00,30,00,00,02,\

00,1c,00,01,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\

00,00,02,00,70,00,04,00,00,00,00,00,18,00,fd,01,02,00,01,01,00,00,00,00,\

05,12,00,00,00,74,00,6f,00,00,00,1c,00,ff,01,0f,00,01,02,00,00,00,00,05,\

20,00,00,00,20,02,00,00,72,00,73,00,00,00,18,00,8d,01,02,00,01,01,00,00,00,\

00,00,05,0b,00,00,00,20,02,00,00,00,00,1c,00,fd,01,02,00,01,02,00,00,00,\

00,05,20,00,00,00,23,02,00,00,72,00,73,00,01,01,00,00,00,00,00,05,12,00,00,\

00,01,01,00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Enum]

"0"="Root\LEGACY_W3SVC\0000"

"Count"=dword:00000001

"NextInstance"=dword:00000001

RTE Input Parameters

IBM Benchmark Master benchmark profile. DO NOT CHANGE THE SPACING IN THIS FILE! This is a Tab separated value file.

64 ** Number of segments (all must be defined directly below)

SEGMENT	MACHINE	LOG			
DIRECTORY	DB	WEBSERVER	DB		
SERVER	STARTWH	ENDWH	#USERS	SP	
PREFIX	GROUP1	GROUP2			
frte10a1	frte10	c:\rtelogs	tpcc	fclient10a	
	IBMSERV4A1		1	429	4290
	n/a	client10	node0		

frte10a2	frte10	c:\rtelogs	tpcc	fclient10a	
	IBMSERV4A1		430	858	4290
	n/a	client10	node0		
frte10a3	frte10	c:\rtelogs	tpcc	fclient10a	
	IBMSERV4A1		859	1287	4290
	n/a	client10	node0		
frte10a4	frte10	c:\rtelogs	tpcc	fclient10a	
	IBMSERV4A1		1288	1715	4280
	n/a	client10	node0		
frte10b1	frte10	c:\rtelogs	tpcc	fclient10b	
	IBMSERV4A1		1716	2144	4290
	n/a	client10	node0		
frte10b2	frte10	c:\rtelogs	tpcc	fclient10b	
	IBMSERV4A1		2145	2573	4290
	n/a	client10	node0		
frte10b3	frte10	c:\rtelogs	tpcc	fclient10b	
	IBMSERV4A1		2574	3002	4290
	n/a	client10	node0		
frte10b4	frte10	c:\rtelogs	tpcc	fclient10b	
	IBMSERV4A1		3003	3430	4280
	n/a	client10	node0		
frte20a1	frte20	c:\rtelogs	tpcc	fclient20a	
	IBMSERV4A3		3431	3830	4000
	n/a	client20	node0		
frte20a2	frte20	c:\rtelogs	tpcc	fclient20a	
	IBMSERV4A3		3831	4230	4000
	n/a	client20	node0		
frte20a3	frte20	c:\rtelogs	tpcc	fclient20a	
	IBMSERV4A3		4231	4630	4000
	n/a	client20	node0		
frte20a4	frte20	c:\rtelogs	tpcc	fclient20a	
	IBMSERV4A3		4631	5030	4000
	n/a	client20	node0		
frte20b1	frte20	c:\rtelogs	tpcc	fclient20b	
	IBMSERV4A3		5031	5430	4000
	n/a	client20	node0		
frte20b2	frte20	c:\rtelogs	tpcc	fclient20b	
	IBMSERV4A3		5431	5830	4000
	n/a	client20	node0		
frte20b3	frte20	c:\rtelogs	tpcc	fclient20b	
	IBMSERV4A3		5831	6230	4000
	n/a	client20	node0		
frte20b4	frte20	c:\rtelogs	tpcc	fclient20b	
	IBMSERV4A3		6231	6630	4000
	n/a	client20	node0		
frte30a1	frte30	c:\rtelogs	tpcc	fclient30a	
	IBMSERV4A5		6631	7078	4480
	n/a	client30	node0		
frte30a2	frte30	c:\rtelogs	tpcc	fclient30a	
	IBMSERV4A5		7079	7526	4480
	n/a	client30	node0		
frte30a3	frte30	c:\rtelogs	tpcc	fclient30a	
	IBMSERV4A5		7527	7974	4480
	n/a	client30	node0		
frte30a4	frte30	c:\rtelogs	tpcc	fclient30a	
	IBMSERV4A5		7975	8420	4460
	n/a	client30	node0		
frte30b1	frte30	c:\rtelogs	tpcc	fclient30b	
	IBMSERV4A5		8421	8868	4480
	n/a	client30	node0		

frte30b2	frte30 IBMSERV4A5 n/a	c:\rtelogs client30	tpcc 8869 node0	fclient30b 9316	4480	frte60a2	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 17687 node1	fclient60a 18102	4160
frte30b3	frte30 IBMSERV4A5 n/a	c:\rtelogs client30	tpcc 9317 node0	fclient30b 9764	4480	frte60a3	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 18103 node1	fclient60a 18518	4160
frte30b4	frte30 IBMSERV4A5 n/a	c:\rtelogs client30	tpcc 9765 node0	fclient30b 10210	4460	frte60a4	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 18519 node1	fclient60a 18933	4150
frte40a1	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 10211 node0	fclient40a 10643	4330	frte60b1	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 18934 node1	fclient60b 19349	4160
frte40a2	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 10644 node0	fclient40a 11076	4330	frte60b2	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 19350 node1	fclient60b 19765	4160
frte40a3	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 11077 node0	fclient40a 11509	4330	frte60b3	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 19766 node1	fclient60b 20181	4160
frte40a4	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 11510 node0	fclient40a 11940	4310	frte60b4	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 20182 node1	fclient60b 20595	4140
frte40b1	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 11941 node0	fclient40b 12373	4330	frte70a1	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 20596 node1	fclient70a 21045	4500
frte40b2	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 12374 node0	fclient40b 12806	4330	frte70a2	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 21046 node1	fclient70a 21495	4500
frte40b3	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 12807 node0	fclient40b 13239	4330	frte70a3	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 21496 node1	fclient70a 21945	4500
frte40b4	frte40 IBMSERV4A7 n/a	c:\rtelogs client40	tpcc 13240 node0	fclient40b 13670	4310	frte70a4	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 21946 node1	fclient70a 22395	4500
frte50a1	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 13671 node1	fclient50a 14120	4500	frte70b1	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 22396 node1	fclient70b 22845	4500
frte50a2	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 14121 node1	fclient50a 14570	4500	frte70b2	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 22846 node1	fclient70b 23295	4500
frte50a3	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 14571 node1	fclient50a 15020	4500	frte70b3	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 23296 node1	fclient70b 23745	4500
frte50a4	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 15021 node1	fclient50a 15470	4500	frte70b4	frte70 IBMSERV4B5 n/a	c:\rtelogs client70	tpcc 23746 node1	fclient70b 24195	4500
frte50b1	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 15471 node1	fclient50b 15920	4500	frte80a1	frte80 IBMSERV4B7 n/a	c:\rtelogs client80	tpcc 24196 node1	fclient80a 24611	4160
frte50b2	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 15921 node1	fclient50b 16370	4500	frte80a2	frte80 IBMSERV4B7 n/a	c:\rtelogs client80	tpcc 24612 node1	fclient80a 25027	4160
frte50b3	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 16371 node1	fclient50b 16820	4500	frte80a3	frte80 IBMSERV4B7 n/a	c:\rtelogs client80	tpcc 25028 node1	fclient80a 25443	4160
frte50b4	frte50 IBMSERV4B1 n/a	c:\rtelogs client50	tpcc 16821 node1	fclient50b 17270	4500	frte80a4	frte80 IBMSERV4B7 n/a	c:\rtelogs client80	tpcc 25444 node1	fclient80a 25858	4150
frte60a1	frte60 IBMSERV4B3 n/a	c:\rtelogs client60	tpcc 17271 node1	fclient60a 17686	4160	frte80b1	frte80 IBMSERV4B7 n/a	c:\rtelogs client80	tpcc 25859 node1	fclient80b 26274	4160

```

frte80b2 frte80 c:\rtelogs tpcc fclient80b
IBMSERV4B7 26275 26690 4160
n/a client80 node1

frte80b3 frte80 c:\rtelogs tpcc fclient80b
IBMSERV4B7 26691 27106 4160
n/a client80 node1

frte80b4 frte80 c:\rtelogs tpcc fclient80b
IBMSERV4B7 27107 27520 4140
n/a client80 node1

```

```

2000 ** Connect rate - rate users log in to the database
(users per minute)
227 ** Run rate- rate users ramp in (users per minute)
1 ** Ramp-in type (0 = linear, 1 = 5 step
descending rate)
0 ** Web Client type (ignored for 2-tier; 0 =
Microsoft's, 1 = IBM pSeries)
27520 ** Total number of warehouses
0 ** Run type (0 = 3-tier, 1 = 2-tier)
0 ** 2-tier 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 NEWORDPAYMENT DELI
STCKLVL ORDSTAT
0 44940 43030 4010 4010 4010
** Transaction mix percentages (must add up to
100,000)
0 12050 12050 5050 5050
10050 ** 3-tier think times (milliseconds)
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
** 2-tier key times (milliseconds)
0 5000 5000 5000 20000 5000
** 90th percentile values (milliseconds)
0 100 100 100 100 100
** 3-tier browser painting menu delay
(milliseconds)
0 100 100 100 100 100
** 3-tier 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	27520	tpmC	340243.642	tpmC/W	12.36	
Table	Rows	Data	Index	5% Space	8H Space	Total Space
Warehouse	27,520	3,008	360	168.40		3,536.40
District	281,600	31,296	528	1,591.20		33,415.20
Item	100,000	9,416	488	495.20		10,399.20
New-order	253,440,001	4,515,672	11,504		2,252,800	6,779,976.00
History	844,800,003	49,331,408	184,576		9,795,057.40	59,311,041.40
Orders	844,800,011	27,585,336	63,000		5,469,285.20	33,117,621.20
Customer	844,800,000	614,400,000	38,334,744	32,636,737.20		685,371,481.20
Order-line	8,447,980,026	553,965,928	1,304,880		109,841,489.54	665,112,297.54
Stock	2,816,000,000	901,120,000	1,900,368	45,151,018.40		948,171,386.40
Totals		2,150,962,064	41,800,448	77,790,010.40	127,358,632.14	2,397,911,154.54
Segment	LogDev Cnt.	Seg. Size	Needed	Overhead		Not Needed
misc	58	950,272,000	764,368,287	7,643,683		178,260,030.19
big	58	1,722,368,000	1,633,542,868	16,335,429		72,489,703.72
master,msdb,model	1	13,312	13,312			-
tpcc_root	1	8,192	8,192			-
tempdb	1	8,704	8,704			-
Totals		2,672,670,208.00	2,397,941,362.54	23,979,111.55		250,749,733.92
Dynamic space	630,882,672.00	Sum of Data for Order, Order-Line and History				
Static space	1,663,648,961.95	Data + Index + 5% Space + Overhead - Dynamic space				
Free space	127,388,840.14	Total Seg. Size - Dynamic Space - Static Space - Not Needed				
Daily growth	124,798,731.39	Dynamic space/(Wc * 62.5)* tpmC				
Daily spread	(59,809,256.95)	Free space - 1.5 * Daily growth (zero if negative)				
60 day (KB)	9,151,572,845.53	Static space + 60* (daily growth + daily spread)				
60 day (GB)	8,727.62	60-day space in GB (excludes OS, Paging and RDBMS logs)				
Available (GB)	29,556.80	The total storage configured and available for the database, minus logs, in a RAID 0 Configuration				
Log File Storage Requirement:						
Log size (MB)	1,119,000.00	Total size of log file				
% Log Used	32.4183	% of log file used during entire run				
Total N-O Txn	58,116,718	Total count of new order transactions during entire run				
Log per N-O txn	6.39	KB of log storage used per New Order transaction				
8 Hour Log (GB)	995.52	8-hour log storage required				
Log configured (GB)	2,044.00					
Disk Capacity	MB	GB				
18GB-15K RPM	17736	16.93				
36GB-15K RPM	37273.6	36.40				
73.4GB-15K RPM	75161.6	73.40				
146GB-15K RPM	149504	146.00				
			Disks Priced			
Space Usage	GB Needed			GB Priced	GB Usable	
60-Day (Raid 0)	8,727.62		812	36GB-15K RPM	29,556.80	29,556.80
					Total DB	29,556.80
8hr Log (RAID-1)	995.52		28	146GB-15K RPM	4,088.00	2,044.00
					Total Log	2,044.00
OS, SQL Server	8.00		1	36.4GB-10K RPM	36.40	36.40
Total Space	9,731.14		841		33,681.20	31,637.20

Appendix E: Third-Party Price Quotes

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
<http://www.microsoft.com/>

Microsoft

May 30, 2006

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 <i>Per Processor License</i> <i>Discount Schedule: Open Program - Level C</i> <i>Unit Price reflects a 6% discount from the retail unit price of \$24,999.</i>	\$23,432	8	\$187,456
P73-00295	Windows Server 2003 Standard Edition <i>Server License Only - No CALs</i> <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 28% discount from the retail unit price of \$999.</i>	\$719	8	\$5,752
P72-00274	Windows Server 2003 Enterprise x64 Edition <i>Server License Only - No CALs</i> <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 42% discount from the retail unit price of \$3,999.</i>	\$2,334	1	\$2,334
254-00170	Visual C++ Standard Edition <i>No Discounts Applied</i>	\$109	1	\$109
N/A	Microsoft Problem Resolution Services <i>Professional Support</i> <i>(1 Incident)</i>	\$245	1	\$245

All products are currently orderable through Microsoft's normal distribution channels.

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.



Quote

1995 N. First Street
Suite 200
San Jose CA 95112

Date	Quote #
5/26/2006	97

Bill To
Chris King IBM Corporation 3079 Cornwallis Road Durham NC 27709 United States

Ship To
Chris King IBM Corporation 3079 Cornwallis Road Durham NC 27709 United States

Due D...	Exp. Cl...	Sales Rep	Partner	Terms	Ship Via
6/25/2006	5/26/2006	Rice, Steve		0% 0 Net 30	UPS Ground
				FOB	Freight Account

Item	Quantity	Description	Rate	Amount
SEN2002XT	4	Dual Port PCI-X Gigabit Accelerator TNIC - Copper	1,449.00	5,796.00
			Subtotal	5,796.00
			Shipping Cost (UPS Ground)	15.00
			Total	\$5,811.00

1800-9800-3800

1-800-980-0380 (the best HBA store)

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:




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Qlogic model number: QLA2342





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Item #: N82E16812105305

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Quantity Pricing

Units	Price	Shipping
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5+	\$2.79	\$2.35 ea.
10+	\$2.49	\$1.70 ea.

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Specifications

Model	
Brand	AMC
Model	CC5E-B14B
Spec	
Color	Blue
Cat	5E
Length	14 FT