



i n v e n t

TPC Benchmark® C Full Disclosure Report

HP Server rx8620

using Microsoft SQL Server 2000 Enterprise Edition 64-bit
on Microsoft Windows Server 2003, Datacenter edition (64-bit)
SP1

Second Edition
July 15, 2005

Second Edition - July 15, 2005

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Abstract

Overview

This report documents the methodology and results of the TPC Benchmark® C test conducted on the HP Server rx8620 in a client/server configuration, using Microsoft SQL Server 2000 Enterprise Edition 64-bit and Microsoft COM+ Transaction Monitor. The operating system used for the benchmark was Microsoft Windows Server 2003, Datacenter edition (64-bit) SP1.

TPC Benchmark® C Metrics

The standard TPC Benchmark ® C metrics, tpmC® (transactions per minute), price per tpmC ® (three year capital cost per measured tpmC®), and the availability date are reported as required by the benchmark specification.

Standard and Executive Summary Statements

The following pages contain the executive summary of the benchmark results for the HP Server rx8620 system. The Standard System Summary is given below.

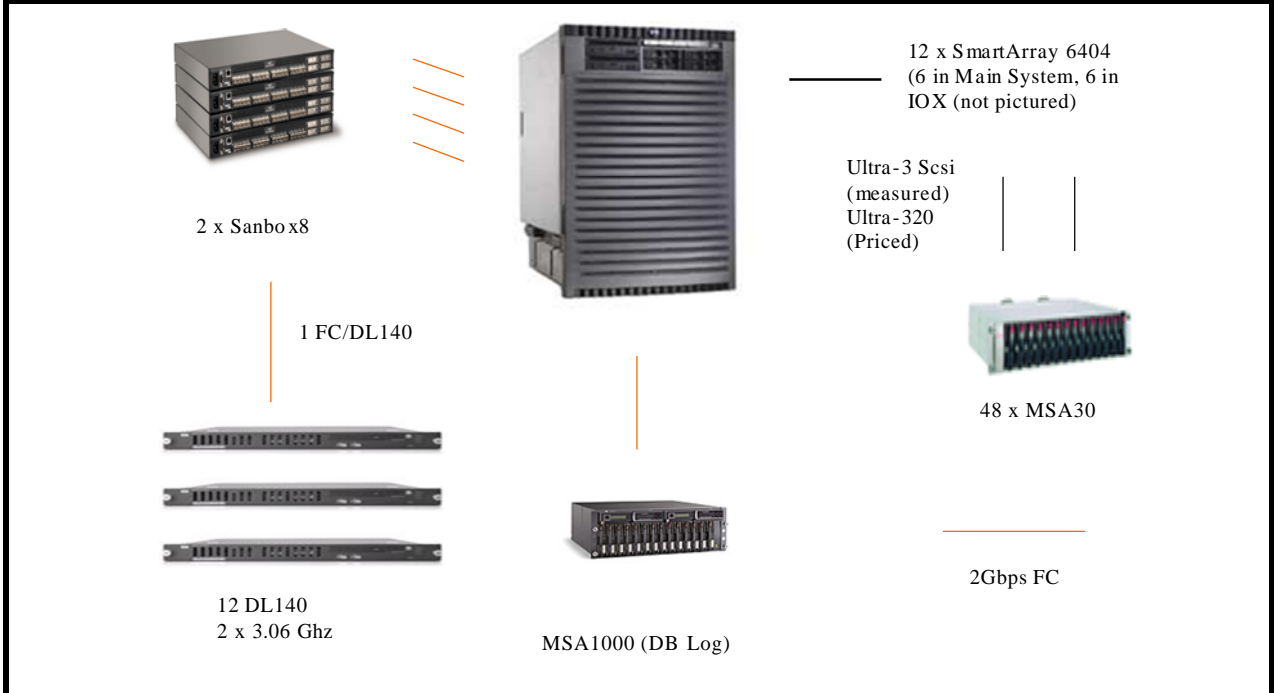
Company Name	System Name	Database Software	Operating System
Hewlett-Packard Company	HP Server rx8620	Microsoft SQL Server 2000 Enterprise Edition 64-bit	Microsoft Windows Server 2003, Datacenter edition (64-bit) SP1
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$1,489,153	332265.87 tpmC	\$4.48 per tpmC	July 15, 2005

Auditor


The benchmark configuration, environment and methodology used to produce and validate the test results, and the pricing model used to calculate the cost per tpmC®, were audited by Lorna Livingtree of Performance Metrics to verify compliance with the relevant TPC specifications.

 invent	<h1>HP Server rx8620</h1>	TPC-C Revision 5.4
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Total System Cost	TPC Throughput	Price/Performance	Report Date	Availability Date
\$1,489,153	332265.87 tpmC	\$4.48 per tpmC	July 15, 2005	July 15, 2005
Processors	Database Manager	Operating System	Other Software	Number of Users
16 Intel Itanium2 1.6GHz - Server 24 x Intel Xeon 3.06GHz - Client	Microsoft SQL Server 2000 Enterprise Edition 64-bit	Microsoft Windows Server 2003, Datacenter edition (64 bit) SP1	Microsoft Visual C++ Microsoft COM+ Transaction Monitor	265,920



System Components	Server		Each Client	
	Qty	Type	Qty	Type
Processors	16	Intel Itanium 2 9M CPUs at 1.6GHz	2	3.06 GHz Intel Xeon
Cache Memory		6 MB L3 cache		512kbyte L2 Cache
Memory	16	16 Gbyte	1	2048 Mbytes
Disk Controllers	12	HP Smart Array 6404	1	ATA
Disk Drives	672	HP 18GB 15KRPM	1	80 Gbyte disk
	14	HP 146GB, 10krpm U320		
	1	HP 18GB 15KRPM for OS		
Total Storage		13276.3 Gbyte		80 Gbyte
Tape Drives	1	HP Surestore DAT40e		
Terminals	1	Console Terminal	1	Console Terminal

 Hewlett Packard Company		HP Server rx8620			TPC-C Rev. 5.1		
				Report Date:			
Description	Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price	
rx8620 16-way SMP Base System incl cell boards, core IO, power supplies, PCI-X backplan, 16x1.6ghz Intel Itanium 2 6M processors							
	1	AB240A-002	\$263,995	1	\$263,995	\$117,292	
16GB SDRAM (4x4GB DIMMs)	1	AB322A	\$45,000	16	\$720,000		
PCI-x I/O chassis	1	A6434A	\$29,995	1	\$29,995		
36GB Hot Plug Ultra 320 SCSI (15K rpm)	1	A9880A	\$1,995	1	\$1,995		
Qlogic QLA-2350 Fibre-Channel VI Adapter	1	A390975	\$1,256	4	\$5,024		
2GB PCI-X FC HBA	1	AB232A	\$1,550	1	\$1,550		
HP Smart Array Controller 6404	1	A9826A	\$2,399	12	\$28,788		
Storageworks MSA30 SB	1	302969-B21	\$2,978	48	\$142,944		
Support 3yrs 24x7	1	171242-002	\$157	48		\$8,792	
36GB, 15krpm Ultra3 Wide disk	1	286776-B22	\$299	672	\$200,928		
36GB, 15krpm Ultra3 Wide disk (10% spares)	1	286776-B22	\$299	68	\$20,332		
Modular Storage Array 1000	1	201723-B22	\$6,995	1	\$6,995		
MSA1000 controller	1	218231-B22	\$4,290	1	\$4,290		
Support 3yrs 24x7	1	402164-002	\$3,538	1		\$7,076	
146GB, 10krpm disk	1	286716-B22	\$599	14	\$8,386		
146GB, 10krpm disk (10% spares)	1	286716-B22	\$599	2	\$1,198		
HP9000 Standard Rack System E41	1	A4902D	\$1,910	5	\$9,550		
5m LC to LC Cable Kit	1	221692-B22	\$82	1	\$82		
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	1	\$199		
HP Power Distribution Unit 120-240V	1	A5137AZ	\$145	6	\$870		
TA5300 Enclosure for DAT tape	1	C7508AZ	\$1,045	1	\$1,045	\$2,125	
DVD Rom drive	1	C7499B	\$515	1	\$515		
DAT Tape	1	C7497B	\$1,049	1	\$1,049		
Server Subtotal					\$1,449,730	\$135,285	
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372A opt016	\$32,000	1	\$32,000	incl. line 4	
Microsoft Problem Resolution	2		\$245	1		\$245	
Microsoft SQL Server 2000 Enterprise Edition 64 bit	2	810-00560	\$16,541	16	\$264,656		
Server Software Subtotal					\$296,656	\$245	
DL140 Dual 3.06GHz Xeon 1GB 80GB ATA	1	356533-B21	\$1,799	12	\$21,588		
1GB PC2100 ECC DDR	1	351109-B21	\$419	12	\$5,028		
17" S7500 CRT Monitor	1	P9008A#ABA	\$149	1	\$149		
Tripp Lite 16-port KVM Switch USB	3	B022-016	\$565	1	\$565		
Qlogic QLA-2350 Fibre-Channel VI Adapter (incl. spares)	1	A390975	\$1,256	14	\$17,584		
5M LC to LC Cable Kit	1	221692-B22	\$82	16	\$1,312		
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	16	\$3,184		
HP 3 Yr. 4h 24x7 ProLiant DL140 Hardware Support	1	U9510E	\$469	12		\$5,628	
Client Subtotal					\$49,410	\$5,628	
Microsoft Windows 2000 Server	2	C11-00821	\$738	12	\$8,856		
Microsoft Visual C++ Standard 6.0	2	254-0017D	\$109	1	\$109		
Microsoft Problem Resolution	2		\$245	1		\$245	
Client Software Subtotal					\$8,965	\$245	
Qlogic SANBox 5200	3	SB5200-16A	\$4,980	3	\$14,940	\$3,000	
Connectivity Subtotal					\$14,940	\$3,000	
HP's Large Configuration Discount *	* Discounts:				\$433,755	\$41,196	
Total:					\$1,385,946	\$103,207	
3 year cost of ownership:					\$1,489,153		
Price Key: 1-HP, 2-Microsoft, 3-PC Universe Audited by Lorna Livingtree of Performance Metrics, Inc.				tpmC:		332265.87	
* All discounts are based on US list prices and for similar quantities and configurations				\$/tpmC:		\$4.48	
Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated							

Numerical Quantities Summary for HP Server rx8620

MQTH, Computed Maximum Qualified Throughput

332265.87 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.91s	19.49s	0.46s
Payment	0.88s	19.17s	0.44s
Order-Status	0.91s	16.15s	0.47s
Delivery (interactive portion)	0.11s	3.63s	0.10s
Delivery (deferred portion)	0.14s	3.89s	0.11s
Stock-Level	1.05s	17.32s	0.57s
Menu	0.11s	4.25s	0.10s

Response time delay added for emulated components 0.1 seconds

Transaction Mix, in percent of total transactions

New-Order	44.97%
Payment	43.00%
Delivery	4.01%
Stock-Level	4.01%
Order-Status	4.01%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18s	18.02s	18.06s	0s	12.05s	120.53s
Payment	3s	3.02s	3.06s	0s	12.04s	120.52s
Order-Status	2s	2.02s	2.07s	0s	10.06s	100.51s
Delivery (interactive)	2s	2.02s	2.06s	0s	5.05s	50.52s
Stock-Level	2s	2.02s	2.05s	0s	5.07s	50.52s

Test Duration

Ramp up time	51 minutes
Measurement interval	120 minutes
Transactions during measurement interval	92226898
Ramp down time	5 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	30 minutes

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Preface

Document Structure

This is the full disclosure report for a benchmark test of the HP Server rx8620 using Microsoft SQL Server 2000 Enterprise Edition 64-bit. It meets the requirements of the TPC Benchmark® C Standard Specification, Revision 5.4 dated 1-Jun-05. TPC Benchmark® C was developed by the Transaction Processing Performance Council (TPC). It is the intent of this group to develop a suite of benchmarks to measure the performance of computer systems executing a wide range of applications. Hewlett-Packard Company and Microsoft, Inc. are active participants in the TPC.

TPC Benchmark® C Overview

TPC Benchmark® C is an **On Line Transaction Processing (OLTP)** workload. It is a mixture of read-only and update intensive transactions that mimic the activities found in complex OLTP application environments. It does so by exercising a breadth of system components associated with such 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 of data access and update

The performance metric reported by TPC-C® is a “business throughput” measurement of 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 other environments 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 benchmark when critical capacity planning and/or product evaluation decisions are contemplated.

Hewlett-Packard Company does not warrant or represent that a user can or will achieve performance similar to the benchmark results contained in this report. No warranty of system performance or price/performance is expressed or implied by this report.

System Overview

The hardware configuration used in this TPC-C test was based on the HP Server rx8620. The full configuration was built by adding additional memory, additional disk adapters and drives. The operating system used on the server was Microsoft Windows Server 2003, Datacenter edition (64-bit) SP1 and the database was Microsoft SQL Server 2000 Enterprise Edition 64-bit, version 8.00.2022 (SP4).

The processor architecture of the HP Server rx8620 was designed for the Intel Itanium 2 9M processor. The HP Server rx8620 used in this test was powered by 16 1.6GHz Intel Itanium 2 9M processors, each with 6MB of 3rd level cache.

This configuration used 256 GB of HP SDRAM. This was achieved by using 64 4GB DIMMs.

The operating system, all executables and libraries, the master database, and swap space were contained in one 36GB hard disk, attached to a PCI SCSI controller.

The database log drive storage was located on an HP MSA1000. The MSA1000 held 14 146MB Ultra320 SCSI hard drives. The MSA1000 disk array was connected to the rx8620 using an Emulex 9802 Fibrechannel HBA. The disks were configured as RAID 1+0, and two battery backed up disk array controller caches were enabled and mirrored.

The TPC-C database storage consisted of 672 HP 18GB 15KRPM disk drives (measured configuration). 48 HP StorageWorks MSA30 disk arrays were used to connect the disks. Each MSA30 holds 14 disks. The MSA30 enclosures were attached in groups of 4 to each SmartArray 6404 Controller using standard SCSI cabling. The 6404 uses the 4 enclosures as two groups of two, or 28 discs in each. The discs were configured as a RAID0 Array spanning all 28 discs in each array, for a total of 24 RAID0 data base arrays. The SmartArray caches were disabled on the RAID0 partitions. Additionally, a RAID5 volume was configured on each set of 28 discs as fault tolerant backup for the data base.

2 arrays were configured with 36GB 15KRPM drives and the performance monitored for a substitution. The 36GB drives were priced.

Each of the 12 clients is an HP Proliant DL140 with two Intel Xeon at 3.06 GHz, 2048 MB RAM and one 80.1GB ATA hard disk, running Microsoft Windows 2000 Server.

The server and web-clients were networked together using QLogic VIA/SAN. The network bandwidth between the web-clients and the database server was 2GBps. 12 remote terminal emulators (RTEs) emulated 265,920 users executing the standard TPC-C workload. Each web-client had two embedded Gigabit LAN adapters, one of which was used to connect to the RTEs running in 100MBit mode.

General Items

Test Sponsor

A statement identifying the sponsor of the Benchmark and any other companies who have participated.

Hewlett-Packard Company was the test sponsor of this TPC Benchmark C.

Application Code and Definition Statements

The application program must be disclosed. This includes, but is not limited to, the code implementing the five transactions and the terminal input/output functions.

The Section 3.0 entitled Clause 3 Related Items contains a brief discussion of the database design and loading. The database definition statements, distribution across disk drives, loading scripts, and tables are provided in Appendix B.

The program that implements the TPC Benchmark C translation and collects appropriate transaction statistics is referred to as the Remote Terminal Emulator (RTE) or Driver program. We have used the Microsoft BenchCraft RTE program that emulated a set of users entering TPC-C transactions through web browsers, and communicating with web-client machines running the Microsoft Internet Information Server (IIS) web server. The web-client machines used the COM+ transaction monitor (TM) to communicate with the database server.

On each web-client machine, IIS loads a custom Microsoft Internet Information Server Application Programming Interface dynamic link library (ISAPI DLL) application program that communicates with the emulated web browsers through the HTTP protocol and the database server through the COM+ TM and the Microsoft ODBC interface. The application supplies fill-in screens to the user for each transaction, then parses the data in each request, and makes a call on SQL Server through the COM+ layer, which manages a set of ODBC connections to the database server. The resulting data is passed back to the application where it is formatted into HTML and sent back to the user's browser. The *delivery* transaction is handled directly from the application to the database without the use of COM+.

Parameter Settings

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

- *Database options*
- *Recover/commit options*
- *Consistency/locking options*
- *System parameter, application parameters, and configuration parameters.*

Appendix C contains all the database and operating system parameters used in this benchmark in addition to all the hardware configuration details.

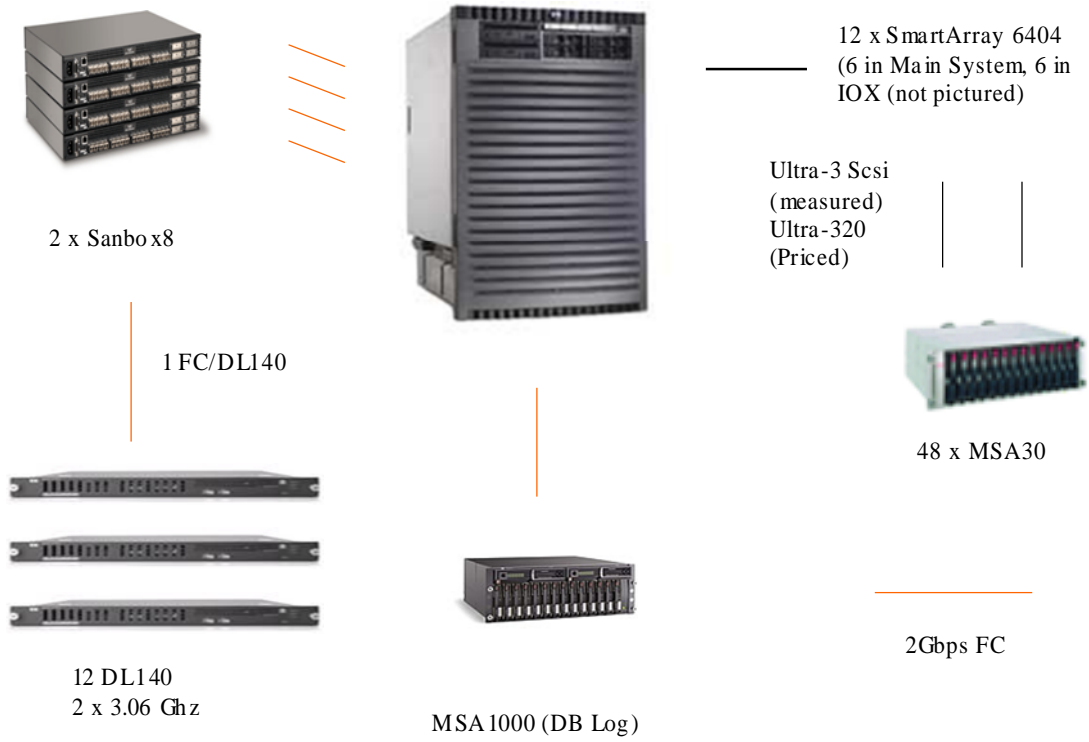
Appendix D contains the 60 day space calculations.

Configuration Diagrams

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

The measured and priced client/server configuration is shown in Figures 1.

Figure 1. Measured and Priced Configuration



The measured configuration used a mix of Ultra-320 and discontinued Ultra-3 SCSI disks and enclosures, Ultra320 SCSI disks and enclosures were priced.

Chapter 1 Logical Database Design

1.1 Table Definitions

A listing 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.

1.2 Physical Organization of the Database

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

The measured database configuration used a total of 687 disks, which included 672 HP 18GB 15KRPM drives for data, 14 HP 146GB, 10krpm U320 drives for log, and one 36GB drive for the operating system.

Part of the space on each of the 24 database disk arrays was configured as 1 RAID0 volume over 28 18GB drives. Each volume held 2 partitions, one for the CS filegroup where the Customer and Stock tables were stored and one partition for MISC filegroup where all other tables were stored. The remainder of the disc space on each of the 24 Arrays was configured as a RAID5 volume over all 28 18GB drives. Each volume had 2 partitions, containing backups of the data base.

1.3 Insert and Delete Operations

It must be ascertained that insert and delete operations to any of the tables can occur concurrently with the TPC-C transaction mix. Furthermore, any restrictions 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 and verified during the entire benchmark.

1.4 Partitioning

While there are a few restrictions placed upon horizontal or vertical partitioning of tables and rows in the TPC-C Benchmark, any such partitioning must be disclosed.

Partitioning was not used on any table.

1.5 Replication, Duplication or Additions

Replication of tables, if used, must be disclosed. Additional and/or duplicated attributes in any table must be disclosed along with a statement on the impact on performance.

No replications, duplications or additional attributes were used.

Chapter 2 Transaction and Terminal Profiles

2.1 Random Number Generation

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

The random number generation was done internal to the Microsoft BenchCraft RTE program, which was audited independently.

2.2 Input/Output Screen Layout

The actual layout of the terminal input/output screens must be disclosed.

The screen layouts are based on those in Clauses 2.4.3, 2.5.3, 2.6.3, 2.7.3, and 2.8.3 of the TPC-C® Standard Specification.

2.3 Priced Terminal Feature 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 for the demonstration in 8.1.3.3 must be disclosed and commercially available (including supporting software and maintenance).

The terminal features were verified by allowing the auditor to manually execute each of the five transaction types, using the Microsoft Internet Explorer.

2.4 Transaction Statistics

The transaction profiles must be disclosed as per Clauses 8.1.3.5 through 8.1.3.10.

Table 1 shows the transaction statistics.

Table 1. Transaction Statistics

Type	Item	Value
New Order	Home warehouse items	99.00%
	Remote warehouse items	1.00%
	Rolled back transactions	1.00%
	Average items per order	10.00
Payment	Home warehouse	85.00%
	Remote warehouse	15.00%
	Non primary key access	60.02%
Order Status	Non primary key access	60.09%
Delivery	Skipped transactions	0
Transaction Mix	New Order	44.97%
	Payment	43.00%
	Delivery	4.01%
	Stock Level	4.01%
	Order Status	4.01%

2.5 Presentation Manager or Intelligent Terminal

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

Comment 1: *The intent of this clause is to describe any special manipulations performed by a local terminal or workstation to off-load work from the SUT. This includes, but is not limited to: screen presentations, message bundling, and local storage of TPC-C rows.*

Comment 2: *This disclosure also requires that all data manipulation functions performed by the local terminal to provide navigational aids for transaction(s) must also be described. Within this disclosure, the purpose of such additional function(s) must be explained.*

Application code running on the web-client implemented the TPC-C® user interface. Screen manipulation commands in the form of HTML were downloaded to the web browser, which handled input and output presentation graphics. A listing of this code is included in Appendix A. Microsoft Internet Information Service assisted in the processing and presentation of this data.

2.6 Queuing Mechanism

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

The application creates a semaphore-based thread pool consisting of a user-specified number of threads, which open ODBC connections on the database. When a *delivery* transaction is posted, one of these threads makes the database call while the transaction's original thread returns control to the user. Upon completion, the delivery thread writes an entry in the delivery log and returns to the thread pool.

The source code is listed in Appendix A.

Chapter 3 Transaction and System Properties

3.1 Transaction System Properties (ACID Tests)

Results of the ACID test must describe how the requirements were met. This includes disclosing which case was followed for the execution of Isolation Test 7.

The TPC Benchmark C standard specification defines a set of transaction processing system properties that a System Under Test (SUT) must support during the execution of the benchmark. Those properties are Atomicity, Consistency, Isolation and Durability (ACID). The following subsections will define each of these properties and describe the series of tests that were performed by HP to demonstrate that the properties were met.

All of the specified ACID tests were successfully performed on the HP Server rx8620. A fully scaled database was used for all the durability tests.

3.2 Atomicity Tests

The system under test (SUT) must guarantee that transactions are atomic; the system will either perform all individual operations on the data, or will assure that no partially-completed operations have any effects on the data.

3.2.1 COMMIT Transaction

The following steps were followed to demonstrate the COMMIT property of Atomicity:

A row was randomly selected from the Warehouse, District and Customer tables, and the present balances noted. The standard payment transaction was started against the above identifiers using a known amount. The transaction was committed and the rows were verified to contain the correct updated balances.

3.2.2 ROLLBACK Transaction

The following steps were followed to demonstrate the COMMIT property of Atomicity:

A row was randomly selected from the Warehouse, District and Customer tables, and the present balances noted. The standard payment transaction was started against the above identifiers using a known amount. The transaction was rolled back and the rows were verified to contain the original balances.

3.3 Consistency Tests

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

Consistency conditions 1 through 4 were tested using a shell script to issue queries to the database. The results of the queries verified that the database was consistent for all four tests. A performance run was executed at rated speed. The shell script was executed again. The result of the same queries verified that the database remained consistent after the run.

3.4 Isolation Tests

Operations of concurrent transactions must yield results which are indistinguishable from the results which would be obtained by forcing each transaction to be serially executed to completion in some order.

This property is commonly called serializability. Sufficient conditions must be enabled at either the system or application level to ensure serializability of transactions under any mix of arbitrary transactions.

We ran a total of nine isolation tests. Seven of these tests are detailed in the TPC-C specification (clause 3.4.2.1 to 3.4.2.7). The additional two are to fully comply with the isolation requirements that are not directly specified in the TPC-C specification. These two tests are known as Phantom Protection One and Two. They demonstrate that the applications are protected from phantom inserts.

3.5 Durability Tests

The tested system must guarantee the ability to preserve the effects of committed transactions and insure database consistency after recovery from any one of the failures listed in clause 3.5.3.1, 3.5.3.2, and 3.5.3.3.

Three types of failures were tested to ensure the durability of the database: Loss of Data, Loss of Log, and Loss of System/Memory. All test were performed on the full scale database..

3.5.1 Loss of Data

The standard driving mechanism was used to generate the transaction load of slightly more than 26,592 users for the test (10% of full load). To demonstrate recovery from a permanent failure of durable media containing TPC-C tables, the following steps were executed:

1. The database was backed up using SQLServer backup facilities.
2. A sum of D_NEXT_O_ID was taken.
3. Slightly more than 26,592 (10%) users were logged in to the database and ran transactions.
4. After 5 minutes, one data disk drive was removed. Errors were noted on both the SQL log, OS log, and the RTE log.
5. The RTE monitor was used to verify that no users were lost.
6. The RTE was shutdown and a success file was created.
7. The database log was backed up to disc.
8. SQL was shut down, the disc re-inserted and the RAID0 volume recovered.
9. The database was restored from the original backup that was restored before the run, specifying recovery NOT be done after the restore.
10. The log was restored with recovery, effectively rolling forward all successful transactions from the run.
11. Transaction were exported from the success file. 6 New Orders were chosen at random and verified to exist in the database.

3.5.2 Loss of System / Memory and loss of Log

This was demonstrated on the full database with 26,592 warehouses in a single test. The standard driving mechanism was used to generate the transaction load of 265,920 users for this test. To demonstrate recovery the following steps were followed:

1. The full database was used.
2. A sum of D_NEXT_O_ID was taken.
3. 265,920 users were logged in to the database and ran transactions.
4. After 5 minutes, one of the (mirrored) log disk was removed from the system, processing transactions continued.
5. After another 5 minutes, power to the system was cut off.
6. The RTE continued running and completed transactions enroute from the clients were recorded. Error messages began appearing on the RTE screen.
7. The RTE was stopped.
8. The server machine was powered on again and rebooted.
9. Microsoft SQL Server was restarted and performed an automatic recovery.
10. A new count of D_NEXT_O_ID was taken.
11. This number was compared with the number of new orders reported by the RTE
12. Samples were taken of the RTE log and verified against the database.

Chapter 4 Scaling and Database Population

4.1 Database Layout

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

The measured (tested) and priced systems used 12 HP Smart Array 6404 Disk Arrays. These cards were plugged into 6 PCI-X slots of the main system, and 6 PCI-X slots on the IO Extender (IOX). The system drive was attached to a Ultra3 LVD SCSI controller, a standard part of the Maintenance Processor shipped with the base system.. The MSA1000 disk array that held the database log was connected to an Emulex 9802 FC HBA which were plugged into a PCI-X slot in the main system chassis.

The measured database configuration used a total of 687 disks, which included 672 HP 18GB 15KRPM drives for data, 14 HP 146GB, 10krpm U320 drives for log, and one 36GB drive for the operating system. Part of the space on each of the 24 database disk arrays was configured as 1 RAID0 volume over 28 36GB drives. Each volume held 2 partitions, one for the CS filegroup where the Customer and Stock tables were stored and one partition for MISC filegroup where all other tables were stored. The remainder of the disc space on each of the 24 Arrays was configured as a RAID5 volume over all 28 18GB drives. Each volume had 2 partitions, containing backups of the data base.

Table 2 shows the complete data distribution.

Table 2: Data Distribution

SmartArray 6404 HBA #1a			WINDOWS.NET DISK ADMIN	
2 StorageWorks			DISK 1	
SCSI ID	Channels		Partitions (RAID 0):104.6GB	
	0	1	0	1
0	18GB	18GB	G:\MNT\CS1 Raw 67.31GB	G:\MNT\MISC1 Raw 37.3GB
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		
SmartArray 6404 HBA #12b				
2 StorageWorks			DISK 2	
SCSI ID	Channels		Partitions (RAID 5):280GB	
	2	3	0	1
0	18GB	18GB	G:\MNT\BACKUP\1\ NTFS Volume Backup1 139B	G:\MNT\BACKUP2\1\ NTFS Volume Backup1 139B
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		

SmartArray 6404 HBA #1b			WINDOWS.NET DISK ADMIN	
2 StorageWorks			DISK 3	
SCSI ID	Channels		Partitions (RAID 0):104.6GB	
	0	1	0	1
0	18GB	18GB	G:\MNT\CS2 Raw 67.31B	G:\MNT\MISC2 Raw 37.6GB
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		
SmartArray 6404 HBA #1b				
2 StorageWorks			DISK 4	
SCSI ID	Channels		Partitions (RAID 5):280GB	
	2	3	0	1
0	18GB	18GB	G:\MNT\BACKUP\2 NTFS Volume Backup2 139GB	G:\MNT\BACKUP\2 NTFS Volume Backup2 139GB
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		

.....

....

SmartArray 6404 HBA #12b			WINDOWS.NET DISK ADMIN	
2 StorageWorks			DISK 23	
SCSI ID	Channels		Partitions (RAID 0):104.6GB	
	0	1	0	1
0	18GB	18GB	G:\MNT\CS24 Raw 67.31GB	G:\MNT\MISC24 Raw 37.6GB
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		
SmartArray 6404 HBA #12b				
2 StorageWorks			DISK 24	
SCSI ID	Channels		Partitions (RAID 5):380GB	
	2	3	0	1
0	18GB	18GB	G:\MNT\BACKUP\24 NTFS Volume Backup24 139GB	G:\MNT\BACKUP2\24 NTFS Volume Backup24 139GB
1	18GB	18GB		
2	18GB	18GB		
3	18GB	18GB		
4	18GB	18GB		
5	18GB	18GB		
6	18GB	18GB		
8	18GB	18GB		
9	18GB	18GB		
10	18GB	18GB		
11	18GB	18GB		
12	18GB	18GB		
13	18GB	18GB		
14	18GB	18GB		

4.2 Initial Cardinality of Tables

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

Table 3 shows the cardinality of the various tables.

Table 3: Table Cardinality

Table	Occurrences
Warehouse	28,000
District	280,000
Customer	840,000,000
History	840,000,000
Orders	840,000,000
New Orders	252,000,000
Order Line	840,041,944
Stock	2,800,000,000
Item	100,000

No rows were deleted for the benchmark runs.

4.3 60 Day Space

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 must be disclosed.

4.3.1 Transaction Log Space Requirements

To calculate the space required to sustain the database log for 8 hours of growth at steady state, the following steps were followed:

1. The free space on the logfile was queried using **dbcc sqlperf(logspace)**.
2. Transactions were run against the database with a full load of users.
3. The free space was again queried using **dbcc sqlperf(logspace)**.
4. The space used was calculated as the difference between the first and second query.
5. The number of NEW-ORDERS was verified from an RTE report covering the entire run.
6. The space used was divided by the number of NEW-ORDERS giving a space used per NEW-ORDER transaction.
7. The space used per transaction was multiplied by the measured tpmC rate times 480 minutes.

The result of the above steps yielded a requirement of 646 GB to sustain the log for 8 hours. Space available for the transaction log was 820 GB indicating that enough storage was configured to hold 8 hours of growth.

The same methodology was used to calculate the growth requirements for the other dynamic tables Order, Order-Line and History. The details of the 60ay growth calculation are shown in Appendix D.

4.4 Type of Database Used

A statement must be provided that describes:

1. *The data 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 2000 Enterprise Edition 64-bit is a relational DBMS.

The interface was SQL Server stored procedures accessed with library calls embedded in C code.

4.5 Database Mapping

The mapping of database partitions and replications must be described.

The database was divided into 2 file groups misc_fg and cs_fg. misc_fg consists of 24 partitions at 96,568 MB each and misc_fg consist of 16 partitions at 53,520 MB each as shown in the createdb.sql. The log was configured with 20,000 MB at database creation, and was expanded to 300GB after data base creation and load.

Chapter 5 Performance Metrics and Response Time

5.1 Throughput

Measured tpmC® must be reported.

Measured TpmC®: 332,265.87
Price per TpmC®: \$4.48

5.2 Response Times

Ninetieth percentile, maximum and average response times must be reported for all transactions types as well as for the menu response time.

Table 3 shows the response times for all transaction types.

Table 4: Transaction Response Times

Response Times	Average	90th %-ile	Maximum
New-Order	0.46s	0.91s	19.49s
Payment	0.44s	0.88s	19.17s
Order-Status	0.47s	0.91s	16.15s
Delivery (interactive portion)	0.10s	0.11s	3.63s
Delivery (deferred portion)	0.11s	0.14s	3.89s
Stock-Level	0.57s	1.05s	17.32s
Menu	0.10s	0.11s	4.25s

5.3 Keying and Think Times

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

Tables 4 and 5 show the key times and think times for all transaction types.

Table 5: Transaction Key Times

Keying Times	Minimum	Average	Maximum
New Order	18s	18.02s	18.06s
Payment	3s	3.02s	3.06s
Order Status	2s	2.02s	2.07s
Interactive Delivery	2s	2.02s	2.06s
Stock Level	2s	2.02s	2.05s

Table 6: Transaction Think Times

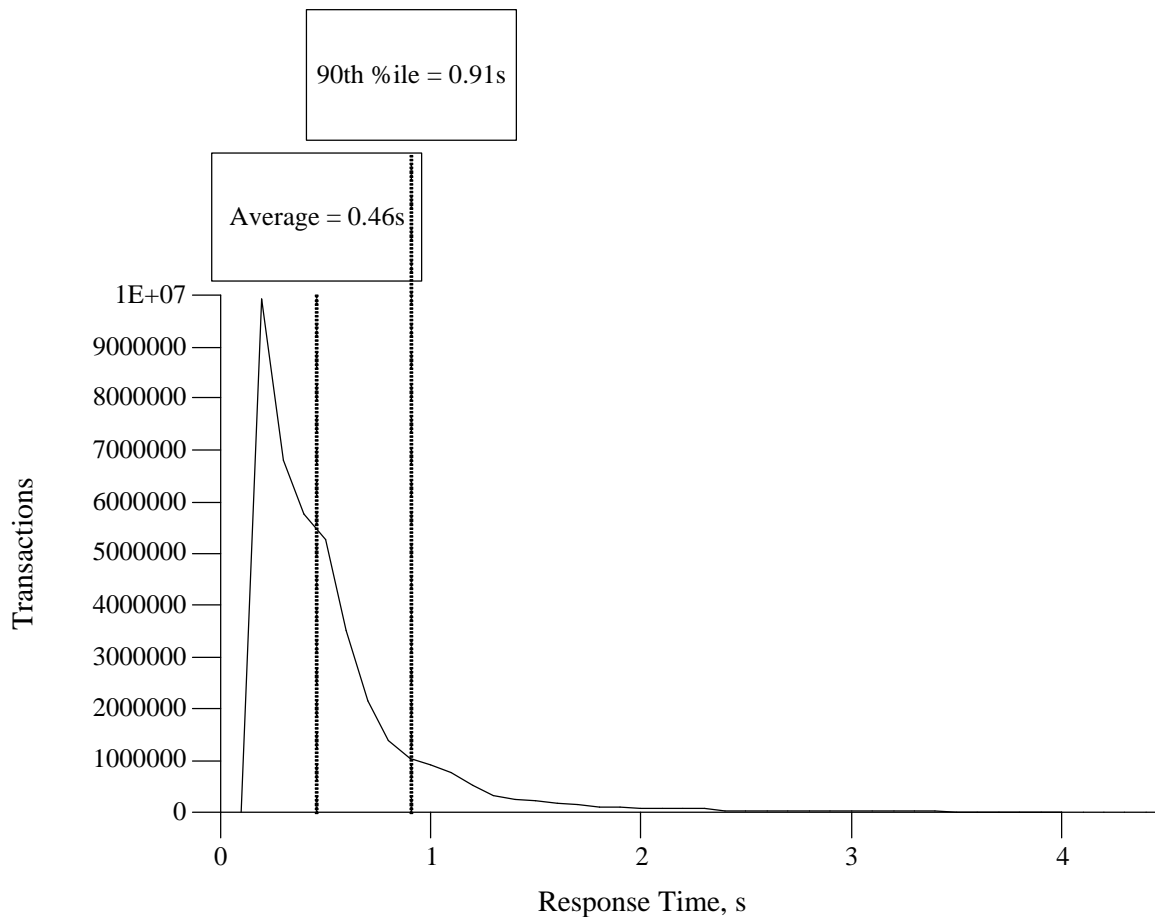
Think Times	Minimum	Average	Maximum
New Order	0s	12.05s	120.53s
Payment	0s	12.04s	120.52s
Order Status	0s	10.06s	100.51s
Interactive Delivery	0s	5.05s	50.52s
Stock Level	0s	5.07s	50.52s

5.4 Response Time Frequency

Response Time frequency distribution curves (see Clause 5.6.1) must be reported for each transaction type. The performance curve for response times versus throughput (see Clause 5.6.2) must be reported for the New-Order transaction. Think Time frequency distribution curves (see Clause 5.6.3) must be reported for each transaction type. Keying Time frequency distribution curves (see Clause 5.6.4) must be reported for each transaction type. A graph of throughput versus elapsed time (see Clause 5.6.5) must be reported for the New-Order transaction.

5.4.1 New Order Response Time

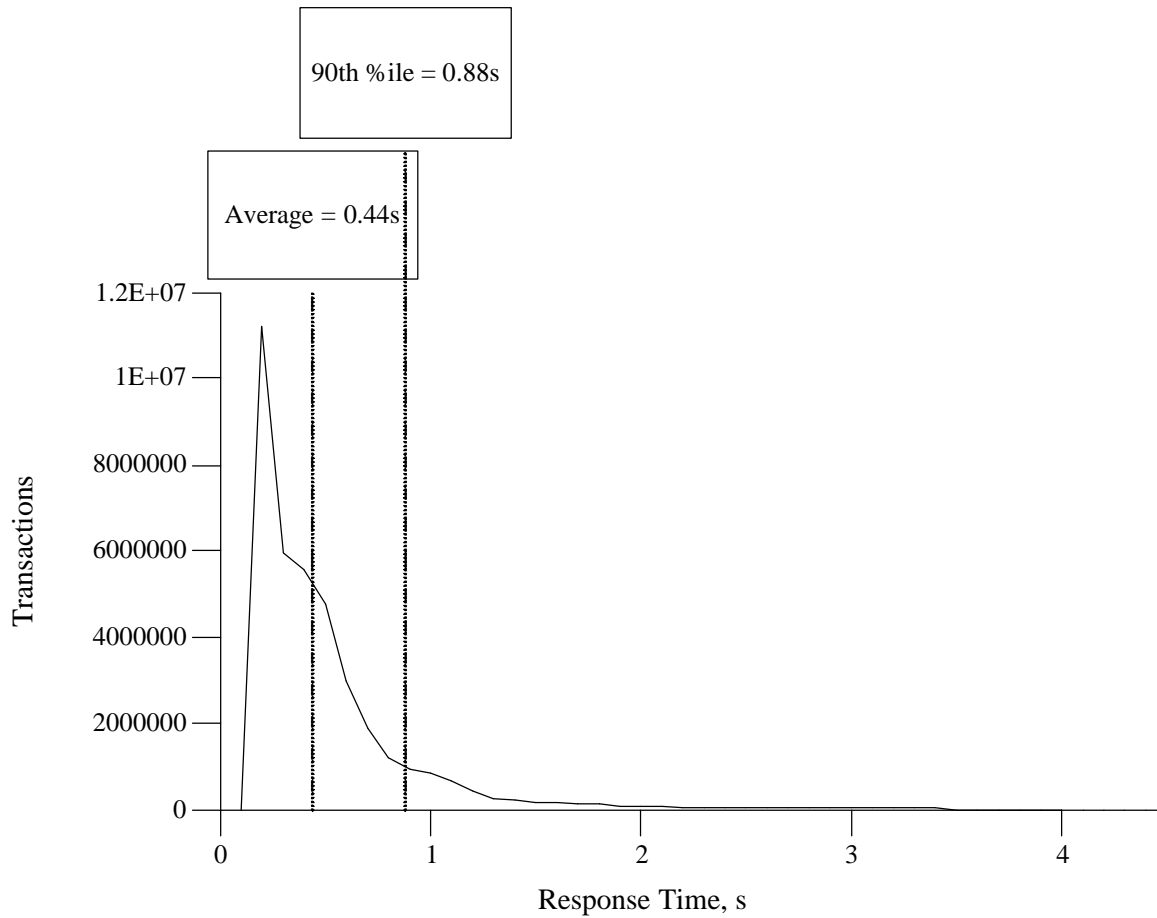
Figure 3: New Order Response Time Distribution



Response time frequency distribution for New Order transaction

5.4.2 Payment Response Time Distribution

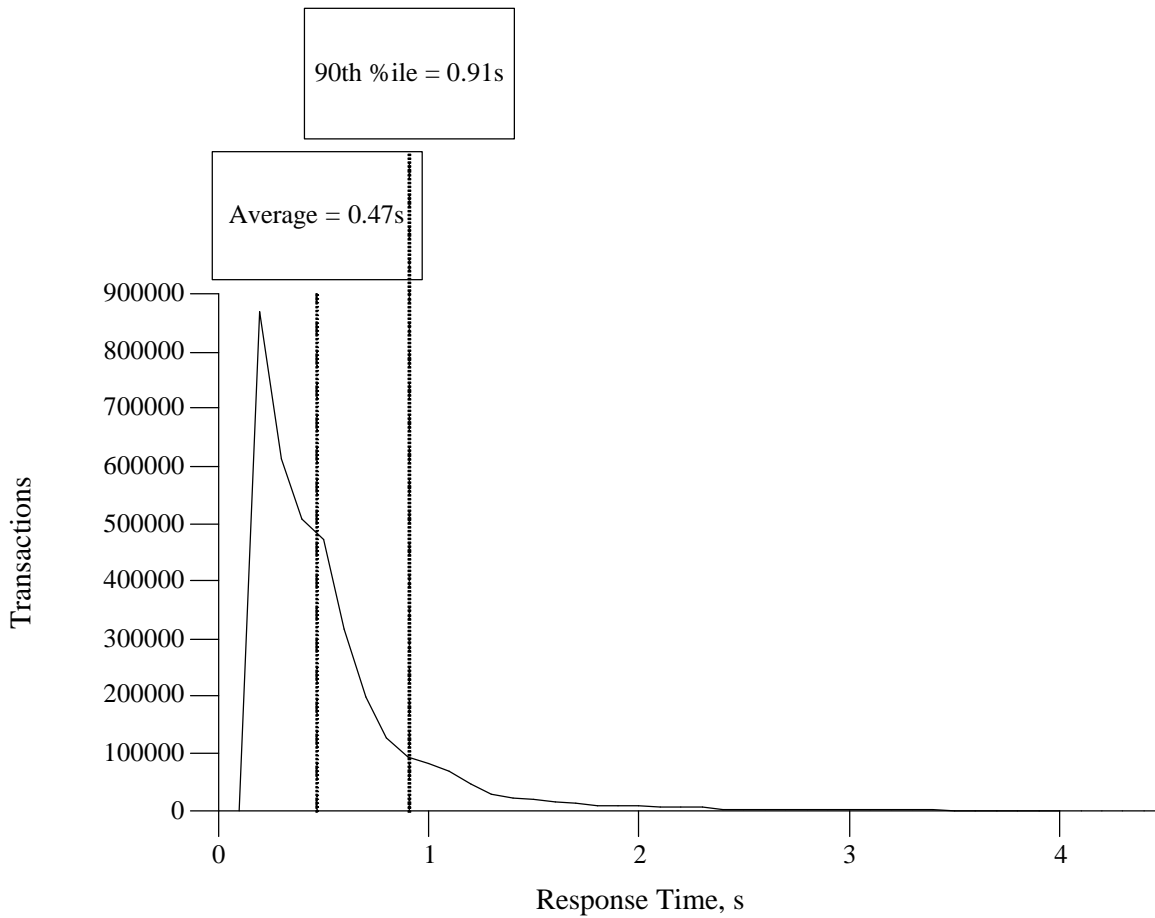
Figure 4: Payment Response Time Distribution



Response time frequency distribution for Payment transaction

5.4.3 Order Status Response Time

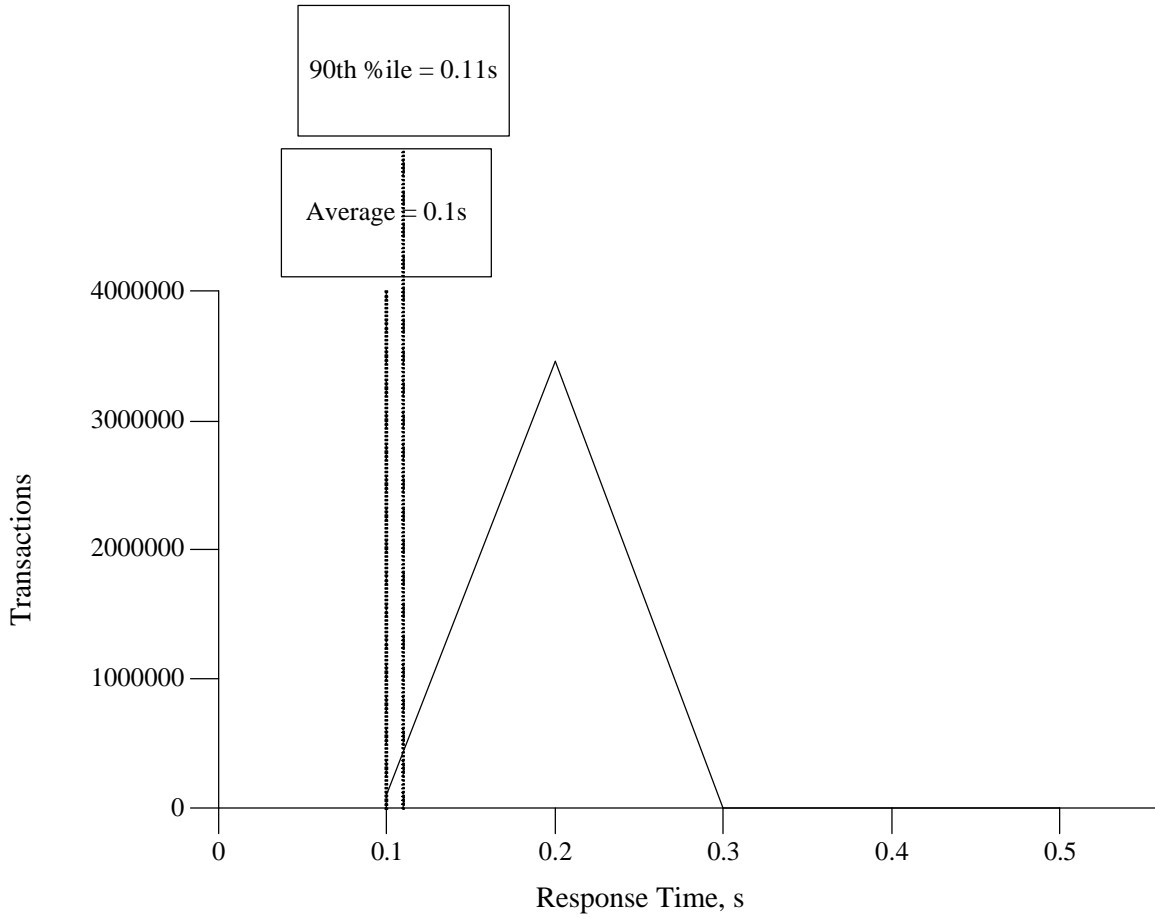
Figure 5: Order Status Response Time Distribution



Response time frequency distribution for Order Status transaction

5.4.4 Delivery Response Time Distribution

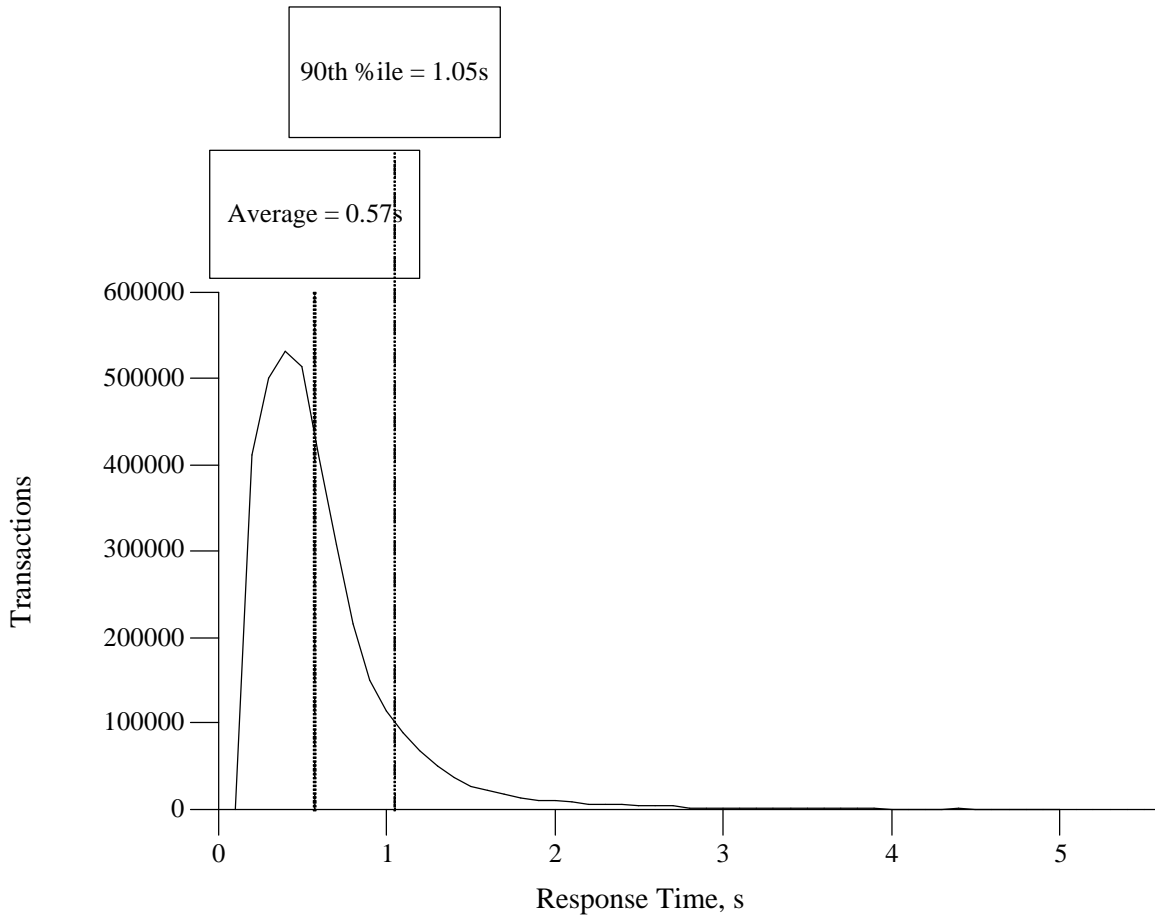
Figure 6: Delivery Response Time Distribution



Response time frequency distribution for Delivery transaction

5.4.5 Stock Level Response Time

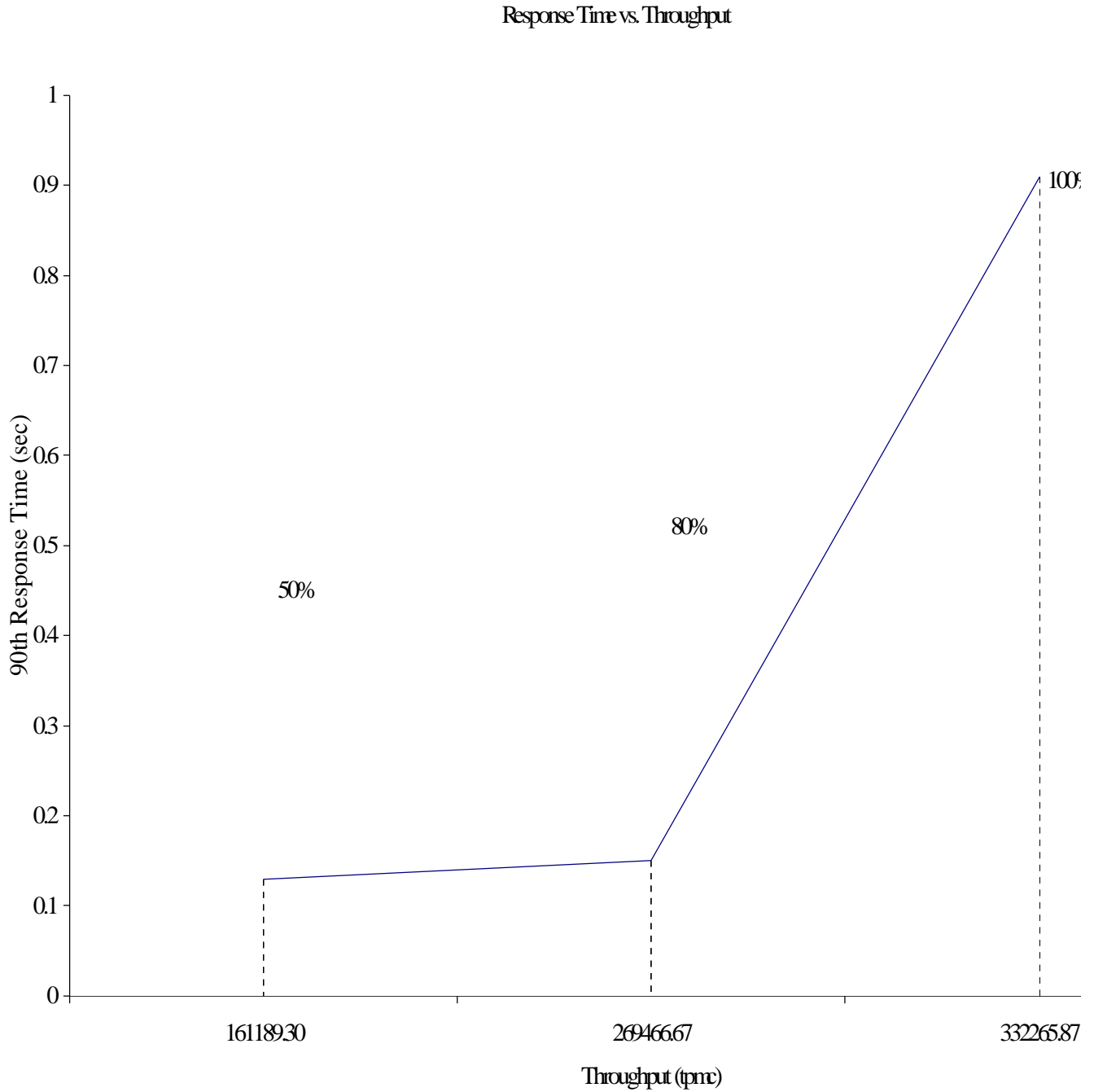
Figure 7: Stock Level Response Time Distribution



Response time frequency distribution for Stock Level transaction

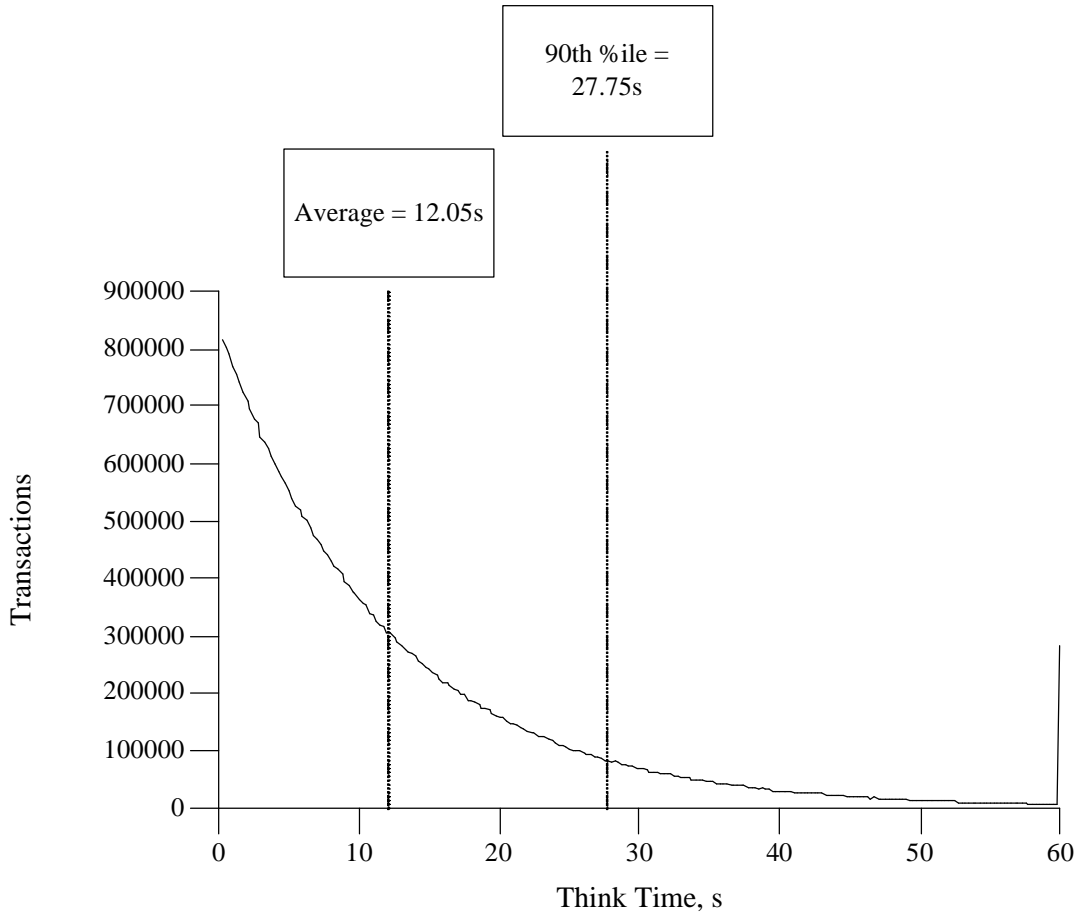
5.4.6 Response Time Versus Throughput

Figure 8: New Order Response Time Distribution



5.4.7 New Order Think Time Distribution

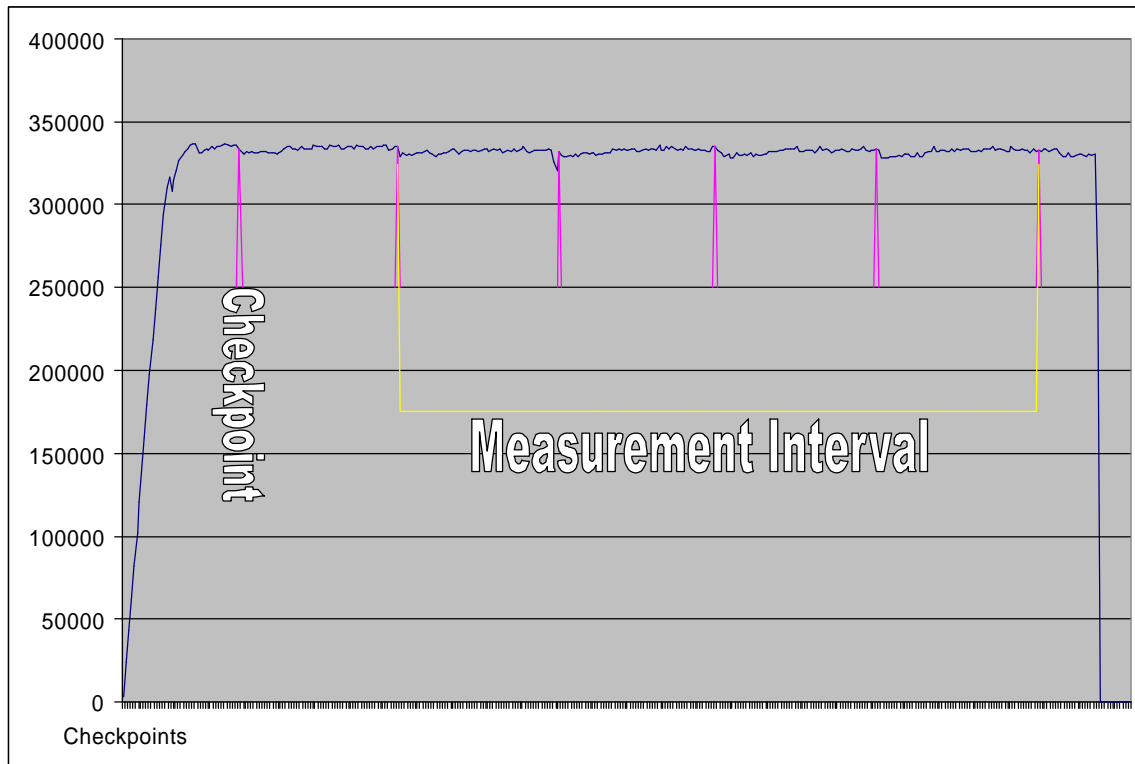
Figure 9: New Order Think Time Distribution



Think time frequency distribution for New Order transaction

5.4.8 Throughput Versus Time Distribution

Figure 10: New Order Throughput versus Time



5.5 Steady State Determination

The method used to determine that the SUT had reached a steady state prior to commencing the measurement interval must be disclosed.

The transaction throughput rate (tpmC®) and response time were relatively constant after the initial ‘ramp up’ period. The throughput and response time behaviors were determined by examining data reported for each interval over the duration of the benchmark. The corresponding graph is in Figure 10.

5.6 Work Performed During Steady State

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

The RTEs generated the required input data to choose a transaction from the menu. This data was timestamped. The menu response time for the requested transaction was verified and timestamped 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 HTTP request to the client. The transmission was timestamped. The return of the screen with the required response data was timestamped. The difference between these two timestamps 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 and starting another transaction.

5.6.1 Checkpoint

The checkpoint mechanism is an automatic means for guaranteeing that completed transactions are regularly written from SQL Server's disk cache to the database device. A checkpoint writes all "dirty pages"-cached pages that have been modified since the last checkpoint-to the database device.

5.6.2 Checkpoint Conditions

There are two types of checkpoints:

1. Checkpoints that are executed automatically by SQL Server.
2. Checkpoints that are forced by database owners with the CHECKPOINT statement.

Forcing dirty pages onto the database device means that all completed transactions are written out. By causing all completed transactions to be written out, the checkpoint shortens the time it takes to recover, since the database pages are current and there are no transactions that need to be rolled forward.

5.6.3 Checkpoint Implementation

A Windows command script was issued to start manual checkpoints back to back. SQL was configured with the sp_configure "max recovery interval",119 command to issue checkpoints of 29 minutes, 45 seconds. The checkpoints were affinity to cell 3 using connection affinity. One of the web clients whose network connections were affinity to that cell was used to issue the checkpoints. This was done with the same QL2350 VI card that was used for network traffic. By setting the TRACE FLAG #3502, SQL Server logged the checkpoint beginning and ending time in the ERRORLOG file.

At each checkpoint, Microsoft SQL Server wrote to disk all memory pages that had been updated but not yet physically written to disk. Upon completion of the checkpoint, Microsoft SQL Server wrote a special record to the recovery log to indicate that all disk operations had been satisfied to this point. The positioning of the checkpoint was verified to be clear of the guard zones.

5.7 Measurement Period Duration

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.

5.8 Regulation of 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.

The weighted average method of *Clause 5.2.4.1* was used. The weights were not adjusted during the run.

5.9 Transaction Mix

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

Table 7: Transaction Mix

Type	Percentage
New Order	44.97%
Payment	43.00%
Delivery	4.01%
Stock Level	4.01%
Order Status	4.01%

5.10 Transaction Statistics

The percentage of New-Order transactions rolled back as a result of invalid item number must be disclosed. The average number of order-lines entered per New-Order transaction must be disclosed. The percentage of remote order-lines entered per New-Order transaction must be disclosed. The percentage of selections made by customer last name in the Payment and Order-Status transactions must be disclosed. The percentage of Delivery transactions skipped due to there being fewer than necessary orders in the New-Order table must be disclosed.

Table 1 contains the required items.

5.11 Checkpoint Count and Location

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.

The measurement interval is 120 minutes. There are 8 checkpoints within the measurement interval and 4 checkpoint before the measurement interval.

Table 8: Measurement Interval and Checkpoints

Event	From	To
Measured Interval	8:27:16	10:27:16
Checkpoint	8:27:16	8:57:02
Checkpoint	8:57:03	9:26:48
Checkpoint	9:26:49	9:56:34
Checkpoint	9:56:35	10:26:20

Chapter 6 SUT, Driver and Communications Definition

6.1 RTE Description

If the RTE is commercially available, then its inputs must be specified. Otherwise, a description must be supplied of that input (e.g., scripts) to the RTE had been used. The RTE input parameters, code fragments, functions, et cetera used to generate each transaction input filed must be disclosed.

The RTE used is Microsoft BenchCraft and is commercially available. The RTE input parameters are listed in Appendix C – Tunable Parameters.

6.2 Emulated Components

It must be demonstrated that the functionality and performance of the components being used in the Driver System are equivalent to that of the priced system.

No components were emulated.

6.3 Functional Diagram

A complete functional diagram of the hardware and software of the benchmark configuration including the driver must be provided. the sponsor must list all hardware and software functionality of the driver and its interface to the SUT.

Functional diagrams of the measured and priced systems are included in the “General Items” section at the beginning of this report.

6.4 Networks

The network configuration of both the tested and proposed services which are being represented and a thorough explanation of exactly which parts are being replaced with the Driver System must be disclosed.

The “General Items” section includes diagrams of the network configurations of the benchmark and configured systems, and represent the driver connected via LAN.

The bandwidth of the networks used in the tested/priced configurations must be disclosed.

100base T (100Mbit/sec) network was used between the RTEs and the clients, a 2GBps VIA/SAN connection was used between the clients and the database server.

6.5 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 does not require any operator to sustain eight hours of the reported throughput.

Chapter 7 Pricing

7.1 System Pricing

A detailed list of hardware and software used in the priced system must be reported. Each separately orderable item must have vendor part number, description, and release/revision level, and either general availability status or committed delivery data. 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 and effective date(s) of price(s) must also be reported.

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

The details of the hardware, software and maintenance components of this system are reported in the front of this report as part of the executive summary.

All 3rd party quotations are included at the end of this report in Appendix E.

7.2 General Availability, Throughput and Price Performance

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

A statement of the measured tpmC as well as the respective calculations for the 5-year pricing, price/performance and the availability date must be included.

Table 9: Throughput, Price Performance and Availability

Maximum qualified throughput:	332265.87 tpmC
Price per tpmC:	\$4.48
Availability:	July 15, 2005

7.3 Country Specific Pricing

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

The system is being priced for the United States of America.

7.4 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:

- 16 Microsoft SQL Server 2000 Enterprise Edition 64-bit per-processor licenses.
- Microsoft Windows Server 2003, Datacenter edition (64-bit)
- 12 Microsoft Windows 2000 Server licenses.
- 1 Microsoft Visual C++ 32bit Edition.
- 3 year support for hardware components

Chapter 8 Audit

8.1 Auditor's Information

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.

The test methodology and results of this TPC Benchmark C were audited by:

Performance Metrics
PO Box 984
140 Klamath Blvd
Klamath, CA 95548
(707) 482-0523
Fax (707) 482-0575

The auditor was Lorna Livingtree.
Requests for this Full Disclosure Report (FDR) should sent to:

Hewlett-Packard Company
WIE
10955 Tantau Avenue
Cupertino, CA 95014-0770 USA

A copy of the attestation letter received from the auditor follows:



February 4, 2005

MR. JASONGOERTZ
ISS Redmond Performance
Hewlett-Packard Company
14475 NE 24th St.
Bellevue, WA 98007

I have verified the TPC Benchmark™ C client/server for the following configuration:

Platform: Hewlett-Packard rx8620
Database Manager: Microsoft SQL Server 2000 Enterprise Edition 64 bit
Operating System: Microsoft Windows Server 2003, Datacenter Edition 64 bit
Transaction Monitor: Microsoft COM+

Server:				
CPU's	Memory	Disks (total)	90% Response	TpmC
16 Intel Itanium 2 processors @ 1.6 Ghz	Main: 256 GB	644 @ 18 GB 28 @ 36 GB 14 @ 146 GB 1 @ 36 GB (os)	0.91	332,265
12 Clients: ProLiant DL140 each with:				
1 Pentium Xeon @ 3.06 Ghz	Main: 2 GB	1 @ 36 GB	Na	Na

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

- The transactions were correctly implemented.
- The database files were properly sized and populated for 28,000 warehouses, of which 26,592 were active during the measured interval.
- Inactive warehouses were verified to be unchanged during the performance run.
- The ACID properties were successfully demonstrated.
- Input data was generated according to the specified percentages.
- Eight hours of mirrored log space was present on the measured system.
- Eight hours of growth space for the dynamic tables was present on the measured system.
- The data for the 60 day space calculation was verified.
- The Measured cycle times were confirmed to have the correct response time delays.
- There were 265,920 user contexts present on the system.
- Each emulated users started with a different random number seed.
- The NURand constants used for C_last load and run were 123 and 233 respectively.
- The steady state portion of the test was 120 minutes.
- More than one checkpoint was taken after steady state and before the measured interval.

- Four checkpoints were contained completely inside the measured interval, and additional checkpoints continued after the measured interval closed.
- Checkpoint interval was verified to be less than 30 minutes.
- The system pricing was checked for major components and maintenance.
- Third party quotes were verified for compliance.

Auditor Notes:

The measured configuration had 2 full arrays populated with 28 of the priced disks. The rest of the configuration was running older, obsolete disks. The priced disks had better technical specifications and capacities than the obsolete disks. Performance data was collected on a TPC-C performance run and proved the priced disks meet the substitution requirements. This substitution is compliant with the disk substitution rules.

None.

Sincerely,



Lorna Livingtree
Auditor

Appendix A Source Code

Isapi_dll/src/tpcc.def

```
LIBRARY TPCC.DLL

EXPORTS

    GetExtensionVersion    @1
    HttpExtensionProc      @2
    TerminateExtension     @3
```

Isapi_dll/src/tpcc.h

```
/* FILE: TPCC.H Microsoft TPC-C
 * Kit Ver. 4.20.000 Copyright
 * Microsoft, 1999
 * All Rights Reserved
 * Version 4.10.000
 * audited by Richard Gimarc, Performance Metrics, 3/17/99
 * PURPOSE: Header file for ISAPI TPCC.DLL, defines
 * structures and functions used in the isapi tpcc.dll.
 */

//VERSION RESOURCE DEFINES
#define _APS_NEXT_RESOURCE_VALUE 101
#define _APS_NEXT_COMMAND_VALUE 40001
#define _APS_NEXT_CONTROL_VALUE 1000
#define _APS_NEXT_SYMED_VALUE 101
```

```
#define TP_MAX_RETRIES 50

//note that the welcome form must be processed first as terminal ids
//assigned here, once the
//terminal id is assigned then the forms can be processed in any order.
#define WELCOME_FORM 1 //beginning form
no term id assigned, form id
#define MAIN_MENU_FORM 2 //term id assigned main menu form id
#define NEW_ORDER_FORM 3 //new order form id
#define PAYMENT_FORM 4 //payment form
id
#define DELIVERY_FORM 5 //delivery form id
#define ORDER_STATUS_FORM 6 //order status id
#define STOCK_LEVEL_FORM 7 //stock level form
id

//This macro is used to prevent the compiler error unused formal
//parameter
#define UNUSEDPARAM(x) (x = x)

//This structure defines the data necessary to keep distinct for each
//terminal or client connection.
typedef struct _CLIENTDATA
{
    int iNextFree; //index of next free element or
    -1 if this entry in use.
    int w_id; //warehouse id
    int d_id; //district id
    int iSyncId; //synchronization id
    int iTickCount; //synchronization id
    int iTimeOfLastAccess; //time of last access;

    CTTPCC_BASE *pTxn;
};
```

```
} CLIENTDATA, *PCLIENTDATA;

//This structure is used to define the operational interface for terminal
//id support
typedef struct _TERM
{
    int iNumEntries; //total allocated
    int iFreeList; //terminal array entries
    int iMasterSyncId; //next available terminal array element or -1 if none
    CLIENTDATA *pClientData; //synchronization id
    //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_SUPPW,
    ERR_NEWORDER_MISSING_IID_KEY,
```

```

ERR_NEWORDER_MISSING_QTY_KEY,
ERR_NEWORDER_MISSING_SUPPW_KEY,
ERR_NEWORDER_NOITEMS_ENTERED,
ERR_NEWORDER_QTY_INVALID,
ERR_NEWORDER_QTY_RANGE,
ERR_NEWORDER_QTY_WITHOUT_SUPPW,
ERR_NEWORDER_SUPPW_INVALID,
ERR_NO_SERVER_SPECIFIED,
ERR_ORDERSTATUS_CID_AND_CLT,
ERR_ORDERSTATUS_CID_INVALID,
ERR_ORDERSTATUS_CLT_RANGE,
ERR_ORDERSTATUS_DID_INVALID,
ERR_ORDERSTATUS_MISSING_CID_CLT,
ERR_ORDERSTATUS_MISSING_CID_KEY,
ERR_ORDERSTATUS_MISSING_CLT_KEY,
ERR_ORDERSTATUS_MISSING_DID_KEY,
ERR_PAYMENT_CDI_INVALID,
ERR_PAYMENT_CID_AND_CLT,
ERR_PAYMENT_CUSTOMER_INVALID,
ERR_PAYMENT_CWI_INVALID,
ERR_PAYMENT_DISTRICT_INVALID,
ERR_PAYMENT_HAM_INVALID,
ERR_PAYMENT_HAM_RANGE,
ERR_PAYMENT_LAST_NAME_TO_LONG,
ERR_PAYMENT_MISSING_CDI_KEY,
ERR_PAYMENT_MISSING_CID_CLT,
ERR_PAYMENT_MISSING_CID_KEY,
ERR_PAYMENT_MISSING_CLT,
ERR_PAYMENT_MISSING_CLT_KEY,
ERR_PAYMENT_MISSING_CWI_KEY,
ERR_PAYMENT_MISSING_DID_KEY,
ERR_PAYMENT_MISSING_HAM_KEY,

ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY,
ERR_STOCKLEVEL_THRESHOLD_INVALID,
ERR_STOCKLEVEL_THRESHOLD_RANGE,
ERR_VERSION_MISMATCH,
ERR_W_ID_INVALID

};

class CWEBCLNT_ERR : public CBaseErr
{
public:

    CWEBCLNT_ERR(WEBERROR Err)
    {
        m_Error = Err;
        m_szTextDetail = NULL;
        m_SystemErr = 0;
        m_szErrorText = NULL;
    };
};

```

```

        CWEBCLNT_ERR(WEBERROR Err, char
        *szTextDetail, DWORD dwSystemErr)
        {
            m_Error = Err;
            m_szTextDetail = new
            char[strlen(szTextDetail)+1];
            strcpy( m_szTextDetail,
            szTextDetail );

            m_SystemErr = dwSystemErr;
            m_szErrorText = NULL;
        };

~CWEBCLNT_ERR()
{
    if (m_szTextDetail != NULL)
        delete []
        m_szTextDetail;

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

WEBERROR m_Error;
char          *m_szTextDetail;

char          *m_szErrorText;
DWORD        m_SystemErr;

int ErrorType() {return
ERR_TYPE_WEBDLL;};

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);
void GetIntKeyValue(char **pQueryString, char *pKey, WEBERROR
NoKeyErr, WEBERROR NotIntErr);
void TermInit(void);
void TermDeleteAll(void);
void TermAdd(void);
void TermDelete(int id);
void ErrorForm(EXTENSION_CONTROL_BLOCK *pECB, int iType, int
iErrorNum, int iTermId, int iSyncId, char *szErrorText, char *szForm);
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_BLOCK *pECB, int
iTermId, char *szBuffer);
void ProcessDeliveryForm(EXTENSION_CONTROL_BLOCK *pECB, int
iTermId, char *szBuffer);
void ProcessStockLevelForm(EXTENSION_CONTROL_BLOCK *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);
```

Isapi_dll/src/tpcc.rc

```
//Microsoft Developer Studio generated resource script.
//
#include "resource.h"

#define APSTUDIO_READONLY_SYMBOLS
////////////////////////////////////
//
// Generated from the TEXTINCLUDE 2 resource.
//
#include "afxres.h"

////////////////////////////////////
#undef APSTUDIO_READONLY_SYMBOLS

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

#if !defined(AFX_RESOURCE_DLL) || defined(AFX_TARG_ENU)
#ifdef _WIN32
LANGUAGE LANG_ENGLISH, SUBLANG_ENGLISH_US
#pragma code_page(1252)
#endif // _WIN32

#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
```

```
BEGIN "StringFileInfo"
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

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

#endif // APSTUDIO_INVOKED

////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//
////////////////////////////////////
#endif // not APSTUDIO_INVOKED
```

Isapi_dll/src/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 definitions 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 "410"

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
*txnDellilog = 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

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

/* FUNCTION: DllMain
*
* PURPOSE: This function is the entry point for the DLL. This
implementation is based on the
* fact that
DLL_PROCESS_ATTACH is only called from the inet service once.
*
* ARGUMENTS: HANDLE hModule
module handle
*
* ul_reason_for_call reason for call
DWORD

```

```

*
lpReserved LPVOID reserved for
future use
*
* RETURNS:      BOOL      FALSE
                errors occurred in initialization

*
TRUE DLL
successfully initialized
*/

BOOL WINAPI DllMain(HANDLE hModule, DWORD ul_reason_for_call,
LPVOID lpReserved)
{
    DWORD i;
    char szEvent[LEN_ERR_STRING] = "0";
    char szLogFile[128];
    char szDllName[128];

    // debugging...
    // DebugBreak();

    try
    {
        switch( ul_reason_for_call )
        {
            case DLL_PROCESS_ATTACH:
            {
                DWORD dwSize = MAX_COMPUTERNAME_LENGTH+1;
                GetComputerName(szMyComputerName, &dwSize);
                szMyComputerName[dwSize] = 0;
            }

            DisableThreadLibraryCalls((HMODULE)hModule);
            InitializeCriticalSection(&TermCriticalSection);

            if (
ReadTPCCRegistrySettings( &Reg ) )

                throw new CWEBCLNT_ERR(
ERR_MISSING_REGISTRY_ENTRIES);

                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_init");
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
        {
            strcpy( szDllName, Reg.szPath );
            strcat( szDllName, "tpcc_odbc.dll");
            hLibInstanceDb = LoadLibrary( szDllName );
            if (hLibInstanceDb == NULL)
                throw new CWEBCLNT_ERR(
                    ERR_LOADDLL_FAILED, szDllName, GetLastError() );

            // get function pointer to wrapper for class constructor
            pCTPCC_ODBC_new = (TYPE_CTPCC_ODBC*)
            GetProcAddress(hLibInstanceDb,"CTPCC_ODBC_new");
            if (pCTPCC_ODBC_new == NULL)
                throw new CWEBCLNT_ERR(
                    ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
        }
    }
    if
    {
        (dwNumDeliveryThreads)
    {

```

```

        //
        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.log",
            Reg.szPath, Time.wYear % 100,
            Time.wMonth, Time.wDay, Time.wHour, Time.wMinute );
        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
        {
            if
            {
                //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);
        }
        DeleteCriticalSection(&TermCriticalSection);
    }
    if
    {
        (hLibInstanceTm != NULL)
    }

```

```

        FreeLibrary( hLibInstanceTm );
= NULL;
        hLibInstanceTm
        if
(hLibInstanceDb != NULL)
        FreeLibrary( hLibInstanceDb );
        hLibInstanceDb =
NULL;
        Sleep(500);
        break;
        default:
        /* nothing */;
    }
}
catch (CBaseErr *e)
{
    WriteMessageToEventLog( e->ErrorText() );
    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.
*
* 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

```

```

*
*
* RETURNS:        service information.
                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_CONNECTION );
                                //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);
                                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);
                                sprintf(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
    pDeliverData; TPCC_DELIV_DEF txnDeliRec;

    DWORD
    index;
    HANDLE
    handles[2];

    SYSTEMTIME trans_end;
    //delivery transaction finished time
    SYSTEMTIME trans_start; //delivery
    transaction start time

    assert(txnDeliLog != NULL);

    try
    {
        if (Reg.eDB_Protocol == ODBC)
            pTxn = pCTPCC_ODBC_new(
                Reg.szDbServer, Reg.szDbUser, Reg.szDbPassword,
                szMyComputerName, Reg.szDbName, Reg.szSPPrefix );
        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);

```

```

&trans_start );
                                GetLocalTime(
                                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, "Error in
Delivery Txn thread. %s", 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:
                                delete pTxn;
                                _endthread();
                                }

/* FUNCTION: PostDeliveryInfo

*
* PURPOSE: This function enters the delivery txn into the deferred
delivery buffer.
*
* RETURNS:          BOOL      FALSE      delivery
information posted successfully
*
                TRUE      error cannot post delivery info
*/

BOOL PostDeliveryInfo(long w_id, short o_carrier_id)
{
                BOOL bError;

                EnterCriticalSection(&DelBuffCriticalSection);
                if (dwDelBuffFreeCount > 0)
                {
                        bError = FALSE;
                        (pDelBuff+dwDelBuffFreeIndex)->w_id
= w_id;
                        (pDelBuff+dwDelBuffFreeIndex)-
>o_carrier_id= o_carrier_id;

                        GetLocalTime(&(pDelBuff+dwDelBuffFreeIndex)->queue);

                        dwDelBuffFreeCount--;
                        dwDelBuffFreeIndex++;
                        if (dwDelBuffFreeIndex == dwDelBuffSize)
                                dwDelBuffFreeIndex = 0;

                        // wrap-around if at end of buffer
                }
                else
                        // No free buffers. Return an error, which
indicates that the delivery
buffer is full.
                        // Most likely, the number of delivery worker
threads needs to be increased to keep up
                        // with the txn rate.
                        bError = TRUE;
                LeaveCriticalSection(&DelBuffCriticalSection);

                if (!bError)
                        // increment worker semaphore to wake up
a worker thread

```

```

                                ReleaseSemaphore( hWorkerSemaphore, 1,
NULL );
                                return bError;
                                }

/* FUNCTION: ProcessQueryString
*
* PURPOSE: This function extracts the relevant 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='TERMIN'"
VALUE="0">"

"<INPUT TYPE='hidden' NAME='SYCID'"
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 );
            else if (Reg.eDB_Protocol == DBLIB)

                Term.pClientData[iNewTerm].pTxn =
pCTPCC_DBLIB_new( szServer, szUser, szPassword,
szMyComputerName, szDatabase );
        }
        catch (...)
        {
            TermDelete(iNewTerm);
            throw; // pass exception
        }

        upward
    }

    MakeMainMenuForm(iNewTerm,
Term.pClientData[iNewTerm].iSyncId, szBuffer);
}

```

```

/* FUNCTION: StatsCmd
 * PURPOSE: This function returns to the browser the total number of
active terminal ids.
 *
 * This routine is for
development/debugging purposes.
 *
 */

void StatsCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer)
{
    int i;
    int iTotal;

    EnterCriticalSection(&TermCriticalSection);

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

    LeaveCriticalSection(&TermCriticalSection);

    sprintf( szBuffer,

        "<HTML><HEAD><TITLE>TPC-C Web Client
Stats</TITLE></HEAD>"
        "<BODY><B><BIG> Total
Active Connections: %d </BIG></B><BR></BODY></HTML>"
        , iTotal );
}

char *CWEBCLNT_ERR::ErrorText()
{
    static SERRORMSG errorMsgs[] =
    {
        ERR_COMMAND_UNDEFINED,

        "Command undefined."

    },
    {
        ERR_D_ID_INVALID,

        "Invalid District ID Must be 1 to 10."

    },
    {
        ERR_DELIVERY_CARRIER_ID_RANGE,

        "Delivery Carrier ID out of range must be 1 - 10."

    },
};

```

```

    {
      ERR_DELIVERY_CARRIER_INVALID,
      "Delivery Carrier ID invalid must be numeric 1 - 10."
    },
    {
      ERR_DELIVERY_MISSING_OCD_KEY,
      "Delivery missing Carrier ID key \"OCD*\"."
    },
  },
  {
    ERR_DELIVERY_THREAD_FAILED,
    "Could not start delivery worker thread."
  },
  {
    ERR_GETPROCADDR_FAILED,
    "Could not map proc in DLL. GetProcAddr error. DLL="
  },
  {
    ERR_HTML_ILL_FORMED,
    "Required key
field is missing from HTML string."
  },
  {
    ERR_INVALID_SYNC_CONNECTION,
    "Invalid Terminal Sync ID."
  },
  {
    ERR_INVALID_TERMID,
    "Invalid Terminal ID."
  },
  {
    ERR_LOADDLL_FAILED,
    "Load of DLL failed. DLL="
  },
  {
    ERR_MAX_CONNECTIONS_EXCEEDED,
    "No connections available. Max Connections is probably
too low." },
  {
    ERR_MISSING_REGISTRY_ENTRIES,
    "Required registry entries are missing. Rerun INSTALL to
correct." },
  {
    ERR_NEWORDER_CUSTOMER_INVALID,
    "New Order customer id invalid data type, range = 1 to
3000."
  },

```

```

    {
      ERR_NEWORDER_CUSTOMER_KEY,
      "New Order missing Customer key \"CID*\"."
    },
  },
  {
    ERR_NEWORDER_DISTRICT_INVALID,
    "New Order District ID Invalid range 1 - 10."
  },
  },
  {
    ERR_NEWORDER_FORM_MISSING_DID,
    "New Order missing District key \"DID*\"."
  },
  },
  {
    ERR_NEWORDER_ITEMID_INVALID,
    "New Order Item Id is wrong data type, must be
numeric."
  },
  {
    ERR_NEWORDER_ITEMID_RANGE,
    "New Order Item Id is out of range. Range =
1 to 999999."
  },
  {
    ERR_NEWORDER_ITEMID_WITHOUT_SUPPW,
    "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
                  *pKey              key
value to look for
                  char
                  *pValue            character array into which to place key's value
                  int
                  iMax              maximum length of key value array.
                  WEBERROR
                  err
error value to throw
*
* RETURNS:        nothing.
*
* ERROR:          if (the pKey value is not found) then
                  if
(err == 0)
*
* return (empty string)
                  else
*
* throw CWEBCLNT_ERR(err)

```

```

*
* COMMENTS:      http keys are formatted either KEY=value&
or KEY=value\0. This DLL formats
*
*                TPC-C input fields
in such a manner that the keys can be extracted in the
*                above manner.
*/

void GetKeyValue(char **pQueryString, char *pKey, char *pValue, int
iMax, WEBERROR err)

{
    char *ptr;

    if ( !(ptr=strstr(*pQueryString, pKey)) )
        goto ErrorExit;
    ptr += strlen(pKey);
    if ( *ptr != '=' )
        goto ErrorExit;
    ptr++;

    iMax--; // one position is for terminating null
    while( *ptr && *ptr != '&' && iMax)
    {
        *pValue++ = *ptr++;
        iMax--;
    }
    *pValue = 0; // terminating null

    *pQueryString = ptr;
    return;

ErrorExit:
    if (err != NO_ERR)
        throw new CWEBCLNT_ERR( err );
    *pValue = 0; // return empty result string
}

/* FUNCTION: GetIntKeyValue
*
* PURPOSE: This function parses a http formatted string for a specific
key value.
*
* ARGUMENTS:      char
*                *pQueryString      http string from client browser
*                char              char
*                *pKey              key
value to look for
*                WEBERROR
*                NoKeyErr          error value to throw if key not
found

```

```

*                WEBERROR
*                NotIntErr        error value to throw if value
* not numeric
* RETURNS:        integer
*
* ERROR:          if (the pKey value is not found) then
*                if
*                (NoKeyErr != NO_ERR)
*                throw CWEBCLNT_ERR(err)
*
*                else
*                return 0
*                else if (non-
*                numeric char found) then
*                if
*                (NotIntErr != NO_ERR) then
*                throw CWEBCLNT_ERR(err)
*                else
*                return 0
*
* COMMENTS:      http keys are formatted either KEY=value&
or KEY=value\0. This DLL formats
*                TPC-C input fields
in such a manner that the keys can be extracted in the
*                above manner.
*/

int GetIntKeyValue(char **pQueryString, char *pKey, WEBERROR
NoKeyErr, WEBERROR NotIntErr)
{
    char *ptr0;
    char *ptr;

    if ( !(ptr=strstr(*pQueryString, pKey)) )
        goto ErrorNoKey;
    ptr += strlen(pKey);
    if ( *ptr != '=' )
        goto ErrorNoKey;
    ptr++;

    ptr0 = ptr; // remember starting point
    // scan string until a terminator (null or &) or a non-digit
    while( *ptr && *ptr != '&' && isdigit(*ptr) )
        ptr++;

    // make sure we stopped scanning for the right reason
    if ((ptr0 == ptr) || (*ptr && *ptr != '&'))
    {

```

```

        if (NotIntErr != NO_ERR) 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_EXCEEDED);
        }
    }

    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>"
    , iTerm, 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\">"
        "<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 )
    {

```

```

        "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Order-Status..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Stock-Level..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
    "</FORM></BODY></HTML>"
    , MAIN_MENU_FORM, iTermId, iSyncId);
}

/* FUNCTION: MakeStockLevelForm

*
* PURPOSE: This function constructs the Stock Level HTML page.
*
* COMMENTS: The internal client buffer is created when the
terminal id is assigned and should not
be freed except
when the client terminal id is no longer needed.
*/

void MakeStockLevelForm(int iTermId, STOCK_LEVEL_DATA
*pStockLevelData, BOOL bInput, char *szForm)
{
    int c;

    c = wsprintf(szForm,
        "<HTML><HEAD><TITLE>TPC-C Stock
Level</TITLE></HEAD><FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
        "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\"
NAME=\"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, "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></PRE><HR>"
        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Process\">"
        "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu\">"
        "</FORM></HTML>");
    }

    else
    {
        wsprintf(szForm+c,
            "Stock Level Threshold:
%2.2d<BR><BR>"
            "low stock: %3.3d</font>"
            "<BR><BR><BR><BR><BR><BR><BR><BR><BR>"
            "<BR><BR><BR><BR><BR><BR><BR>"
            "<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->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=\"TERMid\" VALUE=\"%d\">"
            "    <INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
            "    <PRE><font face=\"Courier\">
New Order<BR>"
            "        , bValid ? 0 : ERR_BAD_ITEM_ID,
NEW_ORDER_FORM, iTermId, Term.pClientData[iTermId].iSyncId);

        if ( bInput )
        {
            c += 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:
%5.2f <BR>"
                "Order Number:
Number of Lines: W_tax: D_tax: <BR> <BR>"
                "Supp_W Item_Id Item
Name Qty Stock B/G Price Amount<BR>"
                "    <INPUT NAME=\"SP00*\"
SIZE=4> <INPUT NAME=\"IID00*\" SIZE=6>
<INPUT NAME=\"Qty00*\" SIZE=1><BR>"

```

```

                "    <INPUT NAME=\"SP01*\"
SIZE=4> <INPUT NAME=\"IID01*\" SIZE=6>
<INPUT NAME=\"Qty01*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP02*\"
SIZE=4> <INPUT NAME=\"IID02*\" SIZE=6>
<INPUT NAME=\"Qty02*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP03*\"
SIZE=4> <INPUT NAME=\"IID03*\" SIZE=6>
<INPUT NAME=\"Qty03*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP04*\"
SIZE=4> <INPUT NAME=\"IID04*\" SIZE=6>
<INPUT NAME=\"Qty04*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP05*\"
SIZE=4> <INPUT NAME=\"IID05*\" SIZE=6>
<INPUT NAME=\"Qty05*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP06*\"
SIZE=4> <INPUT NAME=\"IID06*\" SIZE=6>
<INPUT NAME=\"Qty06*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP07*\"
SIZE=4> <INPUT NAME=\"IID07*\" SIZE=6>
<INPUT NAME=\"Qty07*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP08*\"
SIZE=4> <INPUT NAME=\"IID08*\" SIZE=6>
<INPUT NAME=\"Qty08*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP09*\"
SIZE=4> <INPUT NAME=\"IID09*\" SIZE=6>
<INPUT NAME=\"Qty09*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP10*\"
SIZE=4> <INPUT NAME=\"IID10*\" SIZE=6>
<INPUT NAME=\"Qty10*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP11*\"
SIZE=4> <INPUT NAME=\"IID11*\" SIZE=6>
<INPUT NAME=\"Qty11*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP12*\"
SIZE=4> <INPUT NAME=\"IID12*\" SIZE=6>
<INPUT NAME=\"Qty12*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP13*\"
SIZE=4> <INPUT NAME=\"IID13*\" SIZE=6>
<INPUT NAME=\"Qty13*\" SIZE=1><BR>"
                "    <INPUT NAME=\"SP14*\"
SIZE=4> <INPUT NAME=\"IID14*\" SIZE=6>
<INPUT NAME=\"Qty14*\" SIZE=1><BR>"
                "Execution Status:
Total:<BR>"
                "</font></PRE><HR>"
                "    <INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Process\">"
                "    <INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu\">"
                "</FORM></HTML>"
            );
        }

```

```

        else
            c += 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: %6.16s Credit: %6.2s ",
                pNewOrderData->c_id,
                pNewOrderData->c_last, pNewOrderData->c_credit);

            if ( bValid )
            {
                c += sprintf(szForm+c,
                    "%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,
                    pNewOrderData->w_tax,
                    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,
"%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=\"CWI*\" SIZE=4> "
"Cust-District: <INPUT
NAME=\"CDI*\" SIZE=1><BR>"
"Name:
<INPUT NAME=\"CLT*\" SIZE=16>
Since:<BR>"
Credit:<BR>"
Disc:<BR>"
Phone:<BR> <BR>"
"Amount Paid:      $<INPUT
NAME=\"HAM*\" SIZE=7>      New Cust-Balance:<BR>"
"Credit Limit:<BR> <BR>Cust-
Data: <BR> <BR> <BR> <BR> <BR></font></PRE><HR>"
"<INPUT TYPE=\"submit\""
NAME=\"CMD\" VALUE=\"Process\""
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<BR>"      "%-20s      %-
20s<BR>"      "%-20s      %-
%20s %2s %5.5s-%4.4s<BR> <BR>"
Warehouse: %6.6d Cust-District: %2.2d<BR>"
      "Customer: %4.4d Cust-
      "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->d_street_1      , pPaymentData->w_street_1,
pPaymentData->d_street_2      , pPaymentData->w_street_2,
      , pPaymentData->w_city,
pPaymentData->w_state, pPaymentData->w_zip, pPaymentData-
->w_zip+5
      , pPaymentData->d_city,
pPaymentData->d_state, pPaymentData->d_zip, pPaymentData-
->d_zip+5
      , pPaymentData->c_id,
pPaymentData->c_w_id, pPaymentData->c_d_id
      , pPaymentData->c_first,
pPaymentData->c_middle, pPaymentData->c_last
      , pPaymentData->c_since.day,
pPaymentData->c_since.month, pPaymentData->c_since.year
      , pPaymentData->c_street_1,
pPaymentData->c_credit
      );
      c += sprintf(szForm+c,
      "%-20s
%%Disc: %5.2f<BR>",
      pPaymentData->c_street_2,
100.0*pPaymentData->c_discount);
      c += wsprintf(szForm+c,
      "%-20s %-2s %5.5s-
%4.4s Phone: %6.6s-%3.3s-%3.3s-%4.4s<BR> <BR>",
      pPaymentData->c_city,
pPaymentData->c_state, pPaymentData->c_zip, pPaymentData-
->c_zip+5,

```

```

      pPaymentData->c_phone,
pPaymentData->c_phone+6, pPaymentData->c_phone+9,
pPaymentData->c_phone+12 );
      c += sprintf(szForm+c,
      "Amount Paid:      $%7.2f
New Cust-Balance: $%14.2f<BR>"
      "Credit Limit:  $%13.2f<BR>
<BR>"
      , pPaymentData->h_amount,
pPaymentData->c_balance      , pPaymentData->c_credit_lim
      );
      if ( pPaymentData->c_credit[0] == 'B' &&
pPaymentData->c_credit[1] == 'C' )
      c += wsprintf(szForm+c,
      "Cust-Data: %-50.50s<BR>      %-50.50s<BR>
%-50.50s<BR>      %-50.50s<BR>",
      pPaymentData->c_data, pPaymentData->c_data+50,
pPaymentData->c_data+100, pPaymentData->c_data+150 );
      else
      strcpy(szForm+c, "Cust-Data:
<BR> <BR> <BR> <BR>");
      strcat(szForm, "
<BR></font></PRE><HR>"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Order-Status..\">"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Stock-Level..\">"
      " <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
      "</BODY></FORM></HTML>");
      }
}

```

```

/* FUNCTION: MakeOrderStatusForm
*
* COMMENTS:      The internal client buffer is created when the
terminal id is assigned and should not
*                  be freed except
when the client terminal id is no longer needed.
*/

void MakeOrderStatusForm(int iTermId, ORDER_STATUS_DATA
*pOrderStatusData, BOOL bInput, char *szForm)
{
      int      i, c;
      static char szBR[] = " <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>";
      c = wsprintf(szForm,
      "<HTML><HEAD><TITLE>TPC-C Order-
Status</TITLE></HEAD><BODY>"
      " <FORM ACTION=\"tpcc.dll\"
METHOD=\"GET\">"
      " <INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
      " <INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
      " <INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"%d\">"
      " <INPUT TYPE=\"hidden\"
NAME=\"TERMINID\" VALUE=\"%d\">"
      " <INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"%d\">"
      " <PRE><font face=\"Courier\">
Order-Status<BR>"
      "Warehouse: %6.6d ",
      ORDER_STATUS_FORM, iTermId,
Term.pClientData[iTermId].iSyncId, Term.pClientData[iTermId].w_id);
      if ( bInput )
      {
      strcpy(szForm+c,
      "District: <INPUT
NAME=\"DID*\" SIZE=1><BR>"
      "Customer: <INPUT
NAME=\"CID*\" SIZE=4> Name:
      <INPUT
NAME=\"CLT*\" SIZE=23><BR>"
      "Cust-Balance:<BR> <BR>"
      "Order-Number:      Entry-
Date:      Carrier-Number:<BR>"
      "Supply-W Item-Id Qty
Amount Delivery-Date<BR> <BR> <BR> <BR>
      " <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR></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: %-
16s %-2s %-16s<BR>",
            pOrderStatusData->d_id,
            pOrderStatusData->c_id,
            pOrderStatusData->c_first,
            pOrderStatusData->c_middle, pOrderStatusData->c_last);
        c += sprintf(szForm+c, "Cust-Balance:
    $%9.2f<BR> <BR>",
            pOrderStatusData-
            >c_balance);
        c += sprintf(szForm+c,
            "Order-Number: %8.8d Entry-
Date: %2.2d-%2.2d-%4.4d %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..\">"
        "NAME=\"CMD\" VALUE=\"..Payment..\">"
        "NAME=\"CMD\" VALUE=\"..Delivery..\">"
        "NAME=\"CMD\" VALUE=\"..Order-Status..\">"
        "NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
        "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> <BR> </font></PRE><HR>"
                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Process\">"
                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Menu\">"
            );
        }
        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_BLOCK *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_RANGE );

        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_INVALID );
                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_quantity =
>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_WITHOUT_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_ENTERED );

    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
*
                  *pPaymentData      PAYMENT_DATA
payment data structure      pointer to
*/

void GetPaymentData(LPSTR lpszQueryString, PAYMENT_DATA
*pPaymentData)

```

```

{
    char        szTmp[26];
    char        *ptr = lpszQueryString;
    BOOL        bCustIdBlank;

    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_INVALID );
        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_CLT );

        _strup( szTmp );
        if ( strlen(pPaymentData->c_last) >
LAST_NAME_LEN )
            throw new CWEBCLNT_ERR(
ERR_PAYMENT_LAST_NAME_TO_LONG );
        strcpy(pPaymentData->c_last, szTmp);
    }
    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;

    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_CID_CLT );

        _strup( szTmp );
        if ( strlen(pOrderStatusData->c_last) >
LAST_NAME_LEN )
            throw new CWEBCLNT_ERR(
ERR_ORDERSTATUS_CLT_RANGE );
        strcpy(pOrderStatusData->c_last, szTmp);
    }
}

```



```

        else
        { // parse customer id and verify that last
name was NOT entered
        if ( !IsNumeric(szTmp) )
            throw new CWEBCLNT_ERR(
ERR_ORDERSTATUS_CID_INVALID );
        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_CLT );
        }
    }

/* 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;
}

```

Isapi_dll/src/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

```

common/src/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
} TPCCREGISTRYDATA, *PTPCCREGISTRYDATA;

BOOL ReadTPCCRegistrySettings( TPCCREGISTRYDATA *pReg );

```

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

    RegCloseKey(hKey);

    return FALSE;
}

```

```

/*      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
*/

```

common\src\error.h

```

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

#pragma once

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

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

```

```

const int m_szLoc_size = 64;
//error message structure used in ErrorText routines
typedef struct _SERRORMSG
{
    int          iError;
                //error id of message
    char         szMsg[256];
                //message to sent to browser
} SERRORMSG;

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

#define ERR_TYPE_LOGIC -1
                //logic error in program; internal error
#define ERR_SUCCESS 0
                //success (a non-error error)
#define ERR_BAD_ITEM_ID 1
                //expected abort record in txnRecord
#define ERR_TYPE_DELIVERY_POST 2 //expected
                delivery post failed
#define ERR_TYPE_WEBDLL 3
                //tpcc web generated error
#define ERR_TYPE_SQL 4
                //sql server generated error
#define ERR_TYPE_DBLIB 5
                //dblib generated error
#define ERR_TYPE_ODBC 6
                //odbc generated error
#define ERR_TYPE_SOCKET 7
                //error on communication socket client rte only
#define ERR_TYPE_DEADLOCK 8
                //dblib and odbc only deadlock condition
#define ERR_TYPE_COM 9
                //error from COM call

```

```

#define ERR_TYPE_TUXEDO 10
#define ERR_TYPE_OS_Error 11
                //operating system error
#define ERR_TYPE_MEMORY 12
                //memory allocation error
#define ERR_TYPE_TPCC_ODBC 13
                //error from tpcc odbc txn module
#define ERR_TYPE_TPCC_DBLIB 14
                //error from tpcc dblib txn module
#define ERR_TYPE_DELISRV 15
                //delivery server error
#define ERR_TYPE_TXNLOG 16
                //txn log error
#define ERR_TYPE_BCCONN 17
                //Benchcraft connection class
#define ERR_TYPE_TPCC_CONN 18
                //Benchcraft connection class
#define ERR_TYPE_ENCINA 19
                //Encina error
#define ERR_TYPE_COMPONENT 20
                //error from COM component
#define ERR_TYPE_RTE 21
                //Benchcraft rte
#define ERR_TYPE_AUTOMATION 22
                //Benchcraft automation errors
#define ERR_TYPE_DRIVER 23
                //Driver engine errors
#define ERR_TYPE_RTE_BASE 24
                //Framework errors
#define ERR_BUF_OVERFLOW 25
                //Buffer overflow during receive
#define ERR_TYPE_SOAP_HTTP 26
                //HTTP/SOAP dll generated error
// 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

#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:
    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 *ErrorText() = 0; // a string (i.e., human
    readable) representation of 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,
        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 *ErrorText(void);
};

```

```

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,
    };
};

```

```

        eCreateWindowEx,
        eCreateMutex,
        eCreateSemaphore,
        eReleaseSemaphore,
        eFSeek,
        eFRead,
        eFWrite,
        eTmpFile,
        eSetFilePointer,
        eNew,
        eCloseHandle,
    };

    CSystemErr(Action eAction,
LPCTSTR szLocation);

    CSystemErr(int iError, Action
eAction, LPCTSTR szLocation);

    int ErrorType() { return
ERR_TYPE_OS;};
    char *ErrorText(void);
    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 *ErrorText() {return ERR_INS_MEMORY;};
};

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

    int ErrorType() {return ERR_BUF_OVERFLOW;};

    char *ErrorText() {return ERR_INS_BUF_OVERFLOW;};
};

```

common\src\trans.h

```

/*      FILE:          TRANS.H
 *
 *      Microsoft TPC-C
 *      Kit Ver. 4.42.000
 *
 *      Copyright
 *      Microsoft, 2002
 *      All Rights Reserved
 *
 *      Version 4.10.000
 *      audited by Richard Gimarc, Performance Metrics, 3/17/99
 *
 *      PURPOSE:      Header file for TPC-C structure templates.
 *
 *      Change history:
 *      4.42.000 - changed w_id fields from short to
 *      long to support >32K warehouses
 *      4.20.000 - updated rev number to match kit
 */
#pragma once

// String length constants
#define SERVER_NAME_LEN      20
#define DATABASE_NAME_LEN  20
#define USER_NAME_LEN       20
#define PASSWORD_LEN        20
#define TABLE_NAME_LEN    20
#define I_DATA_LEN          50
#define I_NAME_LEN          24
#define BRAND_LEN           1
#define LAST_NAME_LEN       16
#define W_NAME_LEN          10
#define ADDRESS_LEN         20
#define STATE_LEN           2
#define ZIP_LEN              9
#define S_DIST_LEN          24
#define S_DATA_LEN          50
#define D_NAME_LEN          10
#define FIRST_NAME_LEN     16
#define MIDDLE_NAME_LEN    2
#define PHONE_LEN           16
#define DATETIME_LEN       30
#define CREDIT_LEN          2
#define C_DATA_LEN          250
#define H_DATA_LEN         24
#define DIST_INFO_LEN      24
#define MAX_OL_NEW_ORDER_ITEMS  15
#define MAX_OL_ORDER_STATUS_ITEMS 15
#define STATUS_LEN          25
#define OL_DIST_INFO_LEN    24

```

```

// TIMESTAMP_STRUCT is provided by the ODBC header file sqltypes.h,
// but is not available
// when compiling with dblib, so redefined here. Note: we are using the
// symbol "__SQLTYPES"
// (declared in sqltypes.h) as a way to determine if
// TIMESTAMP_STRUCT has been declared.
#ifndef __SQLTYPES
    typedef struct
    {
        /* SQLSMALLINT */
        short
        year;
        unsigned short
        month;
        unsigned short
        day;
        unsigned short
        hour;
        unsigned short
        minute;
        unsigned short
        second;
        unsigned long
        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;
short
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;
} 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
{
    SYSTEMTIMEqueue;
    //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
short
threshold;

// output params
EXEC_STATUS
exec_status_code;
long
low_stock;
} STOCK_LEVEL_DATA, *PSTOCK_LEVEL_DATA;

```

Common\src\txn_base.h

```

/* FILE: TXN_BASE.H Microsoft TPC-C
* Copyright
* Kit Ver. 4.20.000
* 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 PORDER_PAYMENT_DATA = 0;
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;
};

```

db_dblib_dll\src\tpcc_dlib.cpp

```

/* FILE: TPCC_DBLIB.CPP Microsoft TPC-C
* Copyright
* Kit Ver. 4.42.000
* Microsoft, 2002
* All Rights Reserved
* Version 4.10.000
audited by Richard Gimarc, Performance Metrics, 3/17/99
*
* PURPOSE: Implements dblib 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
* - had to tweak
some declarations to compile with latest SDK; no functional change

```

```

*/

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

#define DBNTWIN32
#include <sqlfront.h>
#include <sqldb.h>

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

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

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

#define DEFCLPACKSIZE
4096

// version string; must match return value from tpcc_version stored
proc
const char sVersion[] = "4.10.000";

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

static long iConnectionCount = 0; // number of current
dblib connections

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

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

DisableThreadLibraryCalls(hModule);
dbinit(); //

initialize dblib
break;

case DLL_PROCESS_DETACH:

```

```

dbexit(); //
close all dblib structures/connections break;

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

int err_handler(DBPROCESS *dbproc, int severity, int dberr, int oserr,
LPCSTR dberrstr, LPCSTR oserrstr)
{
CTPCC_DBLIB
*pConn;

assert(dbproc != NULL);
pConn = (CTPCC_DBLIB*)dbgetuserdata(dbproc);

if (pConn != NULL)
{
pConn->SetDbLibError( severity, dberr,
oserr, dberrstr, oserrstr );
}
return INT_CANCEL;
}

/* FUNCTION: int msg_handler(DBPROCESS *dbproc, DBINT msgno, int
msgstate, int severity, char *msgtext)
*
* PURPOSE: This function handles DB-Library SQL Server error
messages
*
* ARGUMENTS: DBPROCESS *dbproc
DBPROCESS id pointer
DBINT
msgno
message number
int
msgstate
message state
int
severity
message severity
char
*msgtext
printable
message description
*
* RETURNS: int
INT_CONTINUE continue if error is SQLETIME
else INT_CANCEL action

```

```

*
INT_CANCEL
*
cancel operation
* COMMENTS: This function also sets the dead lock dbproc
variable if necessary.
*
*/

// typedef INT (SQLAPI *DBMSGHANDLE_PROC)(PDBPROCESS, DBINT,
INT, INT, LPCSTR, LPCSTR, LPCSTR, DBUSMALLINT);

int msg_handler(DBPROCESS *dbproc, DBINT msgno, int msgstate, int
severity,
LPCSTR srvname, LPCSTR procname, DBUSMALLINT line)
{
CTPCC_DBLIB
*pConn;

assert(dbproc != NULL);
pConn = (CTPCC_DBLIB*)dbgetuserdata(dbproc);

if (pConn != NULL)
{
pConn->SetSqlError( msgno, msgstate,
severity, msgtext );
}
return 0;
}

/* FUNCTION: void UtilStrCpy(char * pDest, char * pSrc, int n)
*
* PURPOSE: This function copies n characters from string pSrc to pDest
and places a
null character at the end of the
destination string.
*
* ARGUMENTS: char
*pDest destination string pointer
char
*pSrc source string pointer
int
n
number of characters to copy
*
* RETURNS: None
*
* COMMENTS: Unlike strncpy this function ensures that the
result string is

```



```

*                               always null
terminated.
*
*/

inline static void UtilStrCpy(char * pDest, const BYTE * pSrc, int n)
{
    strncpy(pDest, (char *)pSrc, n);
    pDest[n] = '\0';

    return;
}

/* FUNCTION: CTPCC_DBLIB_ERR::ErrorText
*
*/

char* CTPCC_DBLIB_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(dllexport) CTPCC_DBLIB* CTPCC_DBLIB_new(
    LPCSTR szServer, // name of SQL
    server
    LPCSTR szUser, //
    user name for login
    LPCSTR szPassword, // password for
    login
    LPCSTR szHost, //
    workstation name; shows up in sp_who; max 30 chars, only first 10
    kept by SQL Server
    LPCSTR szDatabase ) // name of
    database to use
{
    return new CTPCC_DBLIB( szServer, szUser, szPassword,
    szHost, szDatabase );
}

CTPCC_DBLIB::CTPCC_DBLIB (
    LPCSTR szServer, // name of SQL
    server
    LPCSTR szUser, //
    user name for login
    LPCSTR szPassword, // password for
    login
    LPCSTR szHost, //
    workstation name; shows up in sp_who; max 30 chars, only first 10
    kept by SQL Server
    LPCSTR szDatabase ) // name of
    database to use
{
    LOGINREC *login;

    const BYTE *pData;

    // initialization
    m_dbproc = NULL;
    m_DbLibErr = (CDBLIBERR*)NULL;
    m_SqlErr = (CSQLERR*)NULL;

    m_MaxRetries = 10; // how many
    retries on deadlock

    // increase max number of connections if getting close
    if ( dbgetmaxprocs() < (iConnectionCount+5) )
    {
        if ( dbsetmaxprocs(iConnectionCount+10)
        == FAIL )

```

```

}ThrowError(CDBLIBERR::eDbSetMaxProcs);

// allocate a login structure
login = dblogin();
if (login == NULL)
    ThrowError(CDBLIBERR::eLogin);
InterlockedIncrement( &iConnectionCount );

// register error and message handler functions
if (dbproccerrhandle(login, err_handler) == NULL)
    ThrowError(CDBLIBERR::eDbProcHandler);

if (dbprocmshandle(login, msg_handler) == NULL)
    ThrowError(CDBLIBERR::eDbProcHandler);

DBSETUSER(login, szUser);
DBSETPWD(login, szPassword);
DBSETLHOST(login, szHost);
DBSETLPACKET(login, (unsigned short)DEFCLPACKSIZE);
DBSETLVERSION(login, DBVER60); //
use dblib ver 6.0 client behavior

// set time to wait for login
if (dbsetlogintime(60) == FAIL)
    ThrowError(CDBLIBERR::eDbSet);

// set time to wait for statement execution
if (dbsettime(180) == FAIL)
    ThrowError(CDBLIBERR::eDbSet);

m_dbproc = dbopen(login, szServer);

// deallocate login structure before checking for success
dbfreelogin( login );

if (m_dbproc == NULL)
    ThrowError(CDBLIBERR::eDbOpen);

// save address of class instance so that the message and
error handler
// can get to data.
dbsetuserdata(m_dbproc, (LPVOID)this);

// Use the the right database
if (dbuse(m_dbproc, szDatabase) == FAIL)
    ThrowError(CDBLIBERR::eDbUse);

dbcmd(m_dbproc, "set nocount on ");
// do not return row counts

```

```

dbcmd(m_dbproc, "set XACT_ABORT ON");
// rollback transaction on abort

if (dbsqlxec(m_dbproc) == FAIL)
    ThrowError(CDBLIBERR::eDbSqlExec);

DiscardNextResults(2);

// verify that version of stored procs on server is correct
dbrpcinit(m_dbproc, "tpcc_version", 0);

if (dbrpcexec(m_dbproc) == FAIL)
    ThrowError(CDBLIBERR::eDbRpcExec);

if (dbresults(m_dbproc) != SUCCEEDED)
    ThrowError(CDBLIBERR::eDbResults);

if (dbnextrow(m_dbproc) != REG_ROW)
    ThrowError(CDBLIBERR::eDbNextRow);

char szSrvVersion[16];
pData=dbdata(m_dbproc, 1);
if (pData)
    UtilStrCpy(szSrvVersion, pData,
dbdatlen(m_dbproc, 1));
else
    szSrvVersion[0]=0;
if (strcmp(szSrvVersion,sVersion))
    throw new CTPCC_DBLIB_ERR(
CTPCC_DBLIB_ERR::ERR_WRONG_SP_VERSION );

DiscardNextRows(0);
DiscardNextResults(0);
}

CTPCC_DBLIB::~CTPCC_DBLIB( void )
{
    // close db connection and deallocate resources
    dbclose(m_dbproc);
    InterlockedDecrement( &iConnectionCount );
    if (m_DbLibErr != NULL)
        delete m_DbLibErr;
    if (m_SqlErr != NULL)
        delete m_SqlErr;
}

void CTPCC_DBLIB::SetDbLibError(int severity, int dberr, int oserr,
LPCSTR dberrstr, LPCSTR oserrstr)
{

```

```

m_DbLibErr=new CDBLIBERR(CDBLIBERR::eUnknown,
severity, dberr, oserr);

if (dberrstr != NULL)
{
    m_DbLibErr->m_dberrstr = new char[
strlen(dberrstr)+1 ];
    strcpy( m_DbLibErr->m_dberrstr, dberrstr );
}

if (oserrstr != NULL)
{
    m_DbLibErr->m_oserrstr = new char[
strlen(oserrstr)+1 ];
    strcpy( m_DbLibErr->m_oserrstr, oserrstr );
}

}

void CTPCC_DBLIB::SetSqlError( int /**DBINT*/ msgno, int msgstate, int
severity, LPCSTR msgtext )
{
    if (m_SqlErr == NULL)
        m_SqlErr = new CSQLERR();

    m_SqlErr->m_msgno = msgno;
    m_SqlErr->m_msgstate = msgstate;
    m_SqlErr->m_severity = severity;

    delete [] m_SqlErr->m_msgtext;
    if (msgtext != NULL)
    {
        m_SqlErr->m_msgtext = new char[
strlen(msgtext)+1 ];
        strcpy( m_SqlErr->m_msgtext, msgtext );
    }
}

void CTPCC_DBLIB::ThrowError( CDBLIBERR::ACTION eAction )
{
    // discard anything still in return buffer
    DiscardNextRows(-1);
    DiscardNextResults(-1);

    // check for SQL Server error first; if yes, throw it and
    ignore any DBLib error.
    if (m_SqlErr != NULL)
    {
        CSQLERR *pSqlErr;
        pSqlErr = m_SqlErr;

```

```

m_SqlErr = NULL; // clear our
pointer to instance; catch handler will delete
}

CDBLIBERR *pDbLibErr;
if (m_DbLibErr == NULL)
    // this case isn't expected to happen, since it
means that an error was returned
    // but the error handlers were not called.
    pDbLibErr = new CDBLIBERR(eAction);

else
{
    pDbLibErr = m_DbLibErr;
    pDbLibErr->m_eAction = eAction;
    m_DbLibErr = NULL; //
clear our pointer to instance; catch handler will delete
}

throw pDbLibErr;
}

// Read and discard rows until no more. Throw an exception if number
of rows read doesn't
// match number of rows expected. The row count will be ignored if
the expected count value
// passed in is negative. A typical use of this routine is to verify that
there are no more
// rows to be read.
void CTPCC_DBLIB::DiscardNextRows(int iExpectedCount)
{
    int iRowsRead = 0;
    RETCODE rc;

    while (TRUE)
    {
        rc = dbnextrow(m_dbproc);
        if (rc == NO_MORE_ROWS)
            break;
        if (rc == FAIL)
        {
            if (iExpectedCount >= 0)

                ThrowError(CDBLIBERR::eDbNextRow);

            else
                break;
        }
        iRowsRead++;
    }

    if ((iExpectedCount >= 0) &&
        (iExpectedCount != iRowsRead))

```

```

        ThrowError(CDBLIBERR::eWrongRowCount);
    }

    // Read and discard results until no more. Throw an exception if
    // number of result sets read doesn't
    // match number expected. The result set count will be ignored if the
    // expected count value
    // passed in is negative. A typical use of this routine is to verify that
    // there are no more
    // result sets to be read.
    void CTPCC_DBLIB::DiscardNextResults(int iExpectedCount)
    {
        int          iResultsRead = 0;
        RETCODE      rc;

        while (TRUE)
        {
            rc = dbresults(m_dbproc);
            if (rc == NO_MORE_RESULTS)
                break;
            if (rc == FAIL)
            {
                if (iExpectedCount >= 0)

                    ThrowError(CDBLIBERR::eDbResults);
                else
                    break;
            }

            DiscardNextRows(-1);
            iResultsRead++;
        }

        if ((iExpectedCount >= 0) &&
            (iExpectedCount != iResultsRead))
            ThrowError(CDBLIBERR::eWrongRowCount);
    }

    void CTPCC_DBLIB::StockLevel()
    {
        int          iTryCount = 0;
        const BYTE   *pData;

        ResetError();

        while (TRUE)
        {
            try
            {
                dbrpcinit(m_dbproc,

                    "tpcc_stocklevel", 0);
            }
        }
    }

```

```

                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT4, -1, -1, (BYTE *) &m_txn.StockLevel.w_id);
                // @w_id int
                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT1, -1, -1, (BYTE *) &m_txn.StockLevel.d_id);
                // @d_id tinyint
                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT2, -1, -1, (BYTE *) &m_txn.StockLevel.threshold); //
                @threshold smallint

                if (dbrpcexec(m_dbproc) ==

                    FAIL)

                    ThrowError(CDBLIBERR::eDbRpcExec);

                if (dbresults(m_dbproc) !=

                    SUCCEEDED)

                    ThrowError(CDBLIBERR::eDbResults);

                if (dbnextrow(m_dbproc) !=

                    REG_ROW)

                    ThrowError(CDBLIBERR::eDbNextRow);

                if (pData=dbdata(m_dbproc,

                    1))

                    m_txn.StockLevel.low_stock = *((long *) pData);

                    DiscardNextRows(0);
                    DiscardNextResults(0);

                    m_txn.StockLevel.exec_status_code = eOK;
                    return;
                }
            }
            catch (CSQLERR *e)
            {
                if ((e->m_msgno == 1205 ||

                    (e->m_msgno

                    == iErrOleDbProvider &&

                    >m_msgtext, sErrTimeoutExpired) != NULL)) &&

                    iMaxRetries)

                {
                    // hit deadlock;
                    delete e;

                    backoff for increasingly longer period
                }
            }
        }
    }

```

```

                Sleep(10 *

                    iTryCount);
            }
            else
                throw;
        }
        // while (TRUE)
        // }
        // if (iTryCount)
        // throw new
        CTPCC_DBLIB_ERR(CTPCC_DBLIB_ERR::ERR_RETRIED_TRANS,
            iTryCount);
    }

    void CTPCC_DBLIB::NewOrder()
    {
        int          i;
        DBINT        commit_flag;
        DBDATETIME  edatetime;
        DBDATEREC   daterec;

        int          iTryCount = 0;
        const BYTE   *pData;

        ResetError();

        while (TRUE)
        {
            try
            {
                dbrpcinit(m_dbproc,

                    "tpcc_neworder", 0);

                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT4, -1, -1, (BYTE *) &m_txn.NewOrder.w_id);
                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT1, -1, -1, (BYTE *) &m_txn.NewOrder.d_id);
                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT4, -1, -1, (BYTE *) &m_txn.NewOrder.c_id);
                dbrpcparam(m_dbproc, NULL,
                    0, SQLINT1, -1, -1, (BYTE *) &m_txn.NewOrder.o_ol_cnt);

                // 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;
        }
    }
    dbrpcparam(m_dbproc, NULL,
0, SQLINT1, -1, -1, (BYTE *) &m_txn.NewOrder.o_all_local);

    for (i = 0; i <
m_txn.NewOrder.o_ol_cnt; i++)
    {
        dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_txn.NewOrder.OL[i].ol_i_id);

        dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_txn.NewOrder.OL[i].ol_supply_w_id);

        dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.NewOrder.OL[i].ol_quantity);
    }

    if (dbrpcexec(m_dbproc) ==
FAIL)
        ThrowError(CDBLIBERR::eDbRpcExec);

        // Get order line results
m_txn.NewOrder.total_amount
= 0;
    for (i = 0;
i < m_txn.NewOrder.o_ol_cnt; i++)
    {
        if
(dbresults(m_dbproc) != SUCCEED)
            ThrowError(CDBLIBERR::eDbResults);

        if
(dbnumcols(m_dbproc) != 5)
            ThrowError(CDBLIBERR::eWrongNumCols);

        if
(dbnxtrow(m_dbproc) != REG_ROW)
            ThrowError(CDBLIBERR::eDbNextRow);
    }

```

```

        if(pData=dbdata(m_dbproc, 1))
            UtilStrCpy(m_txn.NewOrder.OL[i].ol_i_name, pData,
dbdatlen(m_dbproc, 1));

        if(pData=dbdata(m_dbproc, 2))
            m_txn.NewOrder.OL[i].ol_stock = (*(DBSMALLINT *)
pData);

        if(pData=dbdata(m_dbproc, 3))
            UtilStrCpy(m_txn.NewOrder.OL[i].ol_brand_generic,
pData, dbdatlen(m_dbproc, 3));

        if(pData=dbdata(m_dbproc, 4))
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,4),
            SQLFLT8, (BYTE *)&m_txn.NewOrder.OL[i].ol_i_price, 8);

        if(pData=dbdata(m_dbproc, 5))
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,5),
            SQLFLT8, (BYTE *)&m_txn.NewOrder.OL[i].ol_amount,
8);

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

        DiscardNextRows(0);
    }

        // get remaining values for
w_tax, d_tax, o_id, c_last, c_discount, c_credit, o_entry_d, commit_flag
        if (dbresults(m_dbproc) !=
SUCCEED)
            ThrowError(CDBLIBERR::eDbResults);

        if (dbnxtrow(m_dbproc) !=
REG_ROW)

```

```

        ThrowError(CDBLIBERR::eDbNextRow);
        if (dbnumcols(m_dbproc) != 8)
            ThrowError(CDBLIBERR::eWrongNumCols);

        if (pData=dbdata(m_dbproc,
1))
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,1), SQLFLT8, (BYTE *)&m_txn.NewOrder.w_tax, 8);

        if (pData=dbdata(m_dbproc,
2))
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,2), SQLFLT8, (BYTE *)&m_txn.NewOrder.d_tax, 8);

        if (pData=dbdata(m_dbproc,
3))
            m_txn.NewOrder.o_id = (*(DBINT *) pData);

        if (pData=dbdata(m_dbproc,
4))
            UtilStrCpy(m_txn.NewOrder.c_last, pData,
dbdatlen(m_dbproc, 4));

        if (pData=dbdata(m_dbproc,
5))
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,5), SQLFLT8, (BYTE
*)&m_txn.NewOrder.c_discount, 8);

        if (pData=dbdata(m_dbproc,
6))
            UtilStrCpy(m_txn.NewOrder.c_credit, pData,
dbdatlen(m_dbproc, 6));

        if (pData=dbdata(m_dbproc,
7))
            {
                datetime =
*((DBDATETIME *) pData);
                dbdatecrack(m_dbproc, &daterec, &datetime);

                m_txn.NewOrder.o_entry_d.year = daterec.year;

                m_txn.NewOrder.o_entry_d.month = daterec.month;
            }

```

```

m_bxn.NewOrder.o_entry_d.day = daterec.day;
m_bxn.NewOrder.o_entry_d.hour = daterec.hour;
m_bxn.NewOrder.o_entry_d.minute = daterec.minute;
m_bxn.NewOrder.o_entry_d.second = daterec.second;
}
if (pData=dbdata(m_dbproc,
8))
commit_flag =
(*(DBTINYINT *) pData);

DiscardNextRows(0);
DiscardNextResults(0);

if (commit_flag == 1)
{
m_bxn.NewOrder.total_amount *= ((1 +
m_bxn.NewOrder.w_tax + m_bxn.NewOrder.d_tax) * (1 -
m_bxn.NewOrder.c_discount));

m_bxn.NewOrder.exec_status_code = eOK;
}
else
m_bxn.NewOrder.exec_status_code = eInvalidItem;

return;
}
catch (CSQLERR *e)
{
if ((e->m_msgno == 1205 ||
(e->m_msgno
== iErrOleDbProvider &&
>m_msgtext, sErrTimeoutExpired) != NULL)) &&
(++iTryCount <=
iMaxRetries))
{
// hit deadlock;
backoff for increasingly longer period

delete e;
Sleep(10 *
iTryCount);
}
else
throw;

```

```

} // while (TRUE)
// if (iTryCount)
// throw new
CTPCC_DBLIB_ERR(CTPCC_DBLIB_ERR::ERR_RETRIED_TRANS,
iTryCount);
}

void CTPCC_DBLIB::Payment()
{
DBDATETIME datetime;
DBDATEREC daterec;

int iTryCount = 0;
const BYTE *pData;

ResetError();

while (TRUE)
{
try
{
dbrpcinit(m_dbproc,
"tpcc_payment", 0);

dbrpcparam(m_dbproc, NULL,
0, SQLINT4, -1, -1, (BYTE *) &m_bxn.Payment.w_id);
dbrpcparam(m_dbproc, NULL,
0, SQLINT4, -1, -1, (BYTE *) &m_bxn.Payment.c_w_id);
dbrpcparam(m_dbproc, NULL,
0, SQLFLT8, -1, -1, (BYTE *) &m_bxn.Payment.h_amount);
dbrpcparam(m_dbproc, NULL,
0, SQLINT1, -1, -1, (BYTE *) &m_bxn.Payment.d_id);
dbrpcparam(m_dbproc, NULL,
0, SQLINT1, -1, -1, (BYTE *) &m_bxn.Payment.c_d_id);
dbrpcparam(m_dbproc, NULL,
0, SQLINT4, -1, -1, (BYTE *) &m_bxn.Payment.c_id);

// if customer id is zero, then
payment is by name
if (m_bxn.Payment.c_id == 0)
dbrpcparam(m_dbproc, NULL, 0, SQLCHAR, -1,
strlen(m_bxn.Payment.c_last), (unsigned char *) m_bxn.Payment.c_last);

if (dbrpcexec(m_dbproc) ==
FAIL)
ThrowError(CDBLIBERR::eDbRpcExec);
}
}

```

```

if (dbresults(m_dbproc) !=
SUCCEEDED)
ThrowError(CDBLIBERR::eDbResults);

if (dbnextrow(m_dbproc) !=
REG_ROW)
ThrowError(CDBLIBERR::eDbNextRow);

if (dbnumcols(m_dbproc) !=
27)
ThrowError(CDBLIBERR::eWrongNumCols);

if (pData=dbdata(m_dbproc,
1))
m_bxn.Payment.c_id = *((DBINT *) pData);
if (pData=dbdata(m_dbproc,
2))
UtilStrCpy(m_bxn.Payment.c_last, pData,
dbdatlen(m_dbproc, 2));
if (pData=dbdata(m_dbproc,
3))
{
datetime =
*((DBDATETIME *) pData);
dbdatecrack(m_dbproc, &daterec, &datetime);
m_bxn.Payment.h_date.year = daterec.year;
m_bxn.Payment.h_date.month = daterec.month;
m_bxn.Payment.h_date.day = daterec.day;
m_bxn.Payment.h_date.hour = daterec.hour;
m_bxn.Payment.h_date.minute = daterec.minute;
m_bxn.Payment.h_date.second = daterec.second;
}
if (pData=dbdata(m_dbproc,
4))
UtilStrCpy(m_bxn.Payment.w_street_1, pData,
dbdatlen(m_dbproc, 4));
if (pData=dbdata(m_dbproc,
5))

```

```

        UtilStrCpy(m_txn.Payment.w_street_2, pData,
dbdatlen(m_dbproc, 5));
        if (pData=dbdata(m_dbproc,
6))

        UtilStrCpy(m_txn.Payment.w_city, pData,
dbdatlen(m_dbproc, 6));
        if (pData=dbdata(m_dbproc,
7))

        UtilStrCpy(m_txn.Payment.w_state, pData,
dbdatlen(m_dbproc, 7));
        if (pData=dbdata(m_dbproc,
8))

        UtilStrCpy(m_txn.Payment.w_zip, pData,
dbdatlen(m_dbproc, 8));
        if (pData=dbdata(m_dbproc,
9))

        UtilStrCpy(m_txn.Payment.d_street_1, pData,
dbdatlen(m_dbproc, 9));
        if (pData=dbdata(m_dbproc,
10))

        UtilStrCpy(m_txn.Payment.d_street_2, pData,
dbdatlen(m_dbproc, 10));
        if (pData=dbdata(m_dbproc,
11))

        UtilStrCpy(m_txn.Payment.d_city, pData,
dbdatlen(m_dbproc, 11));
        if (pData=dbdata(m_dbproc,
12))

        UtilStrCpy(m_txn.Payment.d_state, pData,
dbdatlen(m_dbproc, 12));
        if (pData=dbdata(m_dbproc,
13))

        UtilStrCpy(m_txn.Payment.d_zip, pData,
dbdatlen(m_dbproc, 13));
        if (pData=dbdata(m_dbproc,
14))

        UtilStrCpy(m_txn.Payment.c_first, pData,
dbdatlen(m_dbproc, 14));
        if (pData=dbdata(m_dbproc,
15))

```

```

        UtilStrCpy(m_txn.Payment.c_middle, pData,
dbdatlen(m_dbproc, 15));
        if (pData=dbdata(m_dbproc,
16))

        UtilStrCpy(m_txn.Payment.c_street_1, pData,
dbdatlen(m_dbproc, 16));
        if (pData=dbdata(m_dbproc,
17))

        UtilStrCpy(m_txn.Payment.c_street_2, pData,
dbdatlen(m_dbproc, 17));
        if (pData=dbdata(m_dbproc,
18))

        UtilStrCpy(m_txn.Payment.c_city, pData,
dbdatlen(m_dbproc, 18));
        if (pData=dbdata(m_dbproc,
19))

        UtilStrCpy(m_txn.Payment.c_state, pData,
dbdatlen(m_dbproc, 19));
        if (pData=dbdata(m_dbproc,
20))

        UtilStrCpy(m_txn.Payment.c_zip, pData,
dbdatlen(m_dbproc, 20));
        if (pData=dbdata(m_dbproc,
21))

        UtilStrCpy(m_txn.Payment.c_phone, pData,
dbdatlen(m_dbproc, 21));
        if (pData=dbdata(m_dbproc,
22))
        {
            datetime =
*((DBDATETIME *) pData);
            dbdatecrack(m_dbproc, &daterec, &datetime);
            m_txn.Payment.c_since.year = daterec.year;
            m_txn.Payment.c_since.month = daterec.month;
            m_txn.Payment.c_since.day = daterec.day;
            m_txn.Payment.c_since.hour = daterec.hour;
            m_txn.Payment.c_since.minute = daterec.minute;
            m_txn.Payment.c_since.second = daterec.second;

```

```

        }
        if(pData=dbdata(m_dbproc,
23))

        UtilStrCpy(m_txn.Payment.c_credit, pData,
dbdatlen(m_dbproc, 23));
        if(pData=dbdata(m_dbproc,
24))

        dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,24), SQLFLT8, (BYTE
*)&m_txn.Payment.c_credit_lim, 8);
        if(pData=dbdata(m_dbproc,
25))

        dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,25), SQLFLT8, (BYTE
*)&m_txn.Payment.c_discount, 8);
        if(pData=dbdata(m_dbproc,
26))

        dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,26), SQLFLT8, (BYTE
*)&m_txn.Payment.c_balance, 8);
        if(pData=dbdata(m_dbproc,
27))

        UtilStrCpy(m_txn.Payment.c_data, pData,
dbdatlen(m_dbproc, 27));

        DiscardNextRows(0);
        DiscardNextResults(0);

        if (m_txn.Payment.c_id == 0)
            throw new
CTPCC_DBLIB_ERR( CTPCC_DBLIB_ERR::ERR_INVALID_CUST );
        else
            m_txn.Payment.exec_status_code = eOK;

        return;
    }
    catch (CSQLERR *e)
    {
        if ((e->m_msgno == 1205 ||
(e->m_msgno
== iErrOleDbProvider &&
>m_msgtext, sErrTimeoutExpired) != NULL)) &&
            strstr(e-
            (++iTryCount <=
iMaxRetries))

```



```

ThrowError(CDBLIBERR::eDbNextRow);
        if (dbnumcols(m_dbproc) != 8)
            ThrowError(CDBLIBERR::eWrongNumCols);
        if(pData=dbdata(m_dbproc,
1)
            m_bxn.OrderStatus.c_id = (*(DBINT *) pData);
            if(pData=dbdata(m_dbproc,
2)
                UtilStrCpy(m_bxn.OrderStatus.c_last, pData,
dbdatlen(m_dbproc,2));
            if(pData=dbdata(m_dbproc,
3)
                UtilStrCpy(m_bxn.OrderStatus.c_first, pData,
dbdatlen(m_dbproc,3));
            if(pData=dbdata(m_dbproc,
4)
                UtilStrCpy(m_bxn.OrderStatus.c_middle, pData,
dbdatlen(m_dbproc, 4));
5)
            if(pData=dbdata(m_dbproc,
        {
            datetime =
*((DBDATETIME *) pData);
            dbdatecrack(m_dbproc, &daterec, &datetime);
            m_bxn.OrderStatus.o_entry_d.year = daterec.year;
            m_bxn.OrderStatus.o_entry_d.month = daterec.month;
            m_bxn.OrderStatus.o_entry_d.day = daterec.day;
            m_bxn.OrderStatus.o_entry_d.hour = daterec.hour;
            m_bxn.OrderStatus.o_entry_d.minute = daterec.minute;
            m_bxn.OrderStatus.o_entry_d.second = daterec.second;
        }
        if(pData=dbdata(m_dbproc,
6)
            m_bxn.OrderStatus.o_carrier_id = (*(DBSMALLINT *)
pData);

```

```

        if(pData=dbdata(m_dbproc,
7)
            dbconvert(m_dbproc, SQLNUMERIC, (LPCBYTE)pData,
dbdatlen(m_dbproc,7),
            SQLFLT8, (BYTE *)&m_bxn.OrderStatus.c_balance, 8);
            if(pData=dbdata(m_dbproc,
8)
                m_bxn.OrderStatus.o_id = (*(DBINT *) pData);
                DiscardNextRows(0);
                DiscardNextResults(0);
                if (m_bxn.OrderStatus.o_ol_cnt
== 0)
                    throw new
CTPCC_DBLIB_ERR( CTPCC_DBLIB_ERR::ERR_NO_SUCH_ORDER );
                    else if (m_bxn.OrderStatus.c_id
== 0 && m_bxn.OrderStatus.c_last[0] == 0)
                        throw new
CTPCC_DBLIB_ERR( CTPCC_DBLIB_ERR::ERR_INVALID_CUST );
                    else
                        m_bxn.OrderStatus.exec_status_code = eOK;
                return;
            }
            catch (CSQLERR *e)
            {
                if ((e->m_msgno == 1205 ||
(e->m_msgno
== iErrOleDbProvider &&
>m_msgtext, sErrTimeoutExpired) != NULL)) &&
                iMaxRetries))
                    {
                        // hit deadlock;
                        delete e;
                        Sleep(10 *
iTryCount);
                    }
                else
                    throw;
            }
        }
        // while (TRUE)

```

```

//        if (iTryCount)throw new
CTPCC_DBLIB_ERR(CTPCC_DBLIB_ERR::ERR_RETRIED_TRANS,
iTryCount);
    }
    void CTPCC_DBLIB::Delivery()
    {
        int i;
        int iTryCount = 0;
        const BYTE *pData;
        ResetError();
        while (TRUE)
        {
            try
            {
                dbrpcinit(m_dbproc,
                "tpcc_delivery", 0);
                dbrpcparam(m_dbproc, NULL,
                0, SQLINT4, -1, -1, (BYTE *) &m_bxn.Delivery.w_id);
                dbrpcparam(m_dbproc, NULL,
                0, SQLINT1, -1, -1, (BYTE *) &m_bxn.Delivery.o_carrier_id);
                if (dbrpcexec(m_dbproc) ==
                FAIL)
                    ThrowError(CDBLIBERR::eDbRpcExec);
                if (dbresults(m_dbproc) !=
                SUCCEED)
                    ThrowError(CDBLIBERR::eDbResults);
                if (dbnextrow(m_dbproc) !=
                REG_ROW)
                    ThrowError(CDBLIBERR::eDbNextRow);
                if (dbnumcols(m_dbproc) !=
                10)
                    ThrowError(CDBLIBERR::eWrongNumCols);
                for (i=0; i<10; i++)
                {
                    if (pData =
                dbdata(m_dbproc, i+1))

```



```

        m_bxn.Delivery.o_id[i] = *((DBINT *)pData);
    }

    DiscardNextRows(0);
    DiscardNextResults(0);

    m_bxn.Delivery.exec_status_code = eOK;
    return;
}
catch (CSQLERR *e)
{
    if ((e->m_msgno == 1205 ||
        (e->m_msgno
== iErrOleDbProvider &&
>m_msgtext, sErrTimeoutExpired) != NULL)) &&
        (iTryCount <=
iMaxRetries))
    {
        // hit deadlock;
        backoff for increasingly longer period

        delete e;
        Sleep(10 *
iTryCount);
    }
    else
        throw;
}
// while (TRUE)
}

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

void CTPCC_DBLIB::ResetError()
{
    if (m_DbLibErr != NULL)
    {
        delete m_DbLibErr;
        m_DbLibErr = (CDBLIBERR*)NULL;
    }

    if (m_SqlErr != NULL)
    {
        delete m_SqlErr;
        m_SqlErr = (CSQLERR*)NULL;
    }

    return;
}

```

```

}

```

Db dblib tpcc_dblib.h

```

/* FILE: TPC_C_DBLIB.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

#ifndef PDBPROCESS
#define DBPROCESS void // dbprocess structure type
typedef DBPROCESS * PDBPROCESS;
#endif

// 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 CSQLERR : public CBaseErr
{
public:
    CSQLERR(void)
    {
        m_msgno = 0;
        m_msgstate = 0;
        m_severity = 0;
        m_msgtext = NULL;
    };

    ~CSQLERR()
    {
}
}

```

```

}; delete [] m_msgtext;

int m_msgno;
int m_msgstate;
int m_severity;

char *m_msgtext;

int ErrorType() {return ERR_TYPE_SQL;};
int ErrorNum() {return m_msgno;};
char *ErrorText() {return m_msgtext;};

};

class CDBLIBERR : public CBaseErr
{
public:
    enum ACTION
    {
        eNone,
        eUnknown,
        eLogin,
        // error from dblogin
        eDbOpen,
        // error from dbopen
        eDbUse,
        // error from dbuse
        eDbSqlExec,
        // error from dbsqlexec
        eDbSet,
        // error from one of the dbset* routines
        eDbNextRow,
        // error from dbnextrow
        eWrongRowCount,
        // more or less rows returned than expected
        eWrongNumCols,
        // more or less columns returned than expected
        eDbResults,
        // error from dbresults
        eDbRpcExec,
        // error from dbrpcexec
        eDbSetMaxProcs,
        // error from dbsetmaxprocs
        eDbProcHandler,
        // error from either dbprocerrhandle or dbprocmshandle
    };

    CDBLIBERR(ACTION eAction, int severity =
0, int dberror = 0, int oserr = 0)
    {
        m_eAction = eAction;
        m_severity = severity;
}
}

```

```

        m_dberror = dberror;
        m_oserr = oserr;

        m_dberrstr = NULL;
        m_oserrstr = NULL;
    };

    ~CDBLIBERR()
    {
        delete [] m_dberrstr;
        delete [] m_oserrstr;
    };

    ACTION    m_eAction;
    int        m_severity;
    int        m_dberror;
    int        m_oserr;
    char *m_dberrstr;
    char *m_oserrstr;

    int ErrorType() {return ERR_TYPE_DBLIB;};
    int ErrorNum() {return m_dberror;};
    char *ErrorText() {return m_dberrstr;};

};

class CTPCC_DBLIB_ERR : public CBaseErr
{
public:
    enum CTPCC_DBLIB_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_DBLIB_ERR( int iErr ) { m_erno =
iErr; m_iTryCount = 0; };

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

    int        m_erno;
    int        m_iTryCount;

    int ErrorType() {return
ERR_TYPE_TPCC_DBLIB;};

```

```

        int ErrorNum() {return m_erno;};
        char *ErrorText();
    };

class DllDecl CTPCC_DBLIB : public CTPCC_BASE
{
private:
    // declare variables and private functions
    here...
        PDBPROCESSm_dbproc;
        CDBLIBERR *m_DbLibErr;
        // not allocated until needed (maybe never)
        CSQLErr *m_SqlErr;
        // not allocated until needed (maybe never)
        int
        m_MaxRetries; // retry count on
        deadlock

        void DiscardNextRows(int iExpectedCount);
        void DiscardNextResults(int iExpectedCount);
        void ThrowError( CDBLIBERR::ACTION
        eAction );

        void ResetError();

        union
        {
            NewOrder;
            Payment;
            Delivery;
            StockLevel;
            OrderStatus;
        }
        m_txn;

public:
    CTPCC_DBLIB(LPCSTR szServer, LPCSTR
szUser, LPCSTR szPassword, LPCSTR szHost, LPCSTR szDatabase );
    ~CTPCC_DBLIB(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         ();

        // these are public because they must be
        called from the dblib err_handler and msg_handler
        // outside of the class
        void SetDbLibError(int severity, int dberr, int
oserr, LPCSTR dberrstr, LPCSTR oserrstr);
        void SetSqlError( int msgno, int msgstate, int
severity, LPCSTR msgtext );
    };

extern "C" DllDecl CTPCC_DBLIB* CTPCC_DBLIB_new
( LPCSTR szServer, LPCSTR szUser, LPCSTR szPassword,
LPCSTR szHost, LPCSTR szDatabase );

typedef CTPCC_DBLIB* (TYPE_CTPCC_DBLIB)(LPCSTR, LPCSTR,
LPCSTR, LPCSTR, LPCSTR);

db_odbcc.dll tpcc_odbcc.dll

/* 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>
#include <odbcss.h>

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

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

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

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

// version string; must match return value from tpcc_version stored
proc
const char  sVersion[] = "4.10.000";

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

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

static SQLHENV henv = SQL_NULL_HENV;
// ODBC environment handle

BOOL APIENTRY DllMain(HMODULE hModule, DWORD
ul_reason_for_call, LPVOID lpReserved)

```

```

{
    switch( ul_reason_for_call )
    {
        case DLL_PROCESS_ATTACH:

            DisableThreadLibraryCalls(hModule);

            if (
SQLAllocHandleStd(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv) !=
SQL_SUCCESS )

                return FALSE;

                break;

        case DLL_PROCESS_DETACH:
            if (henv != NULL)

                SQLFreeEnv(henv);

                break;

            default:
                /* nothing */;

    }

    return TRUE;
}

/* FUNCTION: CTPCC_ODBC_ERR::ErrorText
*
*/

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

    static SERRORMSG errorMsgs[] =
    {
        { ERR_WRONG_SP_VERSION,
"Wrong version of stored procs on database server" },
        { ERR_INVALID_CUST,
"Invalid Customer id,name." },
        { ERR_NO_SUCH_ORDER,
"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(dllexport) CTPCC_ODBC* CTPCC_ODBC_new(
LPCSTR szServer,          // name of SQL
server                    //
LPCSTR szUser,            //
user name for login      //
LPCSTR szPassword,        // password for
login                     //
LPCSTR szHost,            //
not used                  //
LPCSTR szDatabase,        // name of
database to use          //
LPCWSTR szSPPrefix )     // prefix to
append to the stored procedure names
{
    return new CTPCC_ODBC( szServer, szUser, szPassword,
szHost, szDatabase, szSPPrefix );
}

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
)
{
    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;

    sprintf( szConnectStr, "DRIVER=SQL
Server;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s",
            szServer, szUser, szPassword,
            szDatabase );

    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_WRONG_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_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))
            strstr(szMsg,
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()
{
    int rc;
    wchar_t    szName[MAX_SP_NAME_LEN];

    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);

        //Prepare Stock Level statement
        //rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)"L"call
tpcc_stocklevel(?,?,?)", SQL_NTS);
        _snwprintf(szName, sizeof(szName)/sizeof(szName[0]),
L"exec %stpcck_stocklevel ?,?,?", m_szSPPrefix);

        rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)szName,
SQL_NTS);
        if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)
            ThrowError(CODBCERR::ePrepare);
    }

    void CTPCC_ODBC::StockLevel()
    {
        RETCODE        rc;
        int            iTryCount = 0;

        m_hstmt = m_hstmtStockLevel;

        while (TRUE)
        {
            try
            {
                rc = SQLExecute(m_hstmt);
                if (rc != SQL_SUCCESS && rc
!= SQL_SUCCESS_WITH_INFO)
                    ThrowError(CODBCERR::eExecute);

                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_RETRIED_TRANS,
iTryCount);
}

void CTPCC_ODBC::InitNewOrderParams()
{
    int rc;
    wchar_t    szName[MAX_SP_NAME_LEN];

    if ( SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc,
&m_hstmtNewOrder) != SQL_SUCCESS
        || SQLAllocHandle(SQL_HANDLE_DESC,
m_hdbc, &m_descNewOrderCols1) != SQL_SUCCESS
        || SQLAllocHandle(SQL_HANDLE_DESC,
m_hdbc, &m_descNewOrderCols2) != 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_o_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);

        //Prepare the New Order statement
        //rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)"L"{call
tpcc_neworder(?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,
//
        L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)"",
SQL_NTS);
        _snwprintf(szName, sizeof(szName)/sizeof(szName[0]),
L"exec %stpc_neworder ?,?,?,?,?,?,?,?,?,?,?,?,?,?,?";
        m_szSPPrefix);
        rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)szName,
SQL_NTS);
        if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)
            ThrowError(CODBCERR::ePrepare);
    }

    void CTPCC_ODBC::NewOrder()
    {
        int
        i;
        RETCODE
        rc;

```

```

        int
        iTryCount = 0;
        1 2 // 0
        //
        012345678901234567890123456789
        //wchar_t
        szSqlTemplate[] = L"{call tpcc_neworder(?,?,?,?,?"
        //
        L"?,?,?,?,?,?,?,?,?,?,?,?,?,?"
        //
        L"?,?,?,?,?,?,?,?,?,?,?,?,?,?"
        //
        L"?,?,?,?,?,?,?,?,?,?,?,?,?,?";
        //
        m_hstmt = m_hstmtNewOrder;

        // associate the parameter and column bindings for this
        transaction
        if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols1, SQL_IS_POINTER
) != SQL_SUCCESS )
            ThrowError(CODBCERR::eSetStmtAttr);

        // clip statement buffer based on number of parameters
        // fixed part is 29 chars and variable part is 6 chars per
        line item
        //i = 29 + m_txn.NewOrder.o_ol_cnt*6;
        //wscpy( &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 =
                break;
            }
        }

        while (TRUE)
        {
            try

```

```

    {
        m_BindOffset = 0;
        rc = SQLExecute(m_hstmt);
        if (rc != SQL_SUCCESS && rc
!= SQL_SUCCESS_WITH_INFO)
            ThrowError(CODBCERR::eExecute);

        // Get order line results
        m_bxn.NewOrder.total_amount
= 0;
        for (i = 0;
i < m_bxn.NewOrder.o_ol_cnt; i++)
        {
            // set the bind
            m_BindOffset = i
* sizeof(m_bxn.NewOrder.OL[0]);

            SQLFetch(m_hstmt) == SQL_ERROR)
                ThrowError(CODBCERR::eFetch);

            // move to the
            next resultset
            SQLMoreResults(m_hstmt) == SQL_ERROR )
                ThrowError(CODBCERR::eMoreResults);

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

        m_bxn.NewOrder.exec_status_code = eOK;
        }
        else
            m_bxn.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_RETRIED_TRANS,
// iTryCount);
}

void CTPCC_ODBC::InitPaymentParams()
{
    int rc;
    wchar_t    szName[MAX_SP_NAME_LEN];

    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_bxn.Payment.w_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_bxn.Payment.c_w_id, 0, NULL) != SQL_SUCCESS

```

```

        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_DOUBLE, SQL_NUMERIC, 6, 2,
&m_bxn.Payment.h_amount, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT, SQL_TINYINT, 0, 0,
&m_bxn.Payment.d_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT, SQL_TINYINT, 0, 0,
&m_bxn.Payment.c_d_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_bxn.Payment.c_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_CHAR, SQL_CHAR,
sizeof(m_bxn.Payment.c_last), 0, &m_bxn.Payment.c_last,
sizeof(m_bxn.Payment.c_last), NULL) != SQL_SUCCESS
    )
        ThrowError(CODBCERR::eBindParam);

    i = 0;
    if ( SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,
&m_bxn.Payment.c_id, 0, NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_last, sizeof(m_bxn.Payment.c_last),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_bxn.Payment.h_date, 0,
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.w_street_1,
sizeof(m_bxn.Payment.w_street_1), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.w_street_2,
sizeof(m_bxn.Payment.w_street_2), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.w_city, sizeof(m_bxn.Payment.w_city),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.w_state,
sizeof(m_bxn.Payment.w_state), NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.w_zip, sizeof(m_bxn.Payment.w_zip),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.d_street_1,
sizeof(m_bxn.Payment.d_street_1), NULL) !=
SQL_SUCCESS

```

```

        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.d_street_2,
        sizeof(m_bxn.Payment.d_street_2), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.d_city,
        sizeof(m_bxn.Payment.d_city),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.d_state,
        sizeof(m_bxn.Payment.d_state), NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.d_zip,
        sizeof(m_bxn.Payment.d_zip),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_first,
        sizeof(m_bxn.Payment.c_first),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_middle,
        sizeof(m_bxn.Payment.c_middle), NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_street_1,
        sizeof(m_bxn.Payment.c_street_1), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_street_2,
        sizeof(m_bxn.Payment.c_street_2), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_city,
        sizeof(m_bxn.Payment.c_city),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_state,
        sizeof(m_bxn.Payment.c_state),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_zip,
        sizeof(m_bxn.Payment.c_zip),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_phone,
        sizeof(m_bxn.Payment.c_phone), NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_bxn.Payment.c_since,
        0,
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_credit, sizeof(m_bxn.Payment.c_credit), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_bxn.Payment.c_credit_lim, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_bxn.Payment.c_discount, 0, NULL) !=
SQL_SUCCESS

```

```

        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_bxn.Payment.c_balance, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.Payment.c_data,
        sizeof(m_bxn.Payment.c_data),
NULL) != SQL_SUCCESS
    )
    ThrowError(CODBCERR::eBindCol);

    //Prepare Payment statement
    //rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)"L"{call
tpcc_payment(?,?,?,?,"), SQL_NTS);
    _snwprintf(szName, sizeof(szName)/sizeof(szName[0]),
L"exec %stpc_payment ?,?,?,?,?", m_szSPPrefix);
    rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)szName,
SQL_NTS);
    if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)
        ThrowError(CODBCERR::ePrepare);
}

void CTPCC_ODBC::Payment()
{
    RETCODE rc;
    int iTryCount = 0;

    m_hstmt = m_hstmtPayment;

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

    while (TRUE)
    {
        try
        {
            rc = SQLExecute(m_hstmt);
            if (rc != SQL_SUCCESS && rc
!= SQL_SUCCESS_WITH_INFO)
                ThrowError(CODBCERR::eExecute);

            if ( SQLFetch(m_hstmt) ==
SQL_ERROR)
                ThrowError(CODBCERR::eFetch);

            SQLFreeStmt(m_hstmt,
SQL_CLOSE);

            if (m_bxn.Payment.c_id == 0)
                throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_INVALID_CUST );

```

```

        else
            m_bxn.Payment.exec_status_code = eOK;

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

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

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

void CTPCC_ODBC::InitOrderStatusParams()
{
    int rc;
    wchar_t szName[MAX_SP_NAME_LEN];

    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_bxn.OrderStatus.w_id, 0, NULL) != SQL_SUCCESS

```



```

        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_UTINYINT, SQL_TINYINT, 0, 0,
&m_bxn.OrderStatus.d_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_bxn.OrderStatus.c_id, 0, NULL) != SQL_SUCCESS
        || SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_CHAR, SQL_CHAR,
sizeof(m_bxn.OrderStatus.c_last), 0, &m_bxn.OrderStatus.c_last,
sizeof(m_bxn.OrderStatus.c_last), NULL) != SQL_SUCCESS
    )
    ThrowError(CODBCERR::eBindParam);

    // configure block cursor
    if ( SQLSetStmtAttrW(m_hstmt,
SQL_ATTR_ROW_BIND_TYPE,
(SQLPOINTER)sizeof(m_bxn.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_bxn.OrderStatus.OL[0].ol_supply_w_id, 0, NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG, &m_bxn.OrderStatus.OL[0].ol_i_id, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_bxn.OrderStatus.OL[0].ol_quantity, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_bxn.OrderStatus.OL[0].ol_amount, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_bxn.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_bxn.OrderStatus.c_id, 0, NULL) != SQL_SUCCESS

```

```

        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.OrderStatus.c_last, sizeof(m_bxn.OrderStatus.c_last), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.OrderStatus.c_first, sizeof(m_bxn.OrderStatus.c_first), NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_bxn.OrderStatus.c_middle, sizeof(m_bxn.OrderStatus.c_middle),
NULL) != SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_TYPE_TIMESTAMP, &m_bxn.OrderStatus.o_entry_d, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_SSHORT, &m_bxn.OrderStatus.o_carrier_id, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_DOUBLE, &m_bxn.OrderStatus.c_balance, 0, NULL) !=
SQL_SUCCESS
        || SQLBindCol(m_hstmt, ++i,
SQL_C_SLONG, &m_bxn.OrderStatus.o_id, 0, NULL) != SQL_SUCCESS
    )
        ThrowError(CODBCERR::eBindCol);

    //rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)"L"{call
tpcc_orderstatus(?,?,?)}", SQL_NTS);
    _snprintf(szName, sizeof(szName)/sizeof(szName[0]),
L"exec %stpc_orderstatus ?,?,?,?", m_szSPPrefix);
    rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)szName,
SQL_NTS);
    if ( rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO )
        ThrowError(CODBCERR::ePrepare);
}

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_bxn.OrderStatus.c_id != 0)
        m_bxn.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 = SQLExecute(m_hstmt);
            if ( ((rc ==
SQL_SUCCESS_WITH_INFO) && (m_RowsFetched != 0)) || (rc ==
SQL_ERROR) )

                ThrowError(CODBCERR::eExecute);

            // 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_bxn.OrderStatus.o_ol_cnt =
(short)m_RowsFetched;

            if (m_bxn.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_bxn.OrderStatus.o_ol_cnt
== 0)
        throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_NO_SUCH_ORDER );
    else if (m_bxn.OrderStatus.c_id
== 0 && m_bxn.OrderStatus.c_last[0] == 0)
        throw new
CTPCC_ODBC_ERR( CTPCC_ODBC_ERR::ERR_INVALID_CUST );
    else
        m_bxn.OrderStatus.exec_status_code = eOK;

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

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

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

void CTPCC_ODBC::InitDeliveryParams()
{
    int rc;
    wchar_t_t szName[MAX_SP_NAME_LEN];

    if ( SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc,
&m_hstmtDelivery) != SQL_SUCCESS )
        ThrowError(COBCERR::eAllocHandle);

    m_hstmt = m_hstmtDelivery;

    int i = 0;

```

```

        if ( SQLBindParameter(m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SLONG, SQL_INTEGER, 0, 0,
&m_bxn.Delivery.w_id, 0, NULL, SQL_INTEGER, m_hstmt, ++i,
SQL_PARAM_INPUT, SQL_C_SSHORT, SQL_SMALLINT, 0, 0,
&m_bxn.Delivery.o_carrier_id, 0, NULL) != SQL_SUCCESS
)
            ThrowError(COBCERR::eBindParam);

    for (i=0;i<10;i++)
    {
        if ( SQLBindCol(m_hstmt, (UWORD)(i+1),
SQL_C_SLONG, &m_bxn.Delivery.o_id[i], 0, NULL) != SQL_SUCCESS )
            ThrowError(COBCERR::eBindCol);
    }

    //prepare Delivery statement
    //rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)"L"{call
tpcc_delivery(?,?)}" , SQL_NTS);
    _snwprintf(szName, sizeof(szName)/sizeof(szName[0]),
L"exec %stpc_delivery ?,?" , m_szSPPrefix);
    rc = SQLPrepareW(m_hstmt, (SQLWCHAR*)szName,
SQL_NTS);
    if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)
        ThrowError(COBCERR::ePrepare);
}

void CTPCC_ODBC::Delivery()
{
    RETCODE rc;
    int iTryCount = 0;

    m_hstmt = m_hstmtDelivery;

    while (TRUE)
    {
        try
        {
            rc = SQLExecute(m_hstmt);
            if (rc != SQL_SUCCESS && rc
!= SQL_SUCCESS_WITH_INFO)
                ThrowError(COBCERR::eExecDirect);

            if ( SQLFetch(m_hstmt) ==
SQL_ERROR )
                ThrowError(COBCERR::eFetch);

```

```

            SQLFreeStmt(m_hstmt,
SQL_CLOSE);
            m_bxn.Delivery.exec_status_code = eOK;
            break;
        }
        catch (COBDCERR *e)
        {
            if ((!e->m_bDeadLock) ||
(++iTryCount > iMaxRetries))
                throw;

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

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

/* 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

class COBDCERR : public CBaseErr
{

```

```

public:
    enum ACTION
    {
        eNone,
        eUnknown,
        eAllocConn,
        // error from SQLAllocConnect
        eAllocHandle, //
        error from SQLAllocHandle
        eConnOption,
        // error from SQLSetConnectOption
        eConnect,
        // error from SQLConnect
        eAllocStmnt,
        // error from SQLAllocStmnt
        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
        eSetStmntAttr //
        error from SQLSetStmntAttr
    };

    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; m_NativeError;
BOOL m_bDeadLock;
char *m_odbcerrstr;

int ErrorType() {return ERR_TYPE_ODBC;};
int ErrorNum() {return m_NativeError;};
char *ErrorText() {return m_odbcerrstr;};

};

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;};
    int ErrorNum() {return m_erno;};

    char *ErrorText();

};

class DllDecl CTPCC_ODBC : public CTPCC_BASE
{
private:
    // declare variables and private functions
    here...
    BOOL m_bDeadlock;
    // transaction was selected as deadlock
    victim
};

```

```

int
m_MaxRetries; // retry count on
deadlock
SQLHENV m_henv;
// ODBC environment handle
SQLHDBC m_hdbc;
SQLHSTMT m_hstmt;
// the current hstmt

SQLHSTMT m_hstmtNewOrder;
SQLHSTMT m_hstmtPayment;
SQLHSTMT m_hstmtDelivery;
SQLHSTMT m_hstmtOrderStatus;
SQLHSTMT m_hstmtStockLevel;

SQLHDESC m_descNewOrderCols1;
SQLHDESC m_descNewOrderCols2;
SQLHDESC m_descOrderStatusCols1;
SQLHDESC m_descOrderStatusCols2;

wchar_t
m_szSPPrefix[32]; // stored procedures prefix

// new-order specific fields
SQLUIINTEGER m_BindOffset;
SQLUIINTEGER m_RowsFetched;

int
m_no_commit_flag;

void ThrowError( CODBCERR::ACTION
eAction );

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

union
{
    NEW_ORDER_DATA
    PAYMENT_DATA
    DELIVERY_DATA
    STOCK_LEVEL_DATA
    ORDER_STATUS_DATA
};

```

```

    }
    m_bxn;

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

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

typedef CTPCC_ODBC* (TYPE_CTPCC_ODBC)(LPCSTR, LPCSTR,
LPCSTR, LPCSTR, LPCSTR, LPCWSTR);

```

```
db_odbc.dll tpcc_odbc.h
```

```
/* FILE: TPCC_ODBC.H
```

```

*
* Microsoft TPC-C
* Copyright
* Ver. 4.20.000
* 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:
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#pragma once

// need to declare functions for import, unless define has already been
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#ifdef DllDecl
#define DllDecl __declspec( dllimport )
#endif

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;};

int ErrorNum() {return m_NativeError;};
char *ErrorText() {return m_odbcerrstr;};

};

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;};
int ErrorNum() {return m_erno;};

char *ErrorText();
};

class DllDecl CTPCC_ODBC : public CTPCC_BASE
{
private:
// declare variables and private functions
here...
BOOL m_bDeadlock;
// transaction was selected as deadlock
victim
int
m_MaxRetries; // retry count on
deadlock

SQLHENV m_henv;
// ODBC environment handle
SQLHDBC m_hdbc;
SQLHSTMT m_hstmt;
// the current hstmt

SQLHSTMT m_hstmtNewOrder;
SQLHSTMT m_hstmtPayment;
SQLHSTMT m_hstmtDelivery;
SQLHSTMT m_hstmtOrderStatus;
SQLHSTMT m_hstmtStockLevel;

SQLHDESC m_descNewOrderCols1;
SQLHDESC m_descNewOrderCols2;
SQLHDESC m_descOrderStatusCols1;
SQLHDESC m_descOrderStatusCols2;

// new-order specific fields
SQLINTEGER m_BindOffset;
SQLINTEGER m_RowsFetched;
int
m_no_commit_flag;

```

```

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;

public:
CTPCC_ODBC(LPCSTR szServer, LPCSTR
szUser, LPCSTR szPassword, LPCSTR szHost, LPCSTR szDatabase);
~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 );

typedef CTPCC_ODBC* (TYPE_CTPCC_ODBC)(LPCSTR, LPCSTR,
LPCSTR, LPCSTR, LPCSTR);

```

```
tm_com_dll\src\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;
}

int ErrorNum() {return m_hr;}

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;
                } *m_pTxn;
            };

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 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);

tm_com_dll\src\tpcc_com.cpp

/* FILE: TPCC_COM.CPP
 * Microsoft TPC-C
 * Kit Ver. 4.20.000
 * Copyright
 * Microsoft, 1999
 * All Rights Reserved
 *
 * not yet audited
 *
 * PURPOSE: Source file for TPC-C COM+ class
 * implementation.
 * Contact: Charles Levine (clevine@microsoft.com)
 *
 * Change history:
 * 4.20.000 - first version
 */

// needed for CoInitializeEx
#define _WIN32_WINNT 0x0400

#include <windows.h>

```

```

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

#include "..\..\common\src\trans.h" //tpckit
transaction header contains definitions 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;

    m_bSinglePool = bSinglePool;

    m_pNewOrder = NULL;
    m_pPayment = NULL;
    m_pStockLevel = NULL;
    m_pOrderStatus = NULL;

    m_pTxn =
(COM_DATA*)CoTaskMemAlloc(sizeof(COM_DATA));
    if (!m_pTxn)
        throw new CCOMERR( E_FAIL );

    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_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)
        CoTaskMemFree(m_pTxn);

    ReleaseInterface(m_pNewOrder);
    if (!m_bSinglePool)
    {
        ReleaseInterface(m_pPayment);
        ReleaseInterface(m_pStockLevel);
        ReleaseInterface(m_pOrderStatus);
    }
    CoUninitialize();
}

void CTPCC_COM::NewOrder()
{
    int iSize = sizeof(COM_DATA);

    HRESULT hr = m_pNewOrder->NewOrder(&iSize,
(unsigned char**)&m_pTxn);
    if (FAILED(hr))
        throw new CCOMERR( hr );

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

void CTPCC_COM::Payment()
{
    int iSize = sizeof(COM_DATA);

    HRESULT hr = m_pPayment->Payment(&iSize, (unsigned
char**)&m_pTxn);
    if (FAILED(hr))
        throw new CCOMERR( hr );

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

void CTPCC_COM::StockLevel()
{
    int iSize = sizeof(COM_DATA);

    HRESULT hr = m_pStockLevel->StockLevel(&iSize,
(unsigned char**)&m_pTxn);
    if (FAILED(hr))
        throw new CCOMERR( hr );

    if ( m_pTxn->ErrorType != ERR_SUCCESS )

```

```

        throw new CCOMERR( m_pTxn->ErrorType,
m_pTxn->error );
}

void CTPCC_COM::OrderStatus()
{
    int iSize = sizeof(COM_DATA);

    HRESULT hr = m_pOrderStatus->OrderStatus(&iSize,
(unsigned char**)&m_pTxn);
    if (FAILED(hr))
        throw new CCOMERR( hr );

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

```

tpcc_com_ps\src\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\src\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 5.03.0280 */
/* at Sat Apr 08 16:40:10 2000

```

```

/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win32 (32b run), 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_HEADERING( )

/* 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__

/* Forward Declarations */

#ifndef __ITPCC_FWD_DEFINED__
#define __ITPCC_FWD_DEFINED__
typedef interface ITPCC ITPCC;
#endif /* __ITPCC_FWD_DEFINED__ */

/* header files for imported files */
#include "oidl.h"
#include "ocidl.h"

#ifdef __cplusplus
extern "C"{
#endif

void __RPC_FAR * __RPC_USER MIDL_user_allocate(size_t);
void __RPC_USER MIDL_user_free( void __RPC_FAR * );

/* interface __MIDL_itf_tpcc_com_ps_0000 */

```

```

/* [local] */

extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_ps_0000_v0_0_c_ifspec;
extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_ps_0000_v0_0_s_ifspec;

#ifndef __ITPCC_INTERFACE_DEFINED__
#define __ITPCC_INTERFACE_DEFINED__

/* interface ITPCC */
/* [unique][helpstring][uuid][oleautomation][object] */

EXTERN_C const IID IID_ITPCC;

#if defined(__cplusplus) && !defined(CINTERFACE)

MIDL_INTERFACE("FEEE6AA2-84B1-11d2-BA47-00C04FBFE08B")
ITPCC : public IUnknown
{
public:
    virtual HRESULT __stdcall NewOrder(
        /* [in] */ VARIANT txn_in,
        /* [out] */ VARIANT __RPC_FAR *txn_out) = 0;

    virtual HRESULT __stdcall Payment(
        /* [in] */ VARIANT txn_in,
        /* [out] */ VARIANT __RPC_FAR *txn_out) = 0;

    virtual HRESULT __stdcall Delivery(
        /* [in] */ VARIANT txn_in,
        /* [out] */ VARIANT __RPC_FAR *txn_out) = 0;

    virtual HRESULT __stdcall StockLevel(
        /* [in] */ VARIANT txn_in,
        /* [out] */ VARIANT __RPC_FAR *txn_out) = 0;

    virtual HRESULT __stdcall OrderStatus(
        /* [in] */ VARIANT txn_in,
        /* [out] */ VARIANT __RPC_FAR *txn_out) = 0;

    virtual HRESULT __stdcall CallSetComplete( void) = 0;
};

#else /* C style interface */

typedef struct ITPCCVtbl
{
    BEGIN_INTERFACE

```



```

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *QueryInterface )(
    ITPCC __RPC_FAR * This,
    /* [in] */ REFIID riid,
    /* [iid_is][out] */ void __RPC_FAR * __RPC_FAR *ppvObject);

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

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

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

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

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

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

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

HRESULT ( _stdcall __RPC_FAR *CallSetComplete )(
    ITPCC __RPC_FAR * This);

END_INTERFACE
} ITPCCVtbl;

interface ITPCC
{
    CONST_VTBL struct ITPCCVtbl __RPC_FAR *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 */

/* C style interface */

HRESULT _stdcall ITPCC_NewOrder_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT __RPC_FAR *txn_out);

void __RPC_STUB ITPCC_NewOrder_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT _stdcall ITPCC_Payment_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ VARIANT txn_in,

```

```

    /* [out] */ VARIANT __RPC_FAR *txn_out);

void __RPC_STUB ITPCC_Payment_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT _stdcall ITPCC_Delivery_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT __RPC_FAR *txn_out);

void __RPC_STUB ITPCC_Delivery_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT _stdcall ITPCC_StockLevel_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT __RPC_FAR *txn_out);

void __RPC_STUB ITPCC_StockLevel_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT _stdcall ITPCC_OrderStatus_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ VARIANT txn_in,
    /* [out] */ VARIANT __RPC_FAR *txn_out);

void __RPC_STUB ITPCC_OrderStatus_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *_pRpcChannelBuffer,
    PRPC_MESSAGE _pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT _stdcall ITPCC_CallSetComplete_Proxy(
    ITPCC __RPC_FAR * 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 __RPC_FAR *, unsigned long , VARIANT __RPC_FAR * );
unsigned char __RPC_FAR * __RPC_USER VARIANT_UserMarshal(
unsigned long __RPC_FAR *, unsigned char __RPC_FAR *, VARIANT
__RPC_FAR * );
unsigned char __RPC_FAR * __RPC_USER
VARIANT_UserUnmarshal(unsigned long __RPC_FAR *, unsigned char
__RPC_FAR *, VARIANT __RPC_FAR * );
void __RPC_USER VARIANT_UserFree( unsigned long
__RPC_FAR *, VARIANT __RPC_FAR * );
```

```
/* end of Additional Prototypes */
```

```
#ifdef __cplusplus
}
#endif
```

```
#endif
```

```
tpcc_com_ps\src\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 STDMETHODCALLTYPE NewOrder
    (
        [in] VARIANT txn_in,
        [out] VARIANT *txn_out
    );

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

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

    HRESULT STDMETHODCALLTYPE StockLevel
    (
```

```

[in] VARIANT txn_in,
[out] VARIANT *txn_out
);

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

HRESULT STDMETHODCALLTYPE CallSetComplete
(
);

}; // interface ITPCC
```

```
tpcc_com_ps\src\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 5.03.0280 */
/* at Sat Apr 08 16:40:10 2000
*/

/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win32 (32b run), 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_AXP64)

#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,b6,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,b6,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_AXP64)*/

#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 5.03.0280 */
/* at Sat Apr 08 16:40:10 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win64 (32b run,appending),
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_HEADERING( )

#if defined(_M_IA64) || defined(_M_AXP64)

#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>

#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)

#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,b6,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_AXP64)*/

```

```
tpcc_com_ps\src\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 5.03.0280 */
/* at Sat Apr 08 16:40:10 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win32 (32b run), 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_AXP64)
#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 997
#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;

extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;

/* Standard interface: __MIDL_itf_tpcc_com_ps_0000, ver. 0.0,
GUID={0x00000000,0x0000,0x0000,{0x00,0x00,0x00,0x00,0x00,0x00,0
x00,0x00}} */

/* Object interface: IUnknown, ver. 0.0,
GUID={0x00000000,0x0000,0x0000,{0xC0,0x00,0x00,0x00,0x00,0x00,0
x00,0x46}} */

/* Object interface: ITPCC, ver. 0.0,
GUID={0xFEEE6AA2,0x84B1,0x11d2,{0xBA,0x47,0x00,0xC0,0x4F,0xBF,0
xE0,0x8B}} */

extern const MIDL_STUB_DESC Object_StubDesc;

extern const MIDL_SERVER_INFO ITPCC_ServerInfo;

#pragma code_seg(".orpc")
static const unsigned short ITPCC_FormatStringOffsetTable[] =
{
    0,
    34,
    68,
    102,
    136,
    170
};

static const MIDL_SERVER_INFO ITPCC_ServerInfo =
{
    &Object_StubDesc,
    0,
    __MIDL_ProcFormatString.Format,
    &ITPCC_FormatStringOffsetTable[-3],
    0,
    0,
    0,
    0
};

```

```

static const MIDL_STUBLESS_PROXY_INFO ITPCC_ProxyInfo =
{
    &Object_StubDesc,
    __MIDL_ProcFormatString.Format,
    &ITPCC_FormatStringOffsetTable[-3],
    0,
    0,
    0
};

CINTERFACE_PROXY_VTABLE(9) _ITPCCProxyVtbl =
{
    &ITPCC_ProxyInfo,
    &IID_ITPCC,
    IUnknown_QueryInterface_Proxy,
    IUnknown_AddRef_Proxy,
    IUnknown_Release_Proxy ,
    (void *)1 /* ITPCC::NewOrder */ ,
    (void *)1 /* ITPCC::Payment */ ,
    (void *)1 /* ITPCC::Delivery */ ,
    (void *)1 /* ITPCC::StockLevel */ ,
    (void *)1 /* ITPCC::OrderStatus */ ,
    (void *)1 /* ITPCC::CallSetComplete */
};

const CInterfaceStubVtbl _ITPCCStubVtbl =
{
    &IID_ITPCC,
    &ITPCC_ServerInfo,
    9,
    0, /* pure interpreted */
    CStdStubBuffer_METHODS
};

extern const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ];

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,

```

```

0x5030118, /* MIDL Version 5.3.280 */
0,
UserMarshalRoutines,
0, /* notify & notify_flag routine table */
0x1, /* MIDL flag */
0, /* Reserved3 */
0, /* Reserved4 */
0 /* Reserved5 */
};

#pragma data_seg(".rdata")

static const USER_MARSHAL_ROUTINE_QUADRUPLE
UserMarshalRoutines[ WIRE_MARSHAL_TABLE_SIZE ] =
{
    {
        VARIANT_UserSize
        ,VARIANT_UserMarshal
        ,VARIANT_UserUnmarshal
        ,VARIANT_UserFree
    }
};

```

```

#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 */
    }
};

```

```

/* 0 */ NdrFcShort( 0x0 ), /* 0 */
#ifdef _ALPHA_
#ifdef _PPC_
#if !defined(_MIPS_)
/* 8 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
*/
#else
MIPS Stack size/offset = 32 */
#endif
#else
PPC Stack size/offset = 32 */
#endif
#else
Alpha Stack size/offset = 40 */
#endif
/* 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, */
#ifdef _ALPHA_
#ifdef _PPC_
#if !defined(_MIPS_)
/* 18 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4 */
*/
#else
MIPS Stack size/offset = 8 */
#endif
#else
PPC Stack size/offset = 8 */
#endif
#else
Alpha Stack size/offset = 8 */
#endif
/* 20 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
*/
/* Parameter txn_out */
/* 22 */ NdrFcShort( 0x4113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=16 */
*/

```

```

#ifdef _PPC_
#ifdef _ALPHA_
#if !defined(_MIPS_)
/* 24 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
*/
#else
MIPS Stack size/offset = 24 */
#endif
#else
PPC Stack size/offset = 24 */
#endif
#else
Alpha Stack size/offset = 24 */
#endif
/* 26 */ NdrFcShort( 0x3da ), /* Type Offset=986 */
*/
/* Return value */
/* 28 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifdef _ALPHA_
#ifdef _PPC_
#if !defined(_MIPS_)
/* 30 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
*/
#else
MIPS Stack size/offset = 28 */
#endif
#else
PPC Stack size/offset = 28 */
#endif
#else
Alpha Stack size/offset = 32 */
#endif
/* 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 */
#ifdef _ALPHA_

```

```

#ifndef _PPC_
#if !defined(_MIPS_)
/* 42 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
*/
#else
MIPS Stack size/offset = 32 */
#endif
#else
PPC Stack size/offset = 32 */
#endif
#else
Alpha Stack size/offset = 40 */
#endif
/* 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, */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 52 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4 */
#else
MIPS Stack size/offset = 8 */
#endif
#else
PPC Stack size/offset = 8 */
#endif
#else
Alpha Stack size/offset = 8 */
#endif
/* 54 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
*/
/* Parameter txn_out */
/* 56 */ NdrFcShort( 0x4113 ), /* Flags: must size, must free, out, simple ref, srv alloc size=16 */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)

```

```

/* 58 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
MIPS Stack size/offset = 24 */
#endif
#else
PPC Stack size/offset = 24 */
#endif
#else
Alpha Stack size/offset = 24 */
#endif
/* 60 */ NdrFcShort( 0x3da ), /* Type Offset=986 */
*/
/* Return value */
/* 62 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 64 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
*/
#else
MIPS Stack size/offset = 28 */
#endif
#else
PPC Stack size/offset = 28 */
#endif
#else
Alpha Stack size/offset = 32 */
#endif
/* 66 */ 0x8, /* FC_LONG */
0x0, /* 0
*/
/* Procedure Delivery */
/* 68 */ 0x33, /* FC_AUTO_HANDLE */
0x6c, /*
*/
/* 70 */ NdrFcLong( 0x0 ), /* 0 */
/* 74 */ NdrFcShort( 0x5 ), /* 5 */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)

```

```

/* 76 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
MIPS Stack size/offset = 32 */
#endif
#else
PPC Stack size/offset = 32 */
#endif
#else
Alpha Stack size/offset = 40 */
#endif
/* 78 */ NdrFcShort( 0x0 ), /* 0 */
/* 80 */ NdrFcShort( 0x8 ), /* 8 */
/* 82 */ 0x7, /* Oi2 Flags: srv must size, clt must size, has return, */
*/
0x3, /* 3
*/
/* Parameter txn_in */
/* 84 */ NdrFcShort( 0x8b ), /* Flags: must size, must free, in, by val, */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 86 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4 */
#else
MIPS Stack size/offset = 8 */
#endif
#else
PPC Stack size/offset = 8 */
#endif
#else
Alpha Stack size/offset = 8 */
#endif
/* 88 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
*/
/* Parameter txn_out */
/* 90 */ NdrFcShort( 0x4113 ), /* Flags: must size, must free, out, simple ref, srv alloc size=16 */
#endif
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 92 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
*/

```

```

#else
MIPS Stack size/offset = 24 */
#endif
#else
PPC Stack size/offset = 24 */
#endif
#else
Alpha Stack size/offset = 24 */
#endif
/* 94 */ NdrFcShort( 0x3da ), /* Type Offset=986 */
/* Return value */
/* 96 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 98 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24
*/
#else
NdrFcShort( 0x1c ), /*
MIPS Stack size/offset = 28 */
#endif
#else
NdrFcShort( 0x1c ), /*
PPC Stack size/offset = 28 */
#endif
#else
NdrFcShort( 0x20 ), /*
Alpha Stack size/offset = 32 */
#endif
/* 100 */ 0x8, /* FC_LONG */
0x0, /* 0
*/
/* Procedure StockLevel */
/* 102 */ 0x33, /* FC_AUTO_HANDLE */
0x6c, /*
Old Flags: object, Oi2 */
/* 104 */ NdrFcLong( 0x0 ), /* 0 */
/* 108 */ NdrFcShort( 0x6 ), /* 6 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 110 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28
*/
*/
#else

```

```

MIPS Stack size/offset = 32 */
#else
PPC Stack size/offset = 32 */
#endif
#else
Alpha Stack size/offset = 40 */
#endif
/* 112 */ NdrFcShort( 0x0 ), /* 0 */
/* 114 */ NdrFcShort( 0x8 ), /* 8 */
/* 116 */ 0x7, /* Oi2 Flags: srv must size, clt
must size, has return, */
0x3, /* 3
*/
/* Parameter txn_in */
/* 118 */ NdrFcShort( 0x8b ), /* Flags: must size, must free,
in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 120 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4 */
#else
NdrFcShort( 0x8 ), /*
MIPS Stack size/offset = 8 */
#endif
#else
NdrFcShort( 0x8 ), /*
PPC Stack size/offset = 8 */
#endif
#else
NdrFcShort( 0x8 ), /*
Alpha Stack size/offset = 8 */
#endif
/* 122 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Parameter txn_out */
/* 124 */ NdrFcShort( 0x4113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 126 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20
*/
*/
#else
NdrFcShort( 0x18 ), /*
MIPS Stack size/offset = 24 */
#endif
#else

```

```

MIPS Stack size/offset = 24 */
#else
Alpha Stack size/offset = 24 */
#endif
/* 128 */ NdrFcShort( 0x3da ), /* Type Offset=986 */
/* Return value */
/* 130 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 132 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24
*/
#else
NdrFcShort( 0x1c ), /*
MIPS Stack size/offset = 28 */
#endif
#else
NdrFcShort( 0x1c ), /*
PPC Stack size/offset = 28 */
#endif
#else
NdrFcShort( 0x20 ), /*
Alpha Stack size/offset = 32 */
#endif
/* 134 */ 0x8, /* FC_LONG */
0x0, /* 0
*/
/* Procedure OrderStatus */
/* 136 */ 0x33, /* FC_AUTO_HANDLE */
0x6c, /*
Old Flags: object, Oi2 */
/* 138 */ NdrFcLong( 0x0 ), /* 0 */
/* 142 */ NdrFcShort( 0x7 ), /* 7 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 144 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28
*/
*/
#else
NdrFcShort( 0x20 ), /*
MIPS Stack size/offset = 32 */
#endif
#else

```

```

PPC Stack size/offset = 32 */
#endif
#else
Alpha Stack size/offset = 40 */
#endif
/* 146 */ NdrFcShort( 0x0 ), /* 0 */
/* 148 */ NdrFcShort( 0x8 ), /* 8 */
/* 150 */ 0x7, /* Oi2 Flags: srv must size, clt
must size, has return, */
*/
/* Parameter bxn_in */

/* 152 */ NdrFcShort( 0x8b ), /* Flags: must size, must free,
in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 154 */ NdrFcShort( 0x4 ), /* x86 Stack size/offset = 4 */
#else
MIPS Stack size/offset = 8 */
#endif
#else
NdrFcShort( 0x8 ), /*
NdrFcShort( 0x8 ), /*
PPC Stack size/offset = 8 */
#endif
#else
Alpha Stack size/offset = 8 */
#endif
/* 156 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Parameter bxn_out */

/* 158 */ NdrFcShort( 0x4113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 160 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20
*/
#else
NdrFcShort( 0x18 ), /*
MIPS Stack size/offset = 24 */
#endif
#else
PPC Stack size/offset = 24 */
#endif

```

```

#else
Alpha Stack size/offset = 24 */
#endif
/* 162 */ NdrFcShort( 0x3da ), /* Type Offset=986 */
/* Return value */

/* 164 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 166 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24
*/
#else
MIPS Stack size/offset = 28 */
#endif
#else
PPC Stack size/offset = 28 */
#endif
#else
Alpha Stack size/offset = 32 */
#endif
/* 168 */ 0x8, /* FC_LONG */
0x0, /* 0

/* Procedure CallSetComplete */
/* 170 */ 0x33, /* FC_AUTO_HANDLE */
0x6c, /*
Old Flags: object, Oi2 */
/* 172 */ NdrFcLong( 0x0 ), /* 0 */
/* 176 */ NdrFcShort( 0x8 ), /* 8 */
#ifndef _ALPHA_
/* 178 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack
size/offset = 8 */
#else
Alpha Stack size/offset = 16 */
#endif
/* 180 */ NdrFcShort( 0x0 ), /* 0 */
/* 182 */ NdrFcShort( 0x8 ), /* 8 */
/* 184 */ 0x4, /* Oi2 Flags: has return, */
0x1, /* 1

/* Return value */

```

```

/* 186 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifndef _ALPHA_
/* 188 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack
size/offset = 4 */
#else
Alpha Stack size/offset = 8 */
#endif
/* 190 */ 0x8, /* FC_LONG */
0x0, /* 0

}
};

static const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString =
{
0,
{
/*
/* 2 */
/* 4 */ NdrFcShort( 0x3b0 ), /* FC_UP */
/* 6 */ /* Offset= 944 (948) */
0x2b, /*
FC_NON_ENCAPSULATED_UNION */
0x9, /*
FC_ULONG */
/* 8 */ 0x7, /* Corr desc: FC_USHORT */
0x0, /*
/* 10 */ NdrFcShort( 0xffff ), /* -8 */
/* 12 */ NdrFcShort( 0x2 ), /* Offset= 2 (14) */
/* 14 */ NdrFcShort( 0x10 ), /* 16 */
/* 16 */ NdrFcShort( 0x2b ), /* 43 */
/* 18 */ NdrFcLong( 0x3 ), /* 3 */
/* 22 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 24 */ NdrFcLong( 0x11 ), /* 17 */
/* 28 */ NdrFcShort( 0x8001 ), /* Simple arm type: FC_BYTE
*/
/* 30 */ NdrFcLong( 0x2 ), /* 2 */
/* 34 */ NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
/* 36 */ NdrFcLong( 0x4 ), /* 4 */
/* 40 */ NdrFcShort( 0x800a ), /* Simple arm type: FC_FLOAT
*/
/* 42 */ NdrFcLong( 0x5 ), /* 5 */

```



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/* 46 */ NdrFcShort( 0x800c ), /* Simple arm type:
FC_DOUBLE */
/* 48 */ NdrFcLong( 0xb ), /* 11 */
/* 52 */ NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
/* 54 */ NdrFcLong( 0xa ), /* 10 */
/* 58 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 60 */ NdrFcLong( 0x6 ), /* 6 */
/* 64 */ NdrFcShort( 0xd6 ), /* Offset= 214 (278) */
/* 66 */ NdrFcLong( 0x7 ), /* 7 */
/* 70 */ NdrFcShort( 0x800c ), /* Simple arm type:
FC_DOUBLE */
/* 72 */ NdrFcLong( 0x8 ), /* 8 */
/* 76 */ NdrFcShort( 0xd0 ), /* Offset= 208 (284) */
/* 78 */ NdrFcLong( 0xd ), /* 13 */
/* 82 */ NdrFcShort( 0xe2 ), /* Offset= 226 (308) */
/* 84 */ NdrFcLong( 0x9 ), /* 9 */
/* 88 */ NdrFcShort( 0xee ), /* Offset= 238 (326) */
/* 90 */ NdrFcLong( 0x2000 ), /* 8192 */
/* 94 */ NdrFcShort( 0xfa ), /* Offset= 250 (344) */
/* 96 */ NdrFcLong( 0x24 ), /* 36 */
/* 100 */ NdrFcShort( 0x308 ), /* Offset= 776 (876) */
/* 102 */ NdrFcLong( 0x4024 ), /* 16420 */
/* 106 */ NdrFcShort( 0x302 ), /* Offset= 770 (876) */
/* 108 */ NdrFcLong( 0x4011 ), /* 16401 */
/* 112 */ NdrFcShort( 0x300 ), /* Offset= 768 (880) */
/* 114 */ NdrFcLong( 0x4002 ), /* 16386 */
/* 118 */ NdrFcShort( 0x2fe ), /* Offset= 766 (884) */
/* 120 */ NdrFcLong( 0x4003 ), /* 16387 */
/* 124 */ NdrFcShort( 0x2fc ), /* Offset= 764 (888) */
/* 126 */ NdrFcLong( 0x4004 ), /* 16388 */
/* 130 */ NdrFcShort( 0x2fa ), /* Offset= 762 (892) */
/* 132 */ NdrFcLong( 0x4005 ), /* 16389 */
/* 136 */ NdrFcShort( 0x2f8 ), /* Offset= 760 (896) */
/* 138 */ NdrFcLong( 0x400b ), /* 16395 */
/* 142 */ NdrFcShort( 0x2e6 ), /* Offset= 742 (884) */
/* 144 */ NdrFcLong( 0x400a ), /* 16394 */
/* 148 */ NdrFcShort( 0x2e4 ), /* Offset= 740 (888) */
/* 150 */ NdrFcLong( 0x4006 ), /* 16390 */
/* 154 */ NdrFcShort( 0x2ea ), /* Offset= 746 (900) */
/* 156 */ NdrFcLong( 0x4007 ), /* 16391 */
/* 160 */ NdrFcShort( 0x2e0 ), /* Offset= 736 (896) */
/* 162 */ NdrFcLong( 0x4008 ), /* 16392 */
/* 166 */ NdrFcShort( 0x2e2 ), /* Offset= 738 (904) */
/* 168 */ NdrFcLong( 0x400d ), /* 16397 */
/* 172 */ NdrFcShort( 0x2e0 ), /* Offset= 736 (908) */
/* 174 */ NdrFcLong( 0x4009 ), /* 16393 */
/* 178 */ NdrFcShort( 0x2de ), /* Offset= 734 (912) */
/* 180 */ NdrFcLong( 0x6000 ), /* 24576 */
/* 184 */ NdrFcShort( 0x2dc ), /* Offset= 732 (916) */
/* 186 */ NdrFcLong( 0x400c ), /* 16396 */

```

```

/* 190 */ NdrFcShort( 0x20a ), /* Offset= 730 (920) */
/* 196 */ NdrFcShort( 0x8002 ), /* Simple arm type: FC_CHAR
*/
/* 198 */ NdrFcLong( 0x12 ), /* 18 */
/* 202 */ NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
/* 204 */ NdrFcLong( 0x13 ), /* 19 */
/* 208 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 210 */ NdrFcLong( 0x16 ), /* 22 */
/* 214 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 216 */ NdrFcLong( 0x17 ), /* 23 */
/* 220 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 222 */ NdrFcLong( 0xe ), /* 14 */
/* 226 */ NdrFcShort( 0x2be ), /* Offset= 702 (928) */
/* 228 */ NdrFcLong( 0x400e ), /* 16398 */
/* 232 */ NdrFcShort( 0x2c4 ), /* Offset= 708 (940) */
/* 234 */ NdrFcLong( 0x4010 ), /* 16400 */
/* 238 */ NdrFcShort( 0x2c2 ), /* Offset= 706 (944) */
/* 240 */ NdrFcLong( 0x4012 ), /* 16402 */
/* 244 */ NdrFcShort( 0x280 ), /* Offset= 640 (884) */
/* 246 */ NdrFcLong( 0x4013 ), /* 16403 */
/* 250 */ NdrFcShort( 0x27e ), /* Offset= 638 (888) */
/* 252 */ NdrFcLong( 0x4016 ), /* 16406 */
/* 256 */ NdrFcShort( 0x278 ), /* Offset= 632 (888) */
/* 258 */ NdrFcLong( 0x4017 ), /* 16407 */
/* 262 */ NdrFcShort( 0x272 ), /* Offset= 626 (888) */
/* 264 */ NdrFcLong( 0x0 ), /* 0 */
/* 268 */ NdrFcShort( 0x0 ), /* Offset= 0 (268) */
/* 270 */ NdrFcLong( 0x1 ), /* 1 */
/* 274 */ NdrFcShort( 0x0 ), /* Offset= 0 (274) */
/* 276 */ NdrFcShort( 0xffffffff ), /* Offset= -1 (275) */
/* 278 */
FC_STRUCT */
0x15, /*
*/
0x7, /* 7
*/
/* 280 */ NdrFcShort( 0x8 ), /* 8 */
/* 282 */ 0xb, /* FC_HYPER */
0x5b, /*
*/
FC_END */
/* 284 */
0x12, 0x0, /* FC_UP */
/* 286 */ NdrFcShort( 0xc ), /* Offset= 12 (298) */
/* 288 */
0x1b, /*
*/
0x1, /* 1
*/
/* 290 */ NdrFcShort( 0x2 ), /* 2 */
/* 292 */ 0x9, /* Corr desc: FC_ULONG */

```

```

/* 294 */ NdrFcShort( 0xfffc ), 0x0, /*
*/
/* 296 */ 0x6, /* -4 */
/* FC_SHORT */
0x5b, /*
*/
FC_END */
/* 298 */
0x17, /*
*/
FC_CSTRUCT */
0x3, /* 3
*/
/*
*/
/* 300 */ NdrFcShort( 0x8 ), /* 8 */
/* 302 */ NdrFcShort( 0xfffff2 ), /* Offset= -14 (288) */
/* 304 */ 0x8, /* FC_LONG */
0x8, /*
*/
FC_LONG */
/* 306 */ 0x5c, /* FC_PAD */
0x5b, /*
*/
FC_END */
/* 308 */
0x2f, /*
*/
FC_IP */
0x5a, /*
*/
FC_CONSTANT_IID */
/* 310 */ NdrFcLong( 0x0 ), /* 0 */
/* 314 */ NdrFcShort( 0x0 ), /* 0 */
/* 316 */ NdrFcShort( 0x0 ), /* 0 */
/* 318 */ 0xc0, /* 192 */
0x0, /* 0
*/
/*
*/
/* 320 */ 0x0, /* 0 */
0x0, /* 0
*/
/*
*/
/* 322 */ 0x0, /* 0 */
0x0, /* 0
*/
/*
*/
/* 324 */ 0x0, /* 0 */
0x46, /*
*/
70 /*
*/
/* 326 */
0x2f, /*
*/
FC_IP */
0x5a, /*
*/
FC_CONSTANT_IID */
/* 328 */ NdrFcLong( 0x20400 ), /* 132096 */
/* 332 */ NdrFcShort( 0x0 ), /* 0 */
/* 334 */ NdrFcShort( 0x0 ), /* 0 */
/* 336 */ 0xc0, /* 192 */
0x0, /* 0
*/
/*
*/
/* 338 */ 0x0, /* 0 */

```

	0x0,	/* 0		0x0,	/*		0x8,	/*
/			/ 426 */ NdrFcShort(0x0),	/* 0 */		FC_END /*	/* FC_LONG */	/*
/* 340 */	0x0,	/* 0 */	/* 428 */		/*	FC_END /*	0x5b,	/*
/	0x0,	/ 0		0x4b,	/*	/* 470 */		
/* 342 */	0x0,	/* 0 */	FC_PP /*		/*	FC_BOGUS_ARRAY /*	0x21,	/*
	0x46,	/*	FC_PAD /*	0x5c,	/*		0x3,	/* 3
70 /*			/* 430 */		/*	*/		
/* 344 */				0x48,	/*	/* 472 */ NdrFcShort(0x0),	/* 0 */	
	0x12, 0x10, /* FC_UP		FC_VARIABLE_REPEAT /*	0x49,	/*	/* 474 */ 0x19,	/* Corr desc: field pointer,	
[pointer_deref] /*			FC_FIXED_OFFSET /*			FC_ULONG /*		
/* 346 */ NdrFcShort(0x2),	/* Offset= 2 (348) */		/* 432 */ NdrFcShort(0x4),	/* 4 */		0x0,	/*	
/* 348 */			/* 434 */ NdrFcShort(0x0),	/* 0 */		*/		
	0x12, 0x0, /* FC_UP */		/* 436 */ NdrFcShort(0x1),	/* 1 */		/* 476 */ NdrFcShort(0x0),	/* 0 */	
/* 350 */ NdrFcShort(0x1fc),	/* Offset= 508 (858) */		/* 438 */ NdrFcShort(0x0),	/* 0 */		/* 478 */ NdrFcLong(0xffffffff),	/* -1 */	
/* 352 */			/* 440 */ NdrFcShort(0x0),	/* 0 */				
	0x2a,	/*	/* 442 */ 0x12, 0x0, /* FC_UP */			/* 482 */ 0x4c,	/* FC_EMBEDDED_COMPLEX	
FC_ENCAPSULATED_UNION /*			/* 444 */ NdrFcShort(0xffffffff6e),	/* Offset= -146 (298) */		*/		
	0x49,	/*	/* 446 */			0x0,	/* 0	
73 /*			FC_END /*	0x5b,	/*	*/		
/* 354 */ NdrFcShort(0x18),	/* 24 */					/* 484 */ NdrFcShort(0xffffffff50),	/* Offset= -176 (308) */	
/* 356 */ NdrFcShort(0xa),	/* 10 */			0x8,	/*	/* 486 */ 0x5c,	/* FC_PAD */	
/* 358 */ NdrFcLong(0x8),	/* 8 */		FC_LONG /*			0x5b,	/*	
/* 362 */ NdrFcShort(0x58),	/* Offset= 88 (450) */		/* 448 */ 0x5c,	/* FC_PAD */		FC_END /*		
/* 364 */ NdrFcLong(0xd),	/* 13 */			0x5b,	/*	/* 488 */		
/* 368 */ NdrFcShort(0x78),	/* Offset= 120 (488) */		FC_END /*			FC_BOGUS_STRUCT /*	0x1a,	/*
/* 370 */ NdrFcLong(0x9),	/* 9 */		/* 450 */				0x3,	/* 3
/* 374 */ NdrFcShort(0x94),	/* Offset= 148 (522) */		FC_PSTRUCT /*	0x16,	/*	*/		
/* 376 */ NdrFcLong(0xc),	/* 12 */			0x3,	/* 3	/* 490 */ NdrFcShort(0x8),	/* 8 */	
/* 380 */ NdrFcShort(0xbc),	/* Offset= 188 (568) */		*/			/* 492 */ NdrFcShort(0x0),	/* 0 */	
/* 382 */ NdrFcLong(0x24),	/* 36 */		/* 452 */ NdrFcShort(0x8),	/* 8 */		/* 494 */ NdrFcShort(0x6),	/* Offset= 6 (500) */	
/* 386 */ NdrFcShort(0x114),	/* Offset= 276 (662) */		/* 454 */			/* 496 */ 0x8,	/* FC_LONG */	
/* 388 */ NdrFcLong(0x800d),	/* 32781 */		FC_PP /*	0x4b,	/*	FC_POINTER /*	0x36,	/*
/* 392 */ NdrFcShort(0x130),	/* Offset= 304 (696) */					/* 498 */ 0x5c,	/* FC_PAD */	
/* 394 */ NdrFcLong(0x10),	/* 16 */		FC_PAD /*	0x5c,	/*	0x5b,	/*	
/* 398 */ NdrFcShort(0x148),	/* Offset= 328 (726) */		FC_NO_REPEAT /*			FC_END /*		
/* 400 */ NdrFcLong(0x2),	/* 2 */			0x46,	/*	/* 500 */		
/* 404 */ NdrFcShort(0x160),	/* Offset= 352 (756) */		FC_PAD /*			/* 502 */ NdrFcShort(0xffffffff0),	/* Offset= -32 (470) */	
/* 406 */ NdrFcLong(0x3),	/* 3 */		/* 458 */ NdrFcShort(0x4),	/* 4 */		/* 504 */		
/* 410 */ NdrFcShort(0x178),	/* Offset= 376 (786) */		/* 460 */ NdrFcShort(0x4),	/* 4 */		FC_BOGUS_ARRAY /*	0x21,	/*
/* 412 */ NdrFcLong(0x14),	/* 20 */		/* 462 */ 0x11, 0x0, /* FC_RP */				0x3,	/* 3
/* 416 */ NdrFcShort(0x190),	/* Offset= 400 (816) */		/* 464 */ NdrFcShort(0xffffffffd4),	/* Offset= -44 (420) */		*/		
/* 418 */ NdrFcShort(0xfffffffff),	/* Offset= -1 (417) */		/* 466 */			/* 506 */ NdrFcShort(0x0),	/* 0 */	
/* 420 */			FC_END /*	0x5b,	/*	/* 508 */ 0x19,	/* Corr desc: field pointer,	
	0x1b,	/*				FC_ULONG /*	0x0,	/*
FC_CARRAY /*		/* 3						
/	0x3,	/ 3				*/		
/* 422 */ NdrFcShort(0x4),	/* 4 */					/* 506 */ NdrFcShort(0x0),	/* 0 */	
/* 424 */ 0x19,	/* Corr desc: field pointer,					/* 508 */ 0x19,	/* Corr desc: field pointer,	
FC_ULONG /*						FC_ULONG /*		

```

/* 510 */ NdrFcShort( 0x0 ), /* 0 */
/* 512 */ NdrFcLong( 0xffffffff ), /* -1 */
/* 516 */ 0x4c, /* FC_EMBEDDED_COMPLEX */
/*
0x0, /* 0
*/
/* 518 */ NdrFcShort( 0xfffff40 ), /* Offset= -192 (326) */
/* 520 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 522 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 524 */ NdrFcShort( 0x8 ), /* 8 */
/* 526 */ NdrFcShort( 0x0 ), /* 0 */
/* 528 */ NdrFcShort( 0x6 ), /* Offset= 6 (534) */
/* 530 */ 0x8, /* FC_LONG */
0x36, /*
FC_POINTER */
/* 532 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 534 */
0x11, 0x0, /* FC_RP */
/* 536 */ NdrFcShort( 0xfffffe0 ), /* Offset= -32 (504) */
/* 538 */
0x1b, /*
FC_CARRAY */
0x3, /* 3
*/
/* 540 */ NdrFcShort( 0x4 ), /* 4 */
/* 542 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 544 */ NdrFcShort( 0x0 ), /* 0 */
/* 546 */
0x4b, /*
FC_PP */
0x5c, /*
FC_PAD */
/* 548 */
0x48, /*
FC_VARIABLE_REPEAT */
0x49, /*
FC_FIXED_OFFSET */
/* 550 */ NdrFcShort( 0x4 ), /* 4 */
/* 552 */ NdrFcShort( 0x0 ), /* 0 */
/* 554 */ NdrFcShort( 0x1 ), /* 1 */
/* 556 */ NdrFcShort( 0x0 ), /* 0 */

```

```

/* 558 */ NdrFcShort( 0x0 ), /* FC_UP */
/* 562 */ NdrFcShort( 0x182 ), /* Offset= 386 (948) */
/* 564 */
0x5b, /*
FC_END */
0x8, /*
FC_LONG */
/* 566 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 568 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 570 */ NdrFcShort( 0x8 ), /* 8 */
/* 572 */ NdrFcShort( 0x0 ), /* 0 */
/* 574 */ NdrFcShort( 0x6 ), /* Offset= 6 (580) */
/* 576 */ 0x8, /* FC_LONG */
0x36, /*
FC_POINTER */
/* 578 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 580 */
0x11, 0x0, /* FC_RP */
/* 582 */ NdrFcShort( 0xfffffd4 ), /* Offset= -44 (538) */
/* 584 */
0x2f, /*
FC_IP */
0x5a, /*
FC_CONSTANT_IID */
/* 586 */ NdrFcLong( 0x2f ), /* 47 */
/* 590 */ NdrFcShort( 0x0 ), /* 0 */
/* 592 */ NdrFcShort( 0x0 ), /* 0 */
/* 594 */ 0xc0, /* 192 */
0x0, /*
*/
/* 596 */ 0x0, /* 0 */
0x0, /*
*/
/* 598 */ 0x0, /* 0 */
0x0, /*
*/
/* 600 */ 0x0, /* 0 */
0x46, /*
70 */
/* 602 */
0x1b, /*
FC_CARRAY */
0x0, /*
*/

```

```

/* 604 */ NdrFcShort( 0x1 ), /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 608 */ NdrFcShort( 0x4 ), /* 4 */
/* 610 */ 0x1, /* FC_BYTE */
0x5b, /*
FC_END */
/* 612 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 614 */ NdrFcShort( 0x10 ), /* 16 */
/* 616 */ NdrFcShort( 0x0 ), /* 0 */
/* 618 */ NdrFcShort( 0xa ), /* Offset= 10 (628) */
/* 620 */ 0x8, /* FC_LONG */
0x8, /*
FC_LONG */
/* 622 */ 0x4c, /* FC_EMBEDDED_COMPLEX */
/*
0x0, /* 0
*/
/* 624 */ NdrFcShort( 0xfffffd8 ), /* Offset= -40 (584) */
/* 626 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 628 */
0x12, 0x0, /* FC_UP */
/* 630 */ NdrFcShort( 0xfffffe4 ), /* Offset= -28 (602) */
/* 632 */
0x1b, /*
FC_CARRAY */
0x3, /* 3
*/
/* 634 */ NdrFcShort( 0x4 ), /* 4 */
/* 636 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 638 */ NdrFcShort( 0x0 ), /* 0 */
/* 640 */
0x4b, /*
FC_PP */
0x5c, /*
FC_PAD */
/* 642 */
0x48, /*
FC_VARIABLE_REPEAT */
0x49, /*
FC_FIXED_OFFSET */

```

```

/* 644 */ NdrFcShort( 0x4 ), /* 4 */
/* 646 */ NdrFcShort( 0x0 ), /* 0 */
/* 648 */ NdrFcShort( 0x1 ), /* 1 */
/* 650 */ NdrFcShort( 0x0 ), /* 0 */
/* 652 */ NdrFcShort( 0x0 ), /* 0 */
/* 654 */ 0x12, 0x0, /* FC_UP */
/* 656 */ NdrFcShort( 0xfffffd4 ), /* Offset= -44 (612) */
/* 658 */

FC_END */
0x5b, /*

FC_LONG */
0x8, /*
/* 660 */ 0x5c, /* FC_PAD */
0x5b, /*

FC_END */
/* 662 */

FC_BOGUS_STRUCT */
0x1a, /*
0x3, /* 3

*/
/* 664 */ NdrFcShort( 0x8 ), /* 8 */
/* 666 */ NdrFcShort( 0x0 ), /* 0 */
/* 668 */ NdrFcShort( 0x6 ), /* Offset= 6 (674) */
/* 670 */ 0x8, /* FC_LONG */
0x36, /*

FC_POINTER */
/* 672 */ 0x5c, /* FC_PAD */
0x5b, /*

FC_END */
/* 674 */

/* 676 */ NdrFcShort( 0xfffffd4 ), /* FC_RP */
/* 678 */ /* Offset= -44 (632) */

0x1d, /*

FC_SMFARRAY */
0x0, /* 0

*/
/* 680 */ NdrFcShort( 0x8 ), /* 8 */
/* 682 */ 0x2, /* FC_CHAR */
0x5b, /*

FC_END */
/* 684 */

0x15, /*

FC_STRUCT */
0x3, /* 3

*/
/* 686 */ NdrFcShort( 0x10 ), /* 16 */
/* 688 */ 0x8, /* FC_LONG */
0x6, /*

FC_SHORT */
/* 690 */ 0x6, /* FC_SHORT */

```

```

FC_EMBEDDED_COMPLEX */
0x4c, /*
/* 692 */ 0x0, /*
NdrFcShort( 0xfffff1 ), /*

Offset= -15 (678) */

FC_END */
/* 696 */

0x5b, /*

0x1a, /*

0x3, /* 3

*/
/* 698 */ NdrFcShort( 0x18 ), /* 24 */
/* 700 */ NdrFcShort( 0x0 ), /* 0 */
/* 702 */ NdrFcShort( 0xa ), /* Offset= 10 (712) */
/* 704 */ 0x8, /* FC_LONG */
0x36, /*

FC_POINTER */
/* 706 */ 0x4c, /* FC_EMBEDDED_COMPLEX */
*/
0x0, /* 0

*/
/* 708 */ NdrFcShort( 0xfffffe8 ), /* Offset= -24 (684) */
/* 710 */ 0x5c, /* FC_PAD */
0x5b, /*

FC_END */
/* 712 */

0x11, 0x0, /* FC_RP */
/* 714 */ NdrFcShort( 0xfffff0c ), /* Offset= -244 (470) */
/* 716 */

0x1b, /*

FC_CARRAY */
0x0, /* 0

*/
/* 718 */ NdrFcShort( 0x1 ), /* 1 */
/* 720 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*

*/
/* 722 */ NdrFcShort( 0x0 ), /* 0 */
/* 724 */ 0x1, /* FC_BYTE */
0x5b, /*

FC_END */
/* 726 */

0x16, /*

FC_PSTRUCT */
0x3, /* 3

*/
/* 728 */ NdrFcShort( 0x8 ), /* 8 */
/* 730 */

0x4b, /*

FC_PP */
0x5c, /*

FC_PAD */

```

```

/* 732 */ 0x46, /*
FC_NO_REPEAT */
0x5c, /*

FC_PAD */
/* 734 */ NdrFcShort( 0x4 ), /* 4 */
/* 736 */ NdrFcShort( 0x4 ), /* 4 */
/* 738 */ 0x12, 0x0, /* FC_UP */
/* 740 */ NdrFcShort( 0xfffffe8 ), /* Offset= -24 (716) */
/* 742 */

0x5b, /*

FC_END */
0x8, /*

FC_LONG */
/* 744 */ 0x8, /* FC_LONG */
0x5b, /*

FC_END */
/* 746 */

0x1b, /*

FC_CARRAY */
0x1, /* 1

*/
/* 748 */ NdrFcShort( 0x2 ), /* 2 */
/* 750 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*

*/
/* 752 */ NdrFcShort( 0x0 ), /* 0 */
/* 754 */ 0x6, /* FC_SHORT */
0x5b, /*

FC_END */
/* 756 */

0x16, /*

FC_PSTRUCT */
0x3, /* 3

*/
/* 758 */ NdrFcShort( 0x8 ), /* 8 */
/* 760 */

0x4b, /*

FC_PP */
0x5c, /*

FC_PAD */
/* 762 */

0x46, /*

FC_NO_REPEAT */
0x5c, /*

FC_PAD */
/* 764 */ NdrFcShort( 0x4 ), /* 4 */
/* 766 */ NdrFcShort( 0x4 ), /* 4 */
/* 768 */ 0x12, 0x0, /* FC_UP */
/* 770 */ NdrFcShort( 0xfffffe8 ), /* Offset= -24 (746) */

```

```

/* 772 */
FC_END */
0x5b, /*
FC_LONG */
/* 774 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */
/* 776 */
FC_CARRAY */
0x1b, /*
0x3, /* 3
*/
/* 778 */ NdrFcShort( 0x4 ), /* 4 */
/* 780 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 782 */ NdrFcShort( 0x0 ), /* 0 */
/* 784 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */
/* 786 */
FC_PSTRUCT */
0x16, /*
FC_PSTRUCT */
0x3, /* 3
*/
/* 788 */ NdrFcShort( 0x8 ), /* 8 */
/* 790 */
FC_PP */
0x4b, /*
FC_PP */
0x5c, /*
FC_PAD */
/* 792 */
FC_NO_REPEAT */
0x46, /*
FC_PAD */
/* 794 */ NdrFcShort( 0x4 ), /* 4 */
/* 796 */ NdrFcShort( 0x4 ), /* 4 */
/* 798 */ 0x12, 0x0, /* FC_UP */
/* 800 */ NdrFcShort( 0xfffffe8 ), /* Offset= -24 (776) */
/* 802 */
FC_END */
0x5b, /*
FC_END */
0x8, /*
FC_LONG */
/* 804 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */

```

```

/* 806 */
FC_CARRAY */
0x1b, /*
0x7, /* 7
*/
/* 808 */ NdrFcShort( 0x8 ), /* 8 */
/* 810 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 812 */ NdrFcShort( 0x0 ), /* 0 */
/* 814 */ 0xb, /* FC_HYPER */
0x5b, /*
FC_END */
/* 816 */
FC_PSTRUCT */
0x16, /*
FC_PSTRUCT */
0x3, /* 3
*/
/* 818 */ NdrFcShort( 0x8 ), /* 8 */
/* 820 */
FC_PP */
0x4b, /*
FC_PAD */
/* 822 */
FC_NO_REPEAT */
0x46, /*
FC_NO_REPEAT */
0x5c, /*
FC_PAD */
/* 824 */ NdrFcShort( 0x4 ), /* 4 */
/* 826 */ NdrFcShort( 0x4 ), /* 4 */
/* 828 */ 0x12, 0x0, /* FC_UP */
/* 830 */ NdrFcShort( 0xfffffe8 ), /* Offset= -24 (806) */
/* 832 */
FC_END */
0x5b, /*
FC_END */
0x8, /*
FC_LONG */
/* 834 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */
/* 836 */
FC_STRUCTURE */
0x15, /*
FC_STRUCTURE */
0x3, /* 3
*/
*/
/* 838 */ NdrFcShort( 0x8 ), /* 8 */
/* 840 */ 0x8, /* FC_LONG */
0x8, /*
FC_LONG */
/* 842 */ 0x5c, /* FC_PAD */

```

```

FC_END */
0x5b, /*
FC_END */
0x1b, /*
FC_CARRAY */
0x3, /* 3
*/
/* 846 */ NdrFcShort( 0x8 ), /* 8 */
/* 848 */ 0x7, /* Corr desc: FC_USHORT */
0x0, /*
*/
/* 850 */ NdrFcShort( 0xffd8 ), /* -40 */
/* 852 */ 0x4c, /* FC_EMBEDDED_COMPLEX
*/
0x0, /* 0
*/
/* 854 */ NdrFcShort( 0xfffffee ), /* Offset= -18 (836) */
/* 856 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 858 */
FC_BOGUS_STRUCTURE */
0x1a, /*
FC_BOGUS_STRUCTURE */
0x3, /* 3
*/
/* 860 */ NdrFcShort( 0x28 ), /* 40 */
/* 862 */ NdrFcShort( 0xfffffee ), /* Offset= -18 (844) */
/* 864 */ NdrFcShort( 0x0 ), /* Offset= 0 (864) */
/* 866 */ 0x6, /* FC_SHORT */
0x6, /*
FC_SHORT */
/* 868 */ 0x38, /* FC_ALIGNM4 */
0x8, /*
FC_LONG */
/* 870 */ 0x8, /* FC_LONG */
0x4c, /*
FC_EMBEDDED_COMPLEX */
/* 872 */ 0x0, /* 0
NdrFcShort( 0xfffffd7 ), */
Offset= -521 (352) */
0x5b, /*
FC_END */
/* 876 */
FC_END */
0x12, 0x0, /* FC_UP */
/* 878 */ NdrFcShort( 0xfffffef6 ), /* Offset= -266 (612) */
/* 880 */
FC_END */
0x12, 0x8, /* FC_UP
[simple_pointer] */
/* 882 */ 0x1, /* FC_BYTE */
0x5c, /*
FC_PAD */
/* 884 */

```

```

0x12, 0x8, /* FC_UP
[pointer_deref] */
/* 886 */ 0x6,
/* FC_SHORT */
0x5c, /*
FC_PAD */
/* 888 */
0x12, 0x8, /* FC_UP
[pointer_deref] */
/* 890 */ 0x8,
/* FC_LONG */
0x5c, /*
FC_PAD */
/* 892 */
0x12, 0x8, /* FC_UP
[pointer_deref] */
/* 894 */ 0xa,
/* FC_FLOAT */
0x5c, /*
FC_PAD */
/* 896 */
0x12, 0x8, /* FC_UP
[pointer_deref] */
/* 898 */ 0xc,
/* FC_DOUBLE */
0x5c, /*
FC_PAD */
/* 900 */
0x12, 0x0, /* FC_UP */
/* 902 */ NdrFcShort( 0xffffd90 ), /* Offset= -624 (278) */
/* 904 */
0x12, 0x10, /* FC_UP
[pointer_deref] */
/* 906 */ NdrFcShort( 0xffffd92 ), /* Offset= -622 (284) */
/* 908 */
0x12, 0x10, /* FC_UP
[pointer_deref] */
/* 910 */ NdrFcShort( 0xffffda6 ), /* Offset= -602 (308) */
/* 912 */
0x12, 0x10, /* FC_UP
[pointer_deref] */
/* 914 */ NdrFcShort( 0xffffdb4 ), /* Offset= -588 (326) */
/* 916 */
0x12, 0x10, /* FC_UP
[pointer_deref] */
/* 918 */ NdrFcShort( 0xffffdc2 ), /* Offset= -574 (344) */
/* 920 */
0x12, 0x10, /* FC_UP
[pointer_deref] */
/* 922 */ NdrFcShort( 0x2 ), /* Offset= 2 (924) */
/* 924 */
/* 926 */ NdrFcShort( 0x16 ), /* Offset= 22 (948) */
/* 928 */
0x15, /*
FC_STRUCT */

```

```

/* 930 */ NdrFcShort( 0x10 ), /* 7 */
/* 932 */ 0x6, /* 16 */
/* FC_SHORT */
0x1, /*
FC_BYTE */
/* 934 */ 0x1, /* FC_BYTE */
0x38, /*
FC_ALIGNM4 */
/* 936 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 938 */ 0xb, /* FC_HYPER */
0x5b, /*
FC_END */
/* 940 */
0x12, 0x0, /* FC_UP */
/* 942 */ NdrFcShort( 0xfffff2 ), /* Offset= -14 (928) */
/* 944 */
0x12, 0x8, /* FC_UP
[pointer_deref] */
/* 946 */ 0x2, /* FC_CHAR */
0x5c, /*
FC_PAD */
/* 948 */
0x1a, /*
FC_BOGUS_STRUCT */
0x7, /*
*/
/* 950 */ NdrFcShort( 0x20 ), /* 32 */
/* 952 */ NdrFcShort( 0x0 ), /* 0 */
/* 954 */ NdrFcShort( 0x0 ), /* Offset= 0 (954) */
/* 956 */ 0x8, /* FC_LONG */
0x8, /*
FC_LONG */
/* 958 */ 0x6, /* FC_SHORT */
0x6, /*
FC_SHORT */
/* 960 */ 0x6, /* FC_SHORT */
0x6, /*
FC_SHORT */
/* 962 */ 0x4c, /* FC_EMBEDDED_COMPLEX */
*/
0x0, /*
*/
/* 964 */ NdrFcShort( 0xffffc42 ), /* Offset= -958 (6) */
/* 966 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 968 */ 0xb4, /* FC_USER_MARSHAL */
0x83, /*
131 */
/* 970 */ NdrFcShort( 0x0 ), /* 0 */
/* 972 */ NdrFcShort( 0x10 ), /* 16 */

```

```

/* 974 */ NdrFcShort( 0xffffc32 ), /* Offset= -974 (2) */
/* 978 */
0x11, 0x4, /* FC_RP
[allocated_on_stack] */
/* 980 */ NdrFcShort( 0x6 ), /* Offset= 6 (986) */
/* 982 */
0x13, 0x0, /* FC_OP */
/* 984 */ NdrFcShort( 0xfffffdc ), /* Offset= -36 (948) */
/* 986 */ 0xb4, /* FC_USER_MARSHAL */
0x83, /*
131 */
/* 988 */ NdrFcShort( 0x0 ), /* 0 */
/* 990 */ NdrFcShort( 0x10 ), /* 16 */
/* 992 */ NdrFcShort( 0x0 ), /* 0 */
/* 994 */ NdrFcShort( 0xffffff4 ), /* Offset= -12 (982) */
0x0
}
};
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 */
};

#ifdef !defined(_M_IA64) && !defined(_M_AXP64)

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

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

/* File created by MIDL compiler version 5.03.0280 */
/* at Sat Apr 08 16:40:10 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win64 (32b run,appending),
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_HEADERING( )

#ifdef defined(_M_IA64) || defined(_M_AXP64)
#define USE_STUBLESS_PROXY

/* verify that the <rpcproxy.h> version is high enough to compile this
file*/
#ifdef __REDQ_RPCPROXY_H_VERSION__
#define __REQUIRED_RPCPROXY_H_VERSION__ 475
#endif

```

```

#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 979
#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;

extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;

/* Standard interface: __MIDL_itf_tpcc_com_ps_0000, ver. 0.0,
GUID={0x00000000,0x0000,0x0000,{0x00,0x00,0x00,0x00,0x00,0x00,0
x00,0x00}} */

/* Object interface: IUnknown, ver. 0.0,
GUID={0x00000000,0x0000,0x0000,{0xC0,0x00,0x00,0x00,0x00,0x00,0
x00,0x46}} */

/* Object interface: ITPCC, ver. 0.0,
GUID={0xFEE6AA2,0x84B1,0x11d2,{0xBA,0x47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B}} */

extern const MIDL_STUB_DESC Object_StubDesc;

extern const MIDL_SERVER_INFO ITPCC_ServerInfo;

#pragma code_seg(".orpc")

```

```

static const unsigned short ITPCC_FormatStringOffsetTable[] =
0,
44,
88,
132,
176,
220
};

static const MIDL_SERVER_INFO ITPCC_ServerInfo =
{
&Object_StubDesc,
0,
__MIDL_ProcFormatString.Format,
&ITPCC_FormatStringOffsetTable[-3],
0,
0,
0,
0
};

static const MIDL_STUBLESS_PROXY_INFO ITPCC_ProxyInfo =
{
&Object_StubDesc,

__MIDL_ProcFormatString.Format,
&ITPCC_FormatStringOffsetTable[-3],
0,
0,
0
};

CINTERFACE_PROXY_VTABLE(9) _ITPCCProxyVtbl =
{
&ITPCC_ProxyInfo,
&IID_ITPCC,
IUnknown_QueryInterface_Proxy,
IUnknown_AddRef_Proxy,
IUnknown_Release_Proxy ,
(void *)-1 /* ITPCC::NewOrder */ ,
(void *)-1 /* ITPCC::Payment */ ,
(void *)-1 /* ITPCC::Delivery */ ,
(void *)-1 /* ITPCC::StockLevel */ ,
(void *)-1 /* ITPCC::OrderStatus */ ,
(void *)-1 /* ITPCC::CallSetComplete */
};

const CInterfaceStubVtbl _ITPCCStubVtbl =
{
&IID_ITPCC,
&ITPCC_ServerInfo,
9,

```



```

#ifndef _ALPHA_
/* 72 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16
*/
#else
NdrFcShort( 0x8 ), /*
axp64 Stack size/offset = 8 */
#endif
/* 74 */ NdrFcShort( 0x3b6 ), /* Type Offset=950 */
/* Parameter txn_out */
/* 76 */ NdrFcShort( 0x6113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 78 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40
*/
#else
NdrFcShort( 0x20 ), /*
axp64 Stack size/offset = 32 */
#endif
/* 80 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Return value */
/* 82 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type,*/
#ifndef _ALPHA_
/* 84 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48
*/
#else
NdrFcShort( 0x28 ), /*
axp64 Stack size/offset = 40 */
#endif
/* 86 */ 0x8, /* FC_LONG */
/* 0
*/
/* Procedure Delivery */
/* 88 */ 0x33, /* FC_AUTO_HANDLE */
/*
Old Flags: object, Oi2 */
/* 90 */ NdrFcLong( 0x0 ), /* 0 */
/* 94 */ NdrFcShort( 0x5 ), /* 5 */
#ifndef _ALPHA_
/* 96 */ NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56
*/
#else
NdrFcShort( 0x30 ), /*
axp64 Stack size/offset = 48 */
#endif
/* 98 */ NdrFcShort( 0x0 ), /* 0 */

```

```

/* 100 */ NdrFcShort( 0x8 ), /* Oi2/Flags: srv must size, clt
must size, has return, has ext, */
0x3, /* 3
*/
/* 104 */ 0xa, /* 10 */
/*
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, */
#ifndef _ALPHA_
/* 116 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16
*/
#else
NdrFcShort( 0x8 ), /*
axp64 Stack size/offset = 8 */
#endif
/* 118 */ NdrFcShort( 0x3b6 ), /* Type Offset=950 */
/* Parameter txn_out */
/* 120 */ NdrFcShort( 0x6113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 122 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40
*/
#else
NdrFcShort( 0x20 ), /*
axp64 Stack size/offset = 32 */
#endif
/* 124 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Return value */
/* 126 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type,*/
#ifndef _ALPHA_
/* 128 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48
*/
#else
NdrFcShort( 0x28 ), /*
axp64 Stack size/offset = 40 */
#endif
/* 130 */ 0x8, /* FC_LONG */
/* 0
*/

```

```

/* Procedure StockLevel */
/* 132 */ 0x33, /* FC_AUTO_HANDLE */
/*
Old Flags: object, Oi2 */
/* 134 */ NdrFcLong( 0x0 ), /* 0 */
/* 138 */ NdrFcShort( 0x6 ), /* 6 */
#ifndef _ALPHA_
/* 140 */ NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56
*/
#else
NdrFcShort( 0x30 ), /*
axp64 Stack size/offset = 48 */
#endif
/* 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 */
/*
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, */
#ifndef _ALPHA_
/* 160 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16
*/
#else
NdrFcShort( 0x8 ), /*
axp64 Stack size/offset = 8 */
#endif
/* 162 */ NdrFcShort( 0x3b6 ), /* Type Offset=950 */
/* Parameter txn_out */
/* 164 */ NdrFcShort( 0x6113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 166 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40
*/
#else
NdrFcShort( 0x20 ), /*
axp64 Stack size/offset = 32 */
#endif

```

```

/* 168 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Return value */

/* 170 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifdef _ALPHA_
/* 172 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48
*/
#else
NdrFcShort( 0x28 ), /*
axp64 Stack size/offset = 40 */
#endif
/* 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 */
#ifdef _ALPHA_
/* 184 */ NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56
*/
#else
NdrFcShort( 0x30 ), /*
axp64 Stack size/offset = 48 */
#endif
/* 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, */
#ifdef _ALPHA_
/* 204 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16
*/

```

```

#else
axp64 Stack size/offset = 8 */
#endif
/* 206 */ NdrFcShort( 0x3b6 ), /* Type Offset=950 */
/* Parameter txn_out */

/* 208 */ NdrFcShort( 0x6113 ), /* Flags: must size, must free,
out, simple ref, srv alloc size=24 */
#ifdef _ALPHA_
/* 210 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40
*/
#else
NdrFcShort( 0x20 ), /*
axp64 Stack size/offset = 32 */
#endif
/* 212 */ NdrFcShort( 0x3c8 ), /* Type Offset=968 */
/* Return value */

/* 214 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
#ifdef _ALPHA_
/* 216 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48
*/
#else
NdrFcShort( 0x28 ), /*
axp64 Stack size/offset = 40 */
#endif
/* 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, axp64 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 */
/* Return value */

/* 246 */ NdrFcShort( 0x70 ), /* Flags: out, return, base
type, */
/* 248 */ NdrFcShort( 0x8 ), /* ia64, axp64 Stack size/offset
= 8 */
/* 250 */ 0x8, /* FC_LONG */
0x0, /* 0
*/

}
};

static const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString =
{
0,
{
NdrFcShort( 0x0 ), /* 0
*/
2 /*
*/
4 /* NdrFcShort( 0x39e ), /* FC_UP */
6 /* Offset= 926 (930) */
0x2b, /*
*/
FC_NON_ENCAPSULATED_UNION /*
0x9, /*
*/
FC_ULONG /*
*/
8 /* 0x7, /* Corr desc: FC_USHORT */
0x0, /*
*/
10 /* NdrFcShort( 0xffff ), /* -8 */
12 /* NdrFcShort( 0x1 ), /* Corr flags: early, */
14 /* NdrFcShort( 0x2 ), /* Offset= 2 (16) */
16 /* NdrFcShort( 0x10 ), /* 16 */
18 /* NdrFcShort( 0x2b ), /* 43 */
20 /* NdrFcLong( 0x3 ), /* 3 */
24 /* NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
26 /* NdrFcLong( 0x11 ), /* 17 */
30 /* NdrFcShort( 0x8001 ), /* Simple arm type: FC_BYTE
*/
32 /* NdrFcLong( 0x2 ), /* 2 */
36 /* NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
38 /* NdrFcLong( 0x4 ), /* 4 */
42 /* NdrFcShort( 0x800a ), /* Simple arm type: FC_FLOAT
*/
44 /* NdrFcLong( 0x5 ), /* 5 */

```

```

/* 48 */ NdrFcShort( 0x800c ), /* Simple arm type:
FC_DOUBLE */
/* 50 */ NdrFcLong( 0xb ), /* 11 */
/* 54 */ NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
/* 56 */ NdrFcLong( 0xa ), /* 10 */
/* 60 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 62 */ NdrFcLong( 0x6 ), /* 6 */
/* 66 */ NdrFcShort( 0xd6 ), /* Offset= 214 (280) */
/* 68 */ NdrFcLong( 0x7 ), /* 7 */
/* 72 */ NdrFcShort( 0x800c ), /* Simple arm type:
FC_DOUBLE */
/* 74 */ NdrFcLong( 0x8 ), /* 8 */
/* 78 */ NdrFcShort( 0xd0 ), /* Offset= 208 (286) */
/* 80 */ NdrFcLong( 0xd ), /* 13 */
/* 84 */ NdrFcShort( 0xe4 ), /* Offset= 228 (312) */
/* 86 */ NdrFcLong( 0x9 ), /* 9 */
/* 90 */ NdrFcShort( 0xf0 ), /* Offset= 240 (330) */
/* 92 */ NdrFcLong( 0x2000 ), /* 8192 */
/* 96 */ NdrFcShort( 0xfc ), /* Offset= 252 (348) */
/* 98 */ NdrFcLong( 0x24 ), /* 36 */
/* 102 */ NdrFcShort( 0x2f4 ), /* Offset= 756 (858) */
/* 104 */ NdrFcLong( 0x4024 ), /* 16420 */
/* 108 */ NdrFcShort( 0x2ee ), /* Offset= 750 (858) */
/* 110 */ NdrFcLong( 0x4011 ), /* 16401 */
/* 114 */ NdrFcShort( 0x2ec ), /* Offset= 748 (862) */
/* 116 */ NdrFcLong( 0x4002 ), /* 16386 */
/* 120 */ NdrFcShort( 0x2ea ), /* Offset= 746 (866) */
/* 122 */ NdrFcLong( 0x4003 ), /* 16387 */
/* 126 */ NdrFcShort( 0x2e8 ), /* Offset= 744 (870) */
/* 128 */ NdrFcLong( 0x4004 ), /* 16388 */
/* 132 */ NdrFcShort( 0x2e6 ), /* Offset= 742 (874) */
/* 134 */ NdrFcLong( 0x4005 ), /* 16389 */
/* 138 */ NdrFcShort( 0x2e4 ), /* Offset= 740 (878) */
/* 140 */ NdrFcLong( 0x400b ), /* 16395 */
/* 144 */ NdrFcShort( 0x2d2 ), /* Offset= 722 (866) */
/* 146 */ NdrFcLong( 0x400a ), /* 16394 */
/* 150 */ NdrFcShort( 0x2d0 ), /* Offset= 720 (870) */
/* 152 */ NdrFcLong( 0x4006 ), /* 16390 */
/* 156 */ NdrFcShort( 0x2d6 ), /* Offset= 726 (882) */
/* 158 */ NdrFcLong( 0x4007 ), /* 16391 */
/* 162 */ NdrFcShort( 0x2cc ), /* Offset= 716 (878) */
/* 164 */ NdrFcLong( 0x4008 ), /* 16392 */
/* 168 */ NdrFcShort( 0x2ce ), /* Offset= 718 (886) */
/* 170 */ NdrFcLong( 0x400d ), /* 16397 */
/* 174 */ NdrFcShort( 0x2cc ), /* Offset= 716 (890) */
/* 176 */ NdrFcLong( 0x4009 ), /* 16393 */
/* 180 */ NdrFcShort( 0x2ca ), /* Offset= 714 (894) */
/* 182 */ NdrFcLong( 0x6000 ), /* 24576 */
/* 186 */ NdrFcShort( 0x2c8 ), /* Offset= 712 (898) */
/* 188 */ NdrFcLong( 0x400c ), /* 16396 */

```

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/* 192 */ NdrFcShort( 0x20 ), /* Offset= 710 (902) */
/* 198 */ NdrFcShort( 0x8002 ), /* Simple arm type: FC_CHAR
*/
/* 200 */ NdrFcLong( 0x12 ), /* 18 */
/* 204 */ NdrFcShort( 0x8006 ), /* Simple arm type: FC_SHORT
*/
/* 206 */ NdrFcLong( 0x13 ), /* 19 */
/* 210 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 212 */ NdrFcLong( 0x16 ), /* 22 */
/* 216 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 218 */ NdrFcLong( 0x17 ), /* 23 */
/* 222 */ NdrFcShort( 0x8008 ), /* Simple arm type: FC_LONG
*/
/* 224 */ NdrFcLong( 0xe ), /* 14 */
/* 228 */ NdrFcShort( 0x2aa ), /* Offset= 682 (910) */
/* 230 */ NdrFcLong( 0x400e ), /* 16398 */
/* 234 */ NdrFcShort( 0x2b0 ), /* Offset= 688 (922) */
/* 236 */ NdrFcLong( 0x4010 ), /* 16400 */
/* 240 */ NdrFcShort( 0x2ae ), /* Offset= 686 (926) */
/* 242 */ NdrFcLong( 0x4012 ), /* 16402 */
/* 246 */ NdrFcShort( 0x26c ), /* Offset= 620 (866) */
/* 248 */ NdrFcLong( 0x4013 ), /* 16403 */
/* 252 */ NdrFcShort( 0x26a ), /* Offset= 618 (870) */
/* 254 */ NdrFcLong( 0x4016 ), /* 16406 */
/* 258 */ NdrFcShort( 0x264 ), /* Offset= 612 (870) */
/* 260 */ NdrFcLong( 0x4017 ), /* 16407 */
/* 264 */ NdrFcShort( 0x25e ), /* Offset= 606 (870) */
/* 266 */ NdrFcLong( 0x0 ), /* 0 */
/* 270 */ NdrFcShort( 0x0 ), /* Offset= 0 (270) */
/* 272 */ NdrFcLong( 0x1 ), /* 1 */
/* 276 */ NdrFcShort( 0x0 ), /* Offset= 0 (276) */
/* 278 */ NdrFcShort( 0xffffffff ), /* Offset= -1 (277) */
/* 280 */
0x15, /*
*/
FC_STRUCT */
0x7, /* 7
*/
/* 282 */ NdrFcShort( 0x8 ), /* 8 */
/* 284 */ 0xb, /* FC_HYPER */
0x5b, /*
*/
FC_END */
/* 286 */
0x12, 0x0, /* FC_UP */
/* 288 */ NdrFcShort( 0xe ), /* Offset= 14 (302) */
/* 290 */
0x1b, /*
*/
FC_CARRAY */
0x1, /* 1
*/
/* 292 */ NdrFcShort( 0x2 ), /* 2 */
/* 294 */ 0x9, /* Corr desc: FC_ULONG */

```

```

/* 296 */ NdrFcShort( 0xffc ), /* 0x0,
*/
/* 298 */ NdrFcShort( 0x1 ), /* -4 */
/* 300 */ 0x6, /* Corr flags: early, */
/* FC_SHORT */
0x5b, /*
*/
FC_END */
/* 302 */
0x17, /*
*/
FC_CSTRUCT */
0x3, /* 3
*/
/* 304 */ NdrFcShort( 0x8 ), /* 8 */
/* 306 */ NdrFcShort( 0xffffffff ), /* Offset= -16 (290) */
/* 308 */ 0x8, /* FC_LONG */
0x8, /*
*/
FC_LONG */
/* 310 */ 0x5c, /* FC_PAD */
0x5b, /*
*/
FC_END */
/* 312 */
0x2f, /*
*/
FC_IP */
0x5a, /*
*/
FC_CONSTANT_IID */
/* 314 */ NdrFcLong( 0x0 ), /* 0 */
/* 318 */ NdrFcShort( 0x0 ), /* 0 */
/* 320 */ NdrFcShort( 0x0 ), /* 0 */
/* 322 */ 0xc0, /* 192 */
0x0, /*
*/
/* 324 */ 0x0, /* 0 */
0x0, /*
*/
/* 326 */ 0x0, /* 0 */
0x0, /*
*/
/* 328 */ 0x0, /* 0 */
0x46, /*
*/
70 /*
*/
/* 330 */
0x2f, /*
*/
FC_IP */
0x5a, /*
*/
FC_CONSTANT_IID */
/* 332 */ NdrFcLong( 0x20400 ), /* 132096 */
/* 336 */ NdrFcShort( 0x0 ), /* 0 */
/* 338 */ NdrFcShort( 0x0 ), /* 0 */
/* 340 */ 0xc0, /* 192 */
0x0, /*
*/
/* 342 */ 0x0, /* 0 */

```

	0x0,	/* 0		0x0,	/*		0x3,	/* 3
/*			/* 430 */	NdrFcShort(0x0),	/* 0 */	/* 486 */	NdrFcShort(0x10),	/* 16 */
/* 344 */	0x0,	/* 0 */	/* 432 */	NdrFcShort(0x1),	/* Corr flags: early, */	/* 488 */	NdrFcShort(0x0),	/* 0 */
/*		/* 0	/* 434 */	NdrFcLong(0xffffffff),	/* -1 */	/* 490 */	NdrFcShort(0x6),	/* Offset= 6 (496) */
/* 346 */	0x0,	/* 0 */	/* 438 */	NdrFcShort(0x0),	/* Corr flags: */	/* 492 */	0x8,	/* FC_LONG */
70 */		/*	/* 442 */	NdrFcShort(0xffff74),	/* Offset= -140 (302) */	FC_ALIGNM8 */		/*
/* 348 */		/*	/* 444 */	0x5c,	/* FC_PAD */	/* 494 */	0x36,	/* FC_POINTER */
	0x12, 0x10, /* FC_UP				0x5b,	/*		/*
[pointer_deref] */			FC_END */			/*		
/* 350 */	NdrFcShort(0x2),	/* Offset= 2 (352) */	/* 446 */		0x1a,	/*		/*
/* 352 */			FC_BOGUS_STRUCT */			/*		/*
/* 354 */	NdrFcShort(0x1e6),	/* FC_UP */			0x3,	/* 3		
/* 356 */		/* Offset= 486 (840) */					FC_BOGUS_ARRAY */	
	0x2a,	/*	/* 448 */	NdrFcShort(0x10),	/* 16 */			/* 3
FC_ENCAPSULATED_UNION */		/*	/* 450 */	NdrFcShort(0x0),	/* 0 */	/*		/* 3
	0x89,	/*	/* 452 */	NdrFcShort(0x6),	/* Offset= 6 (458) */	/* 502 */	NdrFcShort(0x0),	/* 0 */
137 */			/* 454 */	0x8,	/* FC_LONG */	/* 504 */	0x19,	/* Corr desc: field pointer,
/* 358 */	NdrFcShort(0x20),	/* 32 */			0x39,	/*	FC_ULONG */	
/* 360 */	NdrFcShort(0xa),	/* 10 */	FC_ALIGNM8 */			/*		/*
/* 362 */	NdrFcLong(0x8),	/* 8 */	/* 456 */	0x36,	/* FC_POINTER */	/*		/*
/* 366 */	NdrFcShort(0x50),	/* Offset= 80 (446) */			0x5b,	/*		/*
/* 368 */	NdrFcLong(0xd),	/* 13 */	FC_END */			/*		/*
/* 372 */	NdrFcShort(0x70),	/* Offset= 112 (484) */	/* 458 */			/*		/*
/* 374 */	NdrFcLong(0x9),	/* 9 */			0x11, 0x0, /* FC_RP */	/*		/*
/* 378 */	NdrFcShort(0x90),	/* Offset= 144 (522) */	/* 460 */	NdrFcShort(0xffffdc),	/* Offset= -36 (424) */	/* 514 */	NdrFcShort(0x0),	/* Corr flags: */
/* 380 */	NdrFcLong(0xc),	/* 12 */	/* 462 */			/* 516 */	0x4c,	/* FC_EMBEDDED_COMPLEX
/* 384 */	NdrFcShort(0xb0),	/* Offset= 176 (560) */			0x21,	/*		/*
/* 386 */	NdrFcLong(0x24),	/* 36 */	FC_BOGUS_ARRAY */			/*		/*
/* 390 */	NdrFcShort(0x104),	/* Offset= 260 (650) */			0x3,	/* 3		/*
/* 392 */	NdrFcLong(0x800d),	/* 32781 */	/*				/* 518 */	NdrFcShort(0xffff44),
/* 396 */	NdrFcShort(0x120),	/* Offset= 288 (684) */	/* 464 */	NdrFcShort(0x0),	/* 0 */	/* 520 */	0x5c,	/* Offset= -188 (330) */
/* 398 */	NdrFcLong(0x10),	/* 16 */	/* 466 */	0x19,	/* Corr desc: field pointer,			/*
/* 402 */	NdrFcShort(0x13a),	/* Offset= 314 (716) */	FC_ULONG */			FC_END */		/*
/* 404 */	NdrFcLong(0x2),	/* 2 */			0x0,	/*		/*
/* 408 */	NdrFcShort(0x150),	/* Offset= 336 (744) */	/*			/*		/*
/* 410 */	NdrFcLong(0x3),	/* 3 */	/* 468 */	NdrFcShort(0x0),	/* 0 */	/* 522 */		/*
/* 414 */	NdrFcShort(0x166),	/* Offset= 358 (772) */	/* 470 */	NdrFcShort(0x1),	/* Corr flags: early, */	FC_BOGUS_STRUCT */		/*
/* 416 */	NdrFcLong(0x14),	/* 20 */	/* 472 */	NdrFcLong(0xffffffff),	/* -1 */			/* 3
/* 420 */	NdrFcShort(0x17c),	/* Offset= 380 (800) */	/* 476 */	NdrFcShort(0x0),	/* Corr flags: */	/*		/*
/* 422 */	NdrFcShort(0xffffffff),	/* Offset= -1 (421) */	/* 478 */	0x4c,	/* FC_EMBEDDED_COMPLEX	/* 524 */	NdrFcShort(0x10),	/* 16 */
/* 424 */			/*			/* 526 */	NdrFcShort(0x0),	/* 0 */
	0x21,	/*			0x0,	/* 528 */	NdrFcShort(0x6),	/* Offset= 6 (534) */
FC_BOGUS_ARRAY */		/*	/*			/* 530 */	0x8,	/* FC_LONG */
/*	0x3,	/* 3	/*					/*
/* 426 */	NdrFcShort(0x0),	/* 0 */	/* 480 */	NdrFcShort(0xffff58),	/* Offset= -168 (312) */	FC_ALIGNM8 */		/*
/* 428 */	0x19,	/* Corr desc: field pointer,	/* 482 */	0x5c,	/* FC_PAD */	/* 532 */	0x36,	/* FC_POINTER */
FC_ULONG */		/*	FC_END */		0x5b,	/*		/*
			/* 484 */			FC_END */		/*
					0x1a,	/*		/*
			FC_BOGUS_STRUCT */			/*		/*
							0x11, 0x0, /* FC_RP */	

```

/* 536 */ NdrFcShort( 0xfffffdc ), /* Offset= -36 (500) */
/* 538 */
FC_BOGUS_ARRAY */
0x21, /*
0x3, /* 3
*/
/* 540 */ NdrFcShort( 0x0 ), /* 0 */
/* 542 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 544 */ NdrFcShort( 0x0 ), /* 0 */
/* 546 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 548 */ NdrFcLong( 0xffffffff ), /* -1 */
/* 552 */ NdrFcShort( 0x0 ), /* Corr flags: */
/* 554 */
0x12, 0x0, /* FC_UP */
/* 556 */ NdrFcShort( 0x176 ), /* Offset= 374 (930) */
/* 558 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 560 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 562 */ NdrFcShort( 0x10 ), /* 16 */
/* 564 */ NdrFcShort( 0x0 ), /* 0 */
/* 566 */ NdrFcShort( 0x6 ), /* Offset= 6 (572) */
/* 568 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 570 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 572 */
0x11, 0x0, /* FC_RP */
/* 574 */ NdrFcShort( 0xfffffdc ), /* Offset= -36 (538) */
/* 576 */
0x2f, /*
FC_IP */
0x5a, /*
FC_CONSTANT_IID */
/* 578 */ NdrFcLong( 0x2f ), /* 47 */
/* 582 */ NdrFcShort( 0x0 ), /* 0 */
/* 584 */ NdrFcShort( 0x0 ), /* 0 */
/* 586 */ 0xc0, /* 192 */
0x0, /* 0
*/
/* 588 */ 0x0, /* 0 */
0x0, /* 0
*/
*/

```

```

/* 590 */ 0x0, 0x0, /*
*/
/* 592 */ 0x0, /* 0 */
0x46, /*
70 */
/* 594 */
FC_CARRAY */
0x0, /* 0
*/
/* 596 */ NdrFcShort( 0x1 ), /* 1 */
/* 598 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /* 0
*/
/* 600 */ NdrFcShort( 0x4 ), /* 4 */
/* 602 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 604 */ 0x1, /* FC_BYTE */
0x5b, /*
FC_END */
/* 606 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 608 */ NdrFcShort( 0x18 ), /* 24 */
/* 610 */ NdrFcShort( 0x0 ), /* 0 */
/* 612 */ NdrFcShort( 0xc ), /* Offset= 12 (624) */
/* 614 */ 0x8, /* FC_LONG */
0x8, /*
FC_LONG */
/* 616 */ 0x4c, /* FC_EMBEDDED_COMPLEX
*/
0x0, /* 0
*/
/* 618 */ NdrFcShort( 0xfffffd6 ), /* Offset= -42 (576) */
/* 620 */ 0x39, /* FC_ALIGNM8 */
0x36, /*
FC_POINTER */
/* 622 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 624 */
0x12, 0x0, /* FC_UP */
/* 626 */ NdrFcShort( 0xfffffe0 ), /* Offset= -32 (594) */
/* 628 */
0x21, /*
FC_BOGUS_ARRAY */
0x3, /* 3
*/
/* 630 */ NdrFcShort( 0x0 ), /* 0 */
/* 632 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */

```

```

0x0, /*
*/
/* 634 */ NdrFcShort( 0x0 ), /* 0 */
/* 636 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 638 */ NdrFcLong( 0xffffffff ), /* -1 */
/* 642 */ NdrFcShort( 0x0 ), /* Corr flags: */
/* 644 */
0x12, 0x0, /* FC_UP */
/* 646 */ NdrFcShort( 0xfffffd8 ), /* Offset= -40 (606) */
/* 648 */ 0x5c, /* FC_PAD */
0x5b, /*
FC_END */
/* 650 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 652 */ NdrFcShort( 0x10 ), /* 16 */
/* 654 */ NdrFcShort( 0x0 ), /* 0 */
/* 656 */ NdrFcShort( 0x6 ), /* Offset= 6 (662) */
/* 658 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 660 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 662 */
0x11, 0x0, /* FC_RP */
/* 664 */ NdrFcShort( 0xfffffdc ), /* Offset= -36 (628) */
/* 666 */
0x1d, /*
FC_SMFARRAY */
0x0, /* 0
*/
/* 668 */ NdrFcShort( 0x8 ), /* 8 */
/* 670 */ 0x2, /* FC_CHAR */
0x5b, /*
FC_END */
/* 672 */
0x15, /*
FC_STRUCT */
0x3, /* 3
*/
/* 674 */ NdrFcShort( 0x10 ), /* 16 */
/* 676 */ 0x8, /* FC_LONG */
0x6, /*
FC_SHORT */
/* 678 */ 0x6, /* FC_SHORT */
0x4c, /*
FC_EMBEDDED_COMPLEX */
/* 680 */ 0x0, /* 0 */

```

```

Offset= -15 (666) */
FC_END */
/* 684 */
FC_BOGUS_STRUCT */
*/
/* 686 */ NdrFcShort( 0x20 ), /* 32 */
/* 688 */ NdrFcShort( 0x0 ), /* 0 */
/* 690 */ NdrFcShort( 0xa ), /* Offset= 10 (700) */
/* 692 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 694 */ 0x36, /* FC_POINTER */
0x4c, /*
FC_EMBEDDED_COMPLEX */
/* 696 */ 0x0, /* 0 */
NdrFcShort( 0xfffffe7 ), /*
Offset= -25 (672) */
FC_END */
/* 700 */
0x11, 0x0, /* FC_RP */
/* 702 */ NdrFcShort( 0xfffff10 ), /* Offset= -240 (462) */
/* 704 */
0x1b, /*
FC_CARRAY */
0x0, /* 0
*/
/* 706 */ NdrFcShort( 0x1 ), /* 1 */
/* 708 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 710 */ NdrFcShort( 0x0 ), /* 0 */
/* 712 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 714 */ 0x1, /* FC_BYTE */
0x5b, /*
FC_END */
/* 716 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 718 */ NdrFcShort( 0x10 ), /* 16 */
/* 720 */ NdrFcShort( 0x0 ), /* 0 */
/* 722 */ NdrFcShort( 0x6 ), /* Offset= 6 (728) */
/* 724 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */

```

```

/* 726 */ 0x36,
FC_END */
/* 728 */
0x12, 0x0, /* FC_UP */
/* 730 */ NdrFcShort( 0xfffffe6 ), /* Offset= -26 (704) */
/* 732 */
0x1b, /*
FC_CARRAY */
0x1, /* 1
*/
/* 734 */ NdrFcShort( 0x2 ), /* 2 */
/* 736 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 738 */ NdrFcShort( 0x0 ), /* 0 */
/* 740 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 742 */ 0x6, /* FC_SHORT */
0x5b, /*
FC_END */
/* 744 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
/* 746 */ NdrFcShort( 0x10 ), /* 16 */
/* 748 */ NdrFcShort( 0x0 ), /* 0 */
/* 750 */ NdrFcShort( 0x6 ), /* Offset= 6 (756) */
/* 752 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 754 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 756 */
0x12, 0x0, /* FC_UP */
/* 758 */ NdrFcShort( 0xfffffe6 ), /* Offset= -26 (732) */
/* 760 */
0x1b, /*
FC_CARRAY */
0x3, /* 3
*/
/* 762 */ NdrFcShort( 0x4 ), /* 4 */
/* 764 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 766 */ NdrFcShort( 0x0 ), /* 0 */
/* 768 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 770 */ 0x8, /* FC_LONG */
0x5b, /*
FC_END */
/* 772 */

```

```

FC_BOGUS_STRUCT */
0x1a, /* 3
*/
0x3, /*
*/
/* 774 */ NdrFcShort( 0x10 ), /* 16 */
/* 776 */ NdrFcShort( 0x0 ), /* 0 */
/* 778 */ NdrFcShort( 0x6 ), /* Offset= 6 (784) */
/* 780 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 782 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 784 */
0x12, 0x0, /* FC_UP */
/* 786 */ NdrFcShort( 0xfffffe6 ), /* Offset= -26 (760) */
/* 788 */
0x1b, /*
FC_CARRAY */
0x7, /* 7
*/
/* 790 */ NdrFcShort( 0x8 ), /* 8 */
/* 792 */ 0x19, /* Corr desc: field pointer,
FC_ULONG */
0x0, /*
*/
/* 794 */ NdrFcShort( 0x0 ), /* 0 */
/* 796 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 798 */ 0xb, /* FC_HYPER */
0x5b, /*
FC_END */
/* 800 */
0x1a, /*
FC_BOGUS_STRUCT */
0x3, /* 3
*/
0x3, /*
*/
/* 802 */ NdrFcShort( 0x10 ), /* 16 */
*/
/* 804 */ NdrFcShort( 0x0 ), /* 0 */
/* 806 */ NdrFcShort( 0x6 ), /* Offset= 6 (812) */
/* 808 */ 0x8, /* FC_LONG */
0x39, /*
FC_ALIGNM8 */
/* 810 */ 0x36, /* FC_POINTER */
0x5b, /*
FC_END */
/* 812 */
0x12, 0x0, /* FC_UP */
/* 814 */ NdrFcShort( 0xfffffe6 ), /* Offset= -26 (788) */
/* 816 */
0x15, /*
FC_STRUCT */

```

	0x3,	/* 3	/* 800 */ NdrFcShort(0xfffff02), /* Offset= -254 (606) */ 0x12, 0x8, /* FC_UP	/* 906 */ /* 908 */ NdrFcShort(0x16), /* 910 */	0x12, 0x0, /* FC_UP */ /* Offset= 22 (930) */
/* /* 818 */ NdrFcShort(0x8), /* 820 */ 0x8,	/* 8 */ /* FC_LONG */ 0x8,	/*	[simple_pointer] */ /* 864 */ 0x1,		0x15, /*
FC_LONG */ /* 822 */ 0x5c,	/* FC_PAD */ 0x5b,	/*	FC_PAD */ /* 866 */	FC_STRUCT */	0x7, /* 7
FC_END */ /* 824 */	0x1b,	/*	[simple_pointer] */ /* 868 */ 0x6,	/* 912 */ NdrFcShort(0x10), /* 914 */ 0x6,	/* 16 */ /* FC_SHORT */ 0x1, /*
FC_CARRAY */	0x3,	/* 3	FC_PAD */ /* 870 */	FC_BYTE */ /* 916 */ 0x1,	/* FC_BYTE */ 0x38, /*
/* /* 826 */ NdrFcShort(0x8), /* 828 */ 0x7,	/* 8 */ /* Corr desc: FC_USHORT */ 0x0,	/*	[simple_pointer] */ /* 872 */ 0x8,	FC_ALIGNM4 */ /* 918 */ 0x8,	/* FC_LONG */ 0x39, /*
/* /* 830 */ NdrFcShort(0xffc8), /* 832 */ NdrFcShort(0x1), /* 834 */ 0x4c,	/* -56 */ /* Corr flags: early, */ /* FC_EMBEDDED_COMPLEX	/*	FC_PAD */ /* 874 */	FC_ALIGNM8 */ /* 920 */ 0xb,	/* FC_HYPER */ 0x5b, /*
/* /* 836 */ NdrFcShort(0xfffffec), /* 838 */ 0x5c,	0x0,	/* 0	[simple_pointer] */ /* 876 */ 0xa,	FC_END */ /* 922 */	0x12, 0x0, /* FC_UP */ /* Offset= -14 (910) */
FC_END */ /* 840 */	/* Offset= -20 (816) */ /* FC_PAD */ 0x5b,	/*	FC_PAD */ /* 878 */	/* 924 */ NdrFcShort(0xfffff2), /* 926 */	0x12, 0x8, /* FC_UP
FC_BOGUS_STRUCT */	0x1a,	/*	[simple_pointer] */ /* 880 */ 0xc,	[simple_pointer] */ /* 928 */ 0x2,	/* FC_CHAR */ 0x5c, /*
/* /* 842 */ NdrFcShort(0x38), /* 844 */ NdrFcShort(0xfffffec), /* 846 */ NdrFcShort(0x0), /* 848 */ 0x6,	0x3,	/* 3	FC_PAD */ /* 882 */	FC_PAD */ /* 930 */	0x1a, /*
FC_SHORT */ /* 850 */ 0x38,	/* 56 */ /* Offset= -20 (824) */ /* Offset= 0 (846) */ /* FC_SHORT */ 0x6,	/*	/* 884 */ NdrFcShort(0xffffda4), /* 886 */	FC_BOGUS_STRUCT */	0x7, /* 7
FC_LONG */ /* 852 */ 0x8,	0x12, 0x10, /* FC_UP	/*	[pointer_deref] */ /* 888 */ NdrFcShort(0xffffda6), /* 890 */	/* 932 */ NdrFcShort(0x20), /* 934 */ NdrFcShort(0x0), /* 936 */ NdrFcShort(0x0), /* 938 */ 0x8,	/* 32 */ /* 0 */ /* Offset= 0 (936) */ /* FC_LONG */ 0x8, /*
FC_EMBEDDED_COMPLEX */ /* 854 */ 0x4,	/* FC_ALIGNM4 */ 0x8,	/*	[pointer_deref] */ /* 892 */ NdrFcShort(0xffffdbc), /* 894 */	FC_LONG */	/* 940 */ 0x6, /* FC_SHORT */ 0x6, /*
Offset= -499 (356) */	/* FC_LONG */ 0x4c,	/*	[pointer_deref] */ /* 896 */ NdrFcShort(0xffffdca), /* 898 */	FC_SHORT */ /* 942 */ 0x6,	/* FC_SHORT */ 0x6, /*
FC_END */ /* 858 */	/* 4 */ NdrFcShort(0xffffe0d),	/*	[pointer_deref] */ /* 900 */ NdrFcShort(0xffffdd8), /* 902 */	FC_SHORT */ /* 944 */ 0x4c, /*	/* FC_EMBEDDED_COMPLEX
	0x5b,	/*	[pointer_deref] */ /* 904 */ NdrFcShort(0x2),	/*	0x0, /* 0
	0x12, 0x0, /* FC_UP */	/*	/* Offset= 2 (906) */	/* 946 */ NdrFcShort(0xffffc54), /* Offset= -940 (6) */	/*

```

/* 948 */ 0x5c,          /* FC_PAD */
FC_END */
/* 950 */ 0xb4,          /* FC_USER_MARSHAL */
131 */
/* 952 */ NdrFcShort( 0x0 ), /* 0 */
/* 954 */ NdrFcShort( 0x18 ), /* 24 */
/* 956 */ NdrFcShort( 0x0 ), /* 0 */
/* 958 */ NdrFcShort( 0xffffc44 ), /* Offset= -956 (2) */
/* 960 */
                                0x11, 0x4, /* FC_RP
[allocated_on_stack] */
/* 962 */ NdrFcShort( 0x6 ), /* Offset= 6 (968) */
/* 964 */
                                0x13, 0x0, /* FC_OP */
/* 966 */ NdrFcShort( 0xfffffdc ), /* Offset= -36 (930) */
/* 968 */ 0xb4,          /* FC_USER_MARSHAL */
                                0x83, /*
131 */
/* 970 */ NdrFcShort( 0x0 ), /* 0 */
/* 972 */ NdrFcShort( 0x18 ), /* 24 */
/* 974 */ NdrFcShort( 0x0 ), /* 0 */
/* 976 */ NdrFcShort( 0xfffff44 ), /* Offset= -12 (964) */
                                0x0
    }
};

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 */
};

#ifdef _M_IA64 || defined(_M_AXP64)

```

tpcc_com_ps\src\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

```

```

#ifdef "C" {
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( aProxyFileInfo, GET_DLL_CLSID )

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

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

```


Appendix B Database Load

Setup.cmd

```
@echo off
```

```
set DoDBCREATE=FALSE
set DoBULKINSERT=TRUE
set DoCLEANUP=TRUE
set DoBACKUP=FALSE
```

```
rem
rem Modify the following parameters for your configuration
rem
```

```
set HOMEDRIVE=G:
set HOMEDIR=\hptpcc
set OUTPUTDRIVE=G:
set OUTPUTDIR=\hptpcc\Output
set THREADS=8
set WAREHOUSES=26000
set DB=tpcc
set PASSWD=ssdl
```

```
set HOMEPath=%HOMEDRIVE%%HOMEDIR%
set FILEPath=%FILEDRIVE%%FILEDIR%
```

```
if %PROCESSOR_ARCHITECTURE% == x86 (set
EXECUTABLEPath=%HOMEPath%\Executables\x86
) else set EXECUTABLEPath=%HOMEPath%\Executables\ipf
```

```
%HOMEDRIVE%
cd %HOMEDIR%
```

```
if %1' == 'BULKINSERTn' goto :BULKINSERTn
if %1' == 'DBCREATE' goto :DBCREATE
```

```
echo Checking for existence of HOMEDIR and OUTPUTDIR
if NOT EXIST %HOMEDRIVE%%HOMEDIR% goto :NO_HOMEDIR
if NOT EXIST %OUTPUTDRIVE%%OUTPUTDIR% goto :NO_OUTPUTDIR
```

```
echo Finding next output directory in %OUTPUTDRIVE%%OUTPUTDIR%
set OUTPUTNUMBER=1
:OUTPUTLOOP
```

```
if NOT EXIST %OUTPUTDRIVE%%OUTPUTDIR%\%OUTPUTNUMBER%
goto :OUTPUTLOOPEND
set /a OUTPUTNUMBER=%OUTPUTNUMBER%+1
goto :OUTPUTLOOP
:OUTPUTLOOPEND
set OUTPUTPath=%OUTPUTDRIVE%%OUTPUTDIR%\%OUTPUTNUMBER%
echo Output will be found at %OUTPUTPath%
mkdir %OUTPUTPath%
```

```
:DBCREATE
if NOT %DoDBCREATE%' == 'TRUE' goto :BULKINSERT
rem
rem DBCREATE invokes the file CreateDatabase.sql
rem
echo Starting database creation
time /t >> %OUTPUTPath%\time.txt
echo Starting database creation >> %OUTPUTPath%\time.txt
%HOMEDRIVE%
cd %HOMEDIR%\Database
osql -E -i CreateDatabase.sql -o %OUTPUTPath%\CreateDatabase.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'sp_dboption %DB%, 'torm', FALSE' -b
if ERRORLEVEL 1 goto :ERROR_EXIT
if %1' == 'DBCREATE' %EXECUTABLEPath%\Semaphore -release
echo DBCREATE done %OUTPUTPath%\time.txt
time /t %OUTPUTPath%\time.txt
if %1' == 'DBCREATE' goto :EOF
```

```
:BULKINSERT
if NOT %DoBULKINSERT%' == 'TRUE' goto :CLEANUP
rem
rem BULKINSERT loads each table through a set of concurrent bulk inserts
rem After each table is loaded, the table is indexed
rem
```

```
echo Starting Bulk Inserts
%HOMEDRIVE%
cd %HOMEDIR%\TablesAndIndexes
```

```
osql -E -d%DB% -i%HOMEPath%\Database\dbopt1.sql -o
%OUTPUTPath%\dbopt1.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'sp_configure 'show advanced options',1' -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'reconfigure with override' -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'sp_configure 'max degree',32' -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'reconfigure with override' -b
if ERRORLEVEL 1 goto :ERROR_EXIT
```

```
rem goto :BYPASS
```

```
echo Dropping and Re-Creating Tables
osql -E -d%DB% -iCreateTables.sql -o %OUTPUTPath%\CreateTables.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
```

```
rem Special case for Item, since it is only one file
echo Starting create indexes for Item
osql -E -d%DB% -
i%HOMEPath%\TablesAndIndexes\NewCreateItemIndexes.sql -
o%OUTPUTPath%\NewCreateItemIndexes.out
if ERRORLEVEL 1 goto :ERROR_EXIT
echo Starting bulk inserts for Item
%EXECUTABLEPath%\stockldr\tpccldr -s1 -W10 -titem -Pssdl -i0 -
f%OUTPUTPath%\loaditem.out -L%OUTPUTPath%\
if ERRORLEVEL 1 goto :ERROR_EXIT
```

```
rem :BYPASS
echo Starting bulk inserts of item customer warehouse orders
rem echo Starting bulk inserts of orders
```

```
for %i in (warehouse customer orders) do call :BULKINSERTi %i
rem for %i in (orders) do call :BULKINSERTi %i
if ERRORLEVEL 1 goto :ERROR_EXIT
```

```
goto :CLEANUP
```

```
:BULKINSERTi
echo Starting bulk inserts for %1
for /l %j in (1,1,%THREADS%) do start cmd /C
%HOMEPath%\SetupOldLoader BULKINSERTn %1 %j
%EXECUTABLEPath%\Semaphore -wait %THREADS%
```

```
echo Starting create indexes for %1
osql -E -d%DB% -
i%HOMEPath%\TablesAndIndexes\NewCreate%1Indexes.sql -o
%OUTPUTPath%\NewCreate%1Indexes.out
if ERRORLEVEL 1 goto :ERROR_EXIT
goto :EOF
```

```
:BULKINSERTn
set /a REM=WAREHOUSES %% THREADS
set /a WAREHOUSEPERTHREAD=WAREHOUSES / THREADS
set /a TEMP=%3-1
set /a STARTWAREHOUSE=%TEMP%*%WAREHOUSEPERTHREAD%
if %3 leq %REM% set /a
WAREHOUSEPERTHREAD=%WAREHOUSEPERTHREAD%+1
if %3 leq %REM% set /a
STARTWAREHOUSE=%STARTWAREHOUSE%+%3%
if %3 gtr %REM% set /a
STARTWAREHOUSE=%STARTWAREHOUSE%+%REM%+1
set /a
ENDWAREHOUSE=%STARTWAREHOUSE%+%WAREHOUSEPERTHREAD%-1
```

```

%EXECUTABLEPATH%\stockldr\tpccldr -t%2 -Pssdl -
s%STARTWAREHOUSE% -W%ENDWAREHOUSE% -i0 -
f%OUTPUTPATH%\load%2%STARTWAREHOUSE%.out -L%OUTPUTPATH%\
%EXECUTABLEPATH%\Semaphore -release
goto :EOF

:CLEANUP
if NOT '%DoCLEANUP%' == 'TRUE' goto :BACKUP
rem
rem CLEANUP sets statistics and lock options
rem

echo Setting Cleanup Options

%HOMEDRIVE%
cd %HOMEDIR%\Database
osql -E -d%DB% -i%HOMEPATH%\Database\dbopt2.sql -o
%OUTPUTPATH%\dbopt2.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'sp_configure 'max degree',1" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'reconfigure with override" -b
if ERRORLEVEL 1 goto :ERROR_EXIT

cd %HOMEDIR%\StoredProcedures
for %%i in (Create*Proc.sql) do osql -E -d%DB% -
i%HOMEPATH%\StoredProcedures\%%i -o %OUTPUTPATH%\%%i.out -b

osql -E -Q'sp_dboption %DB%,trunc,FALSE" -b
>%OUTPUTPATH%\dboptionTrunOFF.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -E -Q'sp_dboption %DB%,select,FALSE" -b
>%OUTPUTPATH%\dboptionSelOFF.out
if ERRORLEVEL 1 goto :ERROR_EXIT

:BACKUP
rem
rem BACKUP is the final step, using a script
rem

if NOT '%DoBACKUP%' == 'TRUE' goto :DONE
%HOMEDRIVE%
cd %HOMEDIR%\Database

echo Starting Backup
osql -E -d%DB% -i%HOMEPATH%\database\Backup.sql -o
%OUTPUTPATH%\Backup.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT

:DONE

```

```

echo Done! Check for output in %OUTPUTPATH%
%HOMEDRIVE%
cd %HOMEDIR%

goto :EOF

:NO_HOMEDIR
echo directory %HOMEDRIVE%%HOMEDIR% does not exist
goto :ERROR_EXIT

:NO_OUTPUTDIR
echo directory %OUTPUTDRIVE%%OUTPUTDIR% does not exist
goto :ERROR_EXIT

:ERROR_EXIT
echo SetupOldLoader aborted due to errors
echo Check output in %OUTPUTPATH%
%HOMEDRIVE%
cd %HOMEDIR%
exit /B

```

tpcc.h

```

// File: TPCC.H
// Microsoft TPC-C Kit
// Ver. 4.42
// Copyright Microsoft,
// 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
// Purpose: Header file for TPC-C database loader

// Build number of TPC Benchmark Kit
#define TPCKIT_VER "4.42"

// General headers
#include <windows.h>
#include <winbase.h>
#include <stdlib.h>
#include <stdio.h>
#include <process.h>
#include <stddef.h>
#include <stdarg.h>
#include <string.h>
#include <time.h>
#include <sys\timeb.h>
#include <sys\types.h>
#include <math.h>

```

```

// ODBC headers
#include <sql.h>
#include <sqltypes.h>
#include <sqljdbc.h>
#include <sqlncli.h>
#include <sqlucrs.h>
#include <sqltypes.h>
#include <sqljdbc.h>
#include <sqlncli.h>
#include <sqlucrs.h>

// General constants
#define MILLI 1000
#define FALSE 0
#define TRUE 1
#define UNDEF -1
#define MINPRINTASCII 32
#define MAXPRINTASCII 126
#define MAXSQLERRORS 10

// Default environment constants
#define SERVER ""
#define DATABASE "tpcc"
#define USER "sa"
#define PASSWORD ""

// Default loader arguments
#define BATCH 10000
#define DEF_LDPACKSIZE 32768
#define LOADER_RES_FILE ".\\load.out"
#define LOADER_LOG_PATH ".\\";
#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"
#define RETRYLIMIT 5
#define SLEEPMILLI 1000

typedef struct
{
    char *server;
    char *database;
    char *user;
    char *password;
    BOOL tables_all; // set if loading all
    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;
        long
        retry_limit;
        long
        sleep_milli;
} 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 S_DIST_LEN 924
#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. 4.42
// Copyright Microsoft,
1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
// Purpose: Source file for TPC-C database loader

// Includes
#include "tpcc.h"
#include "search.h"

// Defines
#define MAXITEMS 100000
#define MAXITEMS_SCALE_DOWN 100
#define CUSTOMERS_PER_DISTRICT 3000
#define CUSTOMERS_SCALE_DOWN 30
#define DISTRICT_PER_WAREHOUSE 10
#define ORDERS_PER_DISTRICT 3000
#define ORDERS_SCALE_DOWN 30
#define MAX_CUSTOMER_THREADS 2
#define MAX_ORDER_THREADS 3
#define MAX_MAIN_THREADS 4

// 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 CheckForCommit_Big();
void OpenConnections();

```

```

void BuildIndex();
void FormatDate ();

// Shared memory structures

typedef struct
{
    double          ol;
    long            ol_i_id;
    long            ol_supply_w_id;
    short           ol_quantity;
    double          ol_amount;
    char            ol_dist_info[DIST_INFO_LEN+1];
    char            ol_delivery_d[OL_DELIVERY_D_LEN+1];
} ORDER_LINE_STRUCT;

typedef struct
{
    long            o_id;
    short           o_d_id;
    long            o_w_id;
    long            o_c_id;
    short           o_carrier_id;
    short           o_ol_cnt;
    short           o_all_local;
    ORDER_LINE_STRUCT o_ol[15];
} ORDERS_STRUCT;

typedef struct
{
    long            c_id;
    short           c_d_id;
    long            c_w_id;
    long            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
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];
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;
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;

long            totaldberrors = 0;

ORDERS_STRUCT  orders_buf[ORDERS_PER_DISTRICT];
CUSTOMER_STRUCT customer_buf[CUSTOMERS_PER_DISTRICT];
long            orders_rows_loaded;
double          new_order_rows_loaded;
double          order_line_rows_loaded;
long            history_rows_loaded;
long            customer_rows_loaded;
double          stock_rows_loaded;
long            district_rows_loaded;
long            item_rows_loaded;
long            warehouse_rows_loaded;
long            main_time_start;
long            main_time_end;
long            max_items;
long            customers_per_district;
long            orders_per_district;
long            first_new_order;
long            last_new_order;

TPCC_LDR_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*");

printf("\n* Version %s *",
TPCKIT_VER);
printf("\n*");
printf("\n*****");
printf("\n");

// process command line arguments
aptr = &args;
GetArgsLoader(argc, argv, aptr);

printf("Build interface is ODBC.\n");

if (aptr->build_index == 0)
    printf("Data load only - no index creation.\n");
else
{
    printf("Data load and index creation.\n");
    if (aptr->index_order == 0)
        printf("Clustered indexes will be
created after bulk load.\n");
    else
        printf("Clustered indexes will be
created before bulk load.\n");
}

// set database scale values
if (aptr->scale_down == 1)
{
    printf("*** Scaled Down Database ***\n");
    max_items = MAXITEMS_SCALE_DOWN;
    customers_per_district =
CUSTOMERS_SCALE_DOWN;
    orders_per_district = ORDERS_SCALE_DOWN;
    first_new_order = 0;
    last_new_order = 30;
}

```

```

else
{
    max_items = MAXITEMS;
    customers_per_district =
CUSTOMERS_PER_DISTRICT;
    orders_per_district = ORDERS_PER_DISTRICT;
    first_new_order = 2100;
    last_new_order = 3000;
}

// open connections to SQL Server

OpenConnections();

// open file for loader results
fLoader = fopen(aptr->loader_res_file, "w");

if (fLoader == NULL)
{
    printf("Error, loader result file open failed.");
    exit(-1);
}

// start loading data
sprintf(buffer, "TPC-C load started for %ld warehouses. starting warehouse
=%ld\n", (aptr->num_warehouses-aptr->starting_warehouse+1),
aptr->starting_warehouse);

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");
    }
    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");
    }
    }
    // Wait for threads to finish...
    for (i=0; i<MAX_MAIN_THREADS; i++)
    {
        if (hThread[i] != NULL)
        {
            WaitForSingleObject( hThread[i],
INFINITE );
            CloseHandle(hThread[i]);
            hThread[i] = NULL;
        }
    }

```

```

    }
    main_time_end = (TimeNow() / MILLI);
    sprintf(buffer, "\nTPC-C load completed successfully in %ld minutes.\n",
        (main_time_end -
main_time_start)/60);
    printf("%s", buffer);
    fprintf(fLoader, "%s", buffer);
    fclose(fLoader);
    SQLFreeEnv(henv);
    exit(0);
    return 0;
}

//=====
//
// Function name: LoadItem
//
//=====
void LoadItem()
{
    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_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 != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        sprintf(bcphint, "tablock, ROWS_PER_BATCH =
100000");
        rc = bcp_control(i_hdbc1, BCPHINTS, (void*)
bcphint);
        if (rc != SUCCEEDED)
            HandleErrorDBC(i_hdbc1);
    }
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_id, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT4, 1);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_im_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 2);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) i_name, 0, I_NAME_LEN,
NULL, 0, 0, 3);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_price, 0,
SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 4);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0, I_DATA_LEN, NULL,
0, 0, 5);
    if (rc != SUCCEEDED)
        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 != SUCCEEDED)
        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("idxitmd");
}

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

```

```

char w_name[W_NAME_LEN+1];
char w_street_1[ADDRESS_LEN+1];
char w_street_2[ADDRESS_LEN+1];
char w_city[ADDRESS_LEN+1];
char w_state[STATE_LEN+1];
char w_zip[ZIP_LEN+1];
double w_tax;
double w_ytd;
char name[20];
long time_start;
RETCODE rc;
DBINT rcint;
char bcphint[128];
char err_log_path[256];

// Seed with unique number
seed(2);

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

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

InitString(w_name, W_NAME_LEN+1);
InitAddress(w_street_1, w_street_2, w_city, w_state, w_zip);

printf(name, "%s.%s", aptr->database, "warehouse");

// strcpy(err_log_path, aptr->log_path);
// strcat(err_log_path, "whouse.err");
sprintf(err_log_path, "%swhouse%d.err", aptr->log_path, aptr-
>starting_warehouse);
printf("warehouse error file =%s\n", err_log_path);
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(bcphint, "tablock, ROWS_PER_BATCH =
%d", aptr->num_warehouses);
    rc = bcp_control(w_hdbc1, BCPHINTS, (void*)
bcphint);

    if (rc != SUCCEEDED)
        HandleErrorDBC(w_hdbc1);
}

rc = bcp_bind(w_hdbc1, (BYTE *) &w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 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 = (long)aptr->starting_warehouse; w_id <=
(long)aptr->num_warehouses; w_id++)
    {
        MakeAlphaString(6, 10, W_NAME_LEN, w_name);

```

```

w_state, w_zip);
    MakeAddress(w_street_1, w_street_2, w_city,
                w_tax = ((float)
RandomNumber(0L,2000L))/10000.00;
                w_ytd = 300000.00;
                rc = bcp_sendrow(w_hdbc1);
                if (rc != SUCCEED)
                    HandleErrorDBC(w_hdbc1);
                warehouse_rows_loaded++;
                CheckForCommit(w_hdbc1, i_hstmt1,
warehouse_rows_loaded, "warehouse", &time_start);
            }

            rcint = bcp_done(w_hdbc1);
            if (rcint < 0)
                HandleErrorDBC(w_hdbc1);

            printf("Finished loading warehouse table.\n");

            // if build index after load...
            if ((aptr->build_index == 1) && (aptr->index_order == 0))
                BuildIndex("idxwarc1");

            //stock_rows_loaded = 0;

            stock_rows_loaded = 4294960000;
            district_rows_loaded = 0;

            District();
            Stock();
        }

    //=====
    //
    // Function : District
    //
    //=====
    void District()
    {
        short   d_id;
                long    d_w_id;
        char    d_name[D_NAME_LEN+1];

```

```

char    d_street_2[ADDRESS_LEN+1];
char    d_city[ADDRESS_LEN+1];
char    d_state[STATE_LEN+1];
char    d_zip[ZIP_LEN+1];
double  d_tax;
double  d_ytd;
char    name[20];
long    d_next_o_id;
long    time_start;
long    w_id;
RETCODE rc;
DBINT   rcint;
char    bcphint[128];
char    err_log_path[256];

// Seed with unique number
seed(4);

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

// build index before load
if ((aptr->build_index == 1) && (aptr->index_order == 1))
    BuildIndex("idxdisc1");

InitString(d_name, D_NAME_LEN+1);
InitAddress(d_street_1, d_street_2, d_city, d_state, d_zip);
sprintf(name, "%s. %s", aptr->database, "district");

//
strcpy(err_log_path, aptr->log_path);

//
strcat(err_log_path, "district.err");
sprintf(err_log_path, "%sdistrict%d.err", aptr->log_path, aptr-
>starting_warehouse);
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, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 10));
    rc = bcp_control(w_hdbc1, BCPHINTS, (void*)
bcphint);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);
}

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

```

```

rc = bcp_bind(w_hdbc1, (BYTE *) &d_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 2);
    HandleErrorDBC(w_hdbc1);

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

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

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

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

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

rc = bcp_bind(w_hdbc1, (BYTE *) d_zip, 0, ZIP_LEN, NULL, 0,
0, 8);

    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);

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

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

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

    d_ytd = 30000.0;

```



```

d_next_o_id = orders_per_district+1;

time_start = (TimeNow() / MILLI);

for (w_id = (long)aptr->starting_warehouse; w_id <=
(long)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("idxdisc1");

    return;
}

//=====
//
// Function : Stock

```

```

//=====
//=====
void Stock()
{
    long    s_i_id;
    long    s_w_id;

    short   s_quantity;
    char    s_dist_01[S_DIST_LEN+1];
    char    s_dist_02[S_DIST_LEN+1];
    char    s_dist_03[S_DIST_LEN+1];
    char    s_dist_04[S_DIST_LEN+1];
    char    s_dist_05[S_DIST_LEN+1];
    char    s_dist_06[S_DIST_LEN+1];
    char    s_dist_07[S_DIST_LEN+1];
    char    s_dist_08[S_DIST_LEN+1];
    char    s_dist_09[S_DIST_LEN+1];
    char    s_dist_10[S_DIST_LEN+1];
    long    s_ytd;
    short   s_order_cnt;
    short   s_remote_cnt;
    char    s_data[S_DATA_LEN+1];
    short   len;
    char    name[20];
    long    time_start;
    RETCODE rc;
    DBINT   rcint;
    char    bcphint[128];
    char    err_log_path[256];

    // Seed with unique number
    seed(3);

    // if build index before load...
    if ((aptr->build_index == 1) && (aptr->index_order == 1))
        BuildIndex("idxstk1");

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

    //rc = bcp_init(w_hdbc1, name, NULL, "logs\stock.err",
DB_IN);
    //
    // strcpy(err_log_path,aptr->log_path);
    // strcat(err_log_path,"stock.err");
    // sprintf(err_log_path,"%sstock%d.err",aptr->log_path,aptr-
>starting_warehouse);
    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, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 10000));
        rc = bcp_load(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);

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

    rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_06, 0, S_DIST_LEN,
NULL, 0, 0, 9);
    if (rc != SUCCEED)
        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 = (long)aptr->starting_warehouse;
s_w_id <= (long)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_Big(w_hdbc1,
w_hstmt1, stock_rows_loaded, "stock", &time_start);
}

rcint = bcp_done(w_hdbc1);
if (rcint < 0)
    HandleErrorDBC(w_hdbc1);

printf("Finished loading stock table.\n");

SQLFreeStmt(w_hstmt1, SQL_DROP);
SQLDisconnect(w_hdbc1);
SQLFreeConnect(w_hdbc1);

// if build index after load..

```

```

if ((aptr->build_index == 1) && (aptr->index_order == 0))
    return;
}

//=====
//
// Function : LoadCustomer
//
//=====

void LoadCustomer()
{
    LOADER_TIME_STRUCT customer_time_start;
    LOADER_TIME_STRUCT history_time_start;
    long
    w_id;
    short d_id;
    DWORD
    dwThreadId[MAX_CUSTOMER_THREADS];
    HANDLE
    hThread[MAX_CUSTOMER_THREADS];
    char name[20];
    RETCODE
    rc;
    DBINT
    rcint;
    char
    bcphint[128];
    char
    cmd[256];
    int
    num_procs;
    char
    err_log_path_cust[256];
    char
    err_log_path_hist[256];

    // Seed with unique number
    seed(5);

    printf("Loading customer and history tables...\n");

    // if build index before load...
    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        BuildIndex("idxcust");
        // check the number of processors on this system

```

```

History.           // if 8 or more processors, then build index on
                  // 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");

DB_IN);           //rc = bcp_init(c_hdbc1, name, NULL, "logs\customer.err",
//              strcpy(err_log_path_cust,aptr->log_path);
//              strcat(err_log_path_cust,"customer.err");
//              sprintf(err_log_path_cust,"%scustomer%d.err",aptr-
->log_path,aptr->starting_warehouse);
DB_IN);           rc = bcp_init(c_hdbc1, name, NULL, err_log_path_cust,
                  if (rc != SUCCEED)
                      HandleErrorDBC(c_hdbc1);

                  if ((aptr->build_index == 1) && (aptr->index_order == 1))
                  {
                      sprintf(bcphint, "tablock, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 30000));
                      rc = bcp_control(c_hdbc1, BCPHINTS, (void*)
bcphint);
                      if (rc != SUCCEED)
                          HandleErrorDBC(c_hdbc1);
                  }

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

//              rc = bcp_init(c_hdbc2, name, NULL, "logs\history.err", DB_IN);
//              strcpy(err_log_path_hist,aptr->log_path);
//              strcat(err_log_path_hist,"history.err");
//              sprintf(err_log_path_cust,"%shistory%d.err",aptr-
->log_path,aptr->starting_warehouse);

                  rc = bcp_init(c_hdbc2, name, NULL, err_log_path_hist, DB_IN);
                  if (rc != SUCCEED)
                      HandleErrorDBC(c_hdbc2);

                  sprintf(bcphint, "tablock");
                  rc = bcp_control(c_hdbc2, BCPHINTS, (void*) bcphint);
                  if (rc != SUCCEED)
                      HandleErrorDBC(c_hdbc2);

```

```

                  customer_rows_loaded = 0;
                  history_rows_loaded = 0;

                  CustomerBufInit();

                  customer_time_start.time_start = (TimeNow() / MILLI);
                  history_time_start.time_start = (TimeNow() / MILLI);

                  for (w_id = (long)aptr->starting_warehouse; w_id <=
(long)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

                          // Start customer table thread
                          printf("...Loading customer table for:
d_id = %ld, w_id = %ld\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 = %ld, w_id = %ld\n", d_id, w_id);

```

```

hThread[1] = CreateThread(NULL,
0,
(LPTHREAD_START_ROUTINE) LoadHistoryTable,
&history_time_start,
0,
&dwThreadID[1]);

if (hThread[1] == NULL)
{
    printf("Error, failed in
creating creating thread = 1.\n");
    exit(-1);
}

WaitForSingleObject( hThread[0],
INFINITE );
WaitForSingleObject( hThread[1],
INFINITE );

if (CloseHandle(hThread[0]) ==
FALSE)
{
    printf("Error, failed in
closing customer thread handle with errno: %d\n", GetLastError());
}

if (CloseHandle(hThread[1]) ==
FALSE)
{
    printf("Error, failed in
closing history thread handle with errno: %d\n", GetLastError());
}

}

// flush the bulk connection
rcint = bcp_done(c_hdbc1);
if (rcint < 0)
    HandleErrorDBC(c_hdbc1);

rcint = bcp_done(c_hdbc2);

```

```

if (rcint < 0)
    HandleErrorDBC(c_hdbc2);

printf("Finished loading customer table.\n");

// if build index after load...
if ((aptr->build_index == 1) && (aptr->index_order == 0))
{
    BuildIndex("idxcuscl");
    // check the number of processors on this system
    // if 8 or more processors, then build index on
    History.
    // if less than 8 processors, do not build the index
    num_procs = atoi(getenv(
"NUMBER_OF_PROCESSORS" ));
    if (num_procs >= 8)
        BuildIndex("idxhiscl");
}

// build non-clustered index
if (aptr->build_index == 1)
    BuildIndex("idxcusnc");

// Output the NURAND used for the loader into C_FIRST for
C_ID = 1,
// C_W_ID = 1, and C_D_ID = 1
//sprintf(cmd, "osql -S%s -U%s -P%s -d%s -e -Q"update
customer set c_first = 'C_LOAD = %d' where c_id = 1 and c_w_id = 1 and
c_d_id = 1\" > logs\nurand_load.log",
/*
if (aptr->starting_warehouse == 1)
{
    sprintf(cmd, "osql -S%s -U%s -P%s -d%s -e -
Q\"update customer set c_first = 'C_LOAD = %d' where c_id = 1 and c_w_id
= 1 and c_d_id = 1\" > %snurand_load.log",
aptr-
>server,
aptr-
>user,
aptr-
>password,
aptr-
>database,
    LOADER_NURAND_C,
aptr-
>log_path);
}
*/
system(cmd);

```

```

SQLFreeStmt(c_hstmt1, SQL_DROP);
SQLDisconnect(c_hdbc1);
SQLFreeConnect(c_hdbc1);

SQLFreeStmt(c_hstmt2, SQL_DROP);
SQLDisconnect(c_hdbc2);
SQLFreeConnect(c_hdbc2);

return;
}

//=====
//
// Function : CustomerBufInit
//
//=====

void CustomerBufInit()
{
    long i;

    for (i=0;i<customers_per_district;i++)
    {
        customer_buf[i].c_id = 0;
        customer_buf[i].c_d_id = 0;
        customer_buf[i].c_w_id = 0;

        strcpy(customer_buf[i].c_first,"");
        strcpy(customer_buf[i].c_middle,"");
        strcpy(customer_buf[i].c_last,"");
        strcpy(customer_buf[i].c_street_1,"");
        strcpy(customer_buf[i].c_street_2,"");
        strcpy(customer_buf[i].c_city,"");
        strcpy(customer_buf[i].c_state,"");
        strcpy(customer_buf[i].c_zip,"");
        strcpy(customer_buf[i].c_phone,"");
        strcpy(customer_buf[i].c_credit,"");

        customer_buf[i].c_credit_lim = 0;
        customer_buf[i].c_discount = (float) 0;

        // fix to avoid ODBC float to numeric conversion
        //
        customer_buf[i].c_balance = 0;
        strcpy(customer_buf[i].c_balance,"");
    }
}

```

```

customer_buf[i].c_payment = 0;
customer_buf[i].c_delivery_cnt = 0;

strcpy(customer_buf[i].c_data,"");

customer_buf[i].h_amount = 0;

strcpy(customer_buf[i].h_data,"");
}

}

//=====
//
// Function : CustomerBufLoad
//
// Fills shared buffer for HISTORY and CUSTOMER
//=====

void CustomerBufLoad(int d_id, long w_id)
{
    long i;
    CUSTOMER_SORT_STRUCT c[CUSTOMERS_PER_DISTRICT];

    for (i=0;i<customers_per_district;i++)
    {
        if (i < 1000)
            LastName(i, c[i].c_last);
        else
            LastName(NURand(255,0,999,LOADER_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 = %ld, w_id =
%ld\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_buf[i].c_balance, "-10.0");

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

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

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

void LoadCustomerTable(LOADER_TIME_STRUCT *customer_time_start)
{
    long          i;
    long          c_id;
    short         c_d_id;
    long          c_w_id;
    char          c_first[FIRST_NAME_LEN+1];
    char          c_middle[MIDDLE_NAME_LEN+1];
    char          c_last[LAST_NAME_LEN+1];
    char          c_street_1[ADDRESS_LEN+1];
    char          c_street_2[ADDRESS_LEN+1];
    char          c_city[ADDRESS_LEN+1];
    char          c_state[STATE_LEN+1];
    char          c_zip[ZIP_LEN+1];
    char          c_phone[PHONE_LEN+1];
    char          c_credit[CREDIT_LEN+1];
    double        c_credit_lim;
    double        c_discount;

    // 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, 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, SQLINT4, 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 != SUCCEEDED)
//     HandleErrorDBC(c_hdbc1);
rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5, NULL, 0,
SQLCHARACTER, 17);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

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

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

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

```

```

    if (rc != SUCCEEDED) HandleErrorDBC(c_hdbc1);
rc = bcp_bind(c_hdbc1, (BYTE *) c_data, 0, 500, NULL, 0, 0, 21);
    if (rc != SUCCEEDED)
        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
// c_balance = customer_buf[i].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 != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

    customer_rows_loaded++;
}

```

```

        CheckForCommit(c_hdbc1, c_hstmt1,
customer_rows_loaded, "customer", &customer_time_start->time_start);
    }

//=====================================================
//
// Function : LoadHistoryTable
//
//=====================================================

void LoadHistoryTable(LOADER_TIME_STRUCT *history_time_start)
{
    long                i;
    long                c_id;
    short               c_d_id;
    long                c_w_id;
    double              h_amount;
    char                h_data[H_DATA_LEN+1];
    char                h_date[H_DATE_LEN+1];
    RETCODE             rc;

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

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

rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 3);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc2);

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

rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 5);
    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc2);
}

```

```

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

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

        rc = bcp_bind(c_hdbc2, (BYTE *) h_data, 0, H_DATA_LEN, NULL, 0, 0, 8);
        if (rc != SUCCEEDED)
            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 != SUCCEEDED)

                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  orders_time_start;
    long
    w_id;

    short          d_id;

    DWORD
dwThreadID[MAX_ORDER_THREADS];
HANDLE
hThread[MAX_ORDER_THREADS];
char          name[20];

    RETCODE
rc;

    char
bcphint[128];
char
err_log_path_ord[256];
char
err_log_path_nord[256];
char
err_log_path_ordl[256];

    // seed with unique number
seed(6);

    printf("Loading orders...\n");

    // if build index before load...
    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        BuildIndex("idxordcl");
        BuildIndex("idxnodcl");
        BuildIndex("idxodcl");
    }

    // initialize bulk copy
    sprintf(name, "%s.%s", aptr->database, "orders");
    strcpy(err_log_path_ord, aptr->log_path);
    //
    //
    //
    sprintf(err_log_path_ord, "%sorders%d.err", aptr-
>log_path, aptr->starting_warehouse);
    rc = bcp_init(o_hdbc1, name, NULL, err_log_path_ord, DB_IN);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc1);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        sprintf(bcphint, "tablock, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 30000));
        rc = bcp_control(o_hdbc1, BCPHINTS, (void*)
bcphint);

        if (rc != SUCCEEDED)
            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");
    sprintf(err_log_path_ord, "%sneword%d.err", aptr-
>log_path, aptr->starting_warehouse);
    rc = bcp_init(o_hdbc2, name, NULL, err_log_path_nord,
DB_IN);

    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        sprintf(bcphint, "tablock, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 9000));
        rc = bcp_control(o_hdbc2, BCPHINTS, (void*)
bcphint);

        if (rc != SUCCEEDED)
            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");
    sprintf(err_log_path_ord, "%sordline%d.err", aptr-
>log_path, aptr->starting_warehouse);
    rc = bcp_init(o_hdbc3, name, NULL, err_log_path_ordl,
DB_IN);

    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc3);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
    {
        sprintf(bcphint, "tablock, ROWS_PER_BATCH =
%u", (aptr->num_warehouses * 300000));
        rc = bcp_control(o_hdbc3, BCPHINTS, (void*)
bcphint);

        if (rc != SUCCEEDED)
            HandleErrorDBC(o_hdbc3);
    }

    orders_rows_loaded = 0;
    new_order_rows_loaded = 0;
    //order_line_rows_loaded = 0;
    order_line_rows_loaded = 4294960000;

```

```

OrdersBufInit();

orders_time_start.time_start = (TimeNow() / MILLI);
new_order_time_start.time_start = (TimeNow() / MILLI);
order_line_time_start.time_start = (TimeNow() / MILLI);

for (w_id = (long)aptr->starting_warehouse; w_id <=
(long)aptr->num_warehouses; w_id++)
{
    for (d_id = 1; d_id <=
DISTRICT_PER_WAREHOUSE; d_id++)
    {
        OrdersBufLoad(d_id, w_id);

        // start parallel loading threads

        // start Orders table thread

        printf("...Loading Order Table for:
d_id = %ld, w_id = %ld\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 = %ld, w_id = %ld\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. LastError = %d\n",GetLastError());
            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;
0;

    orders_buf[i].o_ol[j].ol_quantity =

    orders_buf[i].o_ol[j].ol_amount = 0;

    strcpy(orders_buf[i].o_ol[j].ol_dist_info,"");
}

}

//=====
//
// Function : OrdersBufLoad
//
// Fills shared buffer for ORDERS, NEWORDER, and ORDERLINE
//
//=====
void OrdersBufLoad(short d_id, long w_id)
{
    int cust[ORDERS_PER_DISTRICT+1];
    long o_id;
    long ol;

    printf("...Loading Order Buffer for: d_id = %ld, w_id = %ld\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_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_delivery_d);

    }
    else
    {
        orders_buf[o_id].o_ol[ol].ol_amount =
RandomNumber(1,999999)/100.0;
// Added to insure
ol_delivery_d set properly during load

```

```

// odbc datetime
format
    strcpy(orders_buf[o_id].o_ol[ol].ol_delivery_d,"1899-12-31
00:00:00.000");

}

}

//=====
//
// Function : LoadOrdersTable
//
//=====
void LoadOrdersTable(LOADER_TIME_STRUCT *orders_time_start)
{
    int i;
    long o_id;
    short o_d_id;
    long o_w_id;
    long o_c_id;
    short o_carrier_id;
    short o_ol_cnt;
    short o_all_local;
    char o_entry_d[O_ENTRY_D_LEN+1];

    RETCODE rc;
    DBINT rcint;

    // bind ORDER data
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, 1);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc1);

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

    rc = bcp_bind(o_hdbc1, (BYTE *) &o_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 3);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc1);

```

```

rc = bcp_bind(o_hdbc1, (BYTE *) &o_c_id, 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_buff[i].o_id;
    o_d_id    = orders_buff[i].o_d_id;
    o_w_id    = orders_buff[i].o_w_id;
    o_c_id    = orders_buff[i].o_c_id;
    o_carrier_id = orders_buff[i].o_carrier_id;
    o_ol_cnt  = orders_buff[i].o_ol_cnt;
    o_all_local = orders_buff[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);
}

```

```

// if (rc != SUCCEEDED)
//     HandleErrorDBC(o_hdbc1);

if ((o_w_id == aprtr->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("idxordc1");

    // build non-clustered index
    if (aptr->build_index == 1)
        BuildIndex("idxordnc");
}

//=====
//
// Function : LoadNewOrderTable
//
//=====
void LoadNewOrderTable(LOADER_TIME_STRUCT *new_order_time_start)
{
    long          i;
    long          o_id;
    short         o_d_id;
    long          o_w_id;
    RETCODE       rc;
    DBINT         rcint;

    // Bind NEW-ORDER data

    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, SQLINT4, 3);
if (rc != SUCCEEDED)
    HandleErrorDBC(o_hdbc2);

for (i = first_new_order; i < last_new_order; i++)
{
    o_id      = orders_buff[i].o_id;
    o_d_id    = orders_buff[i].o_d_id;
    o_w_id    = orders_buff[i].o_w_id;

    rc = bcp_sendrow(o_hdbc2);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);

    new_order_rows_loaded++;

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

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

if ((o_w_id == aprtr->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("idxnodc1");
}

```

```

}

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

void LoadOrderLineTable(LOADER_TIME_STRUCT *order_line_time_start)
{
    long          i;
    long          j;
    long          o_id;
    short         o_d_id;
    long          o_w_id;
    double        ol;
    long          ol_i_id;
    long          ol_supply_w_id;
    short         ol_quantity;
    double        ol_amount;
    char          ol_dist_info[DIST_INFO_LEN+1];
    char          ol_delivery_d[OL_DELIVERY_D_LEN+1];
    RETCODE       rc;
    DBINT         rcint;

    // bind ORDER-LINE data
    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, SQLINT4, 3);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc3);

    rc = bcp_bind(o_hdbc3, (BYTE *) &ol, 0, SQL_VARLEN_DATA,
NULL, 0, SQLFLT8, 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, SQLINT4, 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_delivery_d);

            strcpy(ol_dist_info,orders_buf[i].o_ol[j].ol_dist_info);

            rc = bcp_sendrow(o_hdbc3);

```

```

    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc3);

    order_line_rows_loaded++;

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

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

if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
{
    rcint = bcp_done(o_hdbc3);

    if (rcint < 0)
        HandleErrorDBC(o_hdbc3);

    SQLFreeStmt(o_hstmt3, SQL_DROP);

    SQLDisconnect(o_hdbc3);
    SQLFreeConnect(o_hdbc3);

    // if build index after load...
    if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
        BuildIndex("idxodlcl");
}

//=====
// Function : GetPermutation
//
//=====

void GetPermutation(int perm[], int n)
{
    int i, r, t;

```

```

    for (i=1;i<=n;i++)
        perm[i] = i;

    for (i=1;i<=n;i++)
    {
        r = RandomNumber(i,n);
        t = perm[i];
        perm[i] = perm[r];
        perm[r] = t;
    }
}

//=====
//
// Function : CheckForCommit
//
//=====

void CheckForCommit(HDBC hdbc,
                   HSTMT
                   hstmt,
                   long
                   rows_loaded,
                   char
                   *table_name,
                   long *time_start)
{
    long    time_end, time_diff;

    if ( !(rows_loaded % aptr->batch) )
    {
        time_end = (TimeNow() / MILLI);
        time_diff = time_end - *time_start;

        printf("-> Loaded %ld rows into %s in %ld sec -
Total = %d (%.2f rps)\n",
            aptr->batch,
            table_name,
            time_diff,
            rows_loaded,
            (float) aptr->batch /
            (time_diff ? time_diff : 1L));

        *time_start = time_end;
    }
}

```

```

} return;

//=====
//
// Function : CheckForCommit_Big
//
//=====

void CheckForCommit_Big(HDBC hdbc,
                       HSTMT
                       hstmt,
                       double
                       rows_loaded,
                       char
                       *table_name,
                       long *time_start)
{
    long    time_end, time_diff;

    if ( !(fmod(rows_loaded,aptr->batch) ) )
    {
        time_end = (TimeNow() / MILLI);
        time_diff = time_end - *time_start;

        printf("-> Loaded %ld rows into %s in %ld sec -
Total = %.0f (%.2f rps)\n",
            aptr->batch,
            table_name,
            time_diff,
            rows_loaded,
            (float) aptr->batch /
            (time_diff ? time_diff : 1L));

        *time_start = time_end;
    }

    return;
}

//=====
//
// Function : OpenConnections
//
//=====

```

```

void OpenConnections()
{
    RETCODE    rc;

    char
    char
    szDriverStringOut[1024];
    SQLSMALLINT
    int
    int

    szDriverString[300];
    cbDriverStringOut;
    retrycnt;
    done;

    SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE,
    &henv );

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

    // Open connections to SQL Server
    // Connection 1
    if (aptr->tables_all || aptr->table_item)
    {
        retrycnt = 1;
        done = 0;

        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
    &i_hdbc1);

        SQLSetConnectAttr(i_hdbc1, SQL_COPT_SS_BCP,
    (void *)SQL_BCP_ON, SQL_IS_INTEGER );
        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);

        while (!done)
        {
            rc = SQLDriverConnect ( i_hdbc1,

```

```

NULL,
    (SQLCHAR*)&szDriverString[0] ,
    SQL_NTS,
    (SQLCHAR*)&szDriverStringOut[0],
    sizeof(szDriverStringOut),
    &cbDriverStringOut,
    SQL_DRIVER_NOPROMPT );
if ( ( rc != SUCCEEDED ) &&
    (rc !=
SQL_SUCCESS_WITH_INFO) )
{
    >retry_limit
    {
        if (retrycnt <= aptr-
            >retry_limit)
        {
            retrycnt++;
            Sleep(aptr->sleep_milli);
        } else
        {
            HandleErrorDBC(i_hdbc1);
            printf("TPC-C Loader aborted!\n");
        }
    } else
    {
        done = 1;
    }
} // of if item or all
// Connection 2
if (aptr->tables_all || aptr->table_warehouse)
{
    retrycnt = 1;
    done = 0;
    SQLAllocHandle(SQL_HANDLE_DBC, henv ,
    &w_hdbc1);
    SQLSetConnectAttr(w_hdbc1, SQL_COPT_SS_BCP,
    (void *)SQL_BCP_ON, SQL_IS_INTEGER );
}

```

```

    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 != SUCCEEDED)
        HandleErrorDBC(w_hdbc1);
    while (!done)
    {
        rc = SQLDriverConnect ( w_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
        if ( ( rc != SUCCEEDED ) &&
            (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
            >retry_limit
            {
                retrycnt++;
                Sleep(aptr->sleep_milli);
            } else
            {
                HandleErrorDBC(w_hdbc1);
                printf("TPC-C Loader aborted!\n");
            }
        }
    }
    exit(9);
}

```

```

    } else
    {
        done = 1;
    }
} // of if all or warehouse
// Connection 3
if (aptr->tables_all || aptr->table_customer)
{
    retrycnt = 1;
    done = 0;
    SQLAllocHandle(SQL_HANDLE_DBC, henv ,
    &c_hdbc1);
    SQLSetConnectAttr(c_hdbc1, SQL_COPT_SS_BCP,
    (void *)SQL_BCP_ON, SQL_IS_INTEGER );
    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 != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);
    while (!done)
    {
        rc = SQLDriverConnect ( c_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
    }
}

```

```

        if ( ( rc != SUCCEED) &&
            (rc !=
SQL_SUCCESS_WITH_INFO) )
        {
            if (retrycnt <= aptr-
>retry_limit)
            {
                retrycnt++;
                Sleep(aptr->sleep_milli);
            } else
            {
                HandleErrorDBC(c_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
            }
        } else
        {
            done = 1;
        }
    }

    // Connection 4
    retrycnt = 1;
    done = 0;

    SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&c_hdbc2);
    SQLSetConnectAttr(c_hdbc2, SQL_COPT_SS_BCP,
(void *)SQL_BCP_ON, SQL_IS_INTEGER);
    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);

    while (!done)
    {
        rc = SQLDriverConnect ( c_hdbc2,

```

```

        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
    if ( ( rc != SUCCEED) &&
        (rc !=
SQL_SUCCESS_WITH_INFO) )
    {
        if (retrycnt <= aptr-
>retry_limit)
        {
            retrycnt++;
            Sleep(aptr->sleep_milli);
        } else
        {
            HandleErrorDBC(c_hdbc2);
            printf("TPC-C Loader aborted!\n");
            exit(9);
        }
    } else
    {
        done = 1;
    }

    } // of if all or customer

    if (aptr->tables_all || aptr->table_orders)
    {
        retrycnt = 1;
        done = 0;

        SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc1);
        SQLSetConnectAttr(o_hdbc1, SQL_COPT_SS_BCP,
(void *)SQL_BCP_ON, SQL_IS_INTEGER);
        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);

    while (!done)
    {
        rc = SQLDriverConnect ( o_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
    if ( ( rc != SUCCEED) &&
        (rc !=
SQL_SUCCESS_WITH_INFO) )
    {
        if (retrycnt <= aptr-
>retry_limit)
        {
            retrycnt++;
            Sleep(aptr->sleep_milli);
        } else
        {
            HandleErrorDBC(o_hdbc1);
            printf("TPC-C Loader aborted!\n");
            exit(9);
        }
    }
    } else
    {

```

```

        done = 1;
    }
    // Connection 6
    retrycnt = 1;
    done = 0;
    SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc2);
    SQLSetConnectAttr(o_hdbc2, SQL_COPT_SS_BCP,
(void *)SQL_BCP_ON, SQL_IS_INTEGER );
    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);
    while (!done)
    {
        rc = SQLDriverConnect ( o_hdbc2,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
            (rc !=
SQL_SUCCESS_WITH_INFO ) )
        {
            if (retrycnt <= aptr-
>retry_limit)
                retrycnt++;
            Sleep(aptr->sleep_milli);
        }
        else
            done = 1;
    }
    HandleErrorDBC(o_hdbc2);
    printf("TPC-C Loader aborted!\n");
} else
{
    done = 1;
}
}
// Connection 7
retrycnt = 1;
done = 0;
SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&o_hdbc3);
SQLSetConnectAttr(o_hdbc3, SQL_COPT_SS_BCP,
(void *)SQL_BCP_ON, SQL_IS_INTEGER );
    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);
    while (!done)
    {
        rc = SQLDriverConnect ( o_hdbc3,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],

```

```

        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
            (rc !=
SQL_SUCCESS_WITH_INFO ) )
        {
            if (retrycnt <= aptr-
>retry_limit)
                retrycnt++;
            Sleep(aptr->sleep_milli);
        }
        else
            done = 1;
    }
    HandleErrorDBC(o_hdbc3);
    printf("TPC-C Loader aborted!\n");
} else
{
    done = 1;
}
} //
//=====
//
// 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,

```

```

        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
            (rc !=
SQL_SUCCESS_WITH_INFO ) )
        {
            if (retrycnt <= aptr-
>retry_limit)
                retrycnt++;
            Sleep(aptr->sleep_milli);
        }
        else
            done = 1;
    }
    HandleErrorDBC(o_hdbc3);
    printf("TPC-C Loader aborted!\n");
} else
{
    done = 1;
}
} //
//=====
//
// 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,

```

```

>index_script_path,
aptr-
index_script,
aptr->log_path,
index_script);

system(cmd);

printf("Finished index creation: %s\n",index_script);
}

//=====
// Function name: HandleErrorDBC
//
//=====
void HandleErrorDBC (SQLHDBC hdbc1)
{
    SQLCHAR          SqlState[6],
    Msg[SQL_MAX_MESSAGE_LENGTH];
    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 )
    {
        if (totaldberrors >= MAXSQLERRORS)
        {
            printf(">>>>>Max SQL errors of
%d exceeded, terminating tpccdr<<<<<<<<\n",totaldberrors);
            exit(9);
        }
        sprintf( szLastError , "%s" , Msg );

        _strtime(timebuf);
        _strdate(datebuf);

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

```

```

//
strcpy(err_log_path,aptr->log_path);
sprintf(err_log_path,"%stpccdr%d.err",aptr->log_path,aptr-
>starting_warehouse);
fp1 = fopen(err_log_path,"a+");
if (fp1 == NULL)
    printf("ERROR: Unable to open
errorlog file.\n");
else
{
    fprintf(fp1, "[%s : %s]
%s\nSQLState: %s\n" , datebuf, timebuf, szLastError, SqlState);
    fclose(fp1);
}
i++;
}
//=====
// Function : HandleErrorSTMT
//
//=====
void HandleErrorSTMT (HSTMT hstmt1)
{
    SQLCHAR          SqlState[6],
    Msg[SQL_MAX_MESSAGE_LENGTH];
    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 )
    {
        if (totaldberrors >= MAXSQLERRORS)
        {
            printf(">>>>>Max SQL errors of
%d exceeded, terminating tpccdr<<<<<<<<\n",totaldberrors);

```

```

}
exit(9);
totaldberrors++;

sprintf( szLastError , "%s" , Msg );

_strtime(timebuf);
_strdate(datebuf);

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

//
strcpy(err_log_path,aptr->log_path);
strcat(err_log_path,"tpcdr.err");
sprintf(err_log_path,"%stpccdr%d.err",aptr->log_path,aptr-
>starting_warehouse);
fp1 = fopen(err_log_path,"a+");
if (fp1 == NULL)
    printf("ERROR: Unable to open
errorlog file.\n");
else
{
    fprintf(fp1, "[%s : %s]
%s\nSQLState: %s\n" , datebuf, timebuf, szLastError, SqlState);
    fclose(fp1);
}
i++;
}
}
//=====
// Function : FormatDate
//
//=====
void FormatDate ( char* szTimeCOuput )
{
    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];
#ifdef _WIN64
    SQLINTEGER     TabCount;
    SQLLEN         TabNameInd,
TabCountInd;
#else
    SQLINTEGER     TabNameInd, TabCount,
TabCountInd;
#endif

    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';

            case 'd':
                break;

```

```

    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';
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;
            }
            break;
        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;
}

```

time.c

```

//      File:                TIME.C
//      Microsoft TPC-C Kit
//      Ver. 4.42
//      Copyright Microsoft,
//      1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
//      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("[%d]DBG: Entering TimeNow()\n", (int) GetCurrentThreadId());
#endif

    _timeb(&el_time);

    time_now = ((el_time.time - start_sec) * 1000) + el_time.millitm;

    return time_now;
}

```

strings.c

```

//      File:                STRINGS.C
//      Microsoft TPC-C Kit
//      Ver. 4.42
//      Copyright Microsoft,
//      1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
//      Purpose:    Source file for database loader string functions

// Includes
#include "tpcc.h"
#include <string.h>
#include <ctype.h>

//=====
//
// Function name: MakeAddress
//
//=====

void MakeAddress(char *street_1,
                char *street_2,
                char *city,
                char *state,
                char *zip)
{
#ifdef DEBUG
    printf("[%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.
//--Clavine 08/13/96

int MakeAlphaString( int x, int y, int z, char *str)
{
    int len;
    int i;
    char cc = 'a';
    static char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
    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("MakeOriginalAlphaString: 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("[%d]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("[%d]DBG: Entering InitString()\n", (int) GetCurrentThreadId());
#endif

```

```

memset(str, '\0', 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, '\0', ADDRESS_LEN+1);
memset(street_2, '\0', ADDRESS_LEN+1);
memset(city, '\0', ADDRESS_LEN+1);

```

```

street_1[ADDRESS_LEN+1] = 0;
street_2[ADDRESS_LEN+1] = 0;
city[ADDRESS_LEN+1] = 0;

```

```

memset(state, '\0', STATE_LEN+1);

```

```

state[STATE_LEN+1] = 0;
memset(zip, '\0', 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, '\0', max - len);
name[max] = 0;

return;
}

```

random.c

```

// File: RANDOM.C Microsoft TPC-C Kit
// Ver. 4.42 Copyright Microsoft,
// 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
// Purpose: Random number generation routines for database
loader

```

```

// Includes
#include "tpcc.h"
#include "math.h"

```

```

// Defines
#define A 16807
#define M 2147483647
#define Q 127773 /* M div A */
#define R 2836 /* M mod A */
#define Thread __declspec(thread)

```

```

// Globals
long Thread Seed = 0; /* thread local seed */

```

```

/*****
*****

```

```

* random -
* Implements a GOOD pseudo random number generator. This
generator *
* will/should? run the complete period before repeating. *

```

```

* Copied from:
* Random Numbers Generators: Good Ones Are Hard to Find.
* Communications of the ACM - October 1988 Volume 31 Number 10

```

```

* Machine Dependencies:
* long must be 2 ^ 31 - 1 or greater.

```

```

*****
*****/

```

```

/*****
*****

```

```

* seed - load the Seed value used in irand and drand. Should be used before
* first call to irand or drand.
*****
*****/

```

```

void seed(long val)
{

```

```

#ifdef DEBUG
printf("[%d]DBG: Entering seed(...)\n", (int) GetCurrentThreadId());
printf("Old Seed %ld New Seed %ld\n", Seed, val);
#endif

```

```

if ( val < 0 )
val = abs(val);

```

```

Seed = val;
}

```

```

/*****
*****

```

```

*
*
```

```

* irand - returns a 32 bit integer pseudo random number with a period of
*
* 1 to 2 ^ 32 - 1.
*
* parameters:
* none.
*
* returns:
* 32 bit integer - defined as long ( see above ).
*
* side effects:
* seed get recomputed.
*****
*****/

long irand()
{
    register long s; /* copy of seed */
    register long test; /* test flag */
    register long hi; /* tmp value for speed */
    register long lo; /* tmp value for speed */

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

    s = Seed;
    hi = s / Q;
    lo = s % Q;

    test = A * lo - R * hi;
    if ( test > 0 )
        Seed = test;
    else
        Seed = test + M;

    return( Seed );
}

/*****
*****
*
* drand - returns a double pseudo random number between 0.0 and 1.0.
*
* See irand.
*****
*****/

double drand()
{
#ifdef DEBUG

```

```

#endif
printf("[%d]DBG: Entering drand()...\n", (int) GetCurrentThreadId());
return( (double)irand() / 2147483647.0);
}

//=====
// Function : RandomNumber
//
// Description:
//=====
long RandomNumber(long lower, long upper)
{
    long rand_num;

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

    if ( upper == lower ) /* pgd 08-13-96 perf enhancement */
        return lower;

    upper++;

    if ( upper <= lower )
        rand_num = upper;
    else
        rand_num = lower + irand() % (upper - lower);
/* pgd 08-13-96 perf enhancement */

#ifdef DEBUG
    printf("[%d]DBG: RandomNumber between %ld & %ld ==> %ld\n",
(int)
GetCurrentThreadId(), lower, upper, rand_num);
#endif

    return rand_num;
}

#if 0
//Original code pgd 08/13/96

long RandomNumber(long lower,
long upper)
{

```

```

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

    upper++;

    if ((upper <= lower))
        rand_num = upper;
    else
        rand_num = lower + irand() % ((upper > lower)
? upper - lower : upper);

#ifdef DEBUG
    printf("[%d]DBG: RandomNumber between %ld & %ld ==> %ld\n",
(int)
GetCurrentThreadId(), lower, upper, rand_num);
#endif

    return rand_num;
}
#endif

//=====
// Function : NURand
//
// Description:
//=====
long NURand(int iConst,
long x,
long y,
long C)
{
    long rand_num;

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

    rand_num = (((RandomNumber(0,iConst) | RandomNumber(x,y)) + C) %
(y-x+1))+x;

#ifdef DEBUG
    printf("[%d]DBG: NURand: num = %d\n", (int) GetCurrentThreadId(),
rand_num);
#endif
}

```

```

return rand_num;
}

```

getargs.c

```

// File: GETARGS.C
// Microsoft TPC-C Kit
// Ver. 4.42
// Copyright Microsoft,
// 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
// Purpose: Source file for command line processing

// Includes
#include "tpcc.h"

//=====
//
// Function name: GetArgsLoader
//
//=====

void GetArgsLoader(int argc, char **argv, TPCCLDR_ARGS *pargs)
{
    int i;
    char *ptr;

#ifdef DEBUG
    printf("[%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 = TRUE;
    pargs->table_warehouse = FALSE;
    pargs->table_customer = FALSE;
}

```

```

FALSE;
pargs->table_orders =
pargs->loader_res_file = LOADER_RES_FILE;
pargs->log_path = LOADER_LOG_PATH;
pargs->pack_size = DEFLDPACKSIZE;
pargs->starting_warehouse =
DEF_STARTING_WAREHOUSE;
pargs->build_index =
BUILD_INDEX;
pargs->index_order =
INDEX_ORDER;
pargs->index_script_path = INDEX_SCRIPT_PATH;
pargs->scale_down =
SCALE_DOWN;
pargs->sleep_milli =
SLEEPMILLI;
pargs->retry_limit =
RETRYLIMIT;

/* 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
break;
case 'L':
pargs->log_path =
break;
case 'p':
pargs->pack_size =
break;
case 'i':
pargs->build_index =
break;
case 'o':
pargs->index_order =
break;
case 'c':
pargs->scale_down =
break;
case 'd':
pargs->index_script_path = ptr+2;
break;
case 'R':
pargs->retry_limit =
break;
case 'r':
pargs->sleep_milli =
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) DEFLDPACKSIZE);
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("-R Retry limit. # of times to retry open %d\n",
(long) RETRYLIMIT);
printf("-r Retry sleep time in milliseconds. %d\n",
(long) SLEEPMILLI);
printf("-c Build Scaled Database (normal = 0, tiny = 1)
%d\n", (long) SCALE_DOWN);
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);
}

DBOPT1 . SQL

-- File: DBOPT1.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.20
-- Copyright Microsoft, 1999
-- Purpose: Sets database options for data load

use master
go

exec sp_dboption tpcc,'select into/bulkcopy',true
exec sp_dboption tpcc,'trunc. log on chkpt.',true
exec sp_dboption tpcc,'auto create statistics',true
exec sp_dboption tpcc,'auto update statistics',true
go

use tpcc
go

alter database tpcc set recovery simple
```

B.1 Database Options

DBOPT1 . SQL

```
-- File: DBOPT1.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.20
-- Copyright Microsoft, 1999
-- Purpose: Sets database options for data load

use master
go

exec sp_dboption tpcc,'select into/bulkcopy',true
exec sp_dboption tpcc,'trunc. log on chkpt.',true
exec sp_dboption tpcc,'auto create statistics',true
exec sp_dboption tpcc,'auto update statistics',true
go

use tpcc
go

alter database tpcc set recovery simple
```



```
go
checkpoint
go
```

DBOPT2 . SQL

```
-- File: DBOPT2_SHILOH.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.10a
-- Copyright Microsoft, 1999
-- Purpose: Resets database options after data load (For Shiloh)
```

```
use master
go
```

```
sp_dboption tpcc,'select',false
go
```

```
sp_dboption tpcc,'trunc.',false
go
```

```
use tpcc
go
```

```
checkpoint
go
```

```
alter database tpcc set recovery full
go
```

```
sp_configure allow,1
go
```

```
reconfigure with override
go
```

```
/* */
/* Set option values for user-defined indexes */
/* */
```

```
sp_indexoption 'customer', 'DisallowPageLocks', TRUE
go
```

```
sp_indexoption 'district', 'DisallowPageLocks', TRUE
sp_indexoption 'warehouse', 'DisallowPageLocks', TRUE
go
sp_indexoption 'stock', 'DisallowPageLocks', TRUE
go
sp_indexoption 'order_line', 'DisallowRowLocks', TRUE
go
sp_indexoption 'orders', 'DisallowRowLocks', TRUE
go
sp_indexoption 'new_order', 'DisallowRowLocks', TRUE
go
sp_indexoption 'item', 'DisallowRowLocks', TRUE
go
sp_indexoption 'item', 'DisallowPageLocks', TRUE
go
```

```
Print ' '
Print '*****'
Print 'Pre-specified Locking Hierarchy:'
Print ' Lockflag = 0 ==> No pre-specified hierarchy'
Print ' Lockflag = 1 ==> Lock at Page-level then Table-level'
Print ' Lockflag = 2 ==> Lock at Row-level then Table-level'
Print ' Lockflag = 3 ==> Lock at Table-level'
Print ' '

```

```
select name,lockflags
from sysindexes
where object_id("warehouse") = id or
object_id("district") = id or
object_id("customer") = id or
object_id("stock") = id or
object_id("orders") = id or
object_id("order_line") = id or
object_id("history") = id or
object_id("new_order") = id or
object_id("item") = id
order by lockflags asc
go
```

```
sp_configure allow,0
go
```

```
reconfigure with override
go
```

```
exec sp_dboption tpcc, 'auto update statistics', FALSE
exec sp_dboption tpcc, 'auto create statistics', FALSE
go
```

```
exec sp_tableoption "district", "pintable",true
exec sp_tableoption "warehouse", "pintable",true
```

```
exec sp_tableoption "new_order", "pintable",true
go
```

B.2 Table definitions

Createtables . sql

```
--
-- HPTPCC Setup Kit
-- Drop and Create Tables
-- Tables are initially created in the load_fg filegroup
--
```

```
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' )
```

<pre> 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 NOT NULL, w_name char(10) NOT NULL, w_street_1 char(20) NOT NULL, w_street_2 char(20) NOT NULL, w_city char(20) NOT NULL, w_state char(2) NOT NULL, w_zip char(9) NOT NULL, w_tax numeric(4,4) NOT NULL, w_ytd numeric(12,2) NOT NULL) on load_fg go create table district (d_id tinyint NOT NULL, d_w_id int NOT NULL, d_name char(10) NOT NULL, d_street_1 char(20) NOT NULL, d_street_2 char(20) NOT NULL, d_city char(20) NOT NULL, d_state char(2) NOT NULL, d_zip char(9) NOT NULL, d_tax numeric(4,4) NOT NULL, d_ytd numeric(12,2) NOT NULL, d_next_o_id int NOT NULL) on load_fg </pre>	<pre> go create table customer (c_id int NOT NULL, c_d_id tinyint NOT NULL, c_w_id int NOT NULL, c_first char(16) NOT NULL, c_middle char(2) NOT NULL, c_last char(16) NOT NULL, c_street_1 char(20) NOT NULL, c_street_2 char(20) NOT NULL, c_city char(20) NOT NULL, c_state char(2) NOT NULL, c_zip char(9) NOT NULL, c_phone char(16) NOT NULL, c_since datetime NOT NULL, c_credit char(2) NOT NULL, c_credit_lim numeric(12,2) NOT NULL, c_discount numeric(4,4) NOT NULL, c_balance numeric(12,2) NOT NULL, c_ytd_payment numeric(12,2) NOT NULL, c_payment_cnt smallint NOT NULL, c_delivery_cnt smallint NOT NULL, c_data char(500)) on load_fg go create table history (h_c_id int NOT NULL, h_c_d_id tinyint NOT NULL, h_c_w_id int NOT NULL, h_d_id tinyint NOT NULL, </pre>	<pre> h_w_id int NOT NULL, h_date datetime NOT NULL, h_amount numeric(6,2) NOT NULL, h_data char(24)) on load_fg go create table new_order (no_o_id int NOT NULL, no_d_id tinyint NOT NULL, no_w_id int NOT NULL) on load_fg go create table orders (o_id int NOT NULL, o_d_id tinyint NOT NULL, o_w_id int NOT NULL, o_c_id int NOT NULL, o_entry_d datetime NOT NULL, o_carrier_id tinyint NOT NULL, o_ol_cnt tinyint NOT NULL, o_all_local tinyint NOT NULL) on load_fg go create table order_line (ol_o_id int NOT NULL, ol_d_id tinyint NOT NULL, ol_w_id int NOT NULL, ol_number tinyint NOT NULL, ol_i_id int NOT NULL, ol_supply_w_id int NOT NULL, </pre>
---	---	--

```

        ol_delivery_d      datetime NOT NULL,
        ol_quantity        smallint NOT NULL,
        ol_amount          numeric(6,2) NOT
NULL,
        ol_dist_info      char(24) NOT NULL
) on load_fg
go

create table item
(
    i_id                  int NOT
NULL,
    i_im_id              int NOT
NULL,
    i_name                char(24)
NOT NULL,
    i_price              numeric(5,2) NOT NULL,
    i_data                char(50)
NOT NULL
) on load_fg
go

create table stock
(
    s_i_id                int NOT
NULL,
    s_w_id                int NOT
NULL,
    s_quantity            smallint NOT NULL,
    s_dist_01             char(24) NOT NULL,
    s_dist_02             char(24) NOT NULL,
    s_dist_03             char(24) NOT NULL,
    s_dist_04             char(24) NOT NULL,
    s_dist_05             char(24) NOT NULL,
    s_dist_06             char(24) NOT NULL,
    s_dist_07             char(24) NOT NULL,
    s_dist_08             char(24) NOT NULL,
    s_dist_09             char(24) NOT NULL,
    s_dist_10             char(24) NOT NULL,
    s_ytd                  int NOT
NULL,
    s_order_cnt           smallint NOT NULL,
    s_remote_cnt          smallint
NOT NULL,
    s_data                char(50)
NOT NULL
) on load_fg
go

sp_tableoption 'warehouse','table lock on bulk load','on'
go

```

```

datetime NOT NULL,
smallint NOT NULL,
numeric(6,2) NOT
NULL,
char(24) NOT NULL

int NOT
NULL,
int NOT
NULL,
char(24)
char(50)

int NOT
NULL,
int NOT
NULL,
smallint NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
char(24) NOT NULL,
int NOT
NULL,
smallint NOT NULL,
smallint
char(50)

```

```

sp_tableoption 'district','table lock on bulk load','on'
sp_tableoption 'customer','table lock on bulk load','on'
go
sp_tableoption 'history','table lock on bulk load','on'
go
sp_tableoption 'new_order','table lock on bulk load','on'
go
sp_tableoption 'orders','table lock on bulk load','on'
go
sp_tableoption 'order_line','table lock on bulk load','on'
go
sp_tableoption 'stock','table lock on bulk load','on'
go

```

newcreateCustomerindexes.sql

```

--
-- HP TPCC Setup
-- Create Indexes for Customer
-- and move the table from LoadFg to CustomerStockFg
--
use tpcc
go

create unique clustered index customer_c1 on customer(c_w_id, c_id,
c_d_id)
with SORT_IN_TEMPDB, fillfactor=100 on cs_fg
go

--create unique nonclustered index customer_nc1 on customer(c_w_id,
c_d_id, c_last, c_first, c_id)
--with SORT_IN_TEMPDB, fillfactor=100
--go

--create unique clustered index history_c1 on history(h_c_w_id, h_date,
h_c_d_id, h_c_id, h_amount)
-- with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
--go

create clustered index history_c1 on history(h_c_w_id, h_date, h_c_d_id,
h_c_id, h_amount)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go
--

```

newcreateItemindexes.sql

```

-- HPTPCC Setup Kit
-- Create Item Indexes
-- and move the table from LoadFg to MiscFg
--
use tpcc
go

create unique clustered index item_c1 on item(i_id)

with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

```

newcreateOrdersindexes.sql

```

--
-- HPTPCC Setup Kit
-- Create ORDERS Indexes
-- and move the table from LoadFg to MiscFg
--
use tpcc
go

create unique clustered index orders_c1 on orders(o_w_id, o_d_id, o_id)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

create index orders_nc1 on orders(o_w_id, o_d_id, o_c_id, o_id)
with SORT_IN_TEMPDB, fillfactor=100
go

create unique clustered index new_order_c1 on new_order(no_w_id,
no_d_id, no_o_id)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

create unique clustered index order_line_c1 on order_line(ol_w_id, ol_d_id,
ol_o_id, ol_number)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

```

newcreateStockindexes.sql

```
--
-- HPTPCC Setup Kit
-- Create STOCK Indexes
-- and move the table from LoadFg to MiscFg
--

use tpcc
go

create unique clustered index warehouse_c1 on warehouse(w_id)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

create unique clustered index district_c1 on district(d_w_id, d_id)
with fillfactor=100, SORT_IN_TEMPDB on misc_fg
go

create unique clustered index stock_c1 on stock(s_i_id,s_w_id)
with SORT_IN_TEMPDB, fillfactor=100 on cs_fg
go
```

newcreateWarehouseindexes.sql

```
--
-- HPTPCC Setup Kit
-- Create WAREHOUSE Indexes
-- and move the table from LoadFg to MiscFg
--

use tpcc
go

create unique clustered index warehouse_c1 on warehouse(w_id)
with SORT_IN_TEMPDB, fillfactor=100 on misc_fg
go

create unique clustered index district_c1 on district(d_w_id, d_id)
with fillfactor=100, SORT_IN_TEMPDB on misc_fg
go

create unique clustered index stock_c1 on stock(s_i_id,s_w_id)
with SORT_IN_TEMPDB, fillfactor=100 on cs_fg
go
```

B.3 Stored Procedures

createnewordproc.sql

```
-----
--                               --
-- File: NEWORD.SQL              --
-- Microsoft TPC-C Benchmark Kit Ver. 4.42  --
-- Copyright Microsoft, 2003      --
--                               --
-- - Creates new order transaction stored procedure --
--                               --
-- - Interface Level: 4.10.000    --
--                               --
-----

use tpcc
go

if exists ( select name from sysobjects where name = 'tpcc_neworder' )
    drop procedure tpcc_neworder

go

create proc tpcc_neworder
    int, @w_id
    tinyint, @d_id
    int, @c_id
        @o_o_cnt tinyint,
        @o_all_local tinyint,
    int = 0, @s_w_id1 int = 0, @ol_qty1 smallint = 0,
    int = 0, @s_w_id2 int = 0, @ol_qty2 smallint = 0,
    int = 0, @s_w_id3 int = 0, @ol_qty3 smallint = 0,
    int = 0, @s_w_id4 int = 0, @ol_qty4 smallint = 0,
    int = 0, @s_w_id5 int = 0, @ol_qty5 smallint = 0,
    int = 0, @s_w_id6 int = 0, @ol_qty6 smallint = 0,
```

```
    @i_id7
    @i_id8
    @i_id9
    @i_id10
    @i_id11
    @i_id12
    @i_id13
    @i_id14
    @i_id15

    int = 0, @s_w_id7 int = 0, @ol_qty7 smallint = 0,
    int = 0, @s_w_id8 int = 0, @ol_qty8 smallint = 0,
    int = 0, @s_w_id9 int = 0, @ol_qty9 smallint = 0,
    int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
    int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
    int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
    int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
    int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
    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),
    @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
          when 7 then
          when 8 then
          when 9 then
          when 10 then
          when 11 then
          when 12 then
          when 13 then
          when 14 then
          when 15 then
          end,
          @ol_qty1
          @ol_qty2
          @ol_qty3
          @ol_qty4
          @ol_qty5
          @ol_qty6
          @ol_qty7
          @ol_qty8
          @ol_qty9
          @ol_qty10
          @ol_qty11
          @ol_qty12
          @ol_qty13
          @ol_qty14
          @ol_qty15

          @li_qty = case @li_no
          when 1 then
          when 2 then
          when 3 then
          when 4 then
          when 5 then
          when 6 then
          when 7 then
          when 8 then
          when 9 then
          when 10 then
          when 11 then
          when 12 then
          when 13 then
          when 14 then
          when 15 then
          end,
          -----
          -- get item data (no one updates item)
          -----
          select    @i_price = i_price,
                   @i_name  = i_name,
                   @i_data  = i_data
          from      item WITH (tablock, 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
          when 1
          when 2
          when 3
          when 4
          when 5
          when 6
          when 7
          when 8
          when 9
          when
          10 then s_dist_10
          end
          where     s_i_id      = @li_id
                   s_w_id     =
          @li_s_w_id
          end

```

```

-----
-- 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,

                    @li_s_w_id,

                    'dec 31, 1899',

                    @li_qty,

                    @i_price * @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'
                           ,
                           @i_price,
                           @i_price * @li_qty

                end
                else
                begin
-----
-- no item (or stock) found - triggers rollback condition
-----
                select ",0","",0,0

```

```

                end
                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,

                                   @o_entry_d,

                                   0,

                                   @o_ol_cnt,

                                   @o_all_local)

-----
-- 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

        if exists ( select name from sysobjects where name = 'sp0tpcc_neworder' )
            drop procedure sp0tpcc_neworder

        go

        create proc sp0tpcc_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,

```

```

int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
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),
        @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,

        @i_id10 where @commit_flag @w_id and
                d_id = @d_id

        @i_id11 -----
        @i_id12 -- process orderlines
        @i_id13 -----
        @i_id14 while (@li_no < @o_ol_cnt)
        @i_id15 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
                    when 2 then
                    when 3 then
                    when 4 then
                    when 5 then
                    when 6 then
                    when 7 then
                    when 8 then
                    when 9 then
                    when 10 then
                    when 11 then
                    when 12 then
                    when 13 then
                    when 14 then
                    when 15 then
                    end,
                    @ol_qty = case @li_no
                    when 1 then
                    when 2 then
                    when 3 then
                    when 4 then
                    when 5 then
                    when 6 then
                    when 7 then
                    when 8 then
                    when 9 then
                    when 10 then
                    when 11 then
                    when 12 then
                    when 13 then
                    when 14 then
                    when 15 then
                    end,

        @s_w_id10 @s_w_id10
        @s_w_id11 @s_w_id11
        @s_w_id12 @s_w_id12
        @s_w_id13 @s_w_id13
        @s_w_id14 @s_w_id14
        @s_w_id15 @s_w_id15
        end,

        @ol_qty1 @li_qty = case @li_no
        @ol_qty2 when 1 then
        @ol_qty3 when 2 then
        @ol_qty4 when 3 then
        @ol_qty5 when 4 then
        @ol_qty6 when 5 then
        @ol_qty7 when 6 then
        @ol_qty8 when 7 then
        @ol_qty9 when 8 then
        @ol_qty10 when 9 then
        @ol_qty11 when 10 then
        @ol_qty12 when 11 then
        @ol_qty13 when 12 then
        @ol_qty14 when 13 then
        @ol_qty15 when 14 then
        end,

        -----
        -- get item data (no one updates item)
        -----
        select @i_price = i_price,
            @i_name = i_name,

```

```

from      @i_data = i_data
item WITH (tablock, repeatableread)
where     i_id = @li_id

-----
-- update stock values
-----
update    stock
set       s_ytd          = s_ytd

+ @li_qty,
s_quantity - @li_qty +
          @s_quantity = s_quantity =
          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
and       where     s_i_id      = @li_id
          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,
                              @li_s_w_id,
                              'dec 31, 1899',
                              @li_qty,
                              @i_price * @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_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,
                              @o_entry_d,
                              0,
                              @o_ol_cnt,
                              @o_all_local)

-----
-- 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

if exists ( select name from sysobjects where name = 'sp1tpcc_neworder' )
  drop procedure sp1tpcc_neworder
go

create proc sp1tpcc_neworder
@w_id    int,
@d_id    tinyint,
@c_id    int,
@o_ol_cnt  tinyint,
@o_all_local  tinyint,
int = 0, @s_w_id1 int = 0, @ol_qty1 smallint = 0,
int = 0, @s_w_id2 int = 0, @ol_qty2 smallint = 0,
int = 0, @s_w_id3 int = 0, @ol_qty3 smallint = 0,
int = 0, @s_w_id4 int = 0, @ol_qty4 smallint = 0,
int = 0, @s_w_id5 int = 0, @ol_qty5 smallint = 0,
int = 0, @s_w_id6 int = 0, @ol_qty6 smallint = 0,
int = 0, @s_w_id7 int = 0, @ol_qty7 smallint = 0,
int = 0, @s_w_id8 int = 0, @ol_qty8 smallint = 0,
int = 0, @s_w_id9 int = 0, @ol_qty9 smallint = 0,
int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,

```

```

int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,

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),
           @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)

```

```

@i_id13
@i_id14

@i_id15

```

```

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
@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
@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 (tablock, 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
and where s_i_id = @li_id
       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,
@li_s_w_id,
'dec 31, 1899',
@li_qty,
@i_price * @li_qty,
@s_dist)
-----
-- send line-item data to client
-----
select @i_name,
       @s_quantity,
       b_g = case when (
(patindex('%ORIGINAL%',@i_data) > 0) and
       (patindex('%ORIGINAL%',@s_data) > 0)
       then 'B' else 'G'
end,
       @i_price,
       @i_price * @li_qty
end
else
begin
-----
-- no item (or stock) found - triggers rollback condition
-----
select ",0",0,0
select @commit_flag = 0
end
end
-----
-- get customer last name, discount, and credit rating
-----
select @c_last = c_last,
       @c_discount = c_discount,
       @c_credit = c_credit,
       @c_id_local = c_id
from   customer WITH (repeatableread)
where  c_id = @c_id and

```

```

c_w_id      = @w_id and
c_d_id      = @d_id

-----
-- insert fresh row into orders table
-----
insert into orders values ( @o_id,

                                @d_id,
                                @w_id,

                                @c_id_local,

                                @o_entry_d,

                                @o_o_cnt,

                                @o_all_local)

-----
-- 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 (repeatable read)
where       w_id        = @w_id

if (@commit_flag = 1)
    commit transaction n
else
    rollback transaction n

-----
-- 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,

```

```

@commit_flag
end
go
if exists ( select name from sysobjects where name = 'sp2tpcc_neworder' )
    drop procedure sp2tpcc_neworder
go
create proc sp2tpcc_neworder
    @w_id int,
    @d_id int,
    @c_id tinyint,
    @o_o_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

```

```

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),
        @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_o_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,

            @ol_qty1
            @ol_qty2
            @ol_qty3
            @ol_qty4
            @ol_qty5
            @ol_qty6
            @ol_qty7
            @ol_qty8
            @ol_qty9
            @ol_qty10
            @ol_qty11
            @ol_qty12
            @ol_qty13
            @ol_qty14
            @ol_qty15

            -----
            -- get item data (no one updates item)
            -----
            select      @i_price = i_price,
                       @i_name = i_name,
                       @i_data = i_data
            from        item WITH (tablock, 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,

            @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

            -----
            s_remote_cnt =
            s_remote_cnt + case when (@li_s_w_id = @s_w_id) then 0 else 1 end,
            @d_id = case
            then s_dist_01
            then s_dist_02
            then s_dist_03
            then s_dist_04
            then s_dist_05
            then s_dist_06
            then s_dist_07
            then s_dist_08
            then s_dist_09
            10 then s_dist_10
            end
            where      s_i_id = @li_id
            and
            @li_s_w_id =
            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,
            @li_s_w_id,

```

```

'dec 31, 1899',
@li_qty,
@i_price * @li_qty,
@s_dist)
-----
-- send line-item data to client
-----
select      @i_name,
            @s_quantity,
            b_g = case when (
(patindex('%ORIGINAL%',@i_data) > 0) and
            (patindex('%ORIGINAL%',@s_data) > 0) )
            then 'B' else 'G'
end,
            @i_price,
            @i_price * @li_qty
end
else
begin
-----
-- no item (or stock) found - triggers rollback condition
-----
select ",0",0,0
select @commit_flag = 0
end
end
-----
-- get customer last name, discount, and credit rating
-----
select      @c_last = c_last,
            @c_discount = c_discount,
            @c_credit = c_credit,
            @c_id_local = c_id
from        customer WITH (repeatableread)
where       c_id = @c_id and
            c_w_id = @w_id and
            c_d_id = @d_id
-----
-- insert fresh row into orders table
-----

```

```

insert into orders values ( @o_id,
                            @c_id_local,
                            @o_entry_d,
                            @o_ol_cnt,
                            @o_all_local)
-----
-- 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
rollback transaction n
-----
-- 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
if exists ( select name from sysobjects where name = 'sp3tpcc_neworder' )
drop procedure sp3tpcc_neworder

```

```

go
create proc sp3tpcc_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),
    @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,
                        @ol_qty = case @li_no
                        when 1 then @ol_qty4
                        when 2 then @ol_qty5
                        when 3 then @ol_qty6
                        when 4 then @ol_qty7
                        when 5 then @ol_qty8
                        when 6 then @ol_qty9
                        when 7 then @ol_qty10
                        when 8 then @ol_qty11
                        when 9 then @ol_qty12
                        when 10 then @ol_qty13
                        when 11 then @ol_qty14
                        when 12 then @ol_qty15
                        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,
                        @i_qty = case @li_no
                        when 1 then @i_qty1
                        when 2 then @i_qty2
                        when 3 then @i_qty3
                        when 4 then @i_qty4
                        when 5 then @i_qty5
                        when 6 then @i_qty6
                        when 7 then @i_qty7
                        when 8 then @i_qty8
                        when 9 then @i_qty9
                        when 10 then @i_qty10
                        when 11 then @i_qty11
                        when 12 then @i_qty12
                        when 13 then @i_qty13
                        when 14 then @i_qty14
                        when 15 then @i_qty15
                        end,
                        @d_id = case
                        when 4 then @d_id4
                        when 5 then @d_id5
                        when 6 then @d_id6
                        when 7 then @d_id7
                        when 8 then @d_id8
                        when 9 then @d_id9
                        when 10 then @d_id10
                        when 11 then @d_id11
                        when 12 then @d_id12
                        when 13 then @d_id13
                        when 14 then @d_id14
                        when 15 then @d_id15
                        end
                end

        -----
        -- get item data (no one updates item)
        -----
                select    @i_price = i_price,
                        @i_name  = i_name,
                        @i_data  = i_data
                from      item WITH (tablock, repeatableread)
                where     i_id = @li_id

        -----
        -- update stock values
        -----
                update    stock
                set       s_ytd      = s_ytd
                        + @li_qty,
                        @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

end
end

```

```

then s_dist_01
then s_dist_02
then s_dist_03
then s_dist_04
then s_dist_05
then s_dist_06
then s_dist_07
then s_dist_08
then s_dist_09
10 then s_dist_10

where s_i_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,
@li_s_w_id,
'dec 31, 1899',
@li_qty,
@l_price * @li_qty,

```

```

when 1
-----
@o_dist)
when 2
-- send line-item data to client
-----
when 3
select @l_name,
when 4 @s_quantity,
when 5 b_g = case when (
(patindex('%ORIGINAL%',@i_data) > 0) and
when 6 (patindex('%ORIGINAL%',@s_data) > 0) )
then 'B' else 'G'
when 7 end,
when 8 @l_price,
@l_price * @li_qty
when 9 end
else
when begin
end
-----
-- no item (or stock) found - triggers rollback condition
-----
select ",",0,"0,0
select @commit_flag = 0

end
end

-----
-- get customer last name, discount, and credit rating
-----
select @c_last = c_last,
@c_discount = c_discount,
@c_credit = c_credit,
@c_id_local = c_id
from customer WITH (repeatableread)
where c_id = @c_id and
c_w_id = @w_id and
c_d_id = @d_id

-----
-- insert fresh row into orders table
-----
insert into orders values ( @o_id,
@d_id,
@w_id,
@c_id_local,
@o_entry_d,
0,

```

```

@o_ol_cnt,
@o_all_local)
-----
-- 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
if exists ( select name from sysobjects where name = 'sp4tpcc_neworder' )
drop procedure sp4tpcc_neworder
go
create proc sp4tpcc_neworder
@w_id
int,

```

```

tinyint,
int,
    @o_ol_cnt    tinyint,
    @o_all_local tinyint,
int = 0, @s_w_id1 int = 0, @ol_qty1 smallint = 0,
int = 0, @s_w_id2 int = 0, @ol_qty2 smallint = 0,
int = 0, @s_w_id3 int = 0, @ol_qty3 smallint = 0,
int = 0, @s_w_id4 int = 0, @ol_qty4 smallint = 0,
int = 0, @s_w_id5 int = 0, @ol_qty5 smallint = 0,
int = 0, @s_w_id6 int = 0, @ol_qty6 smallint = 0,
int = 0, @s_w_id7 int = 0, @ol_qty7 smallint = 0,
int = 0, @s_w_id8 int = 0, @ol_qty8 smallint = 0,
int = 0, @s_w_id9 int = 0, @ol_qty9 smallint = 0,
int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
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),
    @i_data  char(50),
    @o_entry_d  datetime,
    @remote_flag int,

```

```

@d_id      @s_data    char(50),
@c_id      @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
@i_id1
@i_id2
@i_id3
@i_id4
@i_id5
@i_id6
@i_id7
@i_id8
@i_id9
@i_id10
@i_id11
@i_id12
@i_id13
@i_id14
@i_id15

```

```

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
        end
-----
-- 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

```

```

@s_w_id1
@s_w_id2
@s_w_id3
@s_w_id4
@s_w_id5
@s_w_id6
@s_w_id7
@s_w_id8
@s_w_id9
@s_w_id10
@s_w_id11
@s_w_id12
@s_w_id13
@s_w_id14
@s_w_id15
@ol_qty1
@ol_qty2
@ol_qty3
@ol_qty4
@ol_qty5
@ol_qty6
        when 13 then @i_id13
        when 14 then @i_id14
        when 15 then @i_id15
end,
@s_i_s_w_id = case @li_no
        when 1 then
        when 2 then
        when 3 then
        when 4 then
        when 5 then
        when 6 then
        when 7 then
        when 8 then
        when 9 then
        when 10 then
        when 11 then
        when 12 then
        when 13 then
        when 14 then
        when 15 then
end,
@li_qty = case @li_no
        when 1 then
        when 2 then
        when 3 then
        when 4 then
        when 5 then
        when 6 then

```



```

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 (tablock, 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
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,
@li_s_w_id,
'dec 31, 1899',
@li_qty,
@i_price * @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
end
end

-----
-- no item (or stock) found - triggers rollback condition
-----
select "0","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,
@o_entry_d,
0,
@o_ol_cnt,
@o_all_local)

-----

```

```

-- 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
    rollback transaction n
-----
-- 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
if exists ( select name from sysobjects where name = 'sp5tpcc_neworder' )
    drop procedure sp5tpcc_neworder

go

create proc sp5tpcc_neworder
int,
tinyint,
int,
@o_ol_cnt tinyint,

```

```

@o_all_local tinyint,
int = 0, @s_w_id1 int = 0, @ol_qty1 smallint = 0,
int = 0, @s_w_id2 int = 0, @ol_qty2 smallint = 0,
int = 0, @s_w_id3 int = 0, @ol_qty3 smallint = 0,
int = 0, @s_w_id4 int = 0, @ol_qty4 smallint = 0,
int = 0, @s_w_id5 int = 0, @ol_qty5 smallint = 0,
int = 0, @s_w_id6 int = 0, @ol_qty6 smallint = 0,
int = 0, @s_w_id7 int = 0, @ol_qty7 smallint = 0,
int = 0, @s_w_id8 int = 0, @ol_qty8 smallint = 0,
int = 0, @s_w_id9 int = 0, @ol_qty9 smallint = 0,
int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
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),
           @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 @ol_number int,
@o_id 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 @ol_qty10
  when 2 then @ol_qty11
  when 3 then @ol_qty12
  when 4 then @ol_qty13
  when 5 then @ol_qty14
  when 6 then @ol_qty15
  when 7 then
  when 8 then
  when 9 then
  when 10 then
  when 11 then
  when 12 then
  when 13 then
  when 14 then
  when 15 then
end,
@li_qty = case @li_no
  when 1 then
  when 2 then
  when 3 then
  when 4 then
  when 5 then
  when 6 then
  when 7 then
  when 8 then
  when 9 then
  when 10 then
  when 11 then
  when 12 then
  when 13 then
  when 14 then
  when 15 then
end,
@ol_qty1
@ol_qty2
@ol_qty3
@ol_qty4
@ol_qty5
@ol_qty6
@ol_qty7
@ol_qty8
@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 (tablock, 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
when 9
then s_dist_08
then s_dist_09
when
10 then s_dist_10
and
where
s_i_id = @li_id
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,
@li_s_w_id,
'dec 31, 1899',
@li_qty,
@i_price * @li_qty,
@s_dist)
-----
-- send line-item data to client
-----
select @i_name,
       @s_quantity,
       b_g = case when (
(patindex('%ORIGINAL%',@i_data) > 0) and
(patindex('%ORIGINAL%',@s_data) > 0) )
then 'B' else 'G'
end,

```

```

                @i_price,
                @i_price * @li_qty
            end
            else
            begin
            -----
            -- no item (or stock) found - triggers rollback condition
            -----
                select ",0",0,0
                select @commit_flag = 0
            end
            end
        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,
                               @o_entry_d,
                               0,
                               @o_ol_cnt,
                               @o_all_local)
    -----
    -- 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
if exists ( select name from sysobjects where name = 'sp6tpcc_neworder' )
drop procedure sp6tpcc_neworder
go
create proc sp6tpcc_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),
        @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
                    when 4 then
                    when 5 then
                    when 6 then
                    when 7 then
                    when 8 then
                    when 9 then
                    when 10 then
                    when 11 then
                    when 12 then
                    when 13 then
                    when 14 then
                    when 15 then
                    end,
                   @ol_qty13
@_ol_qty14
@_ol_qty15
-----
-- get item data (no one updates item)
-----
        select      @i_price = i_price,
                   @i_name  = i_name,
                   @i_data  = i_data
        from        item WITH (tablock, repeatableread)
        where       i_id = @li_id
-----

-- update stock values
-----
        update      stock
        set          s_ytd
+ @li_qty,
s_quantity - @li_qty +
                   @s_quantity = s_quantity =
        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_dist
                   = s_data,
                   = 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
                    when 11
then
                    when 12
then
                    when 13
then
                    when 14
then
                    when 15
then
                    end,
        @li_qty = case @li_no
                    when 1 then
                    when 2 then
                    when 3 then
                    when 4 then
                    when 5 then
                    when 6 then
                    when 7 then
                    when 8 then
                    when 9 then
                    when 10 then
                    when 11 then
                    when 12 then
                    when 13 then
                    when 14 then
                    when 15 then
                    end,
        @ol_qty1
@_ol_qty2
@_ol_qty3
@_ol_qty4
@_ol_qty5
@_ol_qty6
@_ol_qty7
@_ol_qty8
@_ol_qty9
@_ol_qty10
@_ol_qty11
@_ol_qty12
        @s_w_id3
@s_w_id4
@s_w_id5
@s_w_id6
@s_w_id7
@s_w_id8
@s_w_id9
@s_w_id10
@s_w_id11
@s_w_id12
@s_w_id13
@s_w_id14
@s_w_id15
        when 3 then
        when 4 then
        when 5 then
        when 6 then
        when 7 then
        when 8 then
        when 9 then
        when 10 then
        when 11 then
        when 12 then
        when 13 then
        when 14 then
        when 15 then
        end,
        when 13 then
        when 14 then
        when 15 then
        end

```

```

10 then s_dist_10
where s_i_id
and
@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,
@_li_s_w_id,
'dec 31, 1899',
@_li_qty,
@_i_price * @_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,
@s_price,
@s_price * @_li_qty
end

```

```

begin
-----
-- no item (or stock) found - triggers rollback condition
-----
select ",0",0,0
select @commit_flag = 0
end
end
-----
-- get customer last name, discount, and credit rating
-----
select @c_last = c_last,
@c_discount = c_discount,
@c_credit = c_credit,
@c_id_local = c_id
from customer WITH (repeatableread)
where c_id = @c_id and
c_w_id = @w_id and
c_d_id = @d_id
-----
-- insert fresh row into orders table
-----
insert into orders values ( @o_id,
@_d_id,
@_w_id,
@c_id_local,
@o_entry_d,
0,
@o_ol_cnt,
@o_all_local)
-----
-- 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
if exists ( select name from sysobjects where name = 'sp7tpcc_neworder' )
drop procedure sp7tpcc_neworder
go
create proc sp7tpcc_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,

```

```

int = 0, @s_w_id6 int = 0, @ol_qty6 smallint = 0,
int = 0, @s_w_id7 int = 0, @ol_qty7 smallint = 0,
int = 0, @s_w_id8 int = 0, @ol_qty8 smallint = 0,
int = 0, @s_w_id9 int = 0, @ol_qty9 smallint = 0,
int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
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),
        @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

```

```

@i_id6
@i_id7
@i_id8
@i_id9
@i_id10
@i_id11
@i_id12
@i_id13
@i_id14
@i_id15

-----
-- 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
        when 2 then
        when 3 then
        when 4 then
        when 5 then
@s_w_id1
@s_w_id2
@s_w_id3
@s_w_id4
@s_w_id5

```

```

@s_w_id6
@s_w_id7
@s_w_id8
@s_w_id9
@s_w_id10
@s_w_id11
@s_w_id12
@s_w_id13
@s_w_id14
@s_w_id15

@s_w_id6
@s_w_id7
@s_w_id8
@s_w_id9
@s_w_id10
@s_w_id11
@s_w_id12
@s_w_id13
@s_w_id14
@s_w_id15

@ol_qty1
@ol_qty2
@ol_qty3
@ol_qty4
@ol_qty5
@ol_qty6
@ol_qty7
@ol_qty8
@ol_qty9
@ol_qty10
@ol_qty11
@ol_qty12
@ol_qty13
@ol_qty14

when 6 then
when 7 then
when 8 then
when 9 then
when 10 then
when 11 then
when 12 then
when 13 then
when 14 then
when 15 then
end,
@li_qty = case @li_no
when 1 then
when 2 then
when 3 then
when 4 then
when 5 then
when 6 then
when 7 then
when 8 then
when 9 then
when 10 then
when 11 then
when 12 then
when 13 then
when 14 then

```

```

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 (tablock, repeatableread)
where       i_id = @li_id

-----
-- update stock values
-----
update      stock
set         s_ytd = s_ytd
            @s_quantity = s_quantity =
+ @li_qty,
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
and
where       s_i_id

```

```

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,
@li_s_w_id,
'dec 31, 1899',
@li_qty,
@i_price * @li_qty,
@s_dist)
-----
-- send line-item data to client
-----
select      @i_name,
            @s_quantity,
            b_g = case when (
(patindex('%ORIGINAL%',@i_data) > 0) and
(patindex('%ORIGINAL%',@s_data) > 0) )
then 'B' else 'G'
end,
            @i_price,
            @i_price * @li_qty
end
else
begin
-----

```

```

-- no item (or stock) found - triggers rollback condition
-----
select ",0",0,0
select @commit_flag = 0
end
end
-----
-- get customer last name, discount, and credit rating
-----
select      @c_last = c_last,
            @c_discount = c_discount,
            @c_credit = c_credit,
            @c_id_local = c_id
from        customer WITH (repeatableread)
where       c_id = @c_id and
            c_w_id = @w_id and
            c_d_id = @d_id
-----
-- insert fresh row into orders table
-----
insert into orders values ( @o_id,
@d_id,
@w_id,
@c_id_local,
@o_entry_d,
0,
@o_ol_cnt,
@o_all_local)
-----
-- 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
            rollback transaction n
        end

-- all that work for nuthin!!!

-- 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

```

createordstatproc.sql

```

-----
-- File:  ORDSTAT.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.42
-- Copyright Microsoft, 2003
--
-- - Creates order status transaction stored procedure
--
-- - Interface Level: 4.10.000
-----
use tpcc

```

```

go
if exists ( select name from sysobjects where name = 'tpcc_orderstatus' )
    drop procedure    tpcc_orderstatus
go

create proc 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,
        @cnt          smallint

begin tran 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
    end
end

```

```

        order set by c_w_id, c_d_id, c_last, c_first
        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 tran 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

if exists ( select name from sysobjects where name = 'sp0tpcc_orderstatus' )
drop procedure sp0tpcc_orderstatus
go

create proc sp0tpcc_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,
        @cnt           smallint

```

```

begin tran 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
and
            c_w_id      = @w_id
            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

```

```

end
select      @cnt      = @@rowcount

-----
-- 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 tran 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
if exists ( select name from sysobjects where name = 'sp1tpcc_orderstatus' )
    drop procedure sp1tpcc_orderstatus
go
create proc sp1tpcc_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,
        @cnt smallint
begin tran 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
        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

```

```

        order by o_id asc
        = @w_id
        -----
        -- 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 tran 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
if exists ( select name from sysobjects where name = 'sp2tpcc_orderstatus' )
    drop procedure sp2tpcc_orderstatus
go
create proc sp2tpcc_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,
    @cnt            smallint

begin tran 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

```

```

        and
        c_d_id      = @d_id
        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 tran o
-----
-- return data to client
-----
select      @c_id,

```

```

    @c_first,
    @c_middle,
    @o_entry_d,
    @o_carrier_id,
    @c_balance,
    @o_id

go
if exists ( select name from sysobjects where name = 'sp3tpcc_orderstatus' )
    drop procedure sp3tpcc_orderstatus
go

create proc sp3tpcc_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,
        @cnt        smallint

begin tran 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
    where
    customer WITH (repeatableread)
    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
    where
    customer WITH (repeatableread)
    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

```

```

    where
    order_line WITH (serializable) = @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
    where
    order_line WITH (repeatableread)
    ol_o_id = @o_id and
    ol_d_id = @d_id and
    ol_w_id = @w_id
    custnotfound:
    commit tran 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
    if exists ( select name from sysobjects where name = 'sp4tpcc_orderstatus' )
        drop procedure sp4tpcc_orderstatus
    go
    create proc sp4tpcc_orderstatus
        @w_id int,
        @d_id tinyint,
        @c_id int,
        @c_last char(16)
    as
    declare @c_balance numeric(12,2),

```

```

        @c_middle char(16),
        @o_id int,
        @o_entry_d datetime,
        @o_carrier_id smallint,
        @cnt smallint
    begin tran 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)

```

```

and          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 tran 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
if exists ( select name from sysobjects where name = 'sp5tpcc_orderstatus' )
drop procedure sp5tpcc_orderstatus
go

create proc sp5tpcc_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,
        @cnt smallint

begin tran 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_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 tran 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

if exists ( select name from sysobjects where name = 'sp6tpcc_orderstatus' )
drop procedure sp6tpcc_orderstatus

go

create proc sp6tpcc_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,
        @cnt       smallint

begin tran 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,

```

```

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 tran 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
if exists ( select name from sysobjects where name = 'sp7tpcc_orderstatus' )
    drop procedure  sp7tpcc_orderstatus
go

create proc sp7tpcc_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,
        @cnt           smallint

begin tran 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

and

select      c_w_id      = @w_id

           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

select      c_d_id      = @d_id

           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_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 tran 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

createdeliveryproc.sql

-----
--
-- File: DELIVERY.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.42
-- Copyright Microsoft, 2003
--

```



```

-- - Creates delivery transaction stored procedure
--
-- - Interface Level: 4.10.000
--
-----
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 numeric(12,2),
        @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 tran d

while (@d_id < 10)
begin
select @d_id = @d_id + 1,
        @total = 0,
        @o_id = 0

select top 1
        @o_id = no_o_id
from new_order WITH (serializable),
updlock)
where no_w_id = @w_id and

```

```

order by no_o_id asc @d_id
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 + 1 where c_delivery_cnt
        = @w_id and c_w_id
        = @d_id and c_d_id
        = @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 tran d

-----
-- return delivery data to client
-----
select @oid1,
        @oid2,
        @oid3,
        @oid4,
        @oid5,
        @oid6,
        @oid7,
        @oid8,
        @oid9,
        @oid10

go

if exists (select name from sysobjects where name = 'sp0tpcc_delivery')
drop procedure sp0tpcc_delivery

go

create proc sp0tpcc_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

select @d_id = 0

begin tran d

    while (@d_id < 10)
    begin

        select @d_id = @d_id + 1,
               @total = 0,
               @o_id = 0

        select top 1
               @o_id = no_o_id
        from    new_order WITH (serializable,
                               updlock)
        where  no_w_id = @w_id and
               no_d_id = @d_id
        order  by no_o_id asc

        if (@@rowcount <> 0)
        begin

            -----
            -- claim the order for this district
            -----

            delete new_order
            where  no_w_id = @w_id

            and

            and

            and

            no_d_id = @d_id

            no_o_id = @o_id

            -----

            -- set carrier_id on this order (and get customer id)
            -----

```

```

        update   order_line
        set      ol_delivery_d =
        getdate(),
               = @total + ol_amount
               = @w_id and
               = @d_id and
               = @o_id

        -----
        -- set date in all lineitems for this order (and sum amounts)
        -----

        update   order_line
        set      ol_delivery_d =
        getdate(),
               = @total
               = @w_id and
               = @d_id and
               = @o_id

        -----
        -- accumulate lineitem amounts for this order into customer
        -----

        update   customer
        set      c_balance =
        c_balance + @total,
               = c_delivery_cnt + 1
               = @w_id and
               = @d_id and
               = @c_id

        end

        select @oid1 = case @d_id when 1 then @o_id else @oid1
        @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,
        @oid10 = case @d_id when 10 then @o_id else @oid10 end

    end

    commit tran d

    -----
    -- return delivery data to client
    -----

    select @oid1,
           @oid2,
           @oid3,
           @oid4,
           @oid5,
           @oid6,
           @oid7,
           @oid8,
           @oid9,
           @oid10

    go

    if exists (select name from sysobjects where name = 'sp1tpcc_delivery')
        drop procedure sp1tpcc_delivery

    go

    create proc sp1tpcc_delivery
        @w_id int,
        @o_carrier_id int,
        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

    select @d_id = 0

```

```

begin tran 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
            where o_w_id
              = o_c_id
              = @w_id and
              = @d_id and
              = @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
    = @d_id and
    = @o_id
    ol_d_id
    ol_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
    = @d_id and
    = @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 tran d

    -----
    -- return delivery data to client
    -----
    select @oid1,
           @oid2,
           @oid3,
           @oid4,
           @oid5,
           @oid6,
           @oid7,

```

```

    @oid9,
    @oid10

go
if exists (select name from sysobjects where name = 'sp2tpcc_delivery')
    drop procedure sp2tpcc_delivery
go

create proc sp2tpcc_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

select @d_id = 0

begin tran 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
delete new_order
where no_d_id = @d_id

and
delete new_order
where no_o_id = @o_id

-----
-- set carrier_id on this order (and get customer id)
-----
update orders
set o_carrier_id =
@o_carrier_id,
o_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
c_id

= @d_id and
= @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 tran d

-----
-- return delivery data to client
-----
select @oid1,
@oid2,
@oid3,
@oid4,
@oid5,
@oid6,
@oid7,
@oid8,
@oid9,
@oid10

go
if exists (select name from sysobjects where name = 'sp3tpcc_delivery' )
drop procedure sp3tpcc_delivery
go

create proc sp3tpcc_delivery @w_id int,
@o_carrier_id int,
as

smallint
as

declare @d_id tinyint,
@o_id int,
@c_id int,

```

```

@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 tran 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
new_order WITH (serializable),

from new_order WITH (serializable),

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
delete new_order
where no_d_id = @d_id

and
delete new_order
where no_o_id = @o_id

-----
-- set carrier_id on this order (and get customer id)
-----
update orders
set o_carrier_id =
@o_carrier_id,
o_c_id
= o_c_id

```

```

        = @w_id and      where    o_w_id
        = @d_id and      o_d_id
        = @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
        = @w_id and      where    ol_w_id
        = @d_id and      ol_d_id
        = @o_id          ol_o_id
-----
-- accumulate lineitem amounts for this order into customer
-----
        update    customer
        set       c_balance =
c_balance + @total,
        = c_delivery_cnt + 1      c_delivery_cnt
        = @w_id and      where    c_w_id
        = @d_id and      c_d_id
        = @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 tran d
-----
-- return delivery data to client
-----
select @oid1,
       @oid2,
       @oid3,
       @oid4,
       @oid5,
       @oid6,
       @oid7,
       @oid8,
       @oid9,
       @oid10
go
if exists (select name from sysobjects where name = 'sp4tpcc_delivery')
drop procedure sp4tpcc_delivery
go
create proc sp4tpcc_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
select @d_id = 0
begin tran d
        while (@d_id < 10)
        begin
                select @d_id = @d_id + 1,

```

```

                                @total = 0)
        select top 1
        @o_id = no_o_id
        from    new_order WITH (serializable),
        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,
                = o_c_id
                = @w_id and
                = @d_id and
                = @o_id
        where     o_w_id
                o_d_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
                = @w_id and      where    ol_w_id
                = @d_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,
                                update      c_delivery_cnt
                                = c_delivery_cnt + 1
                                where       c_w_id
                                = @w_id and
                                = @d_id and
                                = @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 tran d
-----
-- return delivery data to client
-----
select @oid1,
       @oid2,
       @oid3,
       @oid4,
       @oid5,
       @oid6,
       @oid7,
       @oid8,
       @oid9,
       @oid10
go
if exists (select name from sysobjects where name = 'sp5tpcc_delivery' )

```

```

go      drop procedure sp5tpcc_delivery
create proc sp5tpcc_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
select @d_id = 0
begin tran d
        while (@d_id < 10)
        begin
                select @d_id = @d_id + 1,
                       @total = 0,
                       @o_id = 0
                from      top 1
                       new_order WITH (serializable),
                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
                                no_o_id = @o_id
-----
-- set carrier_id on this order (and get customer id)
-----
                                update      orders
                                set         o_carrier_id =
@o_carrier_id,
                                = o_c_id
                                where       o_w_id
                                = @w_id and
                                = @d_id and
                                = @o_id
-----
-- set date in all lineitems for this order (and sum amounts)
-----
                                update      order_line
                                set         ol_delivery_d=
getdate(),
                                = @total + ol_amount
                                where       ol_w_id
                                = @w_id and
                                = @d_id and
                                = @o_id
-----
-- accumulate lineitem amounts for this order into customer
-----
                                update      customer
                                set         c_balance =
c_balance + @total,
                                = c_delivery_cnt + 1
                                where       c_w_id
                                = @w_id and
                                = @d_id and
                                = @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 tran d

-----
-- return delivery data to client
-----

select @oid1,
    @oid2,
    @oid3,
    @oid4,
    @oid5,
    @oid6,
    @oid7,
    @oid8,
    @oid9,
    @oid10

go
if exists (select name from sysobjects where name = 'sp6tpcc_delivery' )
    drop procedure sp6tpcc_delivery
go

create proc sp6tpcc_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,

```

```

        @oid7 int,
        @oid8 int,
        @oid9 int,
        @oid10int

select @d_id = 0

begin tran 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,

                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

                where     no_d_id    = @d_id

                and

                where     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

                where     o_w_id

                o_d_id

                o_id

                = o_c_id

                = @w_id and

                = @d_id and

                = @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 tran d

-----
-- return delivery data to client
-----

```

```

select @oid1,
       @oid2,
       @oid3,
       @oid4,
       @oid5,
       @oid6,
       @oid7,
       @oid8,
       @oid9,
       @oid10

go
if exists (select name from sysobjects where name = 'sp7tpcc_delivery' )
    drop procedure sp7tpcc_delivery
go

create proc sp7tpcc_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

select @d_id = 0

begin tran 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,
        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

            = @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=

            @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 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 tran d

-----
-- return delivery data to client
-----

select @oid1,
       @oid2,
       @oid3,
       @oid4,
       @oid5,
       @oid6,
       @oid7,
       @oid8,
       @oid9,
       @oid10

go

createpaymentproc.sql

```



```

-----
-- File: PAYMENT.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.42
-- Copyright Microsoft, 2003
--
-- - Creates payment transaction stored procedure
--
-- - Interface Level: 4.10.000
-----

use tpcc
go

if exists (select name from sysobjects where name = 'tpcc_payment' )
    drop procedure tpcc_payment

go

create proc tpcc_payment @w_id int,
                        @c_w_id int,
                        @h_amount
                        numeric(6,2),
                        @d_id tinyint,
                        @c_d_id tinyint,
                        @c_id int,
                        @c_last char(16)
= ""

as
declare @w_street_1 char(20),
        @w_street_2 char(20),
        @w_city char(20),
        @w_state char(2),
        @w_zip char(9),
        @w_name char(10),
        @d_street_1 char(20),
        @d_street_2 char(20),
        @d_city char(20),
        @d_state char(2),
        @d_zip char(9),
        @d_name char(10),
        @c_first char(16),
        @c_middle char(2),
        @c_street_1 char(20),
        @c_street_2 char(20),
        @c_city char(20),
        @c_state char(2),
        @c_zip char(9),

```

```

@c_phone 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

select @screen_data = ""

begin tran 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 +
@c_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,
@data = c_data,
@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) +

```

```

458)                                substring(@data, 1,
-----
-- update customer info
-----
update      customer
set         c_data      = @c_data

where       c_id        = @c_id and
           c_w_id      = @c_w_id and
           c_d_id      = @c_d_id

select      @screen_data = substring
(@c_data,1,200)
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_w_id,
                                @c_id_local,
                                @w_id_local,
                                @datetime,
                                @h_amount,
                                @w_name + ' ' + @d_name)
commit tran 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

if exists (select name from sysobjects where name = 'sp0tpcc_payment' )
drop procedure sp0tpcc_payment

go

create proc sp0tpcc_payment      @w_id      int,

```

```

                                @h_amount int,
                                @d_id      tinyint,
                                @c_d_id    tinyint,
                                @c_id      int,
                                @c_last    char(16)

                                numeric(6,2),

                                = "

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

select @screen_data = "

```

```

begin tran 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

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_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,
            @h_amount,

            @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,

```

```

            @e_credit_lim = c_credit, = c_credit_lim,
            @c_discount = c_discount,
            @c_since = c_since,
            @data = c_data,

            @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) +
substr(@data, 1,
458)

-----
-- update customer info
-----
update      customer
set         c_data = @c_data

where       c_id = @c_id and
            c_w_id = @c_w_id and
            c_d_id = @c_d_id

select      @screen_data = substring
(@c_data,1,200)
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 tran 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
if exists (select name from sysobjects where name = 'sp1tpcc_payment')
    drop procedure sp1tpcc_payment
go

create proc sp1tpcc_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_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

```

```

select @screen_data = ""

begin tran 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 @w_id = (@cnt + 1) / 2

select @c_id = c_id
from customer WITH (repeatableread)
where c_last = @c_last and
c_w_id = @c_w_id and
c_d_id = @c_d_id

order by c_last, c_first

set rowcount 0

end

-----
-- get customer info and update balances
-----
update customer
set @c_balance = c_balance = c_balance -
@h_amount,
c_payment_cnt = c_payment_cnt + 1,
c_ytd_payment = c_ytd_payment +
@h_amount,
@c_first = c_first,
@c_middle = c_middle,
@c_last = c_last,
@c_street_1 = c_street_1,
@c_street_2 = c_street_2,
@c_city = c_city,
@c_state = c_state,
@c_zip = c_zip,
@c_phone = c_phone,
@c_credit = c_credit,
@c_credit_lim = c_credit_lim,
@c_discount = c_discount,
@c_since = c_since,
@data = c_data,
@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) +
substr(@data, 1,
458)
-----
-- update customer info
-----
update customer
set c_data = @c_data
where c_id = @c_id and
c_w_id = @c_w_id and
c_d_id = @c_d_id
select @screen_data = substring
(@c_data,1,200)
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 tran 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_d_id,
@c_w_id,
@screen_data
go
if exists (select name from sysobjects where name = 'sp2tpcc_payment' )
drop procedure sp2tpcc_payment
go
create proc sp2tpcc_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

select @screen_data = ''

begin tran p
-----
-- get payment date
-----
        select      @datetime = getdate()

        if (@c_id = 0)
        begin
-----
-- get customer id and info using last name
-----
                select      @cnt      = count(*)
                from        customer WITH (repeatableread)
                where       c_last     = @c_last and
                           c_w_id     = @c_w_id and
                           c_d_id     = @c_d_id

                select      @val = (@cnt + 1) / 2
                set        rowcount @val

                select      @c_id      = c_id
                from        customer WITH (repeatableread)
                where       c_last     = @c_last and
                           c_w_id     = @c_w_id and
                           c_d_id     = @c_d_id

                order      by c_last, c_first

                set        rowcount 0

        end

-----
-- get customer info and update balances
-----
        update      customer
        set         @c_balance = c_balance = c_balance -
        @h_amount, c_payment_cnt = c_payment_cnt + 1,

```

```

        c_ytd_payment = c_ytd_payment +
        @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,
        @data          = c_data,

        @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) +
                substring(@data, 1,
                458)

-----
-- update customer info
-----
                update      customer
                set         c_data = @c_data

```

```

        where       @c_w_id     = @c_w_id and
                   c_d_id     = @c_d_id

        select      @screen_data = substring
        (@c_data,1,200)
        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 tran 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
if exists (select name from sysobjects where name = 'sp3tpcc_payment')
    drop procedure sp3tpcc_payment
go

create proc sp3tpcc_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

select @screen_data = "

begin tran p

-----
-- get payment date
-----
select      @datetime = getdate()

if (@c_id = 0)

```

```

begin

-----
-- get customer id and info using last name
-----
select      @cnt      = count(*)
           from      customer WITH (repeatableread)
           where     c_last   = @c_last and
                    c_w_id   = @c_w_id and
                    c_d_id   = @c_d_id

select      @val = (@cnt + 1) / 2
set         rowcount @val

select      @c_id     = c_id
           from      customer WITH (repeatableread)
           where     c_last   = @c_last and
                    c_w_id   = @c_w_id and
                    c_d_id   = @c_d_id

order      by c_last, c_first

set         rowcount 0

end

-----
-- get customer info and update balances
-----
update     customer
set        @c_balance = c_balance = c_balance -
@h_amount,
c_payment_cnt      = c_payment_cnt + 1,
c_ytd_payment      = c_ytd_payment +
@h_amount,

@c_first   = c_first,
@c_middle  = c_middle,
@c_last    = c_last,
@c_street_1 = c_street_1,
@c_street_2 = c_street_2,
@c_city    = c_city,
@c_state   = c_state,
@c_zip     = c_zip,
@c_phone   = c_phone,
@c_credit  = c_credit,
@c_credit_lim = c_credit_lim,
@c_discount = c_discount,
@c_since   = c_since,
@c_data    = c_data,

@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) +
                                substring(@data, 1,
458)

-----
-- update customer info
-----
        update      customer
        set          c_data      = @c_data

        where      c_id      = @c_id and
                  c_w_id     = @c_w_id and
                  c_d_id     = @c_d_id

        select      @screen_data = substring
(@c_data,1,200)
        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_id_local = d_id      = d_name,
        d_w_id      = @w_id and = @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      = @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 tran 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_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
if exists (select name from sysobjects where name = 'sp4tpcc_payment' )
drop procedure sp4tpcc_payment

go

create proc sp4tpcc_payment      @w_id      int,
                                @c_w_id     int,
                                @h_amount   int,
                                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

select @screen_data = ''

begin tran 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

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

```

```

end set rowcount 0

-----
-- get customer info and update balances
-----
update      customer
set         @c_balance = c_balance = c_balance -
            @h_amount,
            c_payment_cnt = c_payment_cnt + 1,
            c_ytd_payment = c_ytd_payment +
            @h_amount,
            @c_first      = c_first,
            @c_middle     = c_middle,
            @c_last       = c_last,
            @c_street_1   = c_street_1,
            @c_street_2   = c_street_2,
            @c_city       = c_city,
            @c_state      = c_state,
            @c_zip        = c_zip,
            @c_phone      = c_phone,
            @c_credit     = c_credit,
            @c_credit_lim = c_credit_lim,
            @c_discount   = c_discount,
            @c_since      = c_since,
            @data         = c_data,
            @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) +

```

```

458) substring(@data, 1,
-----
-- update customer info
-----
update      customer
set         c_data = @c_data

where       c_id      = @c_id and
            c_w_id    = @c_w_id and
            c_d_id    = @c_d_id

select      @screen_data = substring
(@c_data,1,200)
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 tran 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
if exists (select name from sysobjects where name = 'sp5tpcc_payment' )
    drop procedure sp5tpcc_payment
go

create proc sp5tpcc_payment      @w_id      int,
                                @c_w_id    int,

                                @h_amount  tinyint,
                                @d_id      tinyint,
                                @c_d_id    tinyint,
                                @c_id      int,
                                @c_last    char(16)

                                @c_d_id,
                                numeric(6,2),

                                = "

                                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_d_local int

                                select @screen_data = "

                                begin tran p
                                -----

                                @h_amount
                                @d_id      tinyint,
                                @c_d_id    tinyint,
                                @c_id      int,
                                @c_last    char(16)

                                ----get payment date
                                select      @datetime = getdate()

                                if (@c_id = 0)
                                begin

                                -----
                                -- get customer id and info using last name
                                -----

                                select      @cnt      = count(*)
                                from        customer WITH (repeatableread)
                                where       c_last    = @c_last and
                                            c_w_id    = @c_w_id and
                                            c_d_id    = @c_d_id

                                select      @val = (@cnt + 1) / 2
                                set        rowcount @val

                                select      @c_id      = c_id
                                from        customer WITH (repeatableread)
                                where       c_last    = @c_last and
                                            c_w_id    = @c_w_id and
                                            c_d_id    = @c_d_id
                                order      by c_last, c_first

                                set        rowcount 0

                                end

                                -----
                                -- get customer info and update balances
                                -----

                                update     customer
                                set         @c_balance = c_balance = c_balance -
                                @h_amount,
                                            c_payment_cnt = c_payment_cnt + 1,
                                            c_ytd_payment = c_ytd_payment +
                                @h_amount,

                                            @c_first = c_first,
                                            @c_middle = c_middle,
                                            @c_last = c_last,
                                            @c_street_1 = c_street_1,
                                            @c_street_2 = c_street_2,
                                            @c_city = c_city,
                                            @c_state = c_state,
                                            @c_zip = c_zip,
                                            @c_phone = c_phone,
                                            @c_credit = c_credit,
                                            @c_credit_lim = c_credit_lim,
                                            @c_discount = c_discount,

```

```

        @c_since = c_since,
        @data = c_data,

        where @c_id_local = c_id
              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) +
        substring(@data, 1,
458)

-----
-- update customer info
-----
        update customer
        set c_data = @c_data

        where c_id = @c_id and
              c_w_id = @c_w_id and
              c_d_id = @c_d_id

        select @screen_data = substring
(@c_data,1,200)
        end

-----
-- get district data and update year-to-date
-----
        update district
        set d_ytd = d_ytd +
        @h_amount,

```

```

        @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 tran 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_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
if exists (select name from sysobjects where name = 'sp6tpcc_payment' )
drop procedure sp6tpcc_payment
go

create proc sp6tpcc_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

```

```
select @screen_data = ''
```

```
begin tran 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_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 -
@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,
@data = c_data,

```

```

where @c_id_local = c_id
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) +

```

```
substring(@data, 1,
```

```
458)
```

```
-- update customer info
```

```

update customer
set c_data = @c_data

where c_id = @c_id and
c_w_id = @c_w_id and
c_d_id = @c_d_id

select @screen_data = substring
(@c_data,1,200)
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,
                            @d_id_local,
                            @w_id_local,
                            @datetime,
                            @h_amount,
                            @w_name + ' ' + @d_name)
commit tran 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
if exists (select name from sysobjects where name = 'sp7tpcc_payment' )
drop procedure sp7tpcc_payment

```

```

go
create proc sp7tpcc_payment
@c_w_id int,
@h_amount int,
@d_id tinyint,
@c_d_id tinyint,
@c_id int,
@c_last char(16)
@w_id int
numeric(6,2),
= "
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
select @screen_data = "

```

```

begin tran p
-----
-- get payment date
-----
select @datetime = getdate()
if (@c_id = 0)
begin
-----
-- get customer id and info using last name
-----
select @cnt = count(*)
from customer WITH (repeatableread)
where c_last = @c_last and
c_w_id = @c_w_id and
c_d_id = @c_d_id
select @val = (@cnt + 1) / 2
set rowcount @val
select @c_id = c_id
from customer WITH (repeatableread)
where c_last = @c_last and
c_w_id = @c_w_id and
c_d_id = @c_d_id
order by c_last, c_first
set rowcount 0
end
-----
-- get customer info and update balances
-----
update customer
set @c_balance = c_balance = c_balance -
@h_amount,
c_payment_cnt = c_payment_cnt + 1,
c_ytd_payment = c_ytd_payment +
@h_amount,
@c_first = c_first,
@c_middle = c_middle,
@c_last = c_last,
@c_street_1 = c_street_1,
@c_street_2 = c_street_2,
@c_city = c_city,
@c_state = c_state,
@c_zip = c_zip,

```

```

        @c_phone = c_phone,
        @c_credit = c_credit,
        @c_credit_lim = c_credit_lim,
        @c_discount = c_discount,
        @c_since = c_since,
        @data = c_data,

        @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) +
                                substring(@data, 1,
458)

-----
-- update customer info
-----
        update      customer
set            c_data = @c_data

        where      c_id = @c_id and
                  c_w_id = @c_w_id and
                  c_d_id = @c_d_id

        select      @screen_data = substring
(@c_data,1,200)
        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 tran p

-----
-- return data to client
-----
select      @c_id,
           @c_last,
           @datetime,
           @w_street_1,

```

```

@w_street_2,
@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

createstocklevproc.sql

```

-----
--
-- File: STOCKLEV.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.42
-- Copyright Microsoft, 2003
--
-- - Creates stock level transaction stored procedure
--
-- - Interface Level: 4.10.000
--
-----
use tpcc
go

if exists (select name from sysobjects where name = 'tpcc_stocklevel')
drop procedure tpcc_stocklevel

go

```

```

create proc 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

go

if exists (select name from sysobjects where name = 'sp0tpcc_stocklevel' )
drop procedure sp0tpcc_stocklevel
go

create proc sp0tpcc_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_quantity < @threshold ol_i_id and
go
if exists (select name from sysobjects where name = 'sp1tpcc_stocklevel' )
drop procedure sp1tpcc_stocklevel
go
create proc sp1tpcc_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

go

if exists (select name from sysobjects where name = 'sp2tpcc_stocklevel' )
drop procedure sp2tpcc_stocklevel
go
create proc sp2tpcc_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))

```

```

where stock_id order_line = @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

go

if exists (select name from sysobjects where name = 'sp3tpcc_stocklevel' )
drop procedure sp3tpcc_stocklevel
go
create proc sp3tpcc_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

go

if exists (select name from sysobjects where name = 'sp4tpcc_stocklevel' )
drop procedure sp4tpcc_stocklevel
go
create proc sp4tpcc_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

go

if exists (select name from sysobjects where name = 'sp5tpcc_stocklevel' )
drop procedure sp5tpcc_stocklevel
go

create proc sp5tpcc_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

go

if exists (select name from sysobjects where name = 'sp6tpcc_stocklevel' )
drop procedure sp6tpcc_stocklevel
go

```

```

create proc sp6tpcc_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

go

if exists (select name from sysobjects where name = 'sp7tpcc_stocklevel' )
drop procedure sp7tpcc_stocklevel
go

create proc sp7tpcc_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

```

```
go
```

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 <odbc.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 loading_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 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() Tunable Parameters

```

Appendix C Tunable Parameters

Disabled Windows Services

Alerter
 Automatic Updates
 ClipBook
 Distributed Link Tracking Client
 Error Reporting Service
 HID Input Service
 IMAPI CD-Burning COM Service
 Indexing Service
 Intersite Messaging
 Kerberos Key Distribution Center
 License Logging Service
 Messenger
 Network DDE
 Network DDE DSDM
 Print Spooler
 Remote Registry Service
 Secondary Logon
 Telnet
 Terminal Services Session Directory
 Upload Manager
 WebClient
 Windows Audio
 Windows Image Acquisition
 Wireless Configuration

Server System Configuration

System Information report written at: 01/17/05 15:16:11
 System Name: SQLOLY
 [System Summary]

Item	Value
OS Name	Microsoft(R) Windows(R) Server 2003, Datacenter Edition for 64-Bit Itanium-based Systems
Version	5.2.3790 Service Pack 1, v.1289 Build 3790
OS Manufacturer	Microsoft Corporation
System Name	SQLOLY
System Manufacturer	hp
System Model	server rx8620
System Type	Itanium (TM) -based System

Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
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Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor	ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz

BIOS Version/Date	HP 001.022, Not Available
SMBIOS Version	2.3
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
Boot Device	\Device\HarddiskVolume148
Locale	United States
Hardware Abstraction Layer	Version = "5.2.3790.1289 (srv03_sp1_rc1.041202-1618)"
User Name	Not Available
Time Zone	Pacific Standard Time
Total Physical Memory	262,077.23 MB
Available Physical Memory	249.67 GB
Total Virtual Memory	255.55 GB
Available Virtual Memory	251.40 GB
Page File Space	2.00 GB
Page File	C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource	Device	
I/O Port 0x0000A000-0x0000BFFF	PCI bus	
I/O Port 0x0000A000-0x0000BFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	
I/O Port 0x0000A000-0x0000BFFF	PCI bus	
I/O Port 0x0000A000-0x0000BFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter	
I/O Port 0x0000A000-0x0000BFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI bus	
Memory Address 0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	
I/O Port 0x00000000-0x000002FF	PCI bus	
I/O Port 0x00000000-0x000002FF	PCI bus	
I/O Port 0x00000000-0x000002FF	PCI bus	
I/O Port 0x00000000-0x000002FF	PCI bus	
Memory Address 0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	
Memory Address 0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	
Memory Address 0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	
Memory Address 0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	
Memory Address 0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	
Memory Address 0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	
Memory Address 0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	
Memory Address 0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	

I/O Port 0x0000A040-0x0000A07F	Intel(R) PRO/1000 MT Dual Port Server Adapter #4	I/O Port 0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)
I/O Port 0x0000A040-0x0000A07F	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	Memory Address 0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge
I/O Port 0x00002000-0x00003FFF	PCI bus	Memory Address 0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)
I/O Port 0x00002000-0x00003FFF	PCI bus	Memory Address 0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	PCI bus
I/O Port 0x00002000-0x00003FFF	PCI bus	Memory Address 0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge
I/O Port 0x00002000-0x00003FFF	QLogic QLA23xx PCI Fibre Channel Adapter	Memory Address 0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	PCI bus
Memory Address 0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge
Memory Address 0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM5)	PCI bus	HP Baseboard Management Controller Interface Driver	I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM6)	PCI bus		I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM4)	PCI bus		I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM3)	Memory Address 0xF01C0000-0xF01FFFFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xD0100000-0xD011FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3
Memory Address 0xF0080000-0xF00BFFFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	Memory Address 0xF01C0000-0xF01FFFFF	Smart Array 6400 Controller (Non-Miniport)	Memory Address 0xD0100000-0xD011FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter
Memory Address 0xF0080000-0xF00BFFFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus
I/O Port 0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge
I/O Port 0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	I/O Port 0x00006000-0x00007FFF	QLogic QLA23xx PCI Fibre Channel Adapter	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus
I/O Port 0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge
I/O Port 0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus
I/O Port 0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge
I/O Port 0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus
I/O Port 0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge
		I/O Port 0x0000E000-0x0000FFFF	PCI bus	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device
		I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device
				Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device

Memory Address 0xC0010000-0xC0011FFF Device	LSI Logic 53C1010-66	I/O Port 0x00001100-0x000011FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320 Smart Array 6400 Controller U320	Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Gigabit Ethernet #4 Memory Address 0xC0000000-0xC7FFFFFF	PCI bus Broadcom NetXtreme PCI bus
Memory Address 0xC001C000-0xC001C3FF Device	LSI Logic 53C1010-66				
Memory Address 0xC001C000-0xC001C3FF Device	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF Processor	HP Management	I/O Port 0x00001000-0x00001FFF	PCI bus
Memory Address 0xC001C000-0xC001C3FF Device	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF Processor	HP Management	I/O Port 0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge
Memory Address 0xC001C000-0xC001C3FF Device	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF Processor	HP Management	I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xC001C000-0xC001C3FF Device	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF Processor	HP Management	I/O Port 0x00001000-0x00001FFF	PCI bus
Memory Address 0xD0080000-0xD00BFFFF Dual Port Server Adapter #4	Intel(R) PRO/1000 MT	I/O Port 0x00004100-0x000041FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xD0080000-0xD00BFFFF Dual Port Server Adapter #2	Intel(R) PRO/1000 MT	I/O Port 0x00004100-0x000041FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	I/O Port 0x00001000-0x00001FFF	PCI bus
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	I/O Port 0x00004100-0x000041FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	I/O Port 0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge
Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	I/O Port 0x00004100-0x000041FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus			I/O Port 0x00001000-0x00001FFF	PCI bus
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus			I/O Port 0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge
Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xC0016000-0xC0017FFF Device	LSI Logic 53C1010-66	I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC0016000-0xC0017FFF Device	LSI Logic 53C1010-66		
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC0016000-0xC0017FFF Device	LSI Logic 53C1010-66	Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66
Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xC0016000-0xC0017FFF Device	LSI Logic 53C1010-66	Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF Device	LSI Logic 53C1010-66	Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF Device	LSI Logic 53C1010-66	Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66
Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xC001A000-0xC001A3FF Device	LSI Logic 53C1010-66	I/O Port 0x00005000-0x00005FFF	LSI Logic 53C1010-66 Device
Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF Device	LSI Logic 53C1010-66	I/O Port 0x00005000-0x00005FFF	LSI Logic 53C1010-66 Device
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus			I/O Port 0x00005000-0x00005FFF	LSI Logic 53C1010-66 Device
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC0000000-0xC7FFFFFF	PCI bus	I/O Port 0x00005000-0x00005FFF	LSI Logic 53C1010-66 Device
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
Memory Address 0xD0000000-0xDFFFFFFF	Intel(R) PRO/1000 MT	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
Memory Address 0xD0000000-0xDFFFFFFF	Intel(R) PRO/1000 MT	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme		
I/O Port 0x00001100-0x000011FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	Memory Address 0xC0000000-0xC7FFFFFF	PCI bus	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400
I/O Port 0x00001100-0x000011FF Expansion Module (Non-Miniport)	Smart Array 6400 Controller U320	Memory Address 0xC0000000-0xC7FFFFFF	PCI bus	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400
		Memory Address 0xC0000000-0xC7FFFFFF	Broadcom NetXtreme	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400

Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400	I/O Port 0x00000600-0x000006FF I/O Port 0x00000600-0x000006FF	LSI Logic 53C1010-66 Device LSI Logic 53C1010-66 Device	0x00000600-0x000006FF 0x00000700-0x000007FF	LSI Logic 53C1010-66 Device LSI Logic 53C1010-66 Device	OK OK
I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00000600-0x000006FF	LSI Logic 53C1010-66 Device	0x00000700-0x000007FF	LSI Logic 53C1010-66 Device	OK
I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400	0x00000700-0x000007FF	LSI Logic 53C1010-66 Device	OK
I/O Port 0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400	0x00000800-0x000008FF	LSI Logic 53C1010-66 Device	OK
I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400	0x00000800-0x000008FF	LSI Logic 53C1010-66 Device	OK
I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400	0x00000800-0x000008FF	LSI Logic 53C1010-66 Device	OK
I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus	Memory Address 0xD0120000-0xD013FFFF Dual Port Server Adapter #4	Intel(R) PRO/1000 MT	0x00001000-0x00001FFF 0x00001000-0x00001FFF	PCI bus OK PCI standard PCI-to-PCI bridge	OK OK
I/O Port 0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	Memory Address 0xD0120000-0xD013FFFF Dual Port Server Adapter #2	Intel(R) PRO/1000 MT	0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	[DMA]		OK		
I/O Port 0x0000C000-0x0000DFFF I/O Port 0x0000C000-0x0000DFFF	PCI bus QLogic QLA23xx PCI Fibre Channel Adapter	Resource Device Status		0x00001000-0x00001FFF	PCI bus OK	OK
I/O Port 0x0000C000-0x0000DFFF I/O Port 0x0000C000-0x0000DFFF	PCI bus PCI bus	[Forced Hardware]		0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
I/O Port 0x0000C000-0x0000DFFF	PCI bus	Device PNP Device ID		0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF	PCI bus Emulex LPX000 Fibre Channel Storport Driver	[I/O]		OK		
I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF	PCI bus PCI bus	Resource Device Status		0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF	QLogic QLA23xx PCI Fibre Channel Adapter	0x00000000-0x000002FF 0x00000000-0x000002FF	PCI bus OK PCI bus OK	0x00001000-0x00001FFF	PCI bus OK	OK
I/O Port 0x00008000-0x00009FFF	PCI bus	0x00000000-0x000002FF	PCI bus OK	0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
I/O Port 0x00008000-0x00009FFF	PCI bus	0x00000400-0x000005FF 0x00000500-0x000005FF	LSI Logic 53C1010-66 Device LSI Logic 53C1010-66 Device	0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
I/O Port 0x00008000-0x00009FFF	PCI bus	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device	0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device	0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device	0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400	0x00000600-0x000006FF	LSI Logic 53C1010-66 Device	0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400	0x00000600-0x000006FF	LSI Logic 53C1010-66 Device	0x00002000-0x00003FFF 0x00002000-0x00003FFF	PCI bus OK PCI bus OK	OK
I/O Port 0x00000600-0x000006FF	LSI Logic 53C1010-66 Device	0x00000600-0x000006FF	LSI Logic 53C1010-66 Device	0x00002000-0x00003FFF 0x00002000-0x00003FFF	PCI bus OK QLogic QLA23xx PCI Fibre Channel Adapter	OK OK

0x00004000-0x00005FFF	PCI bus	OK	0x0000A040-0x0000A07F	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK	IRQ 32	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK	0x0000A040-0x0000A07F	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK	IRQ 33	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK	0x0000C000-0x0000DFFF	PCI bus	OK	IRQ 54	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI bus	OK	0x0000C000-0x0000DFFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK	IRQ 55	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK	0x0000C000-0x0000DFFF	PCI bus	OK	IRQ 76	Emulex LPX000 Fibre Channel Storport Driver	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK	0x0000C000-0x0000DFFF	PCI bus	OK	IRQ 87	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0x00004000-0x00005FFF	PCI bus	OK	0x0000E000-0x0000FFFF	PCI bus	OK	IRQ 88	Intel(R) PRO/1000 MT Dual Port Server Adapter #4	OK
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK	0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK	IRQ 98	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK	0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK	IRQ 109	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI bus	OK	0x0000E000-0x0000FFFF	PCI bus	OK	IRQ 110	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK	0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK	IRQ 133	HP MP Serial AUX/UPS Port (COM6)	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK	0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK	IRQ 132	Broadcom NetXtreme Gigabit Ethernet	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	0x0000E000-0x0000FFFF	PCI bus	OK	IRQ 128	LSI Logic 53C1010-66 Device	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK	IRQ 129	LSI Logic 53C1010-66 Device	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK	IRQ 130	LSI Logic 53C1010-66 Device	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	0x0000E000-0x0000FFFF	PCI bus	OK	IRQ 131	LSI Logic 53C1010-66 Device	OK
0x00006000-0x00007FFF	PCI bus	OK	0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK	IRQ 136	Smart Array 6400 Controller (Non-Miniport)	OK
0x00006000-0x00007FFF	PCI bus	OK	0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK	IRQ 137	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00006000-0x00007FFF	PCI bus	OK	0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	IRQ 158	Smart Array 6400 Controller (Non-Miniport)	OK
0x00006000-0x00007FFF	PCI bus	OK	0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	IRQ 159	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00008000-0x00009FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK	0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	IRQ 169	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x00006000-0x00007FFF	PCI bus	OK	0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	IRQ 213	Smart Array 6400 Controller (Non-Miniport)	OK
0x00008000-0x00009FFF	Emulex LPX000 Fibre Channel Storport Driver	OK	0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK	IRQ 214	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00008000-0x00009FFF	PCI bus	OK	[IRQs]			IRQ 237	HP MP Serial AUX/UPS Port (COM4)	OK
0x00008000-0x00009FFF	PCI bus	OK	Resource	Device	Status	IRQ 236	Broadcom NetXtreme Gigabit Ethernet #3	OK
0x00008000-0x00009FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK	IRQ 16	Microsoft ACPI-Compliant System	OK	IRQ 232	LSI Logic 53C1010-66 Device	OK
0x00008000-0x00009FFF	PCI bus	OK	IRQ 29	HP MP Serial AUX/UPS Port (COM5)	OK	IRQ 233	LSI Logic 53C1010-66 Device	OK
0x0000A000-0x0000BFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK	IRQ 28	Broadcom NetXtreme Gigabit Ethernet #2	OK	IRQ 234	LSI Logic 53C1010-66 Device	OK
0x0000A000-0x0000BFFF	PCI bus	OK	IRQ 24	LSI Logic 53C1010-66 Device	OK	IRQ 235	LSI Logic 53C1010-66 Device	OK
0x0000A000-0x0000BFFF	PCI bus	OK	IRQ 25	LSI Logic 53C1010-66 Device	OK	IRQ 240	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000A000-0x0000BFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter	OK	IRQ 26	LSI Logic 53C1010-66 Device	OK	IRQ 241	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x0000A000-0x0000BFFF	PCI bus	OK	IRQ 27	LSI Logic 53C1010-66 Device	OK			
			IRQ 17	HP Baseboard Management Controller Interface Driver	OK			

IRQ 262	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 263	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 284	QLogic QLA23xx PCI Fibre Channel Adapter	OK
IRQ 295	Intel(R) PRO/1000 MT Dual Port Server Adapter	OK
IRQ 296	Intel(R) PRO/1000 MT Dual Port Server Adapter #2	OK
IRQ 317	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 318	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 341	HP MP Serial AUX/UPS Port (COM3)	OK
IRQ 340	Broadcom NetXtreme Gigabit Ethernet #4	OK
IRQ 336	LSI Logic 53C1010-66 Device	OK
IRQ 337	LSI Logic 53C1010-66 Device	OK
IRQ 338	LSI Logic 53C1010-66 Device	OK
IRQ 339	LSI Logic 53C1010-66 Device	OK
IRQ 344	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 345	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 355	QLogic QLA23xx PCI Fibre Channel Adapter	OK
IRQ 366	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 367	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 421	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 422	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
[Memory]		
Resource	Device	Status
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #2	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #3	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK

0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #4	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM5)	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM6)	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM4)	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM3)	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK

0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC8000000-0xCFFFFFFF	PCI bus	OK
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus	OK
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus	OK
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus	OK
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK

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0xC8102000-0xC8103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xC8102000-0xC8103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#3 OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xD0000000-0xDFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI standard PCI-to-PCI bridge OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI standard PCI-to-PCI bridge OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0000000-0xEFFFFFFF PCI standard PCI-to-PCI bridge OK
0xE0000000-0xEFFFFFFF PCI bus OK
0xE0100000-0xE0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xE0100000-0xE0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xE0100000-0xE0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xE0100000-0xE0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI bus OK

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0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI bus OK
0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge OK
0xC0040000-0xC0040FFF Emulex LPX000 Fibre Channel Storport Driver
OK
0xC0041000-0xC00410FF Emulex LPX000 Fibre Channel Storport Driver
OK
0xD0100000-0xD011FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#3 OK
0xD0100000-0xD011FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
OK
0xD0120000-0xD013FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#4 OK
0xD0120000-0xD013FFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#2 OK
0xD0080000-0xD00BFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#4 OK
0xD0080000-0xD00BFFFF Intel(R) PRO/1000 MT Dual Port Server Adapter
#2 OK
0xE0020000-0xE0020FFF QLogic QLA23xx PCI Fibre Channel Adapter
OK
0xF0100000-0xF0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xF0100000-0xF0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xF0100000-0xF0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xF0100000-0xF0101FFF Smart Array 6400 Controller (Non-Miniport)
OK
0xF0102000-0xF0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0102000-0xF0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0102000-0xF0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0102000-0xF0103FFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0020000-0xF0020FFF QLogic QLA23xx PCI Fibre Channel Adapter
OK
0xC0020000-0xC0020FFF QLogic QLA23xx PCI Fibre Channel Adapter
OK

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0xF01C0000-0xF01FFFFF Smart Array 6400 Controller (Non-Miniport)
0xF01C0000-0xF01FFFFF Smart Array 6400 Controller (Non-Miniport)
OK
0xF0080000-0xF00BFFFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xF0080000-0xF00BFFFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xC81C0000-0xC81FFFFF Smart Array 6400 Controller (Non-Miniport)
OK
0xC8080000-0xC80BFFFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK
0xD0020000-0xD0020FFF QLogic QLA23xx PCI Fibre Channel Adapter
OK
0xE01C0000-0xE01FFFFF Smart Array 6400 Controller (Non-Miniport)
OK
0xE0080000-0xE00BFFFF Smart Array 6400 Controller U320 Expansion
Module (Non-Miniport) OK

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[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description	Status	File	Version
		Size	Creation Date		
c:\windows\system32\msadp32.acm	Microsoft Corporation	OK	C:\WINDOWS\system32\MSADP32.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	49.00 KB (50,176 bytes)
c:\windows\system32\tssoft32.acm	DSP GROUP, INC.	OK	C:\WINDOWS\system32\TSSOFT32.ACM1.01	29.00 KB (29,696 bytes)	12/10/2004 1:18 PM
c:\windows\system32\msgsm32.acm	Microsoft Corporation	OK	C:\WINDOWS\system32\MSGSM32.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	66.50 KB (68,096 bytes)
c:\windows\system32\imaadp32.acm	Microsoft Corporation	OK	C:\WINDOWS\system32\IMAADP32.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	55.00 KB (56,320 bytes)
c:\windows\system32\msg711.acm	Microsoft Corporation	OK	C:\WINDOWS\system32\MSG711.ACM	5.2.3790.0 (srv03_rtm.030324-2048)	33.00 KB (33,792 bytes)

[Video Codecs]

CODEC	Manufacturer	Description	Status	File	Version
	Size	Creation Date			
c:\windows\system32\msvidc32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSVIDC32.DLL	
	5.2.3790.0 (srv03_rtm.030324-2048)	67.00 KB (68,608 bytes)		12/10/2004 1:17 PM	
c:\windows\system32\msrle32.dll	Microsoft Corporation		OK	C:\WINDOWS\system32\MSRLE32.DLL	
	5.2.3790.0 (srv03_rtm.030324-2048)	24.50 KB (25,088 bytes)		12/10/2004 1:17 PM	

[CD-ROM]

Item	Value
Drive	E:
Description	CD-ROM Drive
Media Loaded	No
Media Type	CD-ROM
Name	HP DVD-ROM 305 SCSI CdRom Device
Manufacturer (Standard CD-ROM drives)	
Status	OK
Transfer Rate	Not Available
SCSI Target ID	2
PNP Device ID	SCSI\CDROM&VEN_HP&PROD_DVD-ROM_305&REV_1.01\6&3EABE99&0&020
Driver	c:\windows\system32\drivers\cdrom.sys (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 144.50 KB (147,968 bytes), 12/10/2004 1:17 PM)

[Sound Device]

Item	Value
------	-------

[Display]

Item	Value
------	-------

[Infrared]

Item	Value
------	-------

[Input]

[Keyboard]

Item	Value
------	-------

[Pointing Device]

Item	Value
------	-------

[Modem]

Item	Value
------	-------

[Network]

[Adapter]

Item	Value
Name	[00000001] Broadcom NetXtreme Gigabit Ethernet
Adapter Type	Ethernet 802.3
Product Type	Broadcom NetXtreme Gigabit Ethernet
Installed	Yes
PNP Device ID	PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&5C-DAB61&0&08
Last Reset	1/14/2005 10:33 AM
Index	1
Service Name	b57nd
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	00:0E:7F:ED:81:61
Memory Address	0xC0000000-0xC7FFFFFFF
IRQ Channel	IRQ 132
Driver	c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name	[00000002] Broadcom NetXtreme Gigabit Ethernet
Adapter Type	Ethernet 802.3
Product Type	Broadcom NetXtreme Gigabit Ethernet
Installed	Yes
PNP Device ID	PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&4F5-EBC7&0&08
Last Reset	1/14/2005 10:33 AM
Index	2
Service Name	b57nd
IP Address	10.193.25.38
IP Subnet	255.255.254.0
Default IP Gateway	10.193.24.1
DHCP Enabled	Yes
DHCP Server	10.193.8.64

DHCP Lease Expires	1/14/2005 10:42 AM
MAC Address	00:30:6E:4B:CA:9F
Memory Address	0xC0000000-0xC7FFFFFFF
IRQ Channel	IRQ 28
Driver	c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)
Name	[00000003] Broadcom NetXtreme Gigabit Ethernet
Adapter Type	Ethernet 802.3
Product Type	Broadcom NetXtreme Gigabit Ethernet
Installed	Yes
PNP Device ID	PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&8194-FB0DF&0&08

Last Reset	1/14/2005 10:33 AM
Index	3
Service Name	b57nd
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	00:0E:7F:ED:D1:4D
Memory Address	0xC0000000-0xC7FFFFFFF
IRQ Channel	IRQ 236
Driver	c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name	[00000004] RAS Async Adapter
Adapter Type	Not Available
Product Type	RAS Async Adapter
Installed	Yes
PNP Device ID	Not Available
Last Reset	1/14/2005 10:33 AM
Index	4
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	[00000005] WAN Miniport (L2TP)
Adapter Type	Not Available
Product Type	WAN Miniport (L2TP)
Installed	Yes

PNP Device ID ROOT\MS_L2TPMINIPORT\0000
 Last Reset 1/14/2005 10:33 AM
 Index 5
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 188.00 KB (192,512 bytes), 12/10/2004 1:18 PM)

Name [00000006] WAN Miniport (PPTP)
 Adapter TypeWide Area Network (WAN)
 Product TypeWAN Miniport (PPTP)
 Installed Yes
 PNP Device ID ROOT\MS_PPTPMINIPORT\0000
 Last Reset 1/14/2005 10:33 AM
 Index 6
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 176.00 KB (180,224 bytes), 12/10/2004 1:18 PM)

Name [00000007] WAN Miniport (PPPOE)
 Adapter TypeWide Area Network (WAN)
 Product TypeWAN Miniport (PPPOE)
 Installed Yes
 PNP Device ID ROOT\MS_PPPOEMINIPORT\0000
 Last Reset 1/14/2005 10:33 AM
 Index 7
 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 83:50:14:45:50:30
 (srv03_sp1_rc1.041202-1618), 130.50 KB (133,632 bytes), 12/10/2004 1:18 PM)

Name [00000008] Direct Parallel
 Adapter TypeNot Available
 Product TypeDirect Parallel
 Installed Yes
 PNP Device ID ROOT\MS_PTMINIPORT\0000
 Last Reset 1/14/2005 10:33 AM
 Index 8
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 54.50 KB (55,808 bytes), 12/10/2004 1:18 PM)

Name [00000009] WAN Miniport (IP)
 Adapter TypeNot Available
 Product TypeWAN Miniport (IP)
 Installed Yes
 PNP Device ID ROOT\MS_NDISWANIP\0000
 Last Reset 1/14/2005 10:33 AM
 Index 9

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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 266.00 KB (272,384 bytes), 12/10/2004 1:17 PM)

Name [00000010] Broadcom NetXtreme Gigabit Ethernet
 Adapter TypeEthernet 802.3
 Product TypeBroadcom NetXtreme Gigabit Ethernet
 Installed Yes
 PNP Device ID PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&14C294CC&0&08

Last Reset 1/14/2005 10:33 AM
 Service Name b57nd
 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 00:0E:7F:ED:E1:3F
 Memory Address 0xC0000000-0xC7FFFFFFF
 IRQ Channel IRQ 340
 Driver c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name [00000011] Intel(R) PRO/1000 MT Dual Port Server Adapter
 Adapter TypeEthernet 802.3
 Product TypeIntel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&19926672&0&08
 Last Reset 1/14/2005 10:33 AM
 Index 11
 Service Name E1000
 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 00:30:6E:5D:AC:4C
 Memory Address 0xD0100000-0xD011FFFFF
 Memory Address 0xD0000000-0xDFFFFFFF
 I/O Port 0x0000A000-0x0000BFFFF
 IRQ Channel IRQ 295
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 AM)

Name [00000012] Intel(R) PRO/1000 MT Dual Port Server Adapter
 Adapter TypeEthernet 802.3
 Product TypeIntel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&19926672&0&09
 Last Reset 1/14/2005 10:33 AM
 Index 12

Service Name E1000
 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 00:30:6E:5D:AC:4D
 Memory Address 0xD0120000-0xD013FFFF
 Memory Address 0xD0080000-0xD00BFFFF
 I/O Port 0x0000A040-0x0000A07F
 IRQ Channel IRQ 296
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 AM)

Name [0000013] 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_12A6103C&REV_03\5&28874FDD&0&08
 Last Reset 1/14/2005 10:33 AM
 Index 13
 Service Name E1000
 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 00:30:6E:5D:AC:3E

Memory Address 0xD0100000-0xD011FFFF

Memory Address 0xD0000000-0xDFFFFFFF
 I/O Port 0x0000A000-0x0000BFFF
 IRQ Channel IRQ 87
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 AM)

Name [0000014] 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_12A6103C&REV_03\5&28874FDD&0&09
 Last Reset 1/14/2005 10:33 AM

Service Name E1000
 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 00:30:6E:5D:AC:3F
 Memory Address 0xD0120000-0xD013FFFF
 Memory Address 0xD0080000-0xD00BFFFF
 I/O Port 0x0000A040-0x0000A07F
 IRQ Channel IRQ 88
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 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

Item	Value
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 Guaranteed Bandwidth No
 Supports Multicasting Yes

Name	Value
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	Value
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	23.00 KB (23,552 bytes)
Version	5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item	Value	
Name	HP MP Serial AUX/UPS Port (COM5)	
Status	OK	
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&4F5EBC7&0&00	
Maximum Input Buffer Size0		
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	
Memory Address	0xC0018000-0xC001800F	
IRQ Channel IRQ 29		
Driver	c:\windows\system32\drivers\hmpmpser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)	
Name	HP MP Serial AUX/UPS Port (COM6)	
Status	OK	

PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&5C4F5EBC7&0&00	
Maximum Input Buffer Size0		
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	
Memory Address	0xC0018000-0xC001800F	
IRQ Channel IRQ 133		
Driver	c:\windows\system32\drivers\hmpmpser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)	
Name	HP MP Serial AUX/UPS Port (COM4)	
Status	OK	
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&14C294CC&0&00	
Maximum Input Buffer Size0		
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 Baud Rate	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	
Memory Address	0xC0018000-0xC001800F	
IRQ Channel IRQ 237		
Driver	c:\windows\system32\drivers\hmpmpser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)	
Name	HP MP Serial AUX/UPS Port (COM3)	
Status	OK	
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&14C294CC&0&00	
Maximum Input Buffer Size0		
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
Memory Address 0xC0018000-0xC001800F
IRQ Channel IRQ 341
Driver c:\windows\system32\drivers\hmpmser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
Drive C:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 33.45 GB (35,919,794,176 bytes)

Volume Name 22.44 GB (24,098,828,288 bytes)
Volume Serial Number 5C20CCBA

Drive E:
Description CD-ROM Disc

Drive G:
Description Local Fixed Disk
Compressed No
File System NTFS
Size 78.09 GB (83,850,424,320 bytes)
Free Space 70.73 GB (75,942,612,992 bytes)
Volume Name G_Drive
Volume Serial Number 3C01CB80

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

Drive S:
Description Network Connection
Provider Name \\10.193.24.52\d\$

[Disks]

Item Value
Description \\.\PHYSICALDRIVE16
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 99.02 GB (106,319,969,280 bytes)
Total Cylinders 12,926

Total Sectors 207,656,190
Total Tracks 3,296,130
Tracks/Cylinder 255
Partition Disk #16, Partition #0
Partition Size 63.17 GB (67,830,284,288 bytes)
Partition Starting Offset 136,314,880 bytes

Partition Size 35.04 GB (37,622,906,880 bytes)
Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE17
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 362.28 GB (388,989,941,760 bytes)
Total Cylinders 47,292
Total Sectors 759,745,980
Total Tracks 12,059,460
Tracks/Cylinder 255
Partition Disk #17, Partition #0
Partition Size 97.66 GB (104,857,600,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #17, Partition #1
Partition Size 97.66 GB (104,857,600,000 bytes)
Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE34
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 99.02 GB (106,319,969,280 bytes)
Total Cylinders 12,926
Total Sectors 207,656,190
Total Tracks 3,296,130
Tracks/Cylinder 255
Partition Disk #34, Partition #0
Partition Size 63.17 GB (67,830,284,288 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #34, Partition #1
Partition Size 35.04 GB (37,622,906,880 bytes)
Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE35
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #35, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #35, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE38
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #38, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #38, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE39
 Manufacturer Not Available
 Model Not Available

Description \\.\PHYSICALDRIVE41
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #39, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #39, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE40
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #40, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #40, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE41
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #41, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #41, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE22
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #22, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #22, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE23
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #23, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #23, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE44
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #44, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #44, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE45
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980

Tracks/Cylinder 255
 Tracks/Cylinder 12,059,460
 Partition Disk #45, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #45, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE10
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #10, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #10, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE11
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #11, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)

Partition Starting Offset 104,993,914,880 bytes
 Partition Size 97.66 GB (104,857,600,000 bytes)

Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE2
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #2, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #2, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE3
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #3, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #3, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE42
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #42, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #42, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE43
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #43, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #43, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE46
 Manufacturer Not Available
 Model Not Available

Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #46, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #46, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE47
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #47, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #47, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE8
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926

Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #8, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #8, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE9
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #9, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #9, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE24
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #24, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #24, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE25
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #25, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #25, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE32
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190

Tracks/Cylinder 296,130 255
 Partition Disk #32, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #32, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE33
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #33, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #33, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE36
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #36, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)

Partition Starting Offset 136,314,880 bytes
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE37
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #37, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #37, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE18
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #18, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #18, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE19
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #19, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #19, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE30
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #30, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #30, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE31
 Manufacturer Not Available
 Model Not Available

Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 820.19 GB (880,672,504,320 bytes)
 Total Cylinders 107,069
 Total Sectors 1,720,063,485
 Total Tracks 27,302,595
 Tracks/Cylinder 255
 Partition Disk #31, Partition #0

Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #31, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE14
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #14, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #14, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE15
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #15, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #15, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)

Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE6
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #6, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #6, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE7
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #7, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #7, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE12
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #12, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #12, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE13
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980

Tracks/Cylinder 255
 Total Cylinders 12,059,460
 Partition Disk #13, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #13, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE20
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available

SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #20, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #20, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE21
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #21, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)

Partition Starting Offset 136,314,880 bytes
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE28
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926

Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #28, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #28, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE29
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 820.19 GB (880,672,504,320 bytes)
 Total Cylinders 107,069
 Total Sectors 1,720,063,485
 Total Tracks 27,302,595
 Tracks/Cylinder 255
 Partition Disk #29, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #29, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE4
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #4, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #4, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVES
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #5, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #5, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE0
 Manufacturer Not Available
 Model Not Available

Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #0, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #0, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE1
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #1, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #1, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description \\.\PHYSICALDRIVE26
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 99.02 GB (106,319,969,280 bytes)
 Total Cylinders 12,926
 Total Sectors 207,656,190
 Total Tracks 3,296,130
 Tracks/Cylinder 255
 Partition Disk #26, Partition #0
 Partition Size 63.17 GB (67,830,284,288 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #26, Partition #1
 Partition Size 35.04 GB (37,622,906,880 bytes)
 Partition Starting Offset 67,966,599,168 bytes

Description \\.\PHYSICALDRIVE27
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk

Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 362.28 GB (388,989,941,760 bytes)
 Total Cylinders 47,292
 Total Sectors 759,745,980
 Total Tracks 12,059,460
 Tracks/Cylinder 255
 Partition Disk #27, Partition #0
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #27, Partition #1
 Partition Size 97.66 GB (104,857,600,000 bytes)
 Partition Starting Offset 104,993,914,880 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ MSA1000 VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 0
 SCSI Target ID 0

Sectors/Track 63
 Size 957.12 GB (1,027,699,384,320 bytes)
 Total Cylinders 124,944
 Total Sectors 2,007,225,360
 Total Tracks 31,860,720
 Tracks/Cylinder 255
 Partition Disk #48, Partition #0
 Partition Size 878.91 GB (943,718,400,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #48, Partition #1
 Partition Size 78.09 GB (83,850,428,416 bytes)
 Partition Starting Offset 943,854,714,880 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model HP 36.4G MAS3367NC SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 9
 SCSI Target ID 6
 Sectors/Track 63
 Size 33.91 GB (36,413,314,560 bytes)
 Total Cylinders 4,427
 Total Sectors 71,119,755
 Total Tracks 1,128,885
 Tracks/Cylinder 255
 Partition Disk #49, Partition #0
 Partition Size 345.12 MB (361,880,064 bytes)
 Partition Starting Offset 32,256 bytes
 Partition Disk #49, Partition #1
 Partition Size 33.45 GB (35,919,797,760 bytes)
 Partition Starting Offset 493,516,800 bytes

[SCSI]

Item	Value
Name	LSI Logic 53C1010-66 Device
Manufacturer	LSI Logic Inc.
Status	OK
PNP Device ID	PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&10
I/O Port	0x00000500-0x000005FF
Memory Address	0xC001A000-0xC001A3FF
Memory Address	0xC0010000-0xC0011FFF
IRQ Channel	IRQ 24
Driver	c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name	LSI Logic 53C1010-66 Device
Manufacturer	LSI Logic Inc.
Status	OK
PNP Device ID	PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&11
I/O Port	0x00000600-0x000006FF
Memory Address	0xC001B000-0xC001B3FF
Memory Address	0xC0012000-0xC0013FFF
IRQ Channel	IRQ 25
Driver	c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name	LSI Logic 53C1010-66 Device
Manufacturer	LSI Logic Inc.
Status	OK
PNP Device ID	PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&18
I/O Port	0x00000700-0x000007FF
Memory Address	0xC001C000-0xC001C3FF
Memory Address	0xC0014000-0xC0015FFF
IRQ Channel	IRQ 26
Driver	c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name	LSI Logic 53C1010-66 Device
Manufacturer	LSI Logic Inc.
Status	OK
PNP Device ID	PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&19
I/O Port	0x00000800-0x000008FF
Memory Address	0xC001D000-0xC001D3FF
Memory Address	0xC0016000-0xC0017FFF
IRQ Channel	IRQ 27
Driver	c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name	Smart Array 6400 Controller (Non-Miniport)
Manufacturer	Hewlett-Packard
Status	OK
PNP Device ID	PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&ED32FE9&0&2008
Memory Address	0xC8100000-0xC8101FFF
I/O Port	0x00001000-0x00001FFF
IRQ Channel	IRQ 32
Driver	c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer	Hewlett-Packard
Status	OK
PNP Device ID	PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&ED32FE9&0&2808
Memory Address	0xC8102000-0xC8103FFF
I/O Port	0x00001100-0x000011FF
IRQ Channel	IRQ 33
Driver	c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name	Smart Array 6400 Controller (Non-Miniport)
Manufacturer	Hewlett-Packard
Status	OK
PNP Device ID	PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&266093A2&0&2008
Memory Address	0xE0100000-0xE0101FFF
I/O Port	0x00004000-0x00005FFF
IRQ Channel	IRQ 54
Driver	c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer	Hewlett-Packard
Status	OK
PNP Device ID	PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&266093A2&0&2808
Memory Address	0xE0102000-0xE0103FFF
I/O Port	0x00004100-0x000041FF
IRQ Channel	IRQ 55
Driver	c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name	Emulex LPX000 Fibre Channel Storport Driver
Manufacturer	Emulex
Status	OK
PNP Device ID	PCI\VEN_10DF&DEV_F098&SUBSYS_F09810DF&REV_01\5&37D3486A&0&08
Memory Address	0xC0040000-0xC0040FFF
Memory Address	0xC0041000-0xC00410FF
I/O Port	0x00008000-0x00009FFF
IRQ Channel	IRQ 76
Driver	c:\windows\system32\drivers\elxstor.sys (6-1.01X1 10/29/2003 WS2K3 64 bit IA64 built by: WinDDK, 627.50 KB (642,560 bytes), 11/8/2004 6:13 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
 Manufacturer QLogic
 Status OK
 PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&225F72B7&0&08
 I/O Port 0x0000C000-0x0000DFFF
 Memory Address 0xE0020000-0xE0020FFF
 IRQ Channel IRQ 98
 Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&2640A37&0&2008
 Memory Address 0xF0100000-0xF0101FFF
 I/O Port 0x0000E000-0x0000FFFF
 IRQ Channel IRQ 109
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&2640A37&0&2808
 Memory Address 0xF0102000-0xF0103FFF
 I/O Port 0x0000E100-0x0000E1FF
 IRQ Channel IRQ 110
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CDAB61&0&10
 I/O Port 0x00000500-0x000005FF
 Memory Address 0xC001A000-0xC001A3FF
 Memory Address 0xC0010000-0xC0011FFF
 IRQ Channel IRQ 128
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.

PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CDAB61&0&11
 I/O Port 0x00000600-0x000006FF
 Memory Address 0xC001B000-0xC001B3FF
 Memory Address 0xC0012000-0xC0013FFF
 IRQ Channel IRQ 129
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CDAB61&0&18
 I/O Port 0x00000700-0x000007FF
 Memory Address 0xC001C000-0xC001C3FF
 Memory Address 0xC0014000-0xC0015FFF
 IRQ Channel IRQ 130
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CDAB61&0&19
 I/O Port 0x00000800-0x000008FF
 Memory Address 0xC001D000-0xC001D3FF
 Memory Address 0xC0016000-0xC0017FFF
 IRQ Channel IRQ 131
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&DC033&0&2008
 Memory Address 0xC8100000-0xC8101FFF
 I/O Port 0x00001000-0x00001FFF
 IRQ Channel IRQ 136
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Manufacturer Hewlett-Packard

PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&DC0C33&0&2808
 Memory Address 0xC8102000-0xC8103FFF
 I/O Port 0x00001100-0x000011FF
 IRQ Channel IRQ 137
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&3533F53F&0&2008
 Memory Address 0xE0100000-0xE0101FFF
 I/O Port 0x00004000-0x00005FFF
 IRQ Channel IRQ 158
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3533F53F&0&2808
 Memory Address 0xE0102000-0xE0103FFF
 I/O Port 0x00004100-0x000041FF
 IRQ Channel IRQ 159
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
 Manufacturer QLogic
 Status OK
 PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&1F34A452&0&08
 I/O Port 0x00006000-0x00007FFF
 Memory Address 0xF0020000-0xF0020FFF
 IRQ Channel IRQ 169
 Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK

PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1A6A6711&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
IRQ Channel IRQ 213
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1A6A6711&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
IRQ Channel IRQ 214
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&10
I/O Port 0x00000500-0x000005FF
Memory Address 0xC001A000-0xC001A3FF
Memory Address 0xC0010000-0xC0011FFF
IRQ Channel IRQ 232
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&11
I/O Port 0x00000600-0x000006FF
Memory Address 0xC001B000-0xC001B3FF
Memory Address 0xC0012000-0xC0013FFF
IRQ Channel IRQ 233
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&18
Memory Address 0x00000700-0x000007FF
Memory Address 0xC001C000-0xC001C3FF
Memory Address 0xC0014000-0xC0015FFF
IRQ Channel IRQ 234
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&19
I/O Port 0x00000800-0x000008FF
Memory Address 0xC001D000-0xC001D3FF
Memory Address 0xC0016000-0xC0017FFF
IRQ Channel IRQ 235
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&826A6D2&0&2008
Memory Address 0xC8100000-0xC8101FFF
I/O Port 0x00001000-0x00001FFF
IRQ Channel IRQ 240
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&826A6D2&0&2808
Memory Address 0xC8102000-0xC8103FFF
I/O Port 0x00001100-0x000011FF
IRQ Channel IRQ 241
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK

PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&8AA0D5F&0&2008
Memory Address 0xE0100000-0xE0101FFF
I/O Port 0x00004000-0x00005FFF
IRQ Channel IRQ 262
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&8AA0D5F&0&2808
Memory Address 0xE0102000-0xE0103FFF
I/O Port 0x00004100-0x000041FF
IRQ Channel IRQ 263
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245142EC&0&08
I/O Port 0x00008000-0x00009FFF
Memory Address 0xC0020000-0xC0020FFF
IRQ Channel IRQ 284
Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&11924964&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
Memory Address 0xF01C0000-0xF01FFFFF
IRQ Channel IRQ 317
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK

PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&119
29464&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
Memory Address 0xF0080000-0xF00BFFFF
IRQ Channel IRQ 318
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
294CC&0&10
I/O Port 0x00000500-0x000005FF
Memory Address 0xC001A000-0xC001A3FF
Memory Address 0xC0010000-0xC0011FFF
IRQ Channel IRQ 336
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
294CC&0&11
I/O Port 0x00000600-0x000006FF
Memory Address 0xC001B000-0xC001B3FF
Memory Address 0xC0012000-0xC0013FFF
IRQ Channel IRQ 337
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
294CC&0&18
I/O Port 0x00000700-0x000007FF
Memory Address 0xC001C000-0xC001C3FF
Memory Address 0xC0014000-0xC0015FFF
IRQ Channel IRQ 338
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
294CC&0&19
Memory Address 0x00000800-0x000008FF
Memory Address 0xC001D000-0xC001D3FF
Memory Address 0xC0016000-0xC0017FFF
IRQ Channel IRQ 339
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK

PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&726
5503&0&2008
Memory Address 0xC8100000-0xC8101FFF
I/O Port 0x00001000-0x00001FFF
Memory Address 0xC81C0000-0xC81FFFFF
IRQ Channel IRQ 344
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)
Manufacturer Hewlett-Packard

Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&726
5503&0&2808
Memory Address 0xC8102000-0xC8103FFF
I/O Port 0x00001100-0x000011FF
Memory Address 0xC8080000-0xC80BFFFF
IRQ Channel IRQ 345
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic

Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&240
E8D59&0&08
I/O Port 0x00002000-0x00003FFF
Memory Address 0xD0020000-0xD0020FFF
IRQ Channel IRQ 355
Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 V1),
690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK

PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&3B9
40DB4&0&2808
Memory Address 0xE0100000-0xE0101FFF
I/O Port 0x00004000-0x00005FFF
Memory Address 0xE01C0000-0xE01FFFFF
IRQ Channel IRQ 366
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)
Manufacturer Hewlett-Packard

Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3B9
40DB4&0&2808
Memory Address 0xE0102000-0xE0103FFF
I/O Port 0x00004100-0x000041FF
Memory Address 0xE0080000-0xE00BFFFF
IRQ Channel IRQ 367
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard

Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1F9
325B&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
Memory Address 0xF01C0000-0xF01FFFFF
IRQ Channel IRQ 421
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)

Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1F9
325B&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
Memory Address 0xF0080000-0xF00BFFFF
IRQ Channel IRQ 422
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

[IDE]

Item Value

[Printing]

Name	Driver	Port Name	Server Name	
b17-1147-a	on prn-corp1	(from V-JASGOE01)	in session 0	Xerox Document Centre 470 PS TS004
b17-1410-a	on PRN-PRIV1	redmond.corp.microsoft.com	(from V-JASGOE01) in session 0	HP Color LaserJet 8550 PCL TS003

[Problem Devices]

Device	PNP Device ID	Error Code
Not Available	ACPI\HWP1000\A56E04851726	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851604	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851798	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851770	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851711	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851790	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851640	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851818	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851833	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851729	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851795	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851530	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851642	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851616	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851534	The drivers for this device are not installed.
Not Available	ACPI\HWP1000\A56E04851680	The drivers for this device are not installed.

[USB]

Device	PNP Device ID

[Software Environment]

[System Drivers]

Name	Description	File	Type	Started	Start
Mode	State	Status	Error	Control	Accept
Stop					
abiosdsk	Abiosdsk	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Ignore	No	No
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Yes	Normal
	Boot	Running	OK	Normal	No
	Yes				
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel Driver	No	Normal
	Driver	No	Disabled	Stopped	OK
	No	No			
adpu160m	adpu160m	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
adpu320	adpu320	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
afcnt	afcnt	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
afd	AFD	c:\windows\system32\drivers\afd.sys	Kernel Driver	Yes	Normal
	Driver	No	System	Running	OK
	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
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	Normal
	Driver	No	Manual	Stopped	OK
	No	No			
atapi	atapi	c:\windows\system32\drivers\atapi.sys	Kernel Driver	No	Normal
	Driver	No	Disabled	Stopped	OK
	No	No			

atdisk	Atdisk	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Ignore	No	No
atmarpc	ATM ARP Client Protocol	c:\windows\system32\drivers\atmarpc.sys	Kernel Driver	No	Normal
	Driver	No	Manual	Stopped	OK
	No	No			
audstub	Audio Stub Driver	c:\windows\system32\drivers\audstub.sys	Kernel Driver	Yes	Normal
	Driver	Yes	Manual	Running	OK
	No	Yes			
b57nd	Broadcom NetXtreme Gigabit Ethernet	c:\windows\system32\drivers\b57xp64.sys	Kernel Driver	Yes	Normal
	Driver	Yes	Manual	Running	OK
	No	Yes			
beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel Driver	Yes	Normal
	Driver	Yes	System	Running	OK
	No	Yes			
cbidf2k	cbidf2k	c:\windows\system32\drivers\cbidf2k.sys	Kernel Driver	No	Normal
	Driver	Normal	No	Disabled	Stopped
	No	No			OK
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File System Driver	Yes	Normal
	Driver	Yes	Disabled	Running	OK
	Normal	No	Yes		
cdrom	CD-ROM Driver	c:\windows\system32\drivers\cdrom.sys	Kernel Driver	Yes	Normal
	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	Normal
	Driver	No	Disabled	Stopped	OK
	No	No			
cmdide	CmdIde	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	c:\windows\system32\drivers\cpqcissm.sys	Kernel Driver	Yes	Normal
	Driver	Yes	Boot	Running	OK
	Normal	No	Yes		
cpqfcalm	cpqfcalm	Not Available	Kernel Driver	No	Disabled
	Driver	Stopped	OK	Normal	No
	No	No			
cqdetect	Compaq Hardware Detection Service	c:\windows\system32\drivers\cqdetect.sys	Kernel Driver	No	Normal
	Driver	No	Manual	Stopped	OK
	No	No			

crdisk	CRC Disk Filter Driver	c:\windows\system32\drivers\crdisk.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	
	Normal	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	
	Normal	No	Yes	Running	OK
	Normal	No	Yes		
dpti2o	dpti2o	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
e1000	Intel(R) PRO/1000 Adapter Driver	c:\windows\system32\drivers\e1000645.sys	Kernel		
Driver	Yes	Manual	Running	OK	Normal
	No	Yes			
elxadjct	elxadjct	c:\windows\system32\drivers\elxadjct.sys	Kernel Driver	Yes	
	Normal	No	Yes	Running	OK
	Normal	No	Yes		
elxstor	elxstor	c:\windows\system32\drivers\elxstor.sys	Kernel		
Driver	Yes	Boot	Running	OK	Normal
	No	Yes			
fastfat	Fastfat	c:\windows\system32\drivers\fastfat.sys	File		
System Driver	Yes	Disabled	Running	OK	
	Normal	No	Yes		
fdc	Fdc	c:\windows\system32\drivers\fdc.sys	Kernel		
Driver	No	System	Stopped	OK	Ignore
	No	No			
fips	Fips	c:\windows\system32\drivers\fips.sys	Kernel		
Driver	Yes	System	Running	OK	Normal
	No	Yes			
flpydisk	Flpydisk	c:\windows\system32\drivers\flpydisk.sys	Kernel Driver	No	
	Ignore	No	No	System	Stopped
	Ignore	No	No		OK
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
	Stopped	OK	Normal	No	No
hpcisss	hpcisss	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
hpcsr	HP CSR OpRegion Driver	c:\windows\system32\drivers\hpcsr.sys	Kernel Driver	Yes	
	Boot	Running	OK	Normal	No
	Yes				
hphlth	HP Baseboard Management Controller Interface Driver	c:\windows\system32\drivers\hphlth.sys	Kernel Driver	Yes	
	Manual	Running	OK	Normal	No
	Yes				
hmpmser	HP MP Driver	c:\windows\system32\drivers\hmpmser.sys	Kernel Driver	Yes	
	Normal	No	Yes	Running	OK
	Normal	No	Yes		
hpn	hpn	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
hpqcissb	Smart Array Controllers Non-Miniport Bus Driver	c:\windows\system32\drivers\hpqcissb.sys	Kernel		
Driver	Yes	Boot	Running	OK	Normal
	No	Yes			
hpqcissd	Smart Array Controllers Non-Miniport Disk Driver	c:\windows\system32\drivers\hpqcissd.sys	Kernel		
Driver	Yes	Boot	Running	OK	Normal
	No	Yes			
http	HTTP	c:\windows\system32\drivers\http.sys	Kernel		
Driver	No	Manual	Stopped	OK	Normal
	No	No			
i2omgmt	i2omgmt	Not Available	Kernel Driver	No	System
	Stopped	OK	Normal	No	No
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				
intelite	IntelIde	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
ip6fw	IPv6 Windows Firewall Driver	c:\windows\system32\drivers\ip6fw.sys	Kernel Driver	No	
	Manual	Stopped	OK	Normal	No
	No				

ipfilterdriver	IP Traffic Filter Driver	c:\windows\system32\drivers\ipfltldr.sys	Kernel		
Driver	No	Manual	Stopped	OK	Normal
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	isapnp	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
kbdclass	Keyboard Class Driver	c:\windows\system32\drivers\kbdclass.sys	Kernel		
Driver	Yes	System	Running	OK	Normal
	No	Yes			
ksecdd	KSecDD	c:\windows\system32\drivers\ksecdd.sys	Kernel Driver	Yes	
	Normal	No	Yes	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	c:\windows\system32\drivers\lp6nds35.sys	Kernel Driver	Yes	
	Normal	No	Yes	Running	OK
	Normal	No	Yes		
mnmdd	mnmdd	Not Available	Kernel Driver	No	System
	Stopped	OK	Ignore	No	No
modem	Modem	c:\windows\system32\drivers\modem.sys	Kernel Driver	No	
	Ignore	No	No	Manual	Stopped
	Ignore	No	No		OK
mouclass	Mouse Class Driver	c:\windows\system32\drivers\mouclass.sys	Kernel		
Driver	Yes	System	Running	OK	Normal
	No	Yes			
mountmgr	Mount Point Manager	c:\windows\system32\drivers\mountmgr.sys	Kernel		
Driver	Yes	Boot	Running	OK	Normal
	No	Yes			
mraid35x	mraid35x	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No

sfloppy	Sfloppy	c:\windows\system32\drivers\sfloppy.sys	Kernel Driver	No	System	Stopped	OK
simbad	Simbad	Not Available	Kernel Driver	No	Stopped	OK	Disabled
srv	Srv	c:\windows\system32\drivers\srvc.sys	System Driver	Yes	Manual	Running	OK
swenum	Software Bus Driver	c:\windows\system32\drivers\swenum.sys	Driver	Yes	Manual	Running	OK
symc8xx	symc8xx	Not Available	Kernel Driver	No	Stopped	OK	Disabled
symmpi	symmpi	Not Available	Kernel Driver	No	Stopped	OK	Disabled
sym_hi	sym_hi	Not Available	Kernel Driver	No	Stopped	OK	Disabled
sym_u3	sym_u3	c:\windows\system32\drivers\sym_u3.sys	Kernel Driver	Yes	Boot	Running	OK
tcpip	TCP/IP Protocol Driver	c:\windows\system32\drivers\tcpip.sys	System Driver	Yes	Running	OK	Normal
tdpipe	TDDPIPE	c:\windows\system32\drivers\tdpipe.sys	Kernel Driver	No	Manual	Stopped	Ignore
tdtcp	TDTCP	c:\windows\system32\drivers\tdtcp.sys	Kernel Driver	Yes	Manual	Running	Ignore
termdd	Terminal Device Driver	c:\windows\system32\drivers\termdd.sys	Driver	Yes	System	Running	OK
toside	TosIde	Not Available	Kernel Driver	No	Stopped	OK	Disabled
udfs	Udfs	c:\windows\system32\drivers\udfs.sys	System Driver	No	Disabled	Stopped	OK
vgasave	VGA Display Controller	c:\windows\system32\drivers\vga.sys	System Driver	No	Stopped	OK	Ignore
viaide	ViaIde	Not Available	Kernel Driver	No	Stopped	OK	Disabled

volsnap	Storage volumes	c:\windows\system32\drivers\volsnap.sys	Kernel Driver	Yes	Boot	Running	OK
wanarp	Remote Access IP ARP Driver	c:\windows\system32\drivers\wanarp.sys	Driver	Yes	Manual	Running	OK
wdica	WDICA	Not Available	Kernel Driver	No	Stopped	OK	Ignore
wlbs	Network Load Balancing	c:\windows\system32\drivers\wlbs.sys	Kernel Driver	No	Manual	Stopped	OK

[Signed Drivers]

Device Name	Signed	Device Class	Driver Version	Driver
Microsoft System Management	Yes	BIOS Driver	5.2.3790.1289	SYSTEM
Plug and Play Software Device Enumerator	Yes	Device Enumerator	5.2.3790.1289	SYSTEM
Terminal Server Mouse Driver	Yes	Mouse Driver	5.2.3790.1289	SYSTEM
Terminal Server Keyboard Driver	Yes	Keyboard Driver	5.2.3790.1289	SYSTEM
Terminal Server Device Redirector	Yes	Device Redirector	5.2.3790.1289	SYSTEM
Direct Parallel	Yes	NET	5.2.3790.1289	NET
WAN Miniport (PPTP)	Yes	NET	5.2.3790.1289	NET
WAN Miniport (PPPOE)	Yes	NET	5.2.3790.1289	NET
WAN Miniport (IP)	Yes	NET	5.2.3790.1289	NET
WAN Miniport (L2TP)	Yes	NET	5.2.3790.1289	NET

Video Codecs	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	Not Available
Legacy Video Capture Devices	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	Not Available
Media Control Devices	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	Not Available
Legacy Audio Drivers	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	Not Available
Audio Codecs	Yes	MEDIA	5.2.3790.0	10/1/2002	(Standard system devices)	Not Available
Remote Access IP ARP Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volsnap	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
TDTCP	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
TCP/IP Protocol Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
sacdrv	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
RDPWD	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
RDPCDD	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Remote Access Auto Connection Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
qlvika	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Partition Manager	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Null	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
NetBios over Tcpip	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available

NDProxy Not Available LEGACYDRIVER Not Available Not Available
 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
 Available ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver Not Available LEGACYDRIVER
 Not Available Not Available Not Available Not Available Not Available
 Available ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver Not Available LEGACYDRIVER Not Available
 Not Available Not Available Not Available Not Available Not Available
 Available ROOT\LEGACY_NDIS\0000

mountmgr Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_MOUNTMGR\0000

lp6nds35 Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_LP6NDS35\0000

ksecdd Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_KSECCDD\0000

IPSEC driver Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_IPSEC\0000

IP Network Address Translator Not Available LEGACYDRIVER
 Not Available Not Available Not Available Not Available Not Available
 Available ROOT\LEGACY_IPNAT\0000

Generic Packet Classifier Not Available LEGACYDRIVER Not Available
 Available Not Available Not Available Not Available Not Available
 Available ROOT\LEGACY_GPC\0000

Fips Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_FIPS\0000

dmload Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_DMLOAD\0000

dmbot Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_DMBOT\0000

CRC Disk Filter Driver Not Available LEGACYDRIVER Not Available
 Available Not Available Not Available Not Available Not Available
 Available ROOT\LEGACY_CRCDISK\0000

cpqcssm Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_CPQCISSM\0000

Beep Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
 Available ROOT\LEGACY_BEEP\0000

AFD Not Available LEGACYDRIVER Not Available Not Available
 Available Not Available Not Available Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{E8FE8419
 -0074-4897-8321-C8DE4572047E}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{382F94AE
 -F014-440F-9978-3CD06A21F96B}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{727A7132
 -C725-4B1E-80CA-5B4009E5B8E9}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{6945D21C
 -4427-48A0-BE2A-F9C98FA7F882}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{78DF67D4
 -B43C-4B04-AC18-3498DC3F2AA5}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{0D8F4112
 -A5CE-48EA-AAB5-F7798C1B1261}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{AB427B0C
 -6FFE-4CC8-94A1-B89032B38C5C}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -2739-463C-9BF6-094CD965D1F5}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{B33BC12C
 -642F-48FC-B511-C17289104054}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{D1A9244E
 -CAFB-45A5-82B2-B0839077BAC5}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1DB31316
 -C5DE-4FF1-828A-F8D2557B9086}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{721C5E58
 -0751-4749-AC46-19EA160BC263}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{FB7E4266
 -229A-4132-A64F-09FD117078A2}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -0381-4B59-8F96-2DE8E5CD4E6A}
 Generic volume Yes VOLUME 5.2.3790.1289
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 -7991-4890-8C10-D01F89FD8284}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -9B0A-40E9-885C-98A5A409D5E5}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{12A401C6
 -21FD-4C15-AB91-2CCF181EC7F9}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{223A44AB
 -4214-4330-9C8B-B72A8932A674}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{79566829
 -1FBA-43EC-BAE9-AA268ADB3E27}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{AB26FB53
 -9494-09B4-43B-9B54E7155DD0}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{83D7A74A
 -AD27-40BD-A284-D132164F7424}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{26A33B46
 -EA59-46B2-8F71-424E3E96FA72}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{84031152
 -DA40-491C-93E6-A10ADD16B62}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{2FE93110
 -3297-4C89-BAA1-402DFA3E8146}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{70DE6500
 -8912-4CD7-A958-58810B72D2D1}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{F6621CC8
 -7891-4673-BEEC-BA9D8C16B947}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A6F274F2
 -F4D4-471E-AC88-988DD820EA87}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -C028-4475-90C6-C32EAAF5C7E1}
 Generic volume Yes VOLUME 5.2.3790.1289
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 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{98FB005C
 -E8B6-4D78-830C-CCDC1B48346A}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{96F0C23C
 -3FB2-4E9B-B607-766DA34D8C6}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{8681924C
 -76B5-41CB-BBB9-8032F779E02F}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{26A86343
 -3C1E-4C36-A95F-5D613C2DCC5E}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{9BE13144
 -D428-4E29-B279-5AA16A724B18}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{FB31E2FB
 -2EA2-4FF2-B7FF-59253A91B7F4}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{5612D2FA
 -ADFD-49A1-85A9-864E686A3F58}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -76B0-4684-8306-7F7D646DE94E}
 Generic volume Yes VOLUME 5.2.3790.1289
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 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{8198C504
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{7D4E592E
 -1969-4556-9E42-D700151911D1}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -6B06-4F81-B843-F780D70F2B7A}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{DCDB613
 1-189A-4D9A-8576-F5B99AC93183}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -7BB0-469E-B28A-AE10370A4F3B}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{767032DC
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{2F7B2C68
 -2501-430F-9B12-1F1AF6AE82F0}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{FD5F1D7B
 -21A9-4481-99FB-DCB5C41551FF}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{B7B1685A
 -CF28-4B61-BAE3-E1AE7215E718}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{C1F2430B
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Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -6687-4FB0-8DB1-B8573D4FF4BA}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{C4016180
 -A328-4F1C-82B6-28919135CD91}

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{8AAD4173
 -C197-466C-8DF2-0A7B02396A4C}

Volume Manager Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ROOT\FDISK\0000

Logical Disk Manager Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ROOT\DMIO\0000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2AFE463
 5&8&0100004000000000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2AFE463
 5&8&0000004000000000

Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1F9
 325B&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&277E4F9
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Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&277E4F9
 9&8&0000004000000000

Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1F9
 325B&0&2008

PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2D6
 138E4&0&08

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\7C

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\78

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\74

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\70

Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0004\301

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\6C

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2A7983
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Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2A7983
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Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3B9
 40DB4&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1937325
 D&8&0100004000000000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1937325
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Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&3B9
 40DB4&0&2008

PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&19D
 51C05&0&08

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\68

QLogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsudev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 V_\6&60102&0&07F0

QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&240

E8D59&0&08

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\HWP0002\64

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&172FD4
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Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not

Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&172FD4
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Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
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 5503&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
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 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&327FD6
 D6&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&327FD6
 D6&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&726
 5503&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&3A3
 5F616&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\62
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&18
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&11
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&14C
 294CC&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&14C
 294CC&0&01

HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&14C
 294CC&0&00
 Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\60
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\300
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\3
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\15
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\14
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\13
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\12
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&13C780F
 5&8&0&1000040000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&13C780F
 5&8&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
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 24964&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
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 3&8&0&1000040000000000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
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 3&8&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&119
 24964&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&B10
 CC7&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\5C
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\58
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&199
 26672&0&09
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&199
 26672&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\54
 QLogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsudev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 V_6&2A360411&0&07F0
 QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245
 142EC&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\50
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\201
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\4C

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&35458B2
 1&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&35458B2
 1&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&6AA
 0D5F&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&9D5358
 2&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&9D5358
 2&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&6AA
 0D5F&0&2808
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&548
 403B&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\48
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\44
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&FDE84B
 F&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&FDE84B
 F&0&0000004000000000

Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&826
 A&0&0&0&0000000000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2F3C3B
 E4&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2F3C3B
 E4&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&826
 A6D2&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2F7
 7199C&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\42
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&18
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&11
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&194
 FB0DF&0&08

HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&194
 FB0DF&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&194
 FB0DF&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\40
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\200
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\2
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\11
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\10
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\9
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\8
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1FB39F2
 &0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1FB39F2
 &0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1A6
 A6711&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&783B22F
 8&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&783B22F
 8&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&81A6
 A6711&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&1E6
 C4F79&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\3C
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\38
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\34
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\30
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\101
 Qlogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsdev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 V_\6&389C96E0&0&07F0
 QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&1F3
 4A452&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\2C
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&33F8103
 B&8&0100004000000000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&33F8103
 B&8&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&8353
 3F53F&8&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1121A5
 ED&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1121A5
 ED&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&8353
 3F53F&8&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&28C
 A0570&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\28
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\24
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&362BFD
 7C&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&362BFD
 7C&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&DC
 0C033&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&39ABF4
 18&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&39ABF4
 18&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&DC0
 C033&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2B4
 10CAB&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\22
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
 AB61&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
 AB61&0&18
 CD-ROM Drive Yes CDROM 5.2.3790.0
 10/1/2002 (Standard CD-ROM drives) cdrom.inf Not
 Available SCSI\CDROM&VEN_HP&PROD_DVD-
 ROM_305&REV_1.01\6&3EABE99&0&020
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
 AB61&0&11
 Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard
 disk drives) disk.inf Not Available
 SCSI\DISK&VEN_HP_36.4G&PROD_MAS3367NC&REV_HPC3\6&
 16A4F3E&0&060
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
 AB61&0&10

Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&5C
 DAB61&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&5C
 DAB61&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&5C
 DAB61&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\20
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\100
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\1
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_7
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_6
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_5
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_4
 ACPI Fixed Feature Button Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\FIXEDBUTTON\2&DABA3FF&0
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2838117
 3&8&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2838117
 3&8&0000004000000000

Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&264
 6&87&0&290
 Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2BB808
 0F&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2BB808
 0F&0&0000040000000000
 Smart Array Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&264
 0A37&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&FA5
 F632&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\1C
 Qlogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsdev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 V_6&D37B361&0&07F0
 QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&225
 F72B7&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\18
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&288
 74FDD&0&09
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&288
 74FDD&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available
 ACPI\HWP0002\14

Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard
 disk drives) disk.inf Not Available
 SCSI\DISK&VEN_COMPAQ&PROD_MSA1000_VOLUME&REV_4.3
 2\5&C15&8&8&0001
 HP MSA1000 Yes SYSTEM 5.2.3790.1289
 10/1/2002 Compaq scsdev.inf Not Available
 SCSI\ARRAY&VEN_COMPAQ&PROD_MSA1000&REV_4.32\6&C1
 5C8C8&0&000
 Emulex LPX000 Fibre Channel Storport Driver Yes
 SCSIADAPTER 6.1.1.109 10/29/2003 Emulex
 oem4.inf Not Available
 PCI\VEN_10DF&DEV_F098&SUBSYS_F09810DF&REV_01\5&37
 D3486A&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\10
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\1
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\C
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&38DC0A
 CD&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&38DC0A
 CD&0&0000040000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&266
 093A2&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&AD4AA
 D&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&AD4AA
 D&0&0000004000000000

Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-Packard
 oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&266093A2&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&29A1C50A&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\8
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\4
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&29A69B
 A&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&29A69B
 A&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&ED32FE9&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&E58CE2
 &0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&E58CE2
 &0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-Packard
 oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&ED32FE9&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2A694D11&0&08

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\8
 HP Baseboard Management Controller Interface Driver Yes
 SYSTEM 7.1.3790.0 3/18/2004 Hewlett Packard Co.
 oem9.inf Not Available ACPI\IPI0001\0
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&18
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&11
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5EBC7&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&4F5EBC7&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&4F5EBC7&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&4F5EBC7&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\0
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\0
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\0
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_3

Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_2
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_1
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_0
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851680
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851534
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851616
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851642
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851530
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851795
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851729
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851833
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851818
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851640
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851790
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851711
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851770

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
Available Not Available Not Available ACPI\HWP1000\A56E04851798

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
Available Not Available Not Available ACPI\HWP1000\A56E04851604

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
Available Not Available Not Available ACPI\HWP1000\A56E04851726

HP CSR OpRegion Driver No SYSTEM 1.1.0.0 6/5/2003
Hewlett-Packard oem8.inf Not Available

ACPI\HWP5003\2&DABA3FF&0
ACPI Power Button Yes SYSTEM 5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not

Available ACPI\PNPOC0C\2&DABA3FF&0
Microsoft ACPI-Compliant System Yes SYSTEM
5.2.3790.0 10/1/2002 Microsoft acpi.inf Not

Available ACPI_HAL\PNPOC08\0
ACPI IA64-based PC Not Available COMPUTER Not Available Not
Available (Standard computers) Not Available Not Available

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
Available Not Available Not Available HTREE\ROOT\0

Not Available Yes Not Available 2:5.2 Not Available Not
Available Not Available Not Available b17-1147-a on prn-corp1 (from V-
JASGOE01) in session 0

Not Available Yes Not Available 2:5.2 Not Available Not
Available Not Available Not Available b17-1410-a on PRN-
PRIV1.redmond.corp.microsoft.com (from V-JASGOE01) in session 0

[Environment Variables]

Variable Value User Name
ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>

Path %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\sy
stem32\WBEM;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\
<SYSTEM>

windir %SystemRoot%\ <SYSTEM>
OS Windows_NT <SYSTEM>

PROCESSOR_ARCHITECTURE IA64 <SYSTEM>
PROCESSOR_LEVEL 31 <SYSTEM>

PROCESSOR_IDENTIFIER ia64 Family 31 Model 2 Stepping 1, GenuineIntel
<SYSTEM>

PROCESSOR_REVISION 0201 <SYSTEM>
NUMBER_OF_PROCESSORS 16 <SYSTEM>

ClusterLog C:\WINDOWS\Cluster\cluster.log <SYSTEM>
PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH
<SYSTEM>

TEMP %SystemRoot%\TEMP <SYSTEM>
TMP %SystemRoot%\TEMP <SYSTEM>

TEMP_HOST%\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

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT
AUTHORITY\NETWORK SERVICE

TMP %USERPROFILE%\Local Settings\Temp NT AUTHORITY\LOCAL
SERVICE

services.exe c:\windows\system32\services.exe 1212 9
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
KB (306,176 bytes) 12/10/2004 1:18 PM 1280 9

services.exe c:\windows\system32\services.exe 1212 9
409600 2826240 1/14/2005 10:42 AM

5.2.3790.0 (srv03_rtm.030324-2048) 15.00 KB (15,360
bytes) 12/10/2004 1:17 PM

svchost.exe c:\windows\system32\svchost.exe 1712 8
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
(36,864 bytes) 12/10/2004 1:18 PM 1912 8

svchost.exe Not Available 1912 8 Not Available Not
Available 1/14/2005 10:42 AM Not Available Not Available Not

svchost.exe Not Available 352 8 Not Available Not
Available 1/14/2005 10:42 AM Not Available Not Available Not

svchost.exe Not Available 364 8 Not Available Not
Available 1/14/2005 10:42 AM Not Available Not Available Not

svchost.exe c:\windows\system32\svchost.exe 420 8
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
(36,864 bytes) 12/10/2004 1:18 PM 1176 8

spoolsv.exe c:\windows\system32\spoolsv.exe 1176 8
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
KB (146,944 bytes) 12/10/2004 1:18 PM 1252 8

msdtc.exe Not Available 1252 8 Not Available Not
Available 1/14/2005 10:42 AM Not Available Not Available Not

svchost.exe c:\windows\system32\svchost.exe 1888 8
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
(36,864 bytes) 12/10/2004 1:18 PM 328 8

svchost.exe Not Available 328 8 Not Available Not
Available 1/14/2005 10:42 AM Not Available Not Available Not

mssearch.exe c:\program files\common
files\system\mssearch\bin\mssearch.exe 668 8 409600

2826240 1/14/2005 10:42 AM 9.107.8320.0460.00
KB (471,040 bytes) 10/21/2004 9:12 PM

svchost.exe c:\windows\system32\svchost.exe 1416 8
409600 2826240 1/14/2005 10:42 AM

5.2.3790.1289 (srv03_sp1_rc1.041202-1618)
(36,864 bytes) 12/10/2004 1:18 PM 1096 8

wmiprvse.exe Not Available 1096 8 Not
Available 1/14/2005 10:43 AM Not Available Not
Available Not Available

csrss.exe	Not Available	1016	13	Not Available	Not Available
Available	1/14/2005 1:00 PM			Not Available	Not Available
winlogon.exe	c:\windows\system32\winlogon.exe	1364	13		
	409600 2826240	1/14/2005 1:00 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		663.50		
KB (679,424 bytes)	12/10/2004 1:18 PM				
rdpclip.exe	c:\windows\system32\rdpclip.exe	512	8		
	409600 2826240	1/14/2005 1:00 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		209.50		
KB (214,528 bytes)	10/21/2004 10:19 AM				
explorer.exe	c:\windows\explorer.exe	780	8	409600	
	2826240 1/14/2005 1:00 PM		6.00	3790.1289	
(srv03_sp1_rc1.041202-1618)		1.64 MB (1,720,320 bytes)			
	12/10/2004 1:17 PM				
sqlmangr.exe	c:\program files\microsoft sql server\80\tools\bin\sqlmangr.exe	632	8	409600	
	2826240 1/14/2005 1:00 PM		2000.080.0760.00		
	225.00 KB (230,400 bytes)	12/10/2004 3:37 PM			
cmd.exe	c:\windows\system32\cmd.exe	3740	8		
	409600 2826240	1/14/2005 1:00 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		507.00		
KB (519,168 bytes)	12/10/2004 1:17 PM				
taskmgr.exe	c:\windows\system32\taskmgr.exe	2540	13		
	409600 2826240	1/14/2005 1:00 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		427.50		
KB (437,760 bytes)	12/10/2004 1:18 PM				
logon.scr	Not Available	2808	4	Not Available	Not Available
Available	1/14/2005 1:10 PM			Not Available	Not Available
Available					
wuauclt.exe	c:\windows\system32\wuauclt.exe	1220	8		
	409600 2826240	1/17/2005 9:06 AM			
	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)		263.00		
KB (269,312 bytes)	12/10/2004 1:59 PM				
calc.exe	c:\windows\system32\calc.exe	3720	8		
	409600 2826240	1/17/2005 1:49 PM			
	5.2.3790.0 (srv03_rtm.030324-2048)		269.00	KB (275,456 bytes)	
	10/21/2004 10:19 AM				
cmd.exe	c:\windows\system32\cmd.exe	2856	8		
	409600 2826240	1/17/2005 1:51 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		507.00		
KB (519,168 bytes)	12/10/2004 1:17 PM				
zerosql.exe	c:\program files\microsoft sql server\mssql\bin\zerosql.exe	816	13	409600	2826240
	1/17/2005 1:58 PM		2000.080.0782.00		23.01 MB
(24,128,000 bytes)	12/10/2004 3:37 PM				
cmd.exe	c:\windows\system32\cmd.exe	2484	8		
	409600 2826240	1/17/2005 1:59 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		507.00		
KB (519,168 bytes)	12/10/2004 1:17 PM				

osql.exe	c:\program files\microsoft sql server\80\tools\bin\osql.exe	3636	8	409600	2826240
	1/17/2005 1:59 PM		2000.080.0973.00		145.50
KB (145,992 bytes)	12/10/2004 1:59 PM				
helpctr.exe	c:\windows\system32\binaries\helpctr.exe	3016	8	409600	2826240
	1/17/2005 2:31 PM				
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		2.01 MB		
(2,105,344 bytes)	10/21/2004 10:21 AM				
helpsvc.exe	c:\windows\system32\binaries\helpsvc.exe	2396	8	409600	2826240
	1/17/2005 2:31 PM				
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		2.21 MB		
(2,317,312 bytes)	10/21/2004 10:21 AM				
wmiprvse.exe	Not Available	3308	8	Not Available	Not Available
Available	Not Available	1/17/2005 2:31 PM		Not Available	Not Available
Available	Not Available				
mmc.exe	c:\windows\system32\mmc.exe	3248	8		
	409600 2826240	1/17/2005 2:41 PM			
	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)		2.51 MB		
(2,627,584 bytes)	12/10/2004 1:17 PM				
[Loaded Modules]					
Name	Version	Size	File Date	Manufacturer Path	
winlogon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	663.50	12/10/2004 1:18 PM	Microsoft Corporation	
KB (679,424 bytes)					
	c:\windows\system32\winlogon.exe				
ntdll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.56 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(1,635,328 bytes)					
	c:\windows\system32\ntdll.dll				
kernel32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.87 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(1,962,496 bytes)					
	c:\windows\system32\kernel32.dll				
msvcrt	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	931.50	12/10/2004 1:17 PM	Microsoft Corporation	
KB (953,856 bytes)					
	c:\windows\system32\msvcrt.dll				
advapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(1,467,904 bytes)					
	c:\windows\system32\advapi32.dll				
rpcrt4	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.36 MB	12/10/2004 1:18 PM	Microsoft Corporation	
(2,470,400 bytes)					
	c:\windows\system32\rpcrt4.dll				
user32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB	12/10/2004 1:18 PM	Microsoft Corporation	
(1,472,000 bytes)					
	c:\windows\system32\user32.dll				
gdi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	880.50	12/10/2004 1:17 PM	Microsoft Corporation	
KB (901,632 bytes)					
	c:\windows\system32\gdi32.dll				
userenv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.49 MB	12/10/2004 1:18 PM	Microsoft Corporation	
(1,561,088 bytes)					
	c:\windows\system32\userenv.dll				
nddeapi	5.2.3790.0 (srv03_rtm.030324-2048)	39.50 KB (40,448 bytes)	12/10/2004 1:17 PM	Microsoft Corporation	
	c:\windows\system32\nddeapi.dll				

crypt32	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	1.68 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(1,758,208 bytes)					
	c:\windows\system32\crypt32.dll				
msasn1	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	177.50	12/10/2004 1:17 PM	Microsoft Corporation	
KB (181,760 bytes)					
	c:\windows\system32\msasn1.dll				
secur32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	186.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (190,464 bytes)					
	c:\windows\system32\secur32.dll				
winsta	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	141.50	12/10/2004 1:18 PM	Microsoft Corporation	
KB (144,896 bytes)					
	c:\windows\system32\winsta.dll				
netapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	882.00	12/10/2004 1:17 PM	Microsoft Corporation	
KB (903,168 bytes)					
	c:\windows\system32\netapi32.dll				
profmap	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	59.50 KB	12/10/2004 1:17 PM	Microsoft Corporation	
(60,928 bytes)					
	c:\windows\system32\profmap.dll				
regapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	139.50	12/10/2004 1:18 PM	Microsoft Corporation	
KB (142,848 bytes)					
	c:\windows\system32\regapi.dll				
ws2_32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	246.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (251,904 bytes)					
	c:\windows\system32\ws2_32.dll				
ws2help	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	49.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (50,176 bytes)					
	c:\windows\system32\ws2help.dll				
msgina	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(1,463,296 bytes)					
	c:\windows\system32\msgina.dll				
shsvcs	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	354.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (362,496 bytes)					
	c:\windows\system32\shsvcs.dll				
shlwapi	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	802.50	12/10/2004 1:18 PM	Microsoft Corporation	
KB (821,760 bytes)					
	c:\windows\system32\shlwapi.dll				
sfc	5.2.3790.0 (srv03_rtm.030324-2048)	7.50 KB (7,680 bytes)	12/10/2004 1:18 PM	Microsoft Corporation	
	c:\windows\system32\sfc.dll				
sfc_os	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	273.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (279,552 bytes)					
	c:\windows\system32\sfc_os.dll				
wintrust	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	459.00	12/10/2004 1:18 PM	Microsoft Corporation	
KB (470,016 bytes)					
	c:\windows\system32\wintrust.dll				
imagehlp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	140.00	12/10/2004 1:17 PM	Microsoft Corporation	
KB (143,360 bytes)					
	c:\windows\system32\imagehlp.dll				
ole32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	3.80 MB	12/10/2004 1:17 PM	Microsoft Corporation	
(3,988,480 bytes)					
	c:\windows\system32\ole32.dll				

comct32 6.0 (srv03_sp1_rc1.041202-1618) 2.50 MB (2,620,928 bytes) 12/10/2004 5:29 AM Microsoft Corporation
 c:\windows\winsxs\ia64_microsoft.windows.common-controls_6595b64144ccf1df_6.0.3790.1289_x-ww_a74f17ad\comct32.dll

version 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 51.00 KB (52,224 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\version.dll

sxs 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.82 MB (1,904,128 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\sxs.dll

winscard 5.2.3790.0 (srv03_rtm.030324-2048) 291.50 KB (298,496 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\winscard.dll

wtsapi32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 51.00 KB (52,224 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\wtsapi32.dll

winmm 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 428.00 KB (438,272 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\winmm.dll

shell32 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 12.62 MB (13,235,200 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\shell32.dll

setupapi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.99 MB (2,086,912 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\setupapi.dll

wldap32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 460.50 KB (471,552 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\wldap32.dll

cscdll 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 205.50 KB (210,432 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\cscdll.dll

dimsntfy 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 51.50 KB (52,736 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\dimsntfy.dll

wlnotify 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 238.50 KB (244,224 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\wlnotify.dll

winspool 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 400.00 KB (409,600 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\winspool.drv

mpr 5.2.3790.0 (srv03_rtm.030324-2048) 163.00 KB (166,912 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mpr.dll

oleaut32 5.2.3790.1289 3.74 MB (3,917,312 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\oleaut32.dll

comct32 5.82 (srv03_sp1_rc1.041202-1618) 1.72 MB (1,805,824 bytes) 12/10/2004 5:29 AM Microsoft Corporation
 c:\windows\winsxs\ia64_microsoft.windows.common-controls_6595b64144ccf1df_5.82.3790.1289_x-ww_47dad228\comct32.dll

uxtheme 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 611.50 KB (626,176 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 clbcatq 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 1.30 MB (1,358,848 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\clbcatq.dll

comres 2001.12.4720.0 (srv03_rtm.030324-2048) 779.50 KB (798,208 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\comres.dll

wbemprox 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 65.00 KB (66,560 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 664.50 KB (680,448 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\wbem\wbemcomn.dll

xpsp2res 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 2.76 MB (2,897,920 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\xpsp2res.dll

wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048) 62.50 KB (64,000 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.63 MB (1,710,080 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\wbem\fastprox.dll

msvcp60 6.10.2240.8 941.50 KB (964,096 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msvcp60.dll

ntdsapi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 204.00 KB (208,896 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 425.50 KB (435,712 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\dnsapi.dll

scredir 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 68.50 KB (70,144 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\scredir.dll

samlib 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 103.50 KB (105,984 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\samlib.dll

cscui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 627.50 KB (642,560 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\cscui.dll

drprov 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 30.00 KB (30,720 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\drprov.dll

rdpsnd 5.2.3790.0 (srv03_rtm.030324-2048) 63.00 KB (64,512 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\rdpsnd.dll

psapi 5.2.3790.0 (srv03_rtm.030324-2048) 48.00 KB (49,152 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\psapi.dll

ntlanman 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 117.00 KB (119,808 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\ntlanman.dll

netui0 5.2.3790.0 (srv03_rtm.030324-2048) 181.50 KB (185,856 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui0.dll

netui1 5.2.3790.0 (srv03_rtm.030324-2048) 482.00 KB (493,568 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui1.dll

davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 59.00 KB (60,416 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\davclnt.dll

mprui 5.2.3790.0 (srv03_rtm.030324-2048) 97.00 KB (99,328 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mprui.dll

netui2 5.2.3790.0 (srv03_rtm.030324-2048) 761.50 KB (779,776 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui2.dll

comdlg32 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 745.00 KB (762,880 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\comdlg32.dll

netmsg 5.2.3790.0 (srv03_rtm.030324-2048) 177.50 KB (181,760 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netmsg.dll

es 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 682.50 KB (698,880 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\es.dll

ntmarta 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 365.50 KB (374,272 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\ntmarta.dll

msacm32 5.2.3790.0 (srv03_rtm.030324-2048) 77.00 KB (78,848 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msacm32.drv

msacm32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 276.50 KB (283,136 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msacm32.dll

imaadp32 5.2.3790.0 (srv03_rtm.030324-2048) 55.00 KB (56,320 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\imaadp32.acm

printui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.13 MB (1,186,304 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\printui.dll

activeds 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 581.50 KB (595,456 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\activeds.dll

adslrpc 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 326.00 KB (333,824 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\adslrpc.dll

credui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 311.00 KB (318,464 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\credui.dll

atl	3.00.2282	348.00 KB (356,352 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\atl.dll	
cfgmgr32	5.2.3790.0 (srv03_rtm.030324-2048)	16.00 KB (16,384 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\cfgmgr32.dll	
msadp32	5.2.3790.0 (srv03_rtm.030324-2048)	49.00 KB (50,176 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msadp32.acm	
msg711	5.2.3790.0 (srv03_rtm.030324-2048)	33.00 KB (33,792 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msg711.acm	
cabinet	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	250.50 KB (256,512 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\cabinet.dll	
msgsm32	5.2.3790.0 (srv03_rtm.030324-2048)	66.50 KB (68,096 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msgsm32.acm	
tssoft32	1.01	29.00 KB (29,696 bytes)	12/10/2004 1:18 PM
	DSP GROUP, INC.	c:\windows\system32\tssoft32.acm	
tsd32	1.03	38.00 KB (38,912 bytes)	12/10/2004 1:18 PM
	DSP GROUP, INC.	c:\windows\system32\tsd32.dll	
rsaenh	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	407.48 KB (417,256 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\rsaenh.dll	
cryptnet	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	168.50 KB (172,544 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\cryptnet.dll	
sensapi	5.2.3790.0 (srv03_rtm.030324-2048)	11.50 KB (11,776 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\sensapi.dll	
mscmsg	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	221.50 KB (226,816 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\mscmsg.dll	
apphelp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	301.00 KB (308,224 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\apphelp.dll	
icm32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	718.00 KB (735,232 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\icm32.dll	
services	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	299.00 KB (306,176 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\services.exe	
scserv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	806.50 KB (825,856 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\scserv.dll	
authz	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	216.50 KB (221,696 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\authz.dll	

umprnmgr	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	321.00 KB (328,704 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\umprnmgr.dll	
ncobjapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	121.00 KB (123,904 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\ncobjapi.dll	
eventlog	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	178.00 KB (182,272 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\eventlog.dll	
lsass	5.2.3790.0 (srv03_rtm.030324-2048)	15.00 KB (15,360 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\lsass.exe	
lsasrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.07 MB (2,170,880 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\lsasrv.dll	
samsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.09 MB (1,141,248 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\samsrv.dll	
cryptdll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	67.50 KB (69,120 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\cryptdll.dll	
msprivs	5.2.3790.0 (srv03_rtm.030324-2048)	46.00 KB (47,104 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msprivs.dll	
kerberos	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	932.00 KB (954,368 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\kerberos.dll	
msv1_0	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	376.00 KB (385,024 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msv1_0.dll	
iphlpapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	254.50 KB (260,608 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\iphlpapi.dll	
netlogon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	954.50 KB (977,408 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\netlogon.dll	
w32time	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	562.50 KB (576,000 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\w32time.dll	
schannel	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	455.50 KB (466,432 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\schannel.dll	
wdigest	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	209.50 KB (214,528 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\wdigest.dll	
rassfm	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	66.50 KB (68,096 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\rassfm.dll	
kdcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	595.50 KB (609,792 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\kdcsvc.dll	
ntdsa	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	4.04 MB (4,234,240 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\ntdsa.dll	

esent	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.64 MB (2,767,872 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\esent.chd	
ntdsatq	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	79.50 KB (81,408 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\ntdsatq.dll	
mswsock	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	759.00 KB (777,216 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\mswsock.dll	
scedcli	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	459.00 KB (470,016 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\scedcli.dll	
ws03res	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	773.50 KB (792,064 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\ws03res.dll	
ipsecsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	465.00 KB (476,160 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\ipsecsvc.dll	
oakley	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	514.00 KB (526,336 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\oakley.dll	
winipsec	5.2.3790.0 (srv03_rtm.030324-2048)	78.50 KB (80,384 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\winipsec.dll	
pstorsvc	5.2.3790.0 (srv03_rtm.030324-2048)	56.00 KB (57,344 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\pstorsvc.dll	
psbase	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	166.50 KB (170,496 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\psbase.dll	
hnetcfg	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.04 MB (1,095,168 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\hnetcfg.dll	
wshtcpip	5.2.3790.0 (srv03_rtm.030324-2048)	38.00 KB (38,912 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\wshtcpip.dll	
dsenh	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	360.48 KB (369,128 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\dsenh.dll	
wlbcstrl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	206.50 KB (211,456 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\wlbcstrl.dll	
svchost	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	36.00 KB (36,864 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\svchost.exe	
rpcss	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	820.00 KB (839,680 bytes)	12/10/2004 1:18 PM
	Microsoft Corporation	c:\windows\system32\rpcss.dll	
wzcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	816.00 KB (835,584 bytes)	12/2/2004 12:50 PM
	Microsoft Corporation	c:\windows\system32\wzcsvc.dll	

rtutils	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	90.00 KB (92,160 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rtutils.dll			
wmi	5.2.3790.0 (srv03_rtm.030324-2048)	5.00 KB (5,120 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wmi.dll			
dhcpcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	297.50 KB (304,640 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\dhcpcsvc.dll			
rastls	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	426.00 KB (436,224 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rastls.dll			
cryptui	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	1.10 MB (1,158,144 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\cryptui.dll			
mprapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	263.00 KB (269,312 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mprapi.dll			
rasapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	632.00 KB (647,168 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasapi32.dll			
rasman	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	166.50 KB (170,496 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasman.dll			
tapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	518.00 KB (530,432 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\tapi32.dll			
raschap	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	226.00 KB (231,424 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\raschap.dll			
schedsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	566.50 KB (580,096 bytes)	10/21/2004 10:21 AM	Microsoft Corporation
	c:\windows\system32\schedsvc.dll			
msidle	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	11.50 KB (11,776 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\msidle.dll			
wkssvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	313.50 KB (321,024 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wkssvc.dll			
wiarpc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	75.50 KB (77,312 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wiarpc.dll			
aelupsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	55.50 KB (56,832 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\aelupsvc.dll			
cryptsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	139.00 KB (142,336 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\cryptsvc.dll			
certcli	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	579.50 KB (593,408 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\certcli.dll			

vssapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.57 MB (1,641,984 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\vssapi.dll			
dmserver	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	50.00 KB (51,200 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\dmserver.dll			
pchsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	113.00 KB (115,712 bytes)	10/21/2004 10:21 AM	Microsoft Corporation
	c:\windows\pchealth\helpctr\binaries\pchsvc.dll			
srvsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	196.00 KB (200,704 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\srvsvc.dll			
seclogon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	44.50 KB (45,568 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\seclogon.dll			
sacsvr	5.2.3790.0 (srv03_rtm.030324-2048)	27.50 KB (28,160 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\sacsvr.dll			
trkwks	5.2.3790.0 (srv03_rtm.030324-2048)	246.00 KB (251,904 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\trkwks.dll			
sens	5.2.3790.0 (srv03_rtm.030324-2048)	90.50 KB (92,672 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\sens.dll			
wmisvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	445.00 KB (455,680 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmisvc.dll			
wuauerv	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	24.50 KB (25,088 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wuauerv.dll			
wuaueng	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	3.07 MB (3,222,016 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wuaueng.dll			
advpack	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	259.50 KB (265,728 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\advpack.dll			
shfolder	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	42.00 KB (43,008 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\shfolder.dll			
winhttp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	993.00 KB (1,016,832 bytes)	12/10/2004 5:29 AM	Microsoft Corporation
	c:\windows\winsxs\ia64_microsoft.windows.winhttp_6595b64144cc1df_5.1.3790.1289_x-ww_a08099d9\winhttp.dll			
mspatcha	5.2.3790.0 (srv03_rtm.030324-2048)	80.00 KB (81,920 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mspatcha.dll			
browser	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	198.50 KB (203,264 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\browser.dll			
netrap	5.2.3790.0 (srv03_rtm.030324-2048)	30.00 KB (30,720 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\netrap.dll			

comsvcs	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	3.15 MB (3,299,840 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\comsvcs\comsvcs.dll			
wbemcore	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.94 MB (2,036,224 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wbemcore.dll			
esscli	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.01 MB (1,056,256 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\esscli.dll			
wmiutils	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	302.00 KB (309,248 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmiutils.dll			
repdrvfs	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	649.00 KB (664,576 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\repdrvfs.dll			
wmiprvsd	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.39 MB (1,454,592 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmiprvsd.dll			
wbemess	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.02 MB (1,068,544 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wbemess.dll			
ncprov	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	146.00 KB (149,504 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\ncprov.dll			
netman	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	706.00 KB (722,944 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\netman.dll			
netshell	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.95 MB (3,094,528 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\netshell.dll			
clusapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	155.50 KB (159,232 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\clusapi.dll			
wininet	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	1.62 MB (1,695,744 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wininet.dll			
wzcsapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	102.00 KB (104,448 bytes)	12/2/2004 12:50 PM	Microsoft Corporation
	c:\windows\system32\wzcsapi.dll			
rasdlg	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.44 MB (1,509,888 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasdlg.dll			
rasadhlp	5.2.3790.0 (srv03_rtm.030324-2048)	13.00 KB (13,312 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasadhlp.dll			
xactsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	295.00 KB (302,080 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\xactsrv.dll			
ntlsapi	5.2.3790.0 (srv03_rtm.030324-2048)	14.50 KB (14,848 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\ntlsapi.dll			

wups	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	45.00 KB (46,080 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wups.dll			
spoolsv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	143.50 KB (146,944 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\spoolsv.exe			
spoolss	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	244.50 KB (250,368 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\spoolss.dll			
localspl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	938.50 KB (961,024 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\localspl.dll			
cnbjmon	5.2.3790.1224 (dnsvr(skatar).040514-1058)	100.00 KB (102,400 bytes)	12/2/2004 12:28 PM	Microsoft Corporation
	c:\windows\system32\cnbjmon.dll			
pjlmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	42.50 KB (43,520 bytes)	12/2/2004 12:36 PM	Microsoft Corporation
	c:\windows\system32\pjlmon.dll			
tcpmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	143.00 KB (146,432 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\tcpmon.dll			
wsnmp32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	126.50 KB (129,536 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wsnmp32.dll			
tcpmib	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	47.00 KB (48,128 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\tcpmib.dll			
wsock32	5.2.3790.0 (srv03_rtm.030324-2048)	23.00 KB (23,552 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wsock32.dll			
mgmtapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	45.00 KB (46,080 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mgmtapi.dll			
snmpapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	59.50 KB (60,928 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\snmpapi.dll			
usbmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	48.50 KB (49,664 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\usbmon.dll			
winmr	5.2.3790.0 (srv03_rtm.030324-2048)	39.00 KB (39,936 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\winmr.dll			
win32spl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	274.50 KB (281,088 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\win32spl.dll			
inetpp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	214.00 KB (219,136 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\inetpp.dll			
icmp	5.2.3790.0 (srv03_rtm.030324-2048)	2.50 KB (2,560 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\icmp.dll			

ps5ui	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	393.50 KB (402,944 bytes)	10/28/2004 12:15 PM	Microsoft Corporation
	c:\windows\system32\spool\drivers\ia64\3\ps5ui.dll			
unidrui	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	533.50 KB (546,304 bytes)	12/3/2004 5:45 PM	Microsoft Corporation
	c:\windows\system32\spool\drivers\ia64\3\unidrui.dll			
ersvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	66.00 KB (67,584 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\ersvc.dll			
mssearch	9.107.8320.0460.00 KB (471,040 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\common files\system\mssearch\bin\mssearch.exe
mssws	9.107.8320.027.00 KB (27,648 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\common files\system\mssearch\bin\mssws.dll
mssrch	9.107.8320.06.50 MB (6,819,328 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\system\mssearch\bin\mssrch.dll
security	5.2.3790.0 (srv03_rtm.030324-2048)	7.00 KB (7,168 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\security.dll			
tquery	9.107.8320.05.85 MB (6,133,248 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\common files\system\mssearch\bin\tquery.dll
propdefs	9.107.8320.0888.50 KB (909,824 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\system\mssearch\bin\propdefs.dll
srchidx	9.107.8320.02.26 MB (2,374,144 bytes)	10/21/2004 9:12 PM	Microsoft Corporation	c:\program files\system\mssearch\bin\srchidx.dll
iprop	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	3.00 KB (3,072 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\iprop.dll			
athprxy	9.107.8320.020.50 KB (20,992 bytes)	11/8/2004 5:33 PM	Microsoft Corporation	c:\windows\system32\athprxy.dll
termsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	674.50 KB (690,688 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\termsrv.dll			
icaapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	31.50 KB (32,256 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\icaapi.dll			
mstlsapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	338.00 KB (346,112 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mstlsapi.dll			
rdpwsx	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	323.13 KB (330,888 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\rdpwsx.dll			

rdpclip	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	209.50 KB (214,528 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
urlmon	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	1.52 MB (1,594,368 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\urlmon.dll			
explorer	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	1.64 MB (1,720,320 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\explorer.exe			
browseui	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	2.42 MB (2,542,080 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\browseui.dll			
shdocvw	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	3.49 MB (3,657,216 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\shdocvw.dll			
themeui	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	890.50 KB (911,872 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\themeui.dll			
msimg32	5.2.3790.0 (srv03_rtm.030324-2048)	7.00 KB (7,168 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\msimg32.dll			
linkinfo	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	46.50 KB (47,616 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\linkinfo.dll			
ntshrui	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	244.00 KB (249,856 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\ntshrui.dll			
msi	3.1.4000.1289	5.70 MB (5,980,160 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\msi.dll			
webcheck	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	698.50 KB (715,264 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\webcheck.dll			
stobject	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	175.00 KB (179,200 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\stobject.dll			
batmeter	6.00.3790.0 (srv03_rtm.030324-2048)	55.50 KB (56,832 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\batmeter.dll			
powrprof	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	44.00 KB (45,056 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\powrprof.dll			
browsecl	6.00.3790.0 (srv03_rtm.030324-2048)	61.50 KB (62,976 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\browsecl.dll			
shdoclc	6.00.3790.0 (srv03_rtm.030324-2048)	588.00 KB (602,112 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\shdoclc.dll			
mydocs	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	130.50 KB (133,632 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mydocs.dll			

sqlmangr	2000.080.0760.00	225.00 KB (230,400 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\sqlmangr.exe		
w95scm	2000.080.0760.00	133.50 KB (136,704 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\w95scm.dll		
odbc32	3.526.1289.0 (srv03_sp1_rc1.041202-1618)	704.00 KB (720,896 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\odbc32.dll		
sqlsvc	2000.080.0760.00	315.50 KB (323,072 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\sqlsvc.dll		
odbcbc	2000.086.1289.0 (srv03_sp1_rc1.041202-1618)	52.00 KB (53,248 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\odbcbc.dll		
sqlresld	2000.080.0760.00	28.50 KB (29,184 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\sqlresld.dll		
odbcint	3.526.1289.0 (srv03_sp1_rc1.041202-1618)	88.00 KB (90,112 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\odbcint.dll		
resutils	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	152.00 KB (155,648 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\resutils.dll		
sqlsvc	2000.080.0760.00	2.00 KB (2,048 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\resources\1033\sqlsvc.rll		
sqlmangr	2000.080.0760.00	75.50 KB (77,312 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\resources\1033\sqlmangr.rll		
cmd	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	507.00 KB (519,168 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\cmd.exe		
taskmgr	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	427.50 KB (437,760 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\taskmgr.exe		
utildll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	68.00 KB (69,632 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\utildll.dll		
wuauclt	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	263.00 KB (269,312 bytes)
	12/10/2004 1:59 PM	Microsoft Corporation
c:\windows\system32\wuauclt.exe		
wuauclpl	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	225.00 KB (230,400 bytes)
	12/10/2004 1:59 PM	Microsoft Corporation
c:\windows\system32\wuauclpl.cpl		

calc	5.2.3790.0 (srv03_rtm.030324-2048)	269.00 KB (275,456 bytes)
	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\calc.exe		
zerosql	2000.080.0973.00	24.01 MB (24,128,000 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\zerosql.exe		
opends60	2000.080.0973.00	26.50 KB (27,136 bytes)
	12/10/2004 3:36 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\opends60.dll		
sqlsort	2000.080.0973.00	602.50 KB (616,960 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\sqlsort.dll		
msvcirt	7.0.3790.0 (srv03_rtm.030324-2048)	161.50 KB (165,376 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msvcirt.dll		
sqllevn70	2000.080.0973.00	19.50 KB (19,968 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\resources\1033\sqllevn70.rll		
xolehlp	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	18.00 KB (18,432 bytes)
	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\xolehlp.dll		
msdtcprx	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	1.27 MB (1,328,640 bytes)
	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\msdtcprx.dll		
mtxclu	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	202.50 KB (207,360 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\mtxclu.dll		
ssnetlib	2000.080.0973.00	249.50 KB (255,488 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\ssnetlib.dll		
ssnmpn70	2000.080.0973.00	20.50 KB (20,992 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\ssnmpn70.dll		
ssmslpcn	2000.080.0973.00	52.50 KB (53,760 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\ssmslpcn.dll		
ssmsqlgc	2000.080.0973.00	58.50 KB (59,904 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\ssmsqlgc.dll		
qlvipl	Not Available	436.00 KB (446,464 bytes)
	12/10/2004 2:35 PM	Not Available
c:\windows\system32\qlvipl.dll		
sqlftqry	2000.080.0760.00	409.00 KB (418,816 bytes)
	12/10/2004 3:36 PM	Microsoft Corporation
c:\program files\microsoft sql server\mssql\bin\sqlftqry.dll		

sqloledb	2000.086.1289.0 (srv03_sp1_rc1.041202-1618)	1.51 MB (1,581,056 bytes)
	11/11/2004 12:00 PM	Microsoft Corporation
c:\program files\common files\system\ole db\sqloledb.dll		
msdart	2.82.1289.0 (srv03_sp1_rc1.041202-1618)	276.00 KB (282,624 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msdart.dll		
msdat3	2.82.1289.0 (srv03_sp1_rc1.041202-1618)	228.00 KB (233,472 bytes)
	11/11/2004 12:00 PM	Microsoft Corporation
c:\program files\common files\system\ole db\msdat3.dll		
oledb32	2.82.1289.0 (srv03_sp1_rc1.041202-1618)	1.46 MB (1,527,808 bytes)
	11/11/2004 12:00 PM	Microsoft Corporation
c:\program files\common files\system\ole db\oledb32.dll		
oledb32r	2.82.1289.0 (srv03_sp1_rc1.041202-1618)	76.00 KB (77,824 bytes)
	11/11/2004 12:00 PM	Microsoft Corporation
c:\program files\common files\system\ole db\oledb32r.dll		
osql	2000.080.0973.00	145.50 KB (148,992 bytes)
	12/10/2004 3:37 PM	Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\osql.exe		
sqlsrv32	2000.086.1289.0 (srv03_sp1_rc1.041202-1618)	1.08 MB (1,130,496 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\sqlsrv32.dll		
sqlsrv32	2000.086.1289.0 (srv03_sp1_rc1.041202-1618)	84.00 KB (86,016 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\sqlsrv32.rll		
odbccp32	3.526.1289.0 (srv03_sp1_rc1.041202-1618)	256.00 KB (262,144 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\odbccp32.dll		
dbnetlib	2000.086.1289 (srv03_sp1_rc1.041202-1618)	260.00 KB (266,240 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dbnetlib.dll		
helpctr	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.01 MB (2,105,344 bytes)
	10/21/2004 10:21 AM	Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpctr.exe		
hcappres	5.2.3790.0 (srv03_rtm.030324-2048)	6.00 KB (6,144 bytes)
	10/21/2004 10:21 AM	Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\hcappres.dll		
itss	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	409.50 KB (419,328 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\itss.dll		
msxml3	8.70.1006.0 3.31 MB (3,472,384 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msxml3.dll
pchshell	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	288.00 KB (294,912 bytes)
	10/21/2004 10:21 AM	Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\pchshell.dll		

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mlang 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 813.00
KB (832,512 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mlang.dll
mshtml 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 8.85 MB
(9,283,584 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mshtml.dll
msls31 3.10.349.0 501.00 KB (513,024 bytes) 12/10/2004 1:17 PM
Microsoft Corporation c:\windows\system32\msls31.dll

msimtf 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 586.50
KB (600,576 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\msimtf.dll
msctf 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 983.50
KB (1,007,104 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\msctf.dll
jscript 5.6.0.8827 1.24 MB (1,304,064 bytes) 12/10/2004 1:17 PM
Microsoft Corporation c:\windows\system32\jscript.dll

imm32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 322.00
KB (329,728 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\imm32.dll
mshtmltd 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 1.46 MB
(1,530,368 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mshtmltd.dll
vbscript 5.6.0.8827 1.07 MB (1,117,696 bytes) 12/10/2004 1:18 PM
Microsoft Corporation c:\windows\system32\vbscript.dll

msinfo 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.26 MB
(1,319,936 bytes) 10/21/2004 10:21 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll
mfc42u 6.50.4245.0 3.35 MB (3,510,272 bytes) 12/10/2004 1:17 PM
Microsoft Corporation c:\windows\system32\mfc42u.dll

riched32 5.2.3790.0 (srv03_rtm.030324-2048) 5.00 KB (5,120 bytes)
12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\riched32.dll
riched20 5.31.23.1223 1.38 MB (1,448,448 bytes) 12/10/2004 1:18 PM
Microsoft Corporation c:\windows\system32\riched20.dll

helpsvc 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 2.21 MB
(2,317,312 bytes) 10/21/2004 10:21 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\helpsvc.exe
mmc 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 2.51 MB
(2,627,584 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mmc.exe
oleacc 4.2.5406.0 (srv03_rtm.030324-2048) 485.00 KB (496,640
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\oleacc.dll
mmcbase 5.2.3790.0 (srv03_rtm.030324-2048) 139.00 KB (142,336
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mmcbase.dll

```

```

mmcndmgr 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 3.16 MB
(3,310,592 bytes) 12/10/2004 1:17 PM Microsoft Corporation
smlogcfg 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.01 MB
(1,055,744 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\smlogcfg.dll
pdh 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 804.00
KB (823,296 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\pdh.dll
sysmon 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 752.50
KB (770,560 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\sysmon.ocx
perfos 5.2.3790.0 (srv03_rtm.030324-2048) 49.50 KB (50,688
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\perfos.dll
perfdisk 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 60.50 KB
(61,952 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\perfdisk.dll

```

[Services]

Display Name	Name	State	Start Mode	Service Type
Application Experience Lookup Service	AeLookupSvc	Running	Auto	Normal
Alerter	Alerter	Stopped	Disabled	Share Process
Background Intelligent Transfer Service	BITS	Stopped	Manual	Normal
Computer Browser	Browser	Running	Auto	Share Process
Indexing Service	CISvc	Stopped	Disabled	Share Process
ClipBook	ClipSrv	Stopped	Disabled	Own Process
COM+ System Application	COMSysApp	Stopped	Manual	Own Process
Display Name	Name	State	Start Mode	Service Type
Application Experience Lookup Service	AeLookupSvc	Running	Auto	Normal
Alerter	Alerter	Stopped	Disabled	Share Process
Application Layer Gateway Service	ALG	Stopped	Manual	Normal
Application Management	AppMgmt	Stopped	Manual	Share Process
Windows Audio	AudioSrv	Stopped	Disabled	Share Process
Background Intelligent Transfer Service	BITS	Stopped	Manual	Normal
Computer Browser	Browser	Running	Auto	Share Process
Indexing Service	CISvc	Stopped	Disabled	Share Process
ClipBook	ClipSrv	Stopped	Disabled	Own Process
COM+ System Application	COMSysApp	Stopped	Manual	Own Process

```

Cryptographic Services CryptSvc Running Auto Share
Process c:\windows\system32\svchost.exe -k netsvc
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\dfsrv.exe Normal
DHCP Client Dhcp Running Auto Share Process
c:\windows\system32\svchost.exe -k networkservice Normal
Logical Disk Manager Administrative Service dmadmin Stopped
Manual Share Process
c:\windows\system32\dmadmin.exe /com Normal
LocalSystem 0
Logical Disk Manager dmserver Running Auto Share
Process c:\windows\system32\svchost.exe -k netsvc Normal
LocalSystem 0
DNS Client Dnscache Running Auto Share Process
c:\windows\system32\svchost.exe -k networkservice Normal
NT AUTHORITY\NetworkService 0
Error Reporting Service ERSvc Running Auto Share
Process c:\windows\system32\svchost.exe -k winerr Ignore
LocalSystem 0
Event Log Eventlog Running Auto Share Process
c:\windows\system32\services.exe Normal
LocalSystem 0
COM+ Event System EventSystem Running Auto Share
Process c:\windows\system32\svchost.exe -k netsvc Normal
LocalSystem 0
Help and Support helpsvc Running Auto Share
Process c:\windows\system32\svchost.exe -k netsvc Normal
LocalSystem 0
Human Interface Device Access HidServ Stopped Disabled
Share Process c:\windows\system32\svchost.exe -k
netsvc Normal LocalSystem 0
HTTP SSL HTTPFilter Stopped Manual Share Process
c:\windows\system32\lssass.exe Normal
LocalSystem 0
IAS Jet Database Access IASJet Stopped Manual Share
Process c:\windows\system32\svchost.exe -k iasjet 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\lssass.exe
Normal LocalSystem 0

```

Server	lanmanserver	Running	Auto	Share Process	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
Workstation Process	lanmanworkstation	Running	Auto	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
License Logging	LicenseService	Stopped		Disabled	
	Own Process c:\windows\system32\lsrv.exe			Normal	LocalSystem 0
TCP/IP NetBIOS Helper Process	NT AUTHORITY\NetworkService	Running	Auto	Share	
	c:\windows\system32\svchost.exe -k localservice			Normal	LocalSystem 0
Messenger	Messenger	Stopped	Disabled	Share Process	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
NetMeeting Remote Desktop Sharing	mnmsrvc	Stopped		Manual	
	Own Process c:\windows\system32\mnmsrvc.exe			Normal	LocalSystem 0
Distributed Transaction Coordinator	MSDTC	Running		Auto	
	Own Process c:\windows\system32\msdtc.exe			Normal	LocalSystem 0
Windows Installer	MSIServer	Stopped		Manual	Share
	c:\windows\system32\msiexec.exe /v			Normal	LocalSystem 0
Microsoft Search Process	MSSEARCH	Running	Auto	Share	
	"c:\program files\common files\system\mssearch\bin\mssearch.exe"			Normal	LocalSystem 0
MSSQLSERVER	MSSQLSERVER	Stopped		Manual	
	Own Process "c:\program files\microsoft sql server\mssql\bin\sqlservr.exe" -smssqlserver			Normal	LocalSystem 0
MSSQLServerADHelper	MSSQLServerADHelper	Stopped		Manual	
	Own Process c:\program files\microsoft sql server\80\tools\bin\sqladhlp.exe			Normal	LocalSystem 0
MSSQLServerOLAPService	MSSQLServerOLAPService	Stopped		Manual	
	Own Process "c:\program files\microsoft analysis services\bin\msmdsrv.exe"			Normal	LocalSystem 0
Network DDE	NetDDE	Stopped	Disabled	Share Process	
	c:\windows\system32\netdde.exe			Normal	LocalSystem 0
Network DDE DSDM Process	NetDDEdsdm	Stopped	Disabled	Share	
	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 Process	Netman	Running	Manual	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0

Network Location Awareness (NLA) File Replication Process	Nla	Running	Manual		
	Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	LocalSystem 0
NT LM Security Support Provider	NtLmSsp	Running	Manual		
	Share Process	c:\windows\system32\lsass.exe		Normal	LocalSystem 0
Removable Storage Process	NtmsSvc	Stopped	Manual	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
Plug and Play	PlugPlay	Running	Auto	Share Process	
	c:\windows\system32\services.exe			Normal	LocalSystem 0
IPSEC Services	PolicyAgent	Running	Auto	Share	
	Process c:\windows\system32\lsass.exe			Normal	LocalSystem 0
Protected Storage	ProtectedStorage	Running	Auto		
	Share Process	c:\windows\system32\lsass.exe		Normal	LocalSystem 0
Remote Access Auto Connection Manager	RasAuto	Stopped			
	Manual Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	LocalSystem 0
Remote Access Connection Manager	RasMan	Stopped	Manual		
	Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	LocalSystem 0
Remote Desktop Help Session Manager	RDSessMgr	Stopped	Manual		
	Own Process c:\windows\system32\sessmgr.exe			Normal	LocalSystem 0
Routing and Remote Access	RemoteAccess	Stopped			
	Disabled Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	LocalSystem 0
Remote Registry	RemoteRegistry	Running	Auto		
	Share Process	c:\windows\system32\svchost.exe -k regsvcs		Normal	NT AUTHORITY\LocalService
Remote Procedure Call (RPC) Locator	RpcLocator	Stopped	Manual		
	Own Process c:\windows\system32\locator.exe			Normal	NT AUTHORITY\NetworkService
Remote Procedure Call (RPC)	RpcSs	Running	Auto		
	Share Process	c:\windows\system32\svchost.exe -k rpcss		Normal	NT AUTHORITY\NetworkService
Resultant Set of Policy Provider	RSoPProv	Stopped	Manual		
	Share Process	c:\windows\system32\rsopprov.exe		Normal	LocalSystem 0
Special Administration Console Helper	sacsvr	Running	Manual		
	Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	LocalSystem 0

Security Accounts Manager Process	SamSs	Running	Auto	Share	
	c:\windows\system32\lsass.exe			Normal	LocalSystem 0
Smart Card	ScardSvr	Stopped	Manual	Share Process	
	c:\windows\system32\scardsvr.exe			Ignore	NT
AUTHORITY\Task Scheduler Process	Schedule	Running	Auto	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
Secondary Logon Process	seclogon	Running	Auto	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Ignore	LocalSystem 0
System Event Notification Process	SENS	Running	Auto	Share	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
Windows Firewall/Internet Connection Sharing (ICS)	SharedAccess	Stopped	Disabled	Share Process	
	c:\windows\system32\svchost.exe -k netsvcs			Normal	LocalSystem 0
Shell Hardware Detection	ShellHWDetection	Running	Auto		
	Share Process	c:\windows\system32\svchost.exe -k netsvcs		Ignore	LocalSystem 0
Print Spooler	Spooler	Running	Auto	Own Process	
	c:\windows\system32\spoolsv.exe			Normal	LocalSystem 0
SQLSERVERAGENT	SQLSERVERAGENT	Stopped	Manual		
	Own Process "c:\program files\microsoft sql server\mssql\bin\sqlagent.exe" -i mssqlserver			Normal	LocalSystem 0
Windows Image Acquisition (WIA) imgsvc	stisvc	Stopped	Disabled		
	Share Process	c:\windows\system32\svchost.exe -k netsvcs		Normal	NT AUTHORITY\LocalService
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
Telephony	TapiSrv	Stopped	Manual	Share Process	
	c:\windows\system32\svchost.exe -k tapisrv			Normal	LocalSystem 0
Terminal Services Process	TermService	Running	Manual	Share	
	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

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			
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\svsdc.exe			
Normal				
LocalSystem	0			
Windows Time	W32Time	Running	Auto	Share
Process	c:\windows\system32\svchost.exe -k localservice			
Normal				
NT AUTHORITY\LocalService	0			
WebClient	WebClient	Stopped	Disabled	Share Process
Process	c:\windows\system32\svchost.exe -k localservice			
Normal				
NT AUTHORITY\LocalService	0			
WinHTTP Web Proxy Auto-Discovery Service	WinHttpAutoProxySvc	Stopped	Manual	Share Process
Process	c:\windows\system32\svchost.exe -k localservice			
Normal				
NT AUTHORITY\LocalService	0			
Windows Management Instrumentation	wimgmt	Running	Auto	
Share Process	c:\windows\system32\svchost.exe -k			
netsvcs	Ignore	LocalSystem	0	
Windows Management Instrumentation Driver Extensions		Stopped	Manual	Wmi
Process	c:\windows\system32\svchost.exe -k netsvcs			
Normal				
LocalSystem	0			
WMI Performance Adapter WmiApSrv	WmiApSrv	Stopped	Manual	Own
Process	c:\windows\system32\wbem\wmiaprv.exe			
Normal				
LocalSystem	0			
Automatic Updates	wuauerv	Running	Auto	Share
Process	c:\windows\system32\svchost.exe -k netsvcs			
Normal				
LocalSystem	0			
Wireless Configuration	WZCVC	Running	Auto	Share
Process	c:\windows\system32\svchost.exe -k netsvcs			
Normal				
LocalSystem	0			
Network Provisioning Service	xmlprov	Stopped	Manual	
Share Process	c:\windows\system32\svchost.exe -k			
netsvcs	Normal	LocalSystem	0	

[Program Groups]

Group Name	Name	User Name
Accessories	Default User:Accessories	Default User

Accessories\Accessibility	Default User:Accessories\Accessibility	Default User
Accessories\Entertainment	Default User:Accessories\Entertainment	Default User
Startup	Default User:Startup	Default User
Accessories	All Users:Accessories	All Users
Accessories\Accessibility	All Users:Accessories\Accessibility	All Users
Accessories\Communications	All Users:Accessories\Communications	All Users
Accessories\Entertainment	All Users:Accessories\Entertainment	All Users
Accessories\System Tools	All Users:Accessories\System Tools	All Users
Administrative Tools	All Users:Administrative Tools	All Users
HP SAN Utilities	All Users:HP SAN Utilities	All Users
HP System Tools	All Users:HP System Tools	All Users
HP System Tools\HP Array Configuration Utility	All Users:HP System Tools\HP Array Configuration Utility	All Users
HP System Tools\HP Array Diagnostic Utility	All Users:HP System Tools\HP Array Diagnostic Utility	All Users
Microsoft SQL Server	All Users:Microsoft SQL Server	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	SQLOLY\Administrator:Accessories	SQLOLY\Administrator
Accessories\Accessibility	SQLOLY\Administrator:Accessories\Accessibility	SQLOLY\Administrator
Accessories\Entertainment	SQLOLY\Administrator:Accessories\Entertainment	SQLOLY\Administrator
Administrative Tools	SQLOLY\Administrator:Administrative Tools	SQLOLY\Administrator
HP SAN Utilities	SQLOLY\Administrator:HP SAN Utilities	SQLOLY\Administrator
QLogic Corporation	SQLOLY\Administrator:QLogic Corporation	SQLOLY\Administrator
QLogic Corporation\SANblade Control VIX	SQLOLY\Administrator:QLogic Corporation\SANblade Control VIX	SQLOLY\Administrator
Startup	SQLOLY\Administrator:Startup	SQLOLY\Administrator

[Startup Programs]

Program	desktop.ini	NT AUTHORITY\SYSTEM	Startup
desktop	desktop.ini	SQLOLY\Administrator	Startup
desktop	desktop.ini	.DEFAULT	Startup
desktop	desktop.ini	All Users	Common Startup
Service Manager	c:\progra~1\microso~2\80\tools\bin\sqlmangr.exe /n	All Users	Common Startup

[OLE Registration]

Object	Local Server	
Sound (OLE2)	sndrec32.exe	
Media Clip	mplay32.exe	
Video Clip	mplay32.exe /avi	
MIDI Sequence	mplay32.exe /mid	
Sound	Not Available	
Media Clip	Not Available	
WordPad Document	"%programfiles%\windows nt\accessories\wordpad.exe"	
Bitmap Image	mspaint.exe	

[Windows Error Reporting]

Time	Type	Details
1/13/2005 10:47 AM	Application Hang	Hanging application notepad.exe, version 5.2.3790.1289, hang module hungapp, version 0.0.0.0, hang address 0x0000000000000000.

1/11/2005 4:13 PM	Application Hang	Hanging application mmc.exe, version 5.2.3790.1289, hang module hungapp, version 0.0.0.0, hang address 0x0000000000000000.

[Internet Settings]

[Internet Explorer]

[Following are sub-categories of this main category]

[Summary]

Item	Value
Version	6.0.3790.1289
Build	63790.1289
Application Path	C:\Program Files\Internet Explorer
Language	English (United States)
Active Printer	Printer17-1147-a on prn-corp1 (from V-JASGOE01) in session 0,winspool,TS004
Cipher Strength	128-bit
Content Advisor	Disabled
IEAK Install	No

[File Versions]

File	Version	Size	Date	Path	Company
actbprxy.dll	6.0.3790.1289	237 KB	12/2/2004 8:57:34 PM	C:\WINDOWS\system32	Microsoft Corporation
advpack.dll	6.0.3790.1289	260 KB	12/2/2004 8:57:34 PM	C:\WINDOWS\system32	Microsoft Corporation
asctrls.ocx	6.0.3790.0	219 KB	3/25/2003 1:18:37 PM	C:\WINDOWS\system32	Microsoft Corporation
browseic.dll	6.0.3790.0	62 KB	3/25/2003 1:16:19 PM	C:\WINDOWS\system32	Microsoft Corporation
browseui.dll	6.0.3790.1289	2,483 KB	12/2/2004 8:57:36 PM	C:\WINDOWS\system32	Microsoft Corporation
cdfview.dll	6.0.3790.1289	302 KB	12/2/2004 8:57:36 PM	C:\WINDOWS\system32	Microsoft Corporation
comctl32.dll	5.82.3790.1289	1,764 KB	12/2/2004 8:58:45 PM	C:\WINDOWS\system32	Microsoft Corporation
dxtrans.dll	6.3.3790.1289	618 KB	12/2/2004 8:58:51 PM	C:\WINDOWS\system32	Microsoft Corporation
dxtmsft.dll	6.3.3790.1289	986 KB	12/2/2004 8:58:51 PM	C:\WINDOWS\system32	Microsoft Corporation
iecont.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iecontlc.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iedkcs32.dll	16.0.3790.1289	700 KB	12/2/2004 8:57:44 PM	C:\WINDOWS\system32	Microsoft Corporation
iepeers.dll	6.0.3790.1289	699 KB	12/2/2004 8:58:55 PM	C:\WINDOWS\system32	Microsoft Corporation
iesetup.dll	6.0.3790.1289	98 KB	12/2/2004 8:57:44 PM	C:\WINDOWS\system32	Microsoft Corporation
ieunit.inf	Not Available	24 KB	12/2/2004 5:14:38 PM	C:\WINDOWS\system32	Not Available
ieexplore.exe	6.0.3790.1289	108 KB	12/2/2004 6:59:37 PM	C:\Program Files\Internet Explorer	Microsoft Corporation
imgutil.dll	6.0.3790.1289	114 KB	12/2/2004 8:57:45 PM	C:\WINDOWS\system32	Microsoft Corporation
inetctl.cpl	6.0.3790.1289	665 KB	12/2/2004 8:58:57 PM	C:\WINDOWS\system32	Microsoft Corporation
inetctl.cpl	6.0.3790.0	108 KB	3/25/2003 1:17:29 PM	C:\WINDOWS\system32	Microsoft Corporation
inseng.dll	6.0.3790.1289	276 KB	12/2/2004 8:57:45 PM	C:\WINDOWS\system32	Microsoft Corporation
mlang.dll	6.0.3790.1289	813 KB	12/2/2004 8:58:31 PM	C:\WINDOWS\system32	Microsoft Corporation
msencode.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
mshta.exe	6.0.3790.1289	68 KB	12/2/2004 6:55:58 PM	C:\WINDOWS\system32	Microsoft Corporation

mshtml.dll	6.0.3790.1289	9,066 KB	12/2/2004 8:58:30 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.tlb	6.0.3790.1289	12,058 KB	12/2/2004 5:09:16 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtmlmld.dll	6.0.3790.1289	1,495 KB	12/2/2004 8:58:29 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtmlmld.dll	6.0.3790.1289	56 KB	12/2/2004 5:09:18 PM	C:\WINDOWS\system32	Microsoft Corporation
msident.dll	6.0.3790.1289	145 KB	12/2/2004 8:57:50 PM	C:\WINDOWS\system32	Microsoft Corporation
msidntld.dll	6.0.3790.0	14 KB	3/25/2003 1:17:49 PM	C:\WINDOWS\system32	Microsoft Corporation
msieftp.dll	6.0.3790.1289	579 KB	12/2/2004 8:57:50 PM	C:\WINDOWS\system32	Microsoft Corporation
msrating.dll	6.0.3790.1289	415 KB	12/2/2004 8:59:02 PM	C:\WINDOWS\system32	Microsoft Corporation
mstime.dll	6.0.3790.1289	1,799 KB	12/2/2004 8:59:02 PM	C:\WINDOWS\system32	Microsoft Corporation
occache.dll	6.0.3790.1289	218 KB	12/2/2004 8:59:03 PM	C:\WINDOWS\system32	Microsoft Corporation
proctexe.ocx	<File Missing>	Not Available	Not Available	Not Available	Not Available
sendmail.dll	6.0.3790.1289	109 KB	12/2/2004 8:58:01 PM	C:\WINDOWS\system32	Microsoft Corporation
shdoclc.dll	6.0.3790.0	588 KB	3/25/2003 8:45:14 AM	C:\WINDOWS\system32	Microsoft Corporation
shdocv.dll	6.0.3790.1289	3,572 KB	12/2/2004 8:58:18 PM	C:\WINDOWS\system32	Microsoft Corporation
shfolder.dll	6.0.3790.1289	42 KB	12/2/2004 8:58:01 PM	C:\WINDOWS\system32	Microsoft Corporation
shlwapi.dll	6.0.3790.1289	803 KB	12/2/2004 8:58:15 PM	C:\WINDOWS\system32	Microsoft Corporation
tdc.ocx	1.3.0.3130	177 KB	3/25/2003 1:18:38 PM	C:\WINDOWS\system32	Microsoft Corporation
url.dll	6.0.3790.1289	49 KB	12/2/2004 8:58:08 PM	C:\WINDOWS\system32	Microsoft Corporation
urlmon.dll	6.0.3790.1289	1,557 KB	12/2/2004 8:58:20 PM	C:\WINDOWS\system32	Microsoft Corporation
webcheck.dll	6.0.3790.1289	699 KB	12/2/2004 8:58:29 PM	C:\WINDOWS\system32	Microsoft Corporation
wininet.dll	6.0.3790.1289	1,656 KB	12/2/2004 8:58:20 PM	C:\WINDOWS\system32	Microsoft Corporation

[Connectivity]

Item	Value
Connection Preference	Never dial
LAN Settings	
AutoConfigProxy	wininet.dll
AutoProxyDetectMode	Disabled
AutoConfigURL	
Proxy	Disabled

Proxy Server

[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 Low
 Internet Custom
 Restricted sites Custom

Microsoft SQL Server 8.0 Startup Parameters

sqlservr -c -x -T825 -T888 -T3502 -T3428

where
 -c : Run as DOS window(Console Mode)
 -x: Don't log statistics
 T825: enable NUMA support
 T888: use locked pages for buffers
 -T3502: Display Checkpoint Log to DBLog
 -T3428: Speed Up Recovery

Microsoft SQL Server VIA Affinities

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketNetLib\VIA]
"Vendor"="QLogic"
"RecognizedVendors"="QLogic"
"ListenInfo"="0:1433[0x000f],1:1434[0x00f0],2:1435[0x0f00],3:1436[0xf000]"
```

UI2ser Rights Assignment

The Group Policy Editor of Windows.net was used to modify an entry under User Rights Assignment. Specifically, the right to "Lock pages in memory" was given to the Administrators group so that SQL Server 2000 could use large amounts of physical memory.

SmartArray Driver Settings

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\hpqcissb]
"Type"=dword:00000001
"Start"=dword:00000000
"ErrorControl"=dword:00000001
"Tag"=dword:00000102
"ImagePath"=hex(2):73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,44,00,\
52,00,49,00,56,00,45,00,52,00,53,00,5c,00,68,00,70,00,71,00,63,00,69,00,73,\
00,73,00,62,00,2e,00,73,00,79,00,73,00,00,00
"DisplayName"="Smart Array Controllers Non-Miniport Bus Driver"
"Group"="port"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\hpqcissb\Parameters]
"CompletionMode"=dword:00000002
"EnableInterruptWatchdogTimer"=dword:00000001
"MinimumCosPollingInterval"=dword:000001f4
"PerCpuDpcImportance"=dword:00000002
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\hpqcissb\Security]
"Security"=hex:01,00,14,80,b8,00,00,00,c4,00,00,00,14,00,00,00,30,00,00,00,02,\
00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,02,00,88,00,06,00,00,00,00,14,00,fd,01,02,00,01,01,00,00,00,00,\
05,12,00,00,00,00,18,00,ff,01,0f,00,01,02,00,00,00,00,05,20,00,00,00,\
20,02,00,00,00,00,14,00,8d,01,02,00,01,01,00,00,00,00,05,04,00,00,00,0,\
00,14,00,8d,01,02,00,01,01,00,00,00,00,05,06,00,00,00,00,14,00,00,0,\
1,\
00,00,01,01,00,00,00,00,05,0b,00,00,00,00,18,00,fd,01,02,00,01,02,00,\
\
```

00,00,00,00,05,20,00,00,00,23,02,00,00,01,01,00,00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,00,00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\hpqcissb\Enum]
"0"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&ed32fe9&0&2008"
"Count"=dword:00000018
"NextInstance"=dword:00000018
"1"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&ed32fe9&0&2808"
"2"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&266093a2&0&2008"
"3"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&266093a2&0&2808"
"4"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&2640a37&0&2008"
"5"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&2640a37&0&2808"
"6"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&dc0c033&0&2008"
"7"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&dc0c033&0&2808"
"8"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&3533f53f&0&2008"
"9"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3533f53f&0&2808"
"10"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1a6a671&1&0&2008"
"11"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1a6a671&1&0&2808"
"12"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&826a6d2&0&2008"
"13"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&826a6d2&0&2808"
"14"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&6aa0d5f&0&2008"
"15"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&6aa0d5f&0&2808"
"16"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&11924964&0&2008"
"17"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&11924964&0&2808"
"18"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&7265503&0&2008"
"19"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&7265503&0&2808"
"20"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&83b940db&4&0&2008"
```

```
"21"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3b940bd4&8&2808"
"22"="PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1f9325b&8&2008"
"23"="PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1f9325b&8&2808"
```

Qlogic 2350 VIA Card Settings

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300]
"ErrorControl"=dword:00000001
"Group"="SCSI miniport"
"Start"=dword:00000000
"Tag"=dword:00000028
"Type"=dword:00000001
"ImagePath"=hex(2):73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,44,00,\
52,00,49,00,56,00,45,00,52,00,53,00,5c,00,71,00,6c,00,32,00,33,00,30,00,30,\
00,2e,00,73,00,79,00,73,00,00,00
```

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

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\Device]
"DriverParameters"="UseSameNN=0"
"MaximumSGList"=dword:00000021
"NumberOfRequests"=dword:00000096
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\PnpInterface]
"5"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Enum]
"0"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&225f72b7&8&0&8"
"Count"=dword:00000004
"NextInstance"=dword:00000004
"1"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&1f34a452&8&0&8"
```

```
"2"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245142ec&8&0&8"
"3"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&240e8d59&8&0&8"
```

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

```
"CreateInitiatorLU"=dword:00000001
"DriverParameters"="UseSameNN=0"
"MaximumSGList"=dword:00000021
"NumberOfRequests"=dword:00000096
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Parameters\PnpInterface]
"5"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ql2300\Enum]
"0"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&9c102bf&8&0&8"
"Count"=dword:00000004
"NextInstance"=dword:00000004
"1"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&37d3486a&8&0&8"
"2"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245142ec&8&0&8"
"3"="PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&3666e35b&8&0&8"
```

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika]
"start"=dword:00000002
"type"=dword:00000001
"Tag"=dword:00000001
"group"="MVIA"
"ErrorControl"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Adapters]
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Adapters\210000E08B0716B0]
"IPAddress"=hex(7):31,00,35,00,2e,00,32,00,2e,00,31,00,30,00,30,00,2e,00,33,00,\
00,00,00,00
"VIDeviceNumber"=dword:00000002
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Adapters\210000E08B0ECFCD]
"IPAddress"=hex(7):31,00,35,00,2e,00,32,00,2e,00,31,00,30,00,30,00,2e,00,34,00,\
```

```
"VIDeviceNumber"=dword:00000003
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Adapters\210000E08B0ED2CD]
"IPAddress"=hex(7):31,00,35,00,2e,00,32,00,2e,00,31,00,30,00,30,00,2e,00,31,00,\
00,00,00,00
"VIDeviceNumber"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Adapters\210000E08B0ED3CD]
"IPAddress"=hex(7):31,00,35,00,2e,00,32,00,2e,00,31,00,30,00,30,00,2e,00,32,00,\
00,00,00,00
"VIDeviceNumber"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Parameters]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\qlvika\Enum]
"0"="Root\LEGACY_QLVIKA\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001
```

C.1 Microsoft SQL Server 8.0 Configuration Parameters

name	minimum	maximum	config_value	run_value
affinity mask	-2147483648	2147483647	65535	
65535				
affinity64 mask	-2147483648	2147483647	0	0
allow updates	0	1	0	0
awe enabled	0	1	0	0
c2 audit mode	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
default full-text language	0	2147483647	1033	1033
default language	0	9999	0	0
fill factor (%)	0	100	0	0
index create memory (KB)	704	2147483647	0	0
lightweight pooling	0	1	1	1
locks	5000	2147483647	0	0


```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\Virtual Roots]
"/"="c:\\inetpub\\wwwroot,,205"
"/Scripts"="c:\\inetpub\\scripts,,1"
"/IISHelp"="c:\\winnt\\help\\iishelp,,1"
"/IISAdmin"="C:\\WINNT\\system32\\inetrv\\iisadmin,,1"
"/IISSamples"="c:\\inetpub\\iissamples,,1"
"/MSADC"="c:\\program files\\common files\\system\\msadc,,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:00000cf4
"Last Help"=dword:00000cf5
"First Counter"=dword:00000c52
"First Help"=dword:00000c53
"Library Validation
Code"=hex:f1,9d,74,ba,fc,d3,c4,01,10,1d,00,00,00,00,00,00
"WbemAdapFileTime"=hex:00,a0,99,79,23,37,c3,01
"WbemAdapFileSize"=dword:00001d10
"WbemAdapStatus"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Security]
"Security"=hex:01,00,14,80,a0,00,00,00,ac,00,00,00,14,00,00,00,30,00,00,0,0,02,\
00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,02,00,70,00,04,00,00,00,00,18,00,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,01,02,00,01,01,00,00,0,0,\
00,00,05,0b,00,00,00,20,02,00,00,00,1c,00,fd,01,02,00,01,02,00,00,00,\
00,05,20,00,00,00,23,02,00,00,72,00,73,00,01,01,00,00,00,00,05,12,00,0,0,\
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
```

TPCC Application Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\TPCC]
"NumberOfDeliveryThreads"=dword:0000000a
"MaxConnections"=dword:000084d0
"MaxPendingDeliveries"=dword:000009c4
"DB_Protocol"="ODBC"
"TxnMonitor"="COM"
"Path"="C:\\inetpub\\wwwroot\\"
"DbServer"="via:sqloly"
"DbName"="tpcc"
"DbUser"="sa"
"DbPassword"="ssdl"
"COM_SinglePool"="YES"
"SPPrefix"="sp0"
```

TCPIP Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"NV_Hostname"="dl1"
"DataBasePath"=hex(2):25,00,53,00,79,00,73,00,74,00,65,00,6d,00,52,00,6f,00,6f,\
00,74,00,25,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,\
64,00,72,00,69,00,76,00,65,00,72,00,73,00,5c,00,65,00,74,00,63,00,00,00,00
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"Domain"=""
"Hostname"="dl1"
"SearchList"=""
```

```
"EnableICMPRedirect"=dword:00000001
"DeadGWDetectDefault"=dword:00000001
"DontAddDefaultGatewayDefault"=dword:00000000
"EnableSecurityFilters"=dword:00000000
"AllowUnqualifiedQuery"=dword:00000000
"PrioritizeRecordData"=dword:00000001
"NV_Domain"=""
"MaxUserPort"=dword:0000ffe
"DhcpNameServer"="15.1.101.1"
"DhcpDomain"="hp-perf.net"
```

Microsoft Windows 2003 Server Configuration Parameters

```
System Information report written at: 02/03/05 15:32:22
System Name: SQLOLY
[System Summary]

Item      Value
OS Name   Microsoft(R) Windows(R) Server 2003, Datacenter Edition for
64-Bit Itanium-based Systems
Version   5.2.3790 Service Pack 1, v.1289 Build 3790

OS Manufacturer      Microsoft Corporation
System Name            SQLOLY
System Manufacturer    hp
System Model           server rx8620
System Type            Itanium (TM) -based System
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz

Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
Processor              ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
```

Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz
 Processor ia64 Family 31 Model 2 Stepping 1 GenuineIntel ~1600 Mhz

BIOS Version/Date HP 001.022, Not Available
 SMBIOS Version 2.3
 Windows Directory C:\WINDOWS
 System Directory C:\WINDOWS\system32
 Boot Device \Device\HarddiskVolume148
 Locale United States
 Hardware Abstraction Layer Version = "5.2.3790.1289 (srv03_sp1_rc1.041202-1618)"
 User Name Not Available
 Time Zone Pacific Standard Time
 Total Physical Memory 262,077.23 MB
 Available Physical Memory 253.06 GB
 Total Virtual Memory 255.55 GB
 Available Virtual Memory 255.10 GB
 Page File Space 2.00 GB
 Page File C:\pagefile.sys

[Hardware Resources]

[Conflicts/Sharing]

Resource Device
 I/O Port 0x0000A000-0x0000BFFF PCI bus
 I/O Port 0x0000A000-0x0000BFFF Intel(R) PRO/1000 MT Dual Port Server Adapter #3
 I/O Port 0x0000A000-0x0000BFFF PCI bus
 I/O Port 0x0000A000-0x0000BFFF PCI bus
 I/O Port 0x0000A000-0x0000BFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus

Memory Address 0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI bus
 Memory Address 0xF0000000-0xFFFFFFFF PCI standard PCI-to-PCI bridge
 I/O Port 0x00000000-0x000002FF PCI bus
 I/O Port 0x00000000-0x000002FF PCI bus
 I/O Port 0x00000000-0x000002FF PCI bus
 I/O Port 0x00000000-0x000002FF PCI bus

Memory Address 0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xE0102000-0xE0103FFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xC0014000-0xC0015FFF LSI Logic 53C1010-66 Device
 Memory Address 0xC0014000-0xC0015FFF LSI Logic 53C1010-66 Device
 Memory Address 0xC0014000-0xC0015FFF LSI Logic 53C1010-66 Device
 Memory Address 0xC0014000-0xC0015FFF LSI Logic 53C1010-66 Device

I/O Port 0x00002000-0x00003FFF PCI bus
 I/O Port 0x00002000-0x00003FFF PCI bus
 I/O Port 0x00002000-0x00003FFF PCI bus
 I/O Port 0x00002000-0x00003FFF PCI bus
 I/O Port 0x00002000-0x00003FFF QLogic QLA23xx PCI Fibre Channel Adapter

Memory Address 0xC8100000-0xC8101FFF Smart Array 6400 Controller (Non-Miniport)
 Memory Address 0xC8100000-0xC8101FFF Smart Array 6400 Controller (Non-Miniport)
 Memory Address 0xC8100000-0xC8101FFF Smart Array 6400 Controller (Non-Miniport)
 Memory Address 0xC8100000-0xC8101FFF Smart Array 6400 Controller (Non-Miniport)
 Memory Address 0xC0018000-0xC001800F HP MP Serial AUX/UPS Port (COM5)

Memory Address 0xC0018000-0xC001800F HP MP Serial AUX/UPS Port (COM4)
 Memory Address 0xC0018000-0xC001800F HP MP Serial AUX/UPS Port (COM3)

Memory Address 0xF0080000-0xF00BFFFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Memory Address 0xF0080000-0xF00BFFFF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)

I/O Port 0x0000E100-0x0000E1FF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 I/O Port 0x0000E100-0x0000E1FF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 I/O Port 0x0000E100-0x0000E1FF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 I/O Port 0x0000E100-0x0000E1FF Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)

I/O Port 0x00000800-0x000008FF LSI Logic 53C1010-66 Device

I/O Port 0x00000800-0x000008FF LSI Logic 53C1010-66 Device

I/O Port 0x00000800-0x000008FF LSI Logic 53C1010-66 Device

I/O Port 0x00000800-0x000008FF LSI Logic 53C1010-66 Device

Memory Address 0xC001D000-0xC001D3FF LSI Logic 53C1010-66 Device

Memory Address 0xC001D000-0xC001D3FF LSI Logic 53C1010-66 Device

Memory Address 0xC001D000-0xC001D3FF LSI Logic 53C1010-66 Device

Memory Address 0xC001D000-0xC001D3FF LSI Logic 53C1010-66 Device

Memory Address 0xC0012000-0xC0013FFF LSI Logic 53C1010-66 Device

Memory Address 0xC0012000-0xC0013FFF LSI Logic 53C1010-66 Device

Memory Address 0xC0012000-0xC0013FFF LSI Logic 53C1010-66 Device

Memory Address 0xC0012000-0xC0013FFF LSI Logic 53C1010-66 Device

PCI bus
 HP Baseboard Management Controller Interface Driver

PCI bus

PCI bus PCI bus		I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	Memory Address 0xD0000000-0xDFFFFFFF	Intel(R) PRO/1000 MT
				Memory Address 0xD0000000-0xDFFFFFFF	PCI bus
Memory Address 0xF01C0000-0xF01FFFFF	Smart Array 6400	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus	Memory Address 0xD0000000-0xDFFFFFFF	PCI bus
Controller (Non-Miniport)		Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-	Memory Address 0xD0000000-0xDFFFFFFF	PCI bus
Memory Address 0xF01C0000-0xF01FFFFF	Smart Array 6400	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus	Memory Address 0xD0000000-0xDFFFFFFF	PCI bus
Controller (Non-Miniport)		Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-	Memory Address 0xD0000000-0xDFFFFFFF	PCI bus
		PCI bridge			
I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI bus	I/O Port 0x00001100-0x000011FF	Smart Array 6400 Controller U320
I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-	Expansion Module (Non-Miniport)	
I/O Port 0x00006000-0x00007FFF	QLogic QL23xx PCI Fibre Channel	PCI bridge		I/O Port 0x00001100-0x000011FF	Smart Array 6400 Controller U320
Adapter		Memory Address 0xC8000000-0xCFFFFFFF	PCI bus	Expansion Module (Non-Miniport)	
I/O Port 0x00006000-0x00007FFF	PCI bus	Memory Address 0xC8000000-0xCFFFFFFF	PCI standard PCI-to-	I/O Port 0x00001100-0x000011FF	Smart Array 6400 Controller U320
I/O Port 0x00006000-0x00007FFF	PCI bus	PCI bridge		Expansion Module (Non-Miniport)	
				I/O Port 0x00001100-0x000011FF	Smart Array 6400 Controller U320
Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66	Expansion Module (Non-Miniport)	
Controller U320 Expansion Module (Non-Miniport)		Device			
Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF	HP Management
Controller U320 Expansion Module (Non-Miniport)		Device		Processor	
Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF	HP Management
Controller U320 Expansion Module (Non-Miniport)		Device		Processor	
Memory Address 0xC8102000-0xC8103FFF	Smart Array 6400	Memory Address 0xC0010000-0xC0011FFF	LSI Logic 53C1010-66	Memory Address 0xC0019000-0xC0019FFF	HP Management
Controller U320 Expansion Module (Non-Miniport)		Device		Processor	
				Memory Address 0xC0019000-0xC0019FFF	HP Management
I/O Port 0x0000E000-0x0000FFFF	PCI bus	Memory Address 0xC001C000-0xC001C3FF	LSI Logic 53C1010-66	Processor	
I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	Device			
		Memory Address 0xC001C000-0xC001C3FF	LSI Logic 53C1010-66	I/O Port 0x00004100-0x000041FF	Smart Array 6400 Controller U320
I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-	Device		Expansion Module (Non-Miniport)	
Miniport)		Memory Address 0xC001C000-0xC001C3FF	LSI Logic 53C1010-66	I/O Port 0x00004100-0x000041FF	Smart Array 6400 Controller U320
I/O Port 0x0000E000-0x0000FFFF	PCI bus	Device		Expansion Module (Non-Miniport)	
I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xC001C000-0xC001C3FF	LSI Logic 53C1010-66	I/O Port 0x00004100-0x000041FF	Smart Array 6400 Controller U320
		Device		Expansion Module (Non-Miniport)	
				I/O Port 0x00004100-0x000041FF	Smart Array 6400 Controller U320
I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Expansion Module (Non-Miniport)	
Miniport)		Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-		
I/O Port 0x0000E000-0x0000FFFF	PCI bus	PCI bridge			
I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC0016000-0xC0017FFF	LSI Logic 53C1010-66
		Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Device	
I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC0016000-0xC0017FFF	LSI Logic 53C1010-66
Miniport)		PCI bridge		Device	
I/O Port 0x0000E000-0x0000FFFF	PCI bus	Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-	Memory Address 0xC0016000-0xC0017FFF	LSI Logic 53C1010-66
I/O Port 0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Device	
		Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC0016000-0xC0017FFF	LSI Logic 53C1010-66
		PCI bridge		Device	
I/O Port 0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-	Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-	Memory Address 0xC0016000-0xC0017FFF	LSI Logic 53C1010-66
Miniport)		Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Device	
		PCI bridge			
I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF	LSI Logic 53C1010-66
		Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Device	
I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	Memory Address 0xE0000000-0xEFFFFFFF	PCI standard PCI-to-	Memory Address 0xC001A000-0xC001A3FF	LSI Logic 53C1010-66
		PCI bridge		Device	
I/O Port 0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	Memory Address 0xE0000000-0xEFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF	LSI Logic 53C1010-66
				Device	
		Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Memory Address 0xC001A000-0xC001A3FF	LSI Logic 53C1010-66
		Memory Address 0xD0000000-0xDFFFFFFF	PCI bus	Device	

Memory Address 0xC001A000-0xC001A3FF Device	LSI Logic 53C1010-66	I/O Port 0x0000500-0x00005FF I/O Port 0x0000500-0x00005FF	LSI Logic 53C1010-66 Device LSI Logic 53C1010-66 Device	Memory Address 0xE0100000-0xE0101FFF Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400 Smart Array 6400
Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Gigabit Ethernet #2	PCI bus Broadcom NetXtreme	I/O Port 0x0000500-0x00005FF	LSI Logic 53C1010-66 Device	Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400
Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Gigabit Ethernet	PCI bus PCI bus Broadcom NetXtreme	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400	Memory Address 0xE0100000-0xE0101FFF Controller (Non-Miniport)	Smart Array 6400
Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Gigabit Ethernet #3	PCI bus PCI bus Broadcom NetXtreme	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400	I/O Port 0x0000600-0x00006FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Memory Address 0xC0000000-0xC7FFFFFF Gigabit Ethernet #4	PCI bus PCI bus Broadcom NetXtreme	Memory Address 0xF0100000-0xF0101FFF Controller (Non-Miniport)	Smart Array 6400	I/O Port 0x0000600-0x00006FF	LSI Logic 53C1010-66 Device
Memory Address 0xC0000000-0xC7FFFFFF	PCI bus	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x0000600-0x00006FF	LSI Logic 53C1010-66 Device
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400 Smart Array 6400
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400 Smart Array 6400
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	Memory Address 0xF0102000-0xF0103FFF Controller U320 Expansion Module (Non-Miniport)	Smart Array 6400 Smart Array 6400
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	[DMA] Resource Device Status	
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x00004000-0x00005FFF I/O Port 0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	[Forced Hardware] Device PNP Device ID	
I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF I/O Port 0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport) PCI bus PCI standard PCI-to-PCI bridge	I/O Port 0x0000C000-0x0000DFFF I/O Port 0x0000C000-0x0000DFFF Adapter	PCI bus QLogic QLA23xx PCI Fibre Channel Adapter	[I/O] Resource Device Status	
Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66	I/O Port 0x0000C000-0x0000DFFF I/O Port 0x0000C000-0x0000DFFF I/O Port 0x0000C000-0x0000DFFF	PCI bus QLogic QLA23xx PCI Fibre Channel Adapter	0x00000000-0x000002FF 0x00000000-0x000002FF 0x00000000-0x000002FF 0x00000400-0x00000FFF 0x00000500-0x000005FF	PCI bus OK PCI bus OK PCI bus OK PCI bus OK LSI Logic 53C1010-66 Device OK
Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66	I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF Storport Driver	PCI bus Emulex LPX000 Fibre Channel	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device OK
Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66	I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF Adapter	PCI bus PCI bus QLogic QLA23xx PCI Fibre Channel Adapter	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device OK
Memory Address 0xC001B000-0xC001B3FF Device	LSI Logic 53C1010-66	I/O Port 0x00008000-0x00009FFF I/O Port 0x00008000-0x00009FFF	PCI bus Emulex LPX000 Fibre Channel	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device OK
I/O Port 0x0000500-0x00005FF	LSI Logic 53C1010-66 Device	I/O Port 0x00008000-0x00009FFF	PCI bus	0x00000500-0x000005FF	LSI Logic 53C1010-66 Device OK

0x0000600-0x00006FF	LSI Logic 53C1010-66 Device	OK
0x0000600-0x00006FF	LSI Logic 53C1010-66 Device	OK
0x0000600-0x00006FF	LSI Logic 53C1010-66 Device	OK
0x0000600-0x00006FF	LSI Logic 53C1010-66 Device	OK
0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	OK
0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	OK
0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	OK
0x0000700-0x00007FF	LSI Logic 53C1010-66 Device	OK
0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	OK
0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	OK
0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	OK
0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	OK
0x0000800-0x00008FF	LSI Logic 53C1010-66 Device	OK
0x00001000-0x00001FFF	PCI bus OK	
0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00001000-0x00001FFF	PCI bus OK	
0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00001000-0x00001FFF	PCI bus OK	
0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00001000-0x00001FFF	PCI bus OK	
0x00001000-0x00001FFF	PCI standard PCI-to-PCI bridge	OK
0x00001000-0x00001FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00001100-0x000011FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK

0x00002000-0x00003FFF	PCI bus OK	
0x00002000-0x00003FFF	PCI bus OK	
0x00002000-0x00003FFF	PCI bus OK	
0x00002000-0x00003FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x00004000-0x00005FFF	PCI bus OK	
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI bus OK	
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI bus OK	
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004000-0x00005FFF	PCI bus OK	
0x00004000-0x00005FFF	PCI standard PCI-to-PCI bridge	OK
0x00004000-0x00005FFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00004100-0x000041FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x00006000-0x00007FFF	PCI bus OK	
0x00006000-0x00007FFF	PCI bus OK	
0x00006000-0x00007FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x00006000-0x00007FFF	PCI bus OK	
0x00006000-0x00007FFF	PCI bus OK	
0x00008000-0x00009FFF	PCI bus OK	
0x00008000-0x00009FFF	Emulex LPX000 Fibre Channel Storport Driver	OK
0x00008000-0x00009FFF	PCI bus OK	
0x00008000-0x00009FFF	PCI bus OK	
0x00008000-0x00009FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x00008000-0x00009FFF	PCI bus OK	
0x0000A000-0x0000BFFF	PCI bus OK	
0x0000A000-0x0000BFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
0x0000A000-0x0000BFFF	PCI bus OK	
0x0000A000-0x0000BFFF	PCI bus OK	
0x0000A000-0x0000BFFF	PCI bus OK	

0x0000A040-0x0000A07F	Intel(R) PRO/1000 MT Dual Port Server Adapter	
0x0000C000-0x0000DFFF	PCI bus OK	
0x0000C000-0x0000DFFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0x0000C000-0x0000DFFF	PCI bus OK	
0x0000C000-0x0000DFFF	PCI bus OK	
0x0000C000-0x0000DFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK
0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000E000-0x0000FFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK
0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000E000-0x0000FFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK
0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000E000-0x0000FFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK
0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000E000-0x0000FFFF	PCI bus OK	
0x0000E000-0x0000FFFF	PCI standard PCI-to-PCI bridge	OK
0x0000E000-0x0000FFFF	Smart Array 6400 Controller (Non-Miniport)	OK
0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
0x0000E100-0x0000E1FF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK

[IRQs]

Resource	Device	Status
IRQ 16	Microsoft ACPI-Compliant System	OK
IRQ 29	HP MP Serial AUX/UPS Port (COM5)	OK
IRQ 28	Broadcom NetXtreme Gigabit Ethernet #2	OK
IRQ 24	LSI Logic 53C1010-66 Device	OK
IRQ 25	LSI Logic 53C1010-66 Device	OK
IRQ 26	LSI Logic 53C1010-66 Device	OK
IRQ 27	LSI Logic 53C1010-66 Device	OK
IRQ 17	HP Baseboard Management Controller Interface Driver	OK
IRQ 32	Smart Array 6400 Controller (Non-Miniport)	OK

IRQ 33	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 54	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 55	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 76	Emulex LPX000 Fibre Channel Storport Driver	OK
IRQ 87	Intel(R) PRO/1000 MT Dual Port Server Adapter #3	OK
IRQ 88	Intel(R) PRO/1000 MT Dual Port Server Adapter #4	OK
IRQ 98	QLogic QLA23xx PCI Fibre Channel Adapter	OK
IRQ 109	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 110	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 133	HP MP Serial AUX/UPS Port (COM6)	OK
IRQ 132	Broadcom NetXtreme Gigabit Ethernet	OK
IRQ 128	LSI Logic 53C1010-66 Device	OK
IRQ 129	LSI Logic 53C1010-66 Device	OK
IRQ 130	LSI Logic 53C1010-66 Device	OK
IRQ 131	LSI Logic 53C1010-66 Device	OK
IRQ 136	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 137	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 158	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 159	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 169	QLogic QLA23xx PCI Fibre Channel Adapter	OK
IRQ 213	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 214	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 237	HP MP Serial AUX/UPS Port (COM4)	OK
IRQ 236	Broadcom NetXtreme Gigabit Ethernet #3	OK
IRQ 232	LSI Logic 53C1010-66 Device	OK
IRQ 233	LSI Logic 53C1010-66 Device	OK
IRQ 234	LSI Logic 53C1010-66 Device	OK
IRQ 235	LSI Logic 53C1010-66 Device	OK
IRQ 240	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 241	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 262	Smart Array 6400 Controller (Non-Miniport)	OK

IRQ 263	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 317	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 318	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 341	HP MP Serial AUX/UPS Port (COM3)	OK
IRQ 340	Broadcom NetXtreme Gigabit Ethernet #4	OK
IRQ 336	LSI Logic 53C1010-66 Device	OK
IRQ 337	LSI Logic 53C1010-66 Device	OK
IRQ 338	LSI Logic 53C1010-66 Device	OK
IRQ 339	LSI Logic 53C1010-66 Device	OK
IRQ 344	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 345	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 355	QLogic QLA23xx PCI Fibre Channel Adapter	OK
IRQ 366	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 367	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
IRQ 421	Smart Array 6400 Controller (Non-Miniport)	OK
IRQ 422	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	OK
[Memory]		
Resource	Device	Status
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #2	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #3	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0000000-0xC7FFFFFF	Broadcom NetXtreme Gigabit Ethernet #4	OK
0xC0000000-0xC7FFFFFF	PCI bus	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM5)	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM6)	OK

0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM4)	OK
0xC0018000-0xC001800F	HP MP Serial AUX/UPS Port (COM3)	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC0019000-0xC0019FFF	HP Management Processor	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC001A000-0xC001A3FF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC0010000-0xC0011FFF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC001B000-0xC001B3FF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC0012000-0xC0013FFF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC001C000-0xC001C3FF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK

0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC0014000-0xC0015FFF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC001D000-0xC001D3FF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC0016000-0xC0017FFF	LSI Logic 53C1010-66 Device	OK
0xC8000000-0xCFFFFFFF	PCI bus OK	
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus OK	
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus OK	
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8000000-0xCFFFFFFF	PCI bus OK	
0xC8000000-0xCFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xC8100000-0xC8101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xC8102000-0xC8103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xD0000000-0xDFFFFFFF	PCI bus OK	
0xD0000000-0xDFFFFFFF	PCI bus OK	
0xD0000000-0xDFFFFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK	

0xD0000000-0xDFFFFFFF	PCI bus OK	
0xD0000000-0xDFFFFFFF	PCI bus OK	
0xD0000000-0xDFFFFFFF	PCI bus OK	
0xD0000000-0xDFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0000000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xE0000000-0xEFFFFFFF	PCI bus OK	
0xE0100000-0xE0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xE0100000-0xE0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xE0100000-0xE0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xE0100000-0xE0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xE0102000-0xE0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI bus OK	
0xF0000000-0xFFFFFFFF	PCI standard PCI-to-PCI bridge	OK

0xC0040000-0xC0040FFF	Emulex LPX000 Fibre Channel Storport Driver	
0xC0041000-0xC00410FF	Emulex LPX000 Fibre Channel Storport Driver	OK
0xD0100000-0xD011FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #3 OK	
0xD0120000-0xD013FFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK	
0xD0080000-0xD00BFFFF	Intel(R) PRO/1000 MT Dual Port Server Adapter #4 OK	
0xE0020000-0xE0020FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0xF0100000-0xF0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF0100000-0xF0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF0100000-0xF0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF0100000-0xF0101FFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF0102000-0xF0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0102000-0xF0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0102000-0xF0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0102000-0xF0103FFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0020000-0xF0020FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0xC0020000-0xC0020FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0xF01C0000-0xF01FFFFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF01C0000-0xF01FFFFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xF0080000-0xF00BFFFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xF0080000-0xF00BFFFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	
0xD0020000-0xD0020FFF	QLogic QLA23xx PCI Fibre Channel Adapter	OK
0xE01C0000-0xE01FFFFF	Smart Array 6400 Controller (Non-Miniport) OK	
0xE0080000-0xE00BFFFF	Smart Array 6400 Controller U320 Expansion Module (Non-Miniport) OK	

[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description	Status	File	Version
c:\windows\system32\imaadp32.acm	Microsoft Corporation	IMAADP32.ACM	OK	C:\WINDOWS\system32\IMAADP32.ACM	5.2.3790.0 (srv03_rtm.030324-2048) 55.00 KB (56,320 bytes)
c:\windows\system32\msadp32.acm	Microsoft Corporation	MSADP32.ACM	OK	C:\WINDOWS\system32\MSADP32.ACM	5.2.3790.0 (srv03_rtm.030324-2048) 49.00 KB (50,176 bytes)
c:\windows\system32\msg711.acm	Microsoft Corporation	MSG711.ACM	OK	C:\WINDOWS\system32\MSG711.ACM	5.2.3790.0 (srv03_rtm.030324-2048) 33.00 KB (33,792 bytes)
c:\windows\system32\msgsm32.acm	Microsoft Corporation	MSGSM32.ACM	OK	C:\WINDOWS\system32\MSGSM32.ACM	5.2.3790.0 (srv03_rtm.030324-2048) 66.50 KB (68,096 bytes)
c:\windows\system32\tssoft32.acm	DSP GROUP, INC.	TSSOFT32.ACM	OK	C:\WINDOWS\system32\TSSOFT32.ACM	1.01 29.00 KB (29,696 bytes) 12/10/2004 1:18 PM

[Video Codecs]

CODEC	Manufacturer	Description	Status	File	Version
c:\windows\system32\msrle32.dll	Microsoft Corporation	MSRLE32.DLL	OK	C:\WINDOWS\system32\MSRLE32.DLL	5.2.3790.0 (srv03_rtm.030324-2048) 24.50 KB (25,088 bytes)
c:\windows\system32\msvid32.dll	Microsoft Corporation	MSVIDC32.DLL	OK	C:\WINDOWS\system32\MSVIDC32.DLL	5.2.3790.0 (srv03_rtm.030324-2048) 67.00 KB (68,608 bytes)

[CD-ROM]

Item	Value
Drive	E:
Description	CD-ROM Drive
Media Loaded	No
Media Type	CD-ROM
Name	HP DVD-ROM 305 SCSI CdRom Device

Status OK
 Manufacturer (Standard CD-ROM drives)
 Transfer Rate Not Available
 SCSI Target ID 2
 PNP Device ID SCSI\CDROM&VEN_HP&PROD_DVD-ROM_305&REV_1.01\683EABE99&0&020
 Driver c:\windows\system32\drivers\cdrom.sys (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 144.50 KB (147,968 bytes), 12/10/2004 1:17 PM)

[Sound Device]

Item	Value
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[Display]

Item	Value
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[Infrared]

Item	Value
------	-------

[Input]

[Keyboard]

Item	Value
------	-------

[Pointing Device]

Item	Value
------	-------

[Modem]

Item	Value
------	-------

[Network]

[Adapter]

Item	Value
Name	[00000001] Broadcom NetXtreme Gigabit Ethernet
Adapter Type	Ethernet 802.3
Product Type	Broadcom NetXtreme Gigabit Ethernet
Installed	Yes
PNP Device ID	PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&5C
DAB61&0&08	
Last Reset	2/3/2005 1:12 PM
Index	1

IP Address 0.0.0.0 b57nd
 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 00:0E:7F:ED:81:61
 Memory Address 0xC0000000-0xC7FFFFFFF
 IRQ Channel IRQ 132
 Driver c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name [00000002] Broadcom NetXtreme Gigabit Ethernet
 Adapter Type Ethernet 802.3
 Product Type Broadcom NetXtreme Gigabit Ethernet
 Installed Yes
 PNP Device ID PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&4F5EBC7&0&08
 Last Reset 2/3/2005 1:12 PM
 Index 2
 Service Name b57nd
 IP Address 10.193.25.38
 IP Subnet 255.255.254.0
 Default IP Gateway 10.193.24.1
 DHCP Enabled Yes
 DHCP Server 10.193.8.64
 DHCP Lease Expires 2/11/2005 1:26 PM
 DHCP Lease Obtained 2/3/2005 1:26 PM
 MAC Address 00:30:6E:4B:CA:9F
 Memory Address 0xC0000000-0xC7FFFFFFF
 IRQ Channel IRQ 28
 Driver c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name [00000003] Broadcom NetXtreme Gigabit Ethernet
 Adapter Type Ethernet 802.3
 Product Type Broadcom NetXtreme Gigabit Ethernet
 Installed Yes
 PNP Device ID PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&194FB0DF&0&08
 Last Reset 2/3/2005 1:12 PM
 Index 3
 Service Name b57nd
 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 00:0E:7F:ED:D1:4D
 Memory Address 0xC0000000-0xC7FFFFFFF
 IRQ Channel IRQ 236
 Driver c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name [00000004] RAS Async Adapter
 Adapter TypeNot Available
 Product TypeRAS Async Adapter
 Installed Yes
 PNP Device ID Not Available
 Last Reset 2/3/2005 1:12 PM
 Index 4
 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 [00000005] WAN Miniport (L2TP)
 Adapter TypeNot Available
 Product TypeWAN Miniport (L2TP)
 Installed Yes
 PNP Device ID ROOT\MS_L2TPMINIPOINT\0000
 Last Reset 2/3/2005 1:12 PM
 Index 5
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 188.00 KB (192,512 bytes), 12/10/2004 1:18 PM)

Name [00000006] WAN Miniport (PPTP)
 Adapter TypeWide Area Network (WAN)
 Product TypeWAN Miniport (PPTP)
 Installed Yes
 PNP Device ID ROOT\MS_PPTPMINIPOINT\0000
 Last Reset 2/3/2005 1:12 PM
 Index 6

Service Name Not Available PptpMiniport
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 176.00 KB (180,224 bytes), 12/10/2004 1:18 PM)

Name [00000007] WAN Miniport (PPPOE)
 Adapter TypeWide Area Network (WAN)
 Product TypeWAN Miniport (PPPOE)
 Installed Yes
 PNP Device ID ROOT\MS_PPPOEMINIPOINT\0000
 Last Reset 2/3/2005 1:12 PM
 Index 7

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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 130.50 KB (133,632 bytes), 12/10/2004 1:18 PM)

Name [00000008] Direct Parallel
 Adapter TypeNot Available
 Product TypeDirect Parallel
 Installed Yes
 PNP Device ID ROOT\MS_PTMINIPOINT\0000
 Last Reset 2/3/2005 1:12 PM
 Index 8

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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 54.50 KB (55,808 bytes), 12/10/2004 1:18 PM)

Name [00000009] WAN Miniport (IP)

Product TypeNot Available
 Adapter TypeNot Available
 Installed Yes
 PNP Device ID ROOT\MS_NDISWANIP\0000
 Last Reset 2/3/2005 1:12 PM
 Index 9
 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 (5.2.3790.1289 (srv03_sp1_rc1.041202-1618), 266.00 KB (272,384 bytes), 12/10/2004 1:18 PM)

Name [00000010] Broadcom NetXtreme Gigabit Ethernet
 Adapter TypeEthernet 802.3
 Product TypeBroadcom NetXtreme Gigabit Ethernet
 Installed Yes
 PNP Device ID PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&14C294CC&0808
 Last Reset 2/3/2005 1:12 PM
 Index 10
 Service Name b57nd
 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 00:0E:7F:ED:E1:3F
 Memory Address 0xC0000000-0xC7FFFFFFF
 IRQ Channel IRQ 340
 Driver c:\windows\system32\drivers\b57xp64.sys (2.91.0.0 built by: WinDDK, 499.25 KB (511,232 bytes), 10/21/2004 3:15 AM)

Name [00000011] Intel(R) PRO/1000 MT Dual Port Server Adapter
 Adapter TypeNot Available
 Product TypeIntel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID Not Available
 Last Reset 2/3/2005 1:12 PM
 Index 11
 Service Name E1000
 IP Address Not Available

IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available

Name [00000012] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Not Available
 Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID Not Available
 Last Reset 2/3/2005 1:12 PM
 Index 12
 Service Name E1000
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available

Name [00000013] Intel(R) PRO/1000 MT Dual Port Server Adapter

Adapter Type Ethernet 802.3
 Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&28874FDD&0&08
 Last Reset 2/3/2005 1:12 PM
 Index 13
 Service Name E1000
 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 00:30:6E:5D:AC:3E
 Memory Address 0xD0100000-0xD011FFFF
 Memory Address 0xD0000000-0xDFFFFFFF
 I/O Port 0x0000A000-0x0000BFFF
 IRQ Channel IRQ 87
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 AM)

Name [00000014] Intel(R) PRO/1000 MT Dual Port Server Adapter
 Adapter Type Ethernet 802.3
 Product Type Intel(R) PRO/1000 MT Dual Port Server Adapter
 Installed Yes
 PNP Device ID PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&28874FDD&0&09
 Last Reset 2/3/2005 1:12 PM
 Index 14
 Service Name E1000
 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 00:30:6E:5D:AC:3F
 Memory Address 0xD0120000-0xD013FFFF
 Memory Address 0xD0080000-0xD00BFFFF
 I/O Port 0x0000A040-0x0000A07F
 IRQ Channel IRQ 88
 Driver c:\windows\system32\drivers\e1000645.sys (7.2.17.5 built by: WinDDK, 410.00 KB (419,840 bytes), 12/15/2004 10:21 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

[Protocol]
 Item Value
 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

[Protocol]
 Item Value
 Name MSAFD Tcpip [WinSock]
 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

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\wssock32.dll
 Size 23.00 KB (23,552 bytes)

Version 5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]

[Serial]

Item	Value
Name	HP MP Serial AUX/UPS Port (COM5)
Status	OK
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&4F5EBC7&0&00
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
Memory Address	0xC0018000-0xC001800F

Driver c:\windows\system32\drivers\hmpmser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)

Name	HP MP Serial AUX/UPS Port (COM6)
Status	OK
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&5CDAB61&0&00
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
Memory Address	0xC0018000-0xC001800F
IRQ Channel IRQ	133
Driver	c:\windows\system32\drivers\hmpmser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)
Name	HP MP Serial AUX/UPS Port (COM4)
Status	OK

PNP Device ID PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&194

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
Memory Address	0xC0018000-0xC001800F
IRQ Channel IRQ	237
Driver	c:\windows\system32\drivers\hmpmser.sys (5.0.3663.16, 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)
Name	HP MP Serial AUX/UPS Port (COM3)
Status	OK
PNP Device ID	PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&14C294CC&0&00
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
 Memory Address 0xC0018000-0xC001800F
 IRQ Channel IRQ 341
 Driver c:\windows\system32\drivers\hmpmser.sys (5.0.3663.16,
 154.00 KB (157,696 bytes), 12/15/2004 10:21 AM)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
 Drive C:

Compressed No
 Local Fixed Disk
 File System NTFS
 Size 33.45 GB (35,919,794,176 bytes)
 Free Space 20.35 GB (21,851,779,072 bytes)
 Volume Name
 Volume Serial Number 5C20CCBA
 Drive E:
 Description CD-ROM Disc
 Drive G:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 78.09 GB (83,850,424,320 bytes)
 Free Space 33.23 GB (35,685,228,544 bytes)
 Volume Name G_Drive
 Volume Serial Number 3C01CB80
 Drive L:
 Description Local Fixed Disk
 Compressed Not Available
 File System Not Available
 Size Not Available
 Free Space Not Available
 Volume Name Not Available
 Volume Serial Number Not Available
 [Disks]
 Item Value
 Description \\.\PHYSICALDRIVE16
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #16, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes

Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes
 Description \\.\PHYSICALDRIVE17
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #17, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #17, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes
 Description \\.\PHYSICALDRIVE34
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #34, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #34, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE35
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #35, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #35, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE38
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #38, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #38, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE39
 Manufacturer Not Available
 Model Not Available

Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #39, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #39, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE40
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #40, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #40, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE41
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255

Partition Disk #41, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #41, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE22
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #22, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #22, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE23
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #23, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #23, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE44
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #44, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #44, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE45
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253

Total Sectors 147,958,445
 Tracks/Cylinder 255
 Partition Disk #45, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #45, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE10
 Manufacturer Not Available
 Model Not Available

Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #10, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #10, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE11
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #11, Partition #0

Partition Starting Offset (145,888,378,880 bytes)
 Partition Disk #11, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE2
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #2, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #2, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE3
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #3, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #3, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)

Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE42
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003

Total Sectors 224,958,195

Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #42, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #42, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE43
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 354.32 GB (380,443,875,840 bytes)
Total Cylinders 46,253
Total Sectors 743,054,445
Total Tracks 11,794,515
Tracks/Cylinder 255
Partition Disk #43, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #43, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE46

Manufacturer Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003
Total Sectors 224,958,195
Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #46, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)

Partition Starting Offset 136,314,880 bytes
Partition Disk #46, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE47
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 354.32 GB (380,443,875,840 bytes)
Total Cylinders 46,253
Total Sectors 743,054,445
Total Tracks 11,794,515
Tracks/Cylinder 255
Partition Disk #47, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #47, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE8
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes

Partition Type Fixed hard disk
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003
Total Sectors 224,958,195
Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #8, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #8, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE9

Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 354.32 GB (380,443,875,840 bytes)
Total Cylinders 46,253
Total Sectors 743,054,445
Total Tracks 11,794,515
Tracks/Cylinder 255
Partition Disk #9, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #9, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE24
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #24, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #24, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE25
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2

SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #25, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #25, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE32
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63

Total Cylinders 107.27 GB (115,178,595,840 bytes)
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #32, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #32, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE33
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available

Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #33, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #33, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE36
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765

Partition Disk #36, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #36, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE37
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255

Partition Disk #37, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #37, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE18
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #18, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes

Partition Disk #18, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE19
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 354.32 GB (380,443,875,840 bytes)
Total Cylinders 46,253
Total Sectors 743,054,445
Total Tracks 11,794,515
Tracks/Cylinder 255
Partition Disk #19, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #19, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE30
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003
Total Sectors 224,958,195
Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #30, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #30, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE31
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 812.23 GB (872,126,438,400 bytes)
Total Cylinders 106,030
Total Sectors 1,703,371,950
Total Tracks 27,037,650
Tracks/Cylinder 255
Partition Disk #31, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #31, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE14
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003
Total Sectors 224,958,195
Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #14, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #14, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE15
Manufacturer Not Available
Model Not Available

Description \\.\PHYSICALDRIVE12
Manufacturer Not Available
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 354.32 GB (380,443,875,840 bytes)
Total Cylinders 46,253
Total Sectors 743,054,445
Total Tracks 11,794,515
Tracks/Cylinder 255
Partition Disk #15, Partition #0
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #15, Partition #1
Partition Size 135.74 GB (145,752,064,000 bytes)
Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE6
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 107.27 GB (115,178,595,840 bytes)
Total Cylinders 14,003
Total Sectors 224,958,195
Total Tracks 3,570,765
Tracks/Cylinder 255
Partition Disk #6, Partition #0
Partition Size 65.73 GB (70,581,747,712 bytes)
Partition Starting Offset 136,314,880 bytes
Partition Disk #6, Partition #1
Partition Size 36.43 GB (39,118,176,256 bytes)
Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE7
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 2

SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #7, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #7, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE12
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195

Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #12, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #12, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE13
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available

Sectors/Track Not Available
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #13, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #13, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE20
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #20, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)

Partition Starting Offset 136,314,880 bytes
 Partition Disk #20, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE21
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253

Total Sectors 142,704,445
 Tracks/Cylinder 255
 Partition Disk #21, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #21, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE28
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #28, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #28, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE29
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 812.23 GB (872,126,438,400 bytes)
 Total Cylinders 106,030
 Total Sectors 1,703,371,950
 Total Tracks 27,037,650
 Tracks/Cylinder 255
 Partition Disk #29, Partition #0

Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #29, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE4
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #4, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #4, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE5
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #5, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #5, Partition #1

Partition Starting Offset (145,888,378,880 bytes)

Description \\.\PHYSICALDRIVE0
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #0, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #0, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE1
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255
 Partition Disk #1, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #1, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description \\.\PHYSICALDRIVE26

Manufacturer Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 107.27 GB (115,178,595,840 bytes)
 Total Cylinders 14,003
 Total Sectors 224,958,195
 Total Tracks 3,570,765
 Tracks/Cylinder 255
 Partition Disk #26, Partition #0
 Partition Size 65.73 GB (70,581,747,712 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #26, Partition #1
 Partition Size 36.43 GB (39,118,176,256 bytes)
 Partition Starting Offset 70,718,062,592 bytes

Description \\.\PHYSICALDRIVE27
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 354.32 GB (380,443,875,840 bytes)
 Total Cylinders 46,253
 Total Sectors 743,054,445
 Total Tracks 11,794,515
 Tracks/Cylinder 255

Partition Disk #27, Partition #0
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #27, Partition #1
 Partition Size 135.74 GB (145,752,064,000 bytes)
 Partition Starting Offset 145,888,378,880 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ MSA1000 VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes

Media Type Fixed hard disk
 Partitions 2
 SCSI Bus 0
 SCSI Logical Unit 1
 SCSI Port 0
 SCSI Target ID 0
 Sectors/Track 63
 Size 957.12 GB (1,027,699,384,320 bytes)
 Total Cylinders 124,944
 Total Sectors 2,007,225,360
 Total Tracks 31,860,720
 Tracks/Cylinder 255
 Partition Disk #48, Partition #0
 Partition Size 878.91 GB (943,718,400,000 bytes)
 Partition Starting Offset 136,314,880 bytes
 Partition Disk #48, Partition #1
 Partition Size 78.09 GB (83,850,428,416 bytes)
 Partition Starting Offset 943,854,714,880 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model HP 36.4G MAS3367NC SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 2
 SCSI Bus 0
 SCSI Logical Unit 0
 SCSI Port 9
 SCSI Target ID 6
 Sectors/Track 63
 Size 33.91 GB (36,413,314,560 bytes)
 Total Cylinders 4,427
 Total Sectors 71,119,755
 Total Tracks 1,128,885
 Tracks/Cylinder 255
 Partition Disk #49, Partition #0
 Partition Size 345.12 MB (361,880,064 bytes)
 Partition Starting Offset 32,256 bytes
 Partition Disk #49, Partition #1
 Partition Size 33.45 GB (35,919,797,760 bytes)
 Partition Starting Offset 493,516,800 bytes

[SCSI]

Item Value
 Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK

PNP Device ID
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&10 0x00000500-0x000005FF
 I/O Port 0x00000500-0x000005FF
 Memory Address 0xC001A000-0xC001A3FF
 Memory Address 0xC0010000-0xC0011FFF
 IRQ Channel IRQ 24
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID

PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&11
 I/O Port 0x00000600-0x000006FF
 Memory Address 0xC001B000-0xC001B3FF
 Memory Address 0xC0012000-0xC0013FFF
 IRQ Channel IRQ 25
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID

PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&18
 I/O Port 0x00000700-0x000007FF
 Memory Address 0xC001C000-0xC001C3FF
 Memory Address 0xC0014000-0xC0015FFF
 IRQ Channel IRQ 26
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
 Manufacturer LSI Logic Inc.
 Status OK
 PNP Device ID

PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&19
 I/O Port 0x00000800-0x000008FF
 Memory Address 0xC001D000-0xC001D3FF
 Memory Address 0xC0016000-0xC0017FFF
 IRQ Channel IRQ 27
 Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK

PNP Device ID
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&ED3
 32FE9&0&2008
 Memory Address 0xC8100000-0xC8101FFF
 I/O Port 0x00001000-0x00001FFF
 IRQ Channel IRQ 32
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
 WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID

PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&ED
 32FE9&0&2808
 Memory Address 0xC8102000-0xC8103FFF
 I/O Port 0x00001100-0x000011FF
 IRQ Channel IRQ 33
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
 WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID

PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&266
 093A2&0&2008
 Memory Address 0xE0100000-0xE0101FFF
 I/O Port 0x00004000-0x00005FFF
 IRQ Channel IRQ 54
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
 WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID

PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&266
 093A2&0&2808
 Memory Address 0xE0102000-0xE0103FFF
 I/O Port 0x00004100-0x000041FF
 IRQ Channel IRQ 55
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by:
 WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Emulex LPX000 Fibre Channel Storport Driver
 Manufacturer Emulex
 Status OK

PNP Device ID
PCI\VEN_10DF&DEV_F098&SUBSYS_F09810DF&REV_01\5&37
D3486A&0&08
Memory Address 0xC0040000-0xC0040FFF
Memory Address 0xC0041000-0xC00410FF
I/O Port 0x00008000-0x00009FFF
IRQ Channel IRQ 76
Driver c:\windows\system32\drivers\elxstor.sys (6-1.01X1 10/29/2003
WS2K3 64 bit IA64 built by: WinDDK, 627.50 KB (642,560 bytes), 11/8/2004
6:13 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&225
F72B7&0&08
I/O Port 0x0000C000-0x0000DFFF
Memory Address 0xE0020000-0xE0020FFF
IRQ Channel IRQ 98
Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI),
690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&264
0A37&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
IRQ Channel IRQ 109
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&264
0A37&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
IRQ Channel IRQ 110
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK

PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
AB61&0&10
Memory Address 0x00000500-0x000005FF
Memory Address 0xC001A000-0xC001A3FF
Memory Address 0xC0010000-0xC0011FFF
IRQ Channel IRQ 128
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
AB61&0&11
I/O Port 0x00000600-0x000006FF
Memory Address 0xC001B000-0xC001B3FF
Memory Address 0xC0012000-0xC0013FFF
IRQ Channel IRQ 129
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
AB61&0&18
I/O Port 0x00000700-0x000007FF
Memory Address 0xC001C000-0xC001C3FF
Memory Address 0xC0014000-0xC0015FFF
IRQ Channel IRQ 130
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
AB61&0&19
I/O Port 0x00000800-0x000008FF
Memory Address 0xC001D000-0xC001D3FF
Memory Address 0xC0016000-0xC0017FFF
IRQ Channel IRQ 131
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00
(NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK

PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&DC0
3F53F&0&2008
Memory Address 0xC8100000-0xC8101FFF
I/O Port 0x00001000-0x00001FFF
IRQ Channel IRQ 136
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&DC
0C033&0&2808
Memory Address 0xC8102000-0xC8103FFF
I/O Port 0x00001100-0x000011FF
IRQ Channel IRQ 137
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&353
3F53F&0&2008
Memory Address 0xE0100000-0xE0101FFF
I/O Port 0x00004000-0x00005FFF
IRQ Channel IRQ 158
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-
Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&353
3F53F&0&2808
Memory Address 0xE0102000-0xE0103FFF
I/O Port 0x00004100-0x000041FF
IRQ Channel IRQ 159
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by:
WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID
PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&1F3
4A452&0&08

I/O Port 0x00006000-0x00007FFF
Memory Address 0xF0020000-0xF0020FFF
IRQ Channel IRQ 169
Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1A6A6711&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
IRQ Channel IRQ 213
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1A6A6711&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
IRQ Channel IRQ 214
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&10
I/O Port 0x00000500-0x000005FF
Memory Address 0xC001A000-0xC001A3FF
Memory Address 0xC0010000-0xC0011FFF
IRQ Channel IRQ 232
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&11
I/O Port 0x00000600-0x000006FF
Memory Address 0xC001B000-0xC001B3FF

IRQ Channel IRQ 233
Memory Address 0xC0012000-0xC0013FFF
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&18
I/O Port 0x00000700-0x000007FF
Memory Address 0xC001C000-0xC001C3FF
Memory Address 0xC0014000-0xC0015FFF
IRQ Channel IRQ 234
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194FB0DF&0&19
I/O Port 0x00000800-0x000008FF
Memory Address 0xC001D000-0xC001D3FF
Memory Address 0xC0016000-0xC0017FFF
IRQ Channel IRQ 235
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&826A6D2&0&2008
Memory Address 0xC8100000-0xC8101FFF
I/O Port 0x00001000-0x00001FFF
IRQ Channel IRQ 240
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&826A6D2&0&2808
Memory Address 0xC8102000-0xC8103FFF
I/O Port 0x00001100-0x000011FF

IRQ Channel IRQ 241
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&8AA0D5F&0&2008
Memory Address 0xE0100000-0xE0101FFF
I/O Port 0x00004000-0x00005FFF
IRQ Channel IRQ 262
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&8AA0D5F&0&2808
Memory Address 0xE0102000-0xE0103FFF
I/O Port 0x00004100-0x000041FF
IRQ Channel IRQ 263
Driver c:\windows\system32\drivers\hpqcissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245142EC&0&08
I/O Port 0x00008000-0x00009FFF
Memory Address 0xC0020000-0xC0020FFF
IRQ Channel IRQ 284
Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 VI), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&811924964&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
Memory Address 0xF01C0000-0xF01FFFFF
IRQ Channel IRQ 317

Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&11924964&0&2808
Memory Address 0xF0102000-0xF0103FFF
I/O Port 0x0000E100-0x0000E1FF
Memory Address 0xF0080000-0xF00BFFFF
IRQ Channel IRQ 318
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C294CC&0&10
I/O Port 0x00000500-0x000005FF
Memory Address 0xC001A000-0xC001A3FF
Memory Address 0xC0010000-0xC0011FFF
IRQ Channel IRQ 336
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C294CC&0&11
I/O Port 0x00000600-0x000006FF
Memory Address 0xC001B000-0xC001B3FF
Memory Address 0xC0012000-0xC0013FFF
IRQ Channel IRQ 337
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C294CC&0&18
I/O Port 0x00000700-0x000007FF
Memory Address 0xC001C000-0xC001C3FF
Memory Address 0xC0014000-0xC0015FFF

Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name LSI Logic 53C1010-66 Device
Manufacturer LSI Logic Inc.
Status OK
PNP Device ID PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C294CC&0&19
I/O Port 0x00000800-0x000008FF
Memory Address 0xC001D000-0xC001D3FF
Memory Address 0xC0016000-0xC0017FFF
IRQ Channel IRQ 339
Driver c:\windows\system32\drivers\sym_u3.sys (5.09.06.00 (NT.041001-1408), 73.00 KB (74,752 bytes), 12/10/2004 1:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&7265503&0&2808
Memory Address 0xC8100000-0xC8101FFF
I/O Port 0x00001000-0x000010FF
Memory Address 0xC81C0000-0xC81FFFFF
IRQ Channel IRQ 344
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&7265503&0&2808
Memory Address 0xC8102000-0xC8103FFF
I/O Port 0x00001100-0x000011FF
Memory Address 0xC8080000-0xC80BFFFF
IRQ Channel IRQ 345
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name QLogic QLA23xx PCI Fibre Channel Adapter
Manufacturer QLogic
Status OK
PNP Device ID PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&240E8D59&0&08
I/O Port 0x00002000-0x00003FFF
Memory Address 0xD0020000-0xD0020FFF

Driver c:\windows\system32\drivers\ql2300.sys (8.2.2.10 (W64 V1), 690.75 KB (707,328 bytes), 11/8/2004 6:12 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&3B940DB4&0&2808
Memory Address 0xE0100000-0xE0101FFF
I/O Port 0x00004000-0x00005FFF
Memory Address 0xE01C0000-0xE01FFFFF
IRQ Channel IRQ 366
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&3B940DB4&0&2808
Memory Address 0xE0102000-0xE0103FFF
I/O Port 0x00004100-0x000041FF
Memory Address 0xE0080000-0xE00BFFFF
IRQ Channel IRQ 367
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1F9325B&0&2008
Memory Address 0xF0100000-0xF0101FFF
I/O Port 0x0000E000-0x0000FFFF
Memory Address 0xF01C0000-0xF01FFFFF
IRQ Channel IRQ 421
Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

Name Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
Manufacturer Hewlett-Packard
Status OK
PNP Device ID PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1F9325B&0&2808
Memory Address 0xF0102000-0xF0103FFF

I/O Port 0x0000E100-0x0000E1FF
 Memory Address 0xF0080000-0xF00BFFFF
 IRQ Channel IRQ 422
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.15.64.64 built by: WinDDK, 113.00 KB (115,712 bytes), 12/21/2004 12:18 PM)

[IDE]

Item Value

[Printing]

Name	Driver	Port Name	Server Name
b17-1410-a	on PRN-PRIV1.redmond.corp.microsoft.com (from V-JASGOE01)		
in session 1	HP Color LaserJet 8550 PCL		TS003
b17-1147-a	on prn-corp1 (from V-JASGOE01) in session 1		Xerox
Document Centre 470 PS	TS004		

[Problem Devices]

Device	PNP Device ID	Error Code
Not Available ACPI\HWP1000\A56E04851726		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851604		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851798		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851770		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851711		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851790		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851640		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851818		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851833		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851729		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851795		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851530		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851642		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851616		The drivers for this device are not installed.
Not Available ACPI\HWP1000\A56E04851534		The drivers for this device are not installed.

Not Available ACPI\HWP1000\A56E04851680 The drivers for this device are not installed.

[USB]

Device PNP Device ID

[Software Environment]

[System Drivers]

Name	Description	File	Type	Started	Start
Mode	State	Status	Error	Control	Pause
Stop					
abiosdsk	Abiosdsk	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Ignore	No	No
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Yes	Yes
	Boot	Running	OK	Normal	No
	Yes				
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel		
Driver	No	Disabled	Stopped	OK	Normal
	No	No			
adpu160m	adpu160m	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
adpu320	adpu320	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
afcnt	afcnt	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
afd	AFD	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
arc	arc	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No

asyncmac	RAS Asynchronous Media Driver	c:\windows\system32\drivers\asyncmac.sys	Kernel		
Driver	No	Manual	Stopped	OK	Normal
atapi	Atapi	c:\windows\system32\drivers\atapi.sys	Kernel		
Driver	No	Disabled	Stopped	OK	Normal
	No	No			
atdisk	Atdisk	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Ignore	No	No
atmarpc	ATM ARP Client Protocol	c:\windows\system32\drivers\atmarpc.sys	Kernel		
Driver	No	Manual	Stopped	OK	Normal
	No	No			
audstub	Audio Stub Driver	c:\windows\system32\drivers\audstub.sys	Kernel		
Driver	Yes	Manual	Running	OK	Normal
	No	Yes			
b57nd	Broadcom NetXtreme Gigabit Ethernet	c:\windows\system32\drivers\b57xp64.sys	Kernel		
Driver	Yes	Manual	Running	OK	Normal
	No	Yes			
beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel		
Driver	Yes	System	Running	OK	Normal
	No	Yes			
cbidf2k	cbidf2k	c:\windows\system32\drivers\cbidf2k.sys	Kernel		
	Kernel Driver	No	Disabled	Stopped	OK
	Normal	No	No		
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File		
System Driver	Yes	Yes	Disabled	Running	OK
	Normal	No	Yes		
cdrom	CD-ROM Driver	c:\windows\system32\drivers\cdrom.sys	Kernel Driver	Yes	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
cpqarry2	cpqarry2	Not Available	Kernel Driver	No	Disabled
	Stopped	OK	Normal	No	No
cpqcissm	cpqcissm	c:\windows\system32\drivers\cpqcissm.sys	Kernel Driver	Yes	Yes
	Normal	No	Boot	Running	OK
			Yes		

cpqcalm	cpqcalm	Not Available	Kernel Driver	No	Disabled	ftmgr	FltMgr	c:\windows\system32\drivers\ftmgr.sys	File	Yes	Boot	Running	OK	ip6fw	IPv6 Windows Firewall Driver	c:\windows\system32\drivers\ip6fw.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No			
	Stopped	OK	Normal	No	No	ftdisk	Volume Manager Driver	c:\windows\system32\drivers\ftdisk.sys	Kernel Driver	Yes	Boot	Running	OK	Normal	ipfilterdriver	IP Traffic Filter Driver	c:\windows\system32\drivers\ipfltdrv.sys	Kernel Driver	No	No	Manual	Stopped	OK	Normal	No	
cqcdetect	Compaq Hardware Detection Service					gpc	Generic Packet Classifier	c:\windows\system32\drivers\msgpc.sys	Kernel Driver	Yes	Manual	Running	OK	Normal	ipinip	IP in IP Tunnel Driver	c:\windows\system32\drivers\ipinip.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No		
Driver	No	Manual	Stopped	OK	Normal	hpciss	hpciss	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	Normal	No	ipnat	IP Network Address Translator	c:\windows\system32\drivers\ipnat.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No
crcdisk	CRC Disk Filter Driver					hpcsr	HP CSR OpRegion Driver	c:\windows\system32\drivers\hpcsr.sys	Kernel Driver	Yes	Boot	Running	OK	Normal	ipsecdriver	IPSEC driver	c:\windows\system32\drivers\ipsecd.sys	Kernel Driver	No	Yes	System	Running	OK	Normal	Normal	
Driver	Yes	Boot	Running	OK	Normal	hphlth	HP Baseboard Management Controller Interface Driver	c:\windows\system32\drivers\hphlth.sys	Kernel Driver	Yes	Yes	Manual	Running	OK	Normal	isapnp	isapnp	Not Available	Kernel Driver	No	Yes	System	Running	OK	Normal	Normal
dfsdriver	DfsDriver	c:\windows\system32\drivers\dfs.sys	File	Yes	Boot	Running	OK	hpmmpser	HP MP Driver	c:\windows\system32\drivers\hpmmpser.sys	Kernel Driver	Yes	Manual	Running	OK	kbdcass	Keyboard Class Driver	c:\windows\system32\drivers\kbdcass.sys	Kernel Driver	No	Yes	System	Running	OK	Normal	Normal
System Driver	Normal	No	Yes	OK	Normal	hpn	hpn	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	ksecdd	KSecDD	c:\windows\system32\drivers\ksecdd.sys	Kernel Driver	No	Yes	Boot	Running	OK	Normal	Normal	
disk	Disk Driver	c:\windows\system32\drivers\disk.sys	Kernel Driver	Yes	Boot	Running	OK	hpqcissb	Smart Array Controllers Non-Miniport Bus Driver	c:\windows\system32\drivers\hpqcissb.sys	Kernel Driver	Yes	Boot	Running	OK	Normal	ksthunk	Kernel Streaming WOW64 Thunk Service	c:\windows\system32\drivers\ksthunk.sys	Kernel Driver	No	Yes	Manual	Running	OK	Normal
Driver	Yes	Boot	Running	OK	Normal	hpqcissd	Smart Array Controllers Non-Miniport Disk Driver	c:\windows\system32\drivers\hpqcissd.sys	Kernel Driver	Yes	Boot	Running	OK	Normal	ip6nds35	Ip6nds35	c:\windows\system32\drivers\ip6nds35.sys	Kernel Driver	No	Yes	Boot	Running	OK	Normal	Normal	
dmbboot	dmbboot	c:\windows\system32\drivers\dmbboot.sys	Kernel Driver	No	Disabled	Stopped	OK	http	HTTP	c:\windows\system32\drivers\http.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	mnmdd	mnmdd	Not Available	Kernel Driver	No	Yes	Manual	Stopped	OK	System
Kernel Driver	Normal	No	No	Stopped	OK	http	Driver	No	Manual	Stopped	OK	Normal	Normal	mnmdd	Stopped	OK	Ignore	No	No	System	Normal	Normal	Normal	Normal	Normal	
dmio	Logical Disk Manager Driver					i2omgmt	i2omgmt	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	Normal	modem	Modem	c:\windows\system32\drivers\modem.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	Normal	
Kernel Driver	Normal	No	No	Stopped	OK	i2omgmt	Stopped	OK	Normal	No	System	No	Normal	modem	Ignore	No	No	No	System	Normal	Normal	Normal	Normal	Normal	Normal	
dmio	dmio	c:\windows\system32\drivers\dmio.sys	Kernel Driver	Yes	Boot	Running	OK	iirsp	iirsp	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	Normal	No	System	Normal	Normal	Normal	Normal	Normal	Normal	
Kernel Driver	Yes	Boot	Running	OK	Normal	imapi	CD-Burning Filter Driver	c:\windows\system32\drivers\imapi.sys	Kernel Driver	No	Yes	Manual	Running	OK	Normal	mountmgr	Mount Point Manager	c:\windows\system32\drivers\mountmgr.sys	Kernel Driver	No	Yes	Boot	Running	OK	Normal	Normal
dmload	dmload	c:\windows\system32\drivers\dmload.sys	Kernel Driver	Yes	Boot	Running	OK	intelide	IntelIde	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	Normal	No	System	Normal	Normal	Normal	Normal	Normal	Normal	
Kernel Driver	Yes	Boot	Running	OK	Normal	intelide	Stopped	OK	Normal	No	System	No	Normal	mountmgr	Driver	Yes	Boot	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	
Normal	No	Yes	OK	Normal	Normal	intelide	Stopped	OK	Normal	No	System	No	Normal	mountmgr	No	Yes	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
dpti2o	dpti2o	Not Available	Kernel Driver	No	Disabled	Stopped	OK	ip6fw	IPv6 Windows Firewall Driver	c:\windows\system32\drivers\ip6fw.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No	System	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Stopped	OK	Normal	No	No	No	ip6fw	Driver	No	Manual	Stopped	OK	Normal	Normal	ip6fw	Driver	No	Manual	Stopped	OK	Normal	Normal	Normal	Normal	Normal	Normal	
e1000	Intel(R) PRO/1000 Adapter Driver					ipfilterdriver	IP Traffic Filter Driver	c:\windows\system32\drivers\ipfltdrv.sys	Kernel Driver	No	Yes	Manual	Running	OK	Normal	ipinip	IP in IP Tunnel Driver	c:\windows\system32\drivers\ipinip.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No	
Driver	Yes	Manual	Running	OK	Normal	ipfilterdriver	Driver	No	Manual	Stopped	OK	Normal	Normal	ipinip	Driver	No	Manual	Stopped	OK	Normal	Normal	Normal	Normal	Normal	Normal	
elxadjct	elxadjct	c:\windows\system32\drivers\elxadjct.sys	Kernel Driver	Yes	Boot	Running	OK	ipnat	IP Network Address Translator	c:\windows\system32\drivers\ipnat.sys	Kernel Driver	No	Manual	Stopped	OK	Normal	No	System	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Kernel Driver	Normal	No	Yes	OK	Normal	ipnat	Driver	No	Manual	Stopped	OK	Normal	Normal	ipsecdriver	IPSEC driver	c:\windows\system32\drivers\ipsecd.sys	Kernel Driver	No	Yes	System	Running	OK	Normal	Normal	Normal	
elxstor	elxstor	c:\windows\system32\drivers\elxstor.sys	Kernel Driver	Yes	Boot	Running	OK	ipsecdriver	IPSEC driver	c:\windows\system32\drivers\ipsecd.sys	Kernel Driver	No	Yes	System	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Driver	Yes	Boot	Running	OK	Normal	ipsecdriver	Driver	No	Yes	System	Running	OK	Normal	ipsecdriver	Driver	No	Yes	System	Running	OK	Normal	Normal	Normal	Normal	Normal	
fastfat	Fastfat	c:\windows\system32\drivers\fastfat.sys	File System Driver	Normal	No	Disabled	Stopped	OK	isapnp	isapnp	Not Available	Kernel Driver	No	Yes	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
System Driver	Normal	No	No	Stopped	OK	isapnp	Driver	No	Manual	Running	OK	Normal	Normal	isapnp	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	
fdc	Fdc	c:\windows\system32\drivers\fdc.sys	Kernel Driver	No	System	Stopped	OK	Ignore	ip6nds35	Ip6nds35	c:\windows\system32\drivers\ip6nds35.sys	Kernel Driver	No	Yes	Boot	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Driver	No	System	Stopped	OK	Ignore	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	
fips	Fips	c:\windows\system32\drivers\fips.sys	Kernel Driver	Yes	System	Running	OK	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Driver	Yes	System	Running	OK	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	
flpydisk	Flpydisk	c:\windows\system32\drivers\flpydisk.sys	Kernel Driver	No	System	Stopped	OK	Ignore	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Kernel Driver	Normal	No	No	Stopped	OK	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	
Ignore	No	No	No	Stopped	OK	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	ip6nds35	Driver	No	Manual	Running	OK	Normal	Normal	Normal	Normal	Normal	Normal	

mraid35x	mraid35x	Not Available	Kernel Driver	No	Disabled	npfs	Npfs	c:\windows\system32\drivers\npfs.sys	File	ql12160	ql12160	Not Available	Kernel Driver	No	Disabled	
	Stopped	OK	Normal	No	No	System Driver	Yes	System	Running	OK	Stopped	OK	Normal	No	No	
mrxdav	WebDav Client Redirector					ntfs	Normal	c:\windows\system32\drivers\ntfs.sys	File	ql1240	ql1240	Not Available	Kernel Driver	No	Disabled	
	c:\windows\system32\drivers\mrxdav.sys					System Driver	Yes	Disabled	Running	OK	Stopped	OK	Normal	No	No	
System Driver	Normal	No	Manual	Stopped	OK	Null	Normal	No	Yes	ql1280	ql1280	Not Available	Kernel Driver	No	Disabled	
mrxsmb	MRXSMB	c:\windows\system32\drivers\mrxsmb.sys				Driver	Yes	System	Running	OK	Stopped	OK	Normal	No	No	
	File System Driver	Yes	System	Running		partmgr	No	Yes		ql2200	ql2200	Not Available	Kernel Driver	No	Disabled	
	OK	Normal	No	Yes		Driver	Yes	Boot	Running	OK	Stopped	OK	Normal	No	No	
msfs	Msfs	c:\windows\system32\drivers\msfs.sys	File			pci	Yes	Boot	Running	OK	ql2300	ql2300	c:\windows\system32\drivers\ql2300.sys	Kernel		
System Driver	Normal	Yes	System	Running	OK	Kernel Driver	Yes	Boot	Running	OK	Driver	Yes	Boot	Running	OK	
mssmbios	Microsoft System Management BIOS Driver	c:\windows\system32\drivers\mssmbios.sys	Kernel			Critical	No	Yes		qlvika	qlvika	c:\windows\system32\drivers\qlvika.sys	Kernel			
Driver	Yes	Manual	Running	OK	Normal	PCI Bus Driver	Yes	Boot	Running	OK	Driver	Yes	Auto	Running	OK	
	No	Yes				Kernel Driver	Yes	Boot	Running	OK	No	Yes	Yes		Normal	
mup	Mup	c:\windows\system32\drivers\mup.sys	File			PCIIDE	No	Yes		rasacd	Remote Access Auto Connection Driver					
System Driver	Yes	Boot	Running	OK		Stopped	OK	Normal	No	Normal	Yes	System	Running	OK	Normal	
	Normal	No	Yes			pcmcia	Kernel Driver	No	Disabled	Stopped	OK	c:\windows\system32\drivers\rasacd.sys	Kernel Driver	Yes		
ndis	NDIS System Driver	c:\windows\system32\drivers\ndis.sys	Kernel Driver	Yes		Normal	No	No		rasl2tp	WAN Miniport (L2TP)	c:\windows\system32\drivers\rasl2tp.sys	Kernel Driver	Yes		
	Boot	Running	OK	Normal	No	Stopped	OK	Ignore	No	Manual	Yes	Manual	Running	OK	Normal	
	Yes					pdcomp	Not Available	Kernel Driver	No	Manual	Yes	Manual	Running	OK	Normal	No
ndistapi	Remote Access NDIS TAPI Driver	c:\windows\system32\drivers\ndistapi.sys	Kernel			Stopped	OK	Ignore	No	No	raspppoe	Remote Access PPPoE Driver				
Driver	Yes	Manual	Running	OK	Normal	PDFRAME	Not Available	Kernel Driver	No	Manual	Driver	Yes	Manual	Running	OK	Normal
	No	Yes				Stopped	OK	Ignore	No	No	No	No	Yes			
ndisuio	NDIS Usermode I/O Protocol	c:\windows\system32\drivers\ndisuio.sys	Kernel			pdreli	PDRELI	Not Available	Kernel Driver	No	Manual	Yes	Manual	Running	OK	Normal
Driver	Yes	Manual	Running	OK	Normal	Stopped	OK	Ignore	No	No	No	No	Yes			
	No	Yes				pdframe	PDRFRAME	Not Available	Kernel Driver	No	Manual	Manual	Running	OK	Normal	No
ndiswan	Remote Access NDIS WAN Driver	c:\windows\system32\drivers\ndiswan.sys	Kernel			Stopped	OK	Ignore	No	No	rdbs	Rdbss	c:\windows\system32\drivers\rdbss.sys	File		
Driver	Yes	Manual	Running	OK	Normal	pptpminiport	WAN Miniport (PPTP)				System Driver	Yes	System	Running	OK	
	No	Yes				Driver	c:\windows\system32\drivers\raspptp.sys	Kernel			Normal	No	Yes			
ndproxy	NDIS Proxy	c:\windows\system32\drivers\ndproxy.sys	Kernel Driver	Yes		processor	Processor Driver	c:\windows\system32\drivers\processr.sys	Kernel		rdpcdd	RDPCDD	c:\windows\system32\drivers\rdpcdd.sys	Kernel Driver	Yes	
	Kernel Driver	Yes	Manual	Running	OK	Driver	Yes	Manual	Running	OK	Kernel Driver	Yes	System	Running	OK	
	Normal	No	Yes			Driver	No	Yes		Normal	Ignore	No	Yes			
netbios	NetBIOS Interface	c:\windows\system32\drivers\netbios.sys	File			procinfo	ProcInfo	c:\windows\system32\drivers\procinfo.sys	Kernel		rdpdr	Terminal Server Device Redirector Driver	c:\windows\system32\drivers\rdpdr.sys	Kernel Driver	Yes	
System Driver	Normal	Yes	System	Running	OK	Kernel Driver	No	Manual	Stopped	OK	Yes	Manual	Running	OK	Normal	No
	Normal	No	Yes			Normal	No	No			rdpwd	RDPWD	c:\windows\system32\drivers\rdpwd.sys	Kernel		
netbt	NetBios over Tcpip	c:\windows\system32\drivers\netbt.sys	Kernel Driver	Yes		ptilink	Direct Parallel Link Driver	c:\windows\system32\drivers\ptilink.sys	Kernel Driver	Yes	Driver	Yes	Manual	Running	OK	Ignore
	System	Running	OK	Normal	No	Manual	Running	OK	Normal	No	No	No	Yes			
	Yes					ql1080	ql1080	Not Available	Kernel Driver	No	Driver	Yes	System	Running	OK	Normal
nfrd960	nfrd960	Not Available	Kernel Driver	No	Disabled	Stopped	OK	Normal	No	No	No	Yes	System	Running	OK	Normal
	Stopped	OK	Normal	No	No						Driver	No	Yes			

serenum	Serenum Filter Driver	c:\windows\system32\drivers\serenum.sys	Kernel	Normal
Driver	Yes	Manual	Running	OK
serial	Serial	c:\windows\system32\drivers\serial.sys	Kernel	Ignore
Driver	No	Auto	Stopped	OK
sfloppy	Sfloppy	c:\windows\system32\drivers\sfloppy.sys	Kernel Driver	No
Ignore	No	No	System	Stopped
simbad	Simbad	Not Available	Kernel Driver	No
Stopped	OK	Normal	No	No
slowmemory	Slow Memory Measurement	c:\windows\system32\drivers\slowmemory.sys	Kernel	Normal
Driver	No	Manual	Stopped	OK
srv	Srv	c:\windows\system32\drivers\srv.sys	File	OK
System Driver	Normal	Yes	Manual	Running
swenum	Software Bus Driver	c:\windows\system32\drivers\swenum.sys	Kernel	Normal
Driver	Yes	Manual	Running	OK
symc8xx	symc8xx	Not Available	Kernel Driver	No
Stopped	OK	Normal	No	No
symmpi	symmpi	Not Available	Kernel Driver	No
Stopped	OK	Normal	No	No
sym_hi	sym_hi	Not Available	Kernel Driver	No
Stopped	OK	Normal	No	No
sym_u3	sym_u3	c:\windows\system32\drivers\sym_u3.sys	Kernel Driver	Yes
Normal	No	Yes	Boot	Running
tcpip	TCP/IP Protocol Driver	c:\windows\system32\drivers\tcpip.sys	Kernel Driver	Yes
System	Running	OK	Normal	No
tdpipe	TDPIPE	c:\windows\system32\drivers\tdpipe.sys	Kernel	Ignore
Driver	No	Manual	Stopped	OK
tdtcp	TDTCP	c:\windows\system32\drivers\tdtcp.sys	Kernel	Ignore
Driver	Yes	Manual	Running	OK
termdd	Terminal Device Driver	c:\windows\system32\drivers\termdd.sys	Kernel	Normal
Driver	Yes	System	Running	OK
No	Yes			

toside	TosIde	Not Available	Kernel Driver	No	Disabled
udfs	Udfs	c:\windows\system32\drivers\udfs.sys	File	No	File
System Driver	No	Disabled	Stopped	OK	
vgasave	VGA Display Controller.	c:\windows\system32\drivers\vga.sys	Kernel Driver	No	Ignore
System	Stopped	OK	Ignore	No	
viaide	ViaIde	Not Available	Kernel Driver	No	Disabled
Stopped	OK	Normal	No	No	
volsnap	Storage volumes	c:\windows\system32\drivers\volsnap.sys	Kernel	Normal	
Driver	Yes	Boot	Running	OK	
wanarp	Remote Access IP ARP Driver	c:\windows\system32\drivers\wanarp.sys	Kernel	Normal	
Driver	Yes	Manual	Running	OK	
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	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	
5.2.3790.1289	machine.inf	Not Available	ROOT\SYSTEM\0001	(Standard system devices)	
Plug and Play	Software Device Enumerator	Yes	SYSTEM		
5.2.3790.1289	machine.inf	Not Available	ROOT\SYSTEM\0000	(Standard system devices)	
Terminal Server	Mouse Driver	Yes	SYSTEM		
5.2.3790.1289	machine.inf	Not Available	ROOT\RDP_MOU\0000	(Standard system devices)	
Terminal Server	Keyboard Driver	Yes	SYSTEM		
5.2.3790.1289	machine.inf	Not Available	ROOT\RDP_KBD\0000	(Standard system devices)	
Terminal Server	Device Redirector	Yes	SYSTEM		
5.2.3790.1289	machine.inf	Not Available	ROOT\RDPDR\0000	(Standard system devices)	
Direct Parallel	Yes	NET	5.2.3790.1289		
10/1/2002	Microsoft	netrasa.inf	Not Available		
ROOT\MS_PTMINIPORT\0000					

WAN Miniport (PPTP)	Yes	NET	5.2.3790.1289		
10/1/2002	Microsoft	netrasa.inf	Not Available		
WAN Miniport (PPPoE)	Yes	NET	5.2.3790.1289		
10/1/2002	Microsoft	netrasa.inf	Not Available		
ROOT\MS_PPPOEMINIPORT\0000					
WAN Miniport (IP)	Yes	NET	5.2.3790.1289		
10/1/2002	Microsoft	netrasa.inf	Not Available		
ROOT\MS_NDISWANIP\0000					
WAN Miniport (L2TP)	Yes	NET	5.2.3790.1289		
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
Available	ROOT\MEDIA\MS_MMMCI				
Legacy Audio Drivers	Yes	MEDIA	5.2.3790.0		
10/1/2002	(Standard system devices)	wave.inf			Not Available
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
Available	ROOT\LEGACY_WANARP\0000				
volsnap	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available		
ROOT\LEGACY_VOLSNAAP\0000					
TDTCP	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available		
ROOT\LEGACY_TDTCP\0000					
TCP/IP Protocol Driver	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available	Not Available	
ROOT\LEGACY_TCPIP\0000					
Slow Memory Measurement	Not Available	LEGACYDRIVER			
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Available	ROOT\LEGACY_SLOWMEMORY\0000				
sacdrv	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available		
ROOT\LEGACY_SACDRV\0000					
RDPWD	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available		
ROOT\LEGACY_RDPWD\0000					
RDPCCD	Not Available	LEGACYDRIVER			Not Available
Available	Not Available	Not Available	Not Available		
ROOT\LEGACY_RDPCCD\0000					

Remote Access Auto Connection Driver	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Available	Not Available	Not Available
qlvika	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
ProcInfo	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Partition Manager	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Null	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
NetBios over Tcpip	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
NDProxy	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
NDIS Usermode I/O Protocol	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Remote Access NDIS TAPI Driver	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
NDIS System Driver	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
mountmgr	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
lp6nds35	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
ksecdd	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
IPSEC driver	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
IP Network Address Translator	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Generic Packet Classifier	Not Available	LEGACYDRIVER
Available	Not Available	Not Available
Fips	Not Available	LEGACYDRIVER
Available	Not Available	Not Available

dmload	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
dmboot	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
CRC Disk Filter Driver	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
cpqccism	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
Beep	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
AFD	Not Available	LEGACYDRIVER	Not Available	Not Available
Available	Not Available	Not Available	Not Available	Not Available
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\1290D000		
		-B755-01C4-D931-F8428177D974}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\088A48C0		
		-B755-01C4-F1B3-12714F758821}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\085C8200		
		-B755-01C4-507B-9E5F8078F531}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\3CD31F12		
		-16FB-464C-9C64-E1832C1AB86B}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\AFA63F5D		
		-EE56-44D1-B530-18F598117DAC}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\FB40064E		
		-1038-4596-978A-DB540C256635}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\7A73D57A		
		-FCED-44B1-A893-B3E88BDAFE7}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\CD065F7C		
		-15B6-4EE7-9380-1105F2633B37}		

Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\18DD7CB		
		955B-407B-8830-5138DF492EC}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{D3191BA7		
		-4E71-4A09-A69F-880E05FD3D29}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{19DA9390		
		-CC78-4C96-B069-8CAE785939B0}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{486FF1D9		
		-A84A-404F-B39F-3EFF59FDAF2B}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{F266B9D6		
		-CAFA-41CF-9639-100BD9F72309}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{3FD9E0E3		
		-D3DB-4F71-B476-90813F1A011C}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{11860F59		
		-9436-45CA-BA62-FEE9EAC3BD1C}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{226CBEFB		
		-F5AF-457E-93FD-B820A9F67181}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{05F0B344		
		-4343-489D-A3F0-CCD396062CCB}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{A570CEFF		
		-D264-4B1B-86C2-BA5D3BACC57F}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{CFE8C4C9		
		-1FA9-4CD1-B7EC-B7BC89B64FE6}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{B7A7063F		
		-09AC-4546-9AC1-7AD37DE79959}		
Generic volume	Yes	VOLUME	5.2.3790.1289	
	10/1/2002	Microsoft	volume.inf	Not Available
		STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{CA61AB1B		
		-COEA-4A81-AE19-83C0EB898207}		

Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -59CB-47CB-9CCB-DC0F635377A}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1E96FA54
 -9E44-4FA5-93D6-F38BF93A6089}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{2C5C02F8
 -0A0F-4F23-9226-5DEA260EBAF1}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -7571-4B5B-8EF9-AD66D4A449FF}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{B9F51E68
 -C227-42A9-9B8C-17E6F7EC8C0A}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1208EC2C
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
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Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A72AB4CE
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 Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 -6A26-4B8E-AE36-3874F33F142F}
 Generic volume Yes VOLUME 5.2.3790.1289
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 -9DA4-421B-AAE4-A49B64DCEAC1}
 Generic volume Yes VOLUME 5.2.3790.1289
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 -02B2-40D0-8AF6-3A6A8273C188}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
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 -7ABF-48C1-902D-D5E1FB9ED325}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{F58F9E13
 -F15C-4E99-AAD1-A0976919D32A}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{7D97BC58
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Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{BBC8A728
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{F4C08E3E
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{55B197CE
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{2D7291B2
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{05E79563
 -B1BD-4ABE-8C04-554DBDE0998D}
 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{74D3A1B2
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{4207EFCB
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 Generic volume Yes VOLUME 5.2.3790.1289
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{C199A8BA
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{6779DFAD
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{BDA9F384
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 Generic volume Yes VOLUME 5.2.3790.1289
 10/1/2002 Microsoft volume.inf Not Available
 STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{919C9966
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{17B5E321-CBEA-4F48-8CD8-AF679A1232B3}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{D93F2F48-ACAE-41E3-A64B-DA9BD11ED2D0}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{18DCAE77-F4E5-484C-882B-C71557B0D8B0}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{1796D534-8916-481A-8FC1-E7F84B67895F}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{CB81BBE4-FE02-491B-BAB4-EE6450BCC8E6}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{B40E94C5-BAFC-4B02-AED7-005E754436B4}			

Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{3DB8E18A-4994-490B-B850-AC5D04808230}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{0065FF95-3235-4B1B-AF11-B0C076C8EDCE}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{49EB75EC-6A75-4D76-960C-632E3C39D8BF}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{A4D27551-0372-433E-9527-52FFC0255FA8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{BE2746C9-4F93-437F-B3B7-8FE0E16F9D2E}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{06CBD9C-B-BA90-4760-AE6F-2B1F9DB6405B}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{F1420740-8BF1-436E-A696-DA60D24D71DD}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{802939AE-2D5F-4BFD-B871-C74D4AB45F22}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{4F1AA926-2124-49B7-9C54-E2974708C89D}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{77B38EB9-4362-493A-8E96-0A1880C514CE}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{540A4A32-4479-447B-A688-4A66A46598B4}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{2B5ADE6A-6AAF-4AE5-B8F9-F693A30D38DA}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{0DD230B-4-88B0-4C8C-BCE9-F99AF99E0D46}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{46B7A29B-2CA1-458D-97F0-B30D2AF63822}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{FOAD33A9-2355-496C-A5EC-EAF4917C5280}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{3A961AEA-8DDA-46AE-9B2F-7D0195F7DDC9}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{DF4FA116-6EE1-4B38-A9F2-A318600DA612}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{B9F39DBE-9ED0-400E-BE29-FCF48617861C}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{92B6A246-ABEF-423F-854B-FC5CD64759E3}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{64748FEA-5792-4A2A-A2BD-72539AB8D5F6}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A965988&0&GPTPARTITION{B5C6B7C9-24B1-45E1-9F3C-A060CE7F3C72}			

Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A9D58B75			
-7384-490E-AD69-69CB7A27CFE1}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{06A28763			
-8136-4255-B92E-5CE313EE2B6B}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{4C02D544			
-257F-49B6-B338-EE7BD8E1BD95}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{60C88B1A			
-9C3E-4A88-9ADE-634C926B33EF}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{CC74889E			
-FA29-4067-B302-7ED26F2F3E63}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1CA80191			
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Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{E3F28130			
-8019-467E-9E69-0ADC067B3F9}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{5F9C2DE3			
-09EA-4F89-BBAB-6ECBED6090D8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{53C6CA62			
-B903-40C6-BC7D-13B282352FAB}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{D4F3AEAA			
-7354-4CFA-8BB8-5257AB84ADA8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{D62A29BF			
-FE62-45CC-B712-C220F57DEDE7}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1C0AED72			
-B82A-492B-9B7E-6741A7E987B8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A9803585			
-7696-4769-A97A-EF083B30AE04}			

Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{F3AFC437			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{B1C34D64			
-F498-4074-BD70-5C16A52DAB74}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{FE4CDFEF			
-8973-4E28-A01F-E86E3A0FCEC0}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{7C1FF627			
-FB1B-4E00-84C3-0B561E4FB0F3}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{AAE9C46C			
-D37F-4017-AFA4-147BE05488FD}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{B6B4B6A3			
-D9C7-4F29-A195-82DE01BD8A3E}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{1D6995F0			
-DC9B-499A-B9E7-8B4A53AA7AC8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{11502834			
-0D8B-4EB7-9FCD-26A69FE66B45}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{6B251416			
-BF8C-4453-96C0-7AA945A59A33}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{22346AE3			
-AF04-4619-886C-5406C83E6D50}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{7F046D0B			
-0E0E-4FC6-AA80-081ED416D382}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{207759C5			
-A75E-4121-BDF2-6F83258247D5}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{E7E59D24			
-D16A-4B27-BC58-BA023DEFB44E}			

Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{89EF7A9E			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{077146D9			
-D945-42FC-AA1F-E4000DFBD600}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{B2DCDF9			
8-302C-455F-A3C0-22F7F18E51D8}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{F85B1450			
-78B4-4563-913B-77B20AC1DD5A}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{AF36AFA1			
-7244-46F4-B0E1-6D851AE29FC6}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A8CA8CE6			
-38CE-4B35-8CD7-C2F8B2C68AE2}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{75FC3B1E			
-8DD1-4723-8B3E-9104557A0BE2}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{2B242A02			
-15F9-45E8-BA32-61724FAFF871}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{6C11ADB9			
-21F9-49DC-8715-DE4D13BF2B82}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{CC5206D9			
-C8A5-4649-91B0-3814734E3741}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{9FD946F2			
-4F00-4E65-BD54-7EE9B43FE8C3}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{CA9D2544			
-ESC7-40B6-A728-6F7E63DE1977}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION{A4517A9F			
-B386-4B00-8F45-B34922C80A2C}			

Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{48D266DF-1B5C-4C5A-BE08-DD70399AB612}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{CB1B3F5C-B61F-4D9A-AF27-C72B64A0E007}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{B04714E7-0FCF-4F90-B388-35C08A2D7109}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{20D9C107-57E8-489F-9689-842DA12E4CEE}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{CCA08ACE-2F20-4D59-8952-ED506BA5811B}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{91ADA4FC-72BA-4B2A-8565-7586F26DA996}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{D55D529E-E510-4CB1-A327-03C4DC22D944}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{D05045C2-2B6C-4043-AE63-34E2BB45E7D5}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{20DBCAD4-87C3-41C8-86E6-DFCF697F0B9}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{309EBA44-2B97-4F7B-808C-0BA072C0641C}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{DCC2E991-F261-48A9-9876-1CB52EFF6D65}			
Generic volume	Yes	VOLUME	5.2.3790.1289
10/1/2002	Microsoft	volume.inf	Not Available
STORAGE\VOLUME\1&30A96598&0&GPTPARTITION\{87128B4B-46E2-44B6-8086-47645843A73}			
Volume Manager	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ROOT\FTDISK\0000		

Logical Disk Manager	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2AFE46358&0&1000040000000000		
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2AFE46358&0&0000040000000000		
Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	No	SCSIADAPTER	5.6.59.64
4/8/2003	Hewlett-Packard	oem2.inf	Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1F9325B&0&2808			
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&277E4F998&0&1000040000000000		
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&277E4F998&0&0000040000000000		
Smart Array 6400 Controller (Non-Miniport)	No	SCSIADAPTER	5.6.59.64
4/8/2003	Hewlett-Packard	oem2.inf	Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1F9325B&0&2008			
PCI standard PCI-to-PCI bridge	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2D6138E4&0&08			
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\7C		
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\78		
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\74		
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\70		

Generic Bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\70		
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\6C		
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2A79836D&0&0100004000000000		
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2A79836D&0&0000040000000000		
Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)	No	SCSIADAPTER	5.6.59.64
4/8/2003	Hewlett-Packard	oem2.inf	Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1F940DB4&0&2808			
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1937325D&0&0100004000000000		
Smart Array Logical Volume	No	DISKDRIVE	5.6.56.64
4/8/2003	Hewlett-Packard	oem3.inf	Not Available
Available	HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1937325D&0&0000040000000000		
Smart Array 6400 Controller (Non-Miniport)	No	SCSIADAPTER	5.6.59.64
4/8/2003	Hewlett-Packard	oem2.inf	Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1F940DB4&0&2008			
PCI standard PCI-to-PCI bridge	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&19D51C05&0&08			
PCI bus	Yes	SYSTEM	5.2.3790.1289
10/1/2002	(Standard system devices)	machine.inf	Not Available
Available	ACPI\HWP0002\68		
Qlogic processor device	Yes	SYSTEM	5.2.3790.1289
10/1/2002	QLOGIC	scsudev.inf	Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&REV_6&60102&0&07F0			

QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&240
 E8D59&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\64
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&172FD4
 79&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&172FD4
 79&0&0000040000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&726
 5503&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&327FD6
 D6&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&327FD6
 D6&0&0000040000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&726
 5503&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&3A3
 5F616&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\62
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&19

LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&11
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&14C
 294CC&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&14C
 294CC&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&14C
 294CC&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&14C
 294CC&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\60
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\300
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\3
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2\15
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2\14
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2\13

Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2\12
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&13C780F
 5&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&13C780F
 5&0&0000040000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&119
 24964&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&3152353
 3&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&3152353
 3&0&0000040000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&119
 24964&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&B10
 CC7&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\5C
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\58
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\54
 Qlogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsasidev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 V_V\6&2A360411&0&07F0

QLogic QLA23xx PCI Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&245
 142EC&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\50
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\201
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\4C
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&35458B2
 18&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&35458B2
 18&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&6AA
 0D5F&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&9D5358
 28&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&9D5358
 28&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&6AA
 0D5F&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&548
 403B&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\48

PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 5&194
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&FDE84B
 F8&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&FDE84B
 F8&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&826
 A6D2&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2F3C3B
 E4&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2F3C3B
 E4&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&826
 A6D2&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2F7
 7199C&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\42
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&19
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&18

LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 5&194
 Available
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&194
 FB0DF&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&194
 FB0DF&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&194
 FB0DF&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&194
 FB0DF&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\40
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\200
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\2
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\11
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2\10
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_9
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_8

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Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1FB39F2
8&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1FB39F2
8&0&000004000000000
Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
No      SCSIADAPTER      5.6.59.64 4/8/2003
Hewlett-Packard      oem2.inf  Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&1A6
A6711&0&2808
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&783B22F
8&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&783B22F
8&0&000004000000000
Smart Array 6400 Controller (Non-Miniport)      No
SCSIADAPTER      5.6.59.64 4/8/2003 Hewlett-
oem2.inf  Not Available
Packard      PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&1A6
A6711&0&2808
PCI standard PCI-to-PCI bridge      Yes      SYSTEM
5.2.3790.1289      10/1/2002 (Standard system
devices) machine.inf Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&1E6
C4F79&0&08
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\3C
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\38
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\34
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\30
Generic Bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0004\101

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Qlogic processor device      Yes      SYSTEM      5.2.3790.1289
10/1/2002 QLOGIC      scsidev.inf Not Available
SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
QLogic 39423000 Fire Channel Adapter      Yes
SCSIADAPTER      8.2.2.10 4/16/2003 QLogic
oem0.inf  Not Available
PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&1F3
4A452&0&08
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\2C
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&33F8103
B8&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&33F8103
B8&0&000004000000000
Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
No      SCSIADAPTER      5.6.59.64 4/8/2003
Hewlett-Packard      oem2.inf  Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&353
3F53F&0&2808
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1121A5
ED&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&1121A5
ED&0&000004000000000
Smart Array 6400 Controller (Non-Miniport)      No
SCSIADAPTER      5.6.59.64 4/8/2003 Hewlett-
oem2.inf  Not Available
Packard      PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&353
3F53F&0&2808
PCI standard PCI-to-PCI bridge      Yes      SYSTEM
5.2.3790.1289      10/1/2002 (Standard system
devices) machine.inf Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&28C
A0570&0&08
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\28

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PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\24
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&362BFD
7C&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&362BFD
7C&0&000004000000000
Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
No      SCSIADAPTER      5.6.59.64 4/8/2003
Hewlett-Packard      oem2.inf  Not Available
PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&DC
0C033&0&2808
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&39ABF4
18&0&0100004000000000
Smart Array Logical Volume      No      DISKDRIVE 5.6.56.64
4/8/2003 Hewlett-Packard      oem3.inf  Not
Available
HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&39ABF4
18&0&000004000000000
Smart Array 6400 Controller (Non-Miniport)      No
SCSIADAPTER      5.6.59.64 4/8/2003 Hewlett-
oem2.inf  Not Available
Packard      PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&DC0
C033&0&2808
PCI standard PCI-to-PCI bridge      Yes      SYSTEM
5.2.3790.1289      10/1/2002 (Standard system
devices) machine.inf Not Available
PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2B4
10CAB&0&08
PCI bus      Yes      SYSTEM      5.2.3790.1289
10/1/2002 (Standard system devices) machine.inf Not
Available
ACPI\HWP0002\22
LSI Logic 53C1010-66 Device      Yes      SCSIADAPTER
5.2.3790.1289      10/1/2002 LSI Logic Inc.
pnpscsi.inf Not Available
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
AB61&0&19
LSI Logic 53C1010-66 Device      Yes      SCSIADAPTER
5.2.3790.1289      10/1/2002 LSI Logic Inc.
pnpscsi.inf Not Available
PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&85CD
AB61&0&18

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CD-ROM Drive Yes CDROM 5.2.3790.0
 10/1/2002 (Standard CD-ROM drives) cdrom.inf Not
 Available SCSI\CDROM\VEN_HP&PROD_DVD-
 ROM_305&REV_1.01\6&3EABE99&0&020
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
 AB61&0&11
 Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard
 disk drives) disk.inf Not Available
 SCSI\DISK&VEN_HP_36.4G&PROD_MAS3367NC&REV_HPC3\6&
 16A46F3E&0&060
 LSI Logic 53C1010-66 Device Yes SCSIADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&5CD
 AB61&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&5C
 DAB61&0&08
 HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&5C
 DAB61&0&01
 HP MP Serial AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&5C
 DAB61&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\20
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\100
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\1
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_7
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_6

Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_5
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-IA64_FAMILY_31_MODEL_2_4
 ACPI Fixed Feature Button Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\FIXEDBUTTON\2&DABA3FF&0
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2838117
 3&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2838117
 3&0&0000004000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSIADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&264
 0A37&0&2808
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2BB808
 0F&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&2BB808
 0F&0&0000004000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSIADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&264
 0A37&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&FA5
 F632&0&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\1C

QLogic processor device Yes SYSTEM 5.2.3790.1289
 10/1/2002 QLOGIC scsudev.inf Not Available
 SCSI\PROCESSOR&VEN_QLOGIC&PROD_PSEUDO_DEVICE&RE
 QLogic QLA3200 Fibre Channel Adapter Yes
 SCSIADAPTER 8.2.2.10 4/16/2003 QLogic
 oem0.inf Not Available
 PCI\VEN_1077&DEV_2312&SUBSYS_010C1077&REV_02\5&8225
 F72B7&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\18
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&8288
 74FDD&0&09
 Intel(R) PRO/1000 MT Dual Port Server Adapter Yes NET
 7.2.17.5 5/12/2004 Intel oem5.inf Not
 Available
 PCI\VEN_8086&DEV_1079&SUBSYS_12A6103C&REV_03\5&8288
 74FDD&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\14
 Disk drive Yes DISKDRIVE 5.2.3790.0 10/1/2002 (Standard
 disk drives) disk.inf Not Available
 SCSI\DISK&VEN_COMPAQ&PROD_MSA1000_VOLUME&REV_4.3
 2\6&C15C8C8&0&001
 HP MSA1000 Yes SYSTEM 5.2.3790.1289
 10/1/2002 Compaq scsudev.inf Not Available
 SCSI\ARRAY&VEN_COMPAQ&PROD_MSA1000&REV_4.32\6&C1
 5C8C8&0&000
 Emulex LPX000 Fibre Channel Storport Driver Yes
 SCSIADAPTER 6.1.1.109 10/29/2003 Emulex
 oem4.inf Not Available
 PCI\VEN_10DF&DEV_F098&SUBSYS_F09810DF&REV_01\5&37
 D3486A&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\10
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\1
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\C
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&38DC0A
 CD&0&0100004000000000

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&38DC0A
 CD&0&0000040000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSTADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&266
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 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&AD4AAF
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 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&AD4AAF
 D&0&0000040000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSTADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&266
 093A2&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&29A
 1C50A&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\8
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\4
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&29A69B
 A&0&0100004000000000
 Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&29A69B
 A&0&0000040000000000
 Smart Array 6400 Controller U320 Expansion Module (Non-Miniport)
 No SCSTADAPTER 5.6.59.64 4/8/2003
 Hewlett-Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409D0E11&REV_01\6&ED
 32FE9&0&2808

Smart Array Logical Volume No DISKDRIVE 5.6.56.64
 4/8/2003 Hewlett-Packard oem3.inf Not
 Available
 HPQCISS\DISK&VEN_HP&PROD_LOGICAL_VOLUME\7&E58CE2
 8&0&0000040000000000
 Smart Array 6400 Controller (Non-Miniport) No
 SCSTADAPTER 5.6.59.64 4/8/2003 Hewlett-
 Packard oem2.inf Not Available
 PCI\VEN_0E11&DEV_0046&SUBSYS_409C0E11&REV_01\6&ED3
 2FE9&0&2008
 PCI standard PCI-to-PCI bridge Yes SYSTEM
 5.2.3790.1289 10/1/2002 (Standard system
 devices) machine.inf Not Available
 PCI\VEN_1014&DEV_01A7&SUBSYS_00000000&REV_02\5&2A6
 94D11&0&08
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\2
 HP Baseboard Management Controller Interface Driver Yes
 SYSTEM 7.1.3790.0 3/18/2004 Hewlett Packard Co.
 oem9.inf Not Available ACPI\IPI0001\0
 LSI Logic 53C1010-66 Device Yes SCSTADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&19
 LSI Logic 53C1010-66 Device Yes SCSTADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&18
 LSI Logic 53C1010-66 Device Yes SCSTADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&11
 LSI Logic 53C1010-66 Device Yes SCSTADAPTER
 5.2.3790.1289 10/1/2002 LSI Logic Inc.
 pnpscsi.inf Not Available
 PCI\VEN_1000&DEV_0021&SUBSYS_1350103C&REV_01\5&4F5
 EBC7&0&10
 Broadcom NetXtreme Gigabit Ethernet Yes NET 2.91.0.0
 10/1/2002 Broadcom netb57xp.inf Not Available
 PCI\VEN_14E4&DEV_1645&SUBSYS_12C1103C&REV_15\5&4F5
 EBC7&0&08

HP Management Processor Yes SYSTEM 5.0.3663.16
 12/12/2002 Hewlett-Packard Co oem6.inf Not
 Available
 PCI\VEN_103C&DEV_1048&SUBSYS_1282103C&REV_03\5&4F5
 HP Baseboard AUX/UPS Port Yes PORTS 5.0.3663.16
 12/12/2002 Hewlett Packard Co. oem7.inf Not
 Available
 PCI\VEN_103C&DEV_1290&SUBSYS_1291103C&REV_01\5&4F5
 EBC7&0&00
 PCI bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0002\0
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0004\0
 Generic Bus Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\HWP0005\0
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_3
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_2
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_1
 Processor Yes PROCESSOR 5.2.3790.1289
 10/1/2002 (Standard processor types)cpu.inf Not
 Available ACPI\GENUINEINTEL_-_IA64_FAMILY_31_MODEL_2_0
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851680
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851534
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851616
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E04851642
 Not Available Not Available Not Available Not Available Not Available Not
 Available Not Available Not Available ACPI\HWP1000\A56E0485130

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851795

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851729

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851833

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851818

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851640

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851790

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
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Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851770

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
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Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851604

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available ACPI\HWP1000\A56E04851726

HP CSR OpRegion Driver No SYSTEM 1.1.0.0 6/5/2003
 Hewlett-Packard oem8.inf Not Available
 ACPI\HWP5003\2&DABA3FF&0

ACPI Power Button Yes SYSTEM 5.2.3790.1289
 10/1/2002 (Standard system devices) machine.inf Not
 Available ACPI\PNPOC0C\2&DABA3FF&0

Microsoft ACPI-Compliant System Yes SYSTEM
 5.2.3790.0 10/1/2002 Microsoft acpi.inf Not
 Available ACPI_HAL\PNPOC08\0

ACPI IA64-based PC Not Available COMPUTER Not Available Not Available
 Available (Standard computers) Not Available Not Available
 ROOT\ACPI_HAL\0000

Not Available Not Available Not Available Not Available Not Available Not Available Not Available
 Available Not Available Not Available HTREE\ROOT\0

Not Available Yes Not Available 2:5.2 Not Available Not Available Not Available
 Available Not Available Not Available b17-1410-a on PRN-
 PRIV1.redmond.corp.microsoft.com (from V-JASGOE01) in session 1

Not Available Yes Not Available 2:5.2 Not Available Not Available Not Available Not Available
 Available Not Available Not Available b17-1147-a on prn-corp1 (from V-
 JASGOE01) in session 1
 [Environment Variables]

Variable Value User Name
 ClusterLog C:\WINDOWS\Cluster\cluster.log <SYSTEM>
 ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>
 FP_NO_HOST_CHECK NO <SYSTEM>
 NUMBER_OF_PROCESSORS 16 <SYSTEM>
 OS Windows_NT <SYSTEM>
 Path
 %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\sy
 stem32\WBEM;C:\Program Files\Microsoft SQL Server\80\Tools\Binn\
 <SYSTEM>
 PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH
 <SYSTEM>
 PROCESSOR_ARCHITECTURE IA64 <SYSTEM>
 PROCESSOR_IDENTIFIER ia64 Family 31 Model 2 Stepping 1, GenuineIntel
 <SYSTEM>
 PROCESSOR_LEVEL 31 <SYSTEM>
 PROCESSOR_REVISION 0201 <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
 _NT_SYMBOL_PATH
 c:\thierry\PerThreadIoCounters\00;c:\thierry\PerThreadIoCount
 ers\01;c:\thierry\hals;c:\thierry\dnSp1Rc1Plus;c:\thierry\PerThreadIoCounte
 rs\01\00;c:\thierry\PerThreadIoCounters\02 SQLOLY\Administrator

TEMP %USERPROFILE%\Local Settings\Temp SQLOLY\Administrator

TMP %USERPROFILE%\Local Settings\Temp SQLOLY\Administrator

[Print Jobs]

Document Submitted	Size Start Time	Owner Until Time	Notify Elapsed Time	Status TimePages	Printed
Processor	Job ID	Host Print Queue	Priority	Parameters	Driver Print
[Network Connections]					
Local Name	Remote Name	Type	Status	User	
Name	s:	\\10.193.24.52\d\$	Disk	Persistent Connection	
[Running Tasks]					
Name	Path	Process ID	Priority	Min Working Set	Time
Available	Max Working Set	File Date	Start Time	Version	Size
system idle process		Not Available	0	0	Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available
Available	system	Not Available	4	8	2826240
smss.exe	Not Available	920	11	409600	2826240
Available			2/3/2005 1:24 PM	Not Available	Not Available
csrss.exe	c:\windows\system32\csrss.exe		1056	13	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.0 (srv03_rtm.030324-2048)	7.00 KB (7,168 bytes)		
winlogon.exe	c:\windows\system32\winlogon.exe		1140	13	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	663.50		
KB (679,424 bytes)			12/10/2004 1:18 PM		
services.exe	c:\windows\system32\services.exe		1352	9	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	299.00		
KB (306,176 bytes)			12/10/2004 1:18 PM		
lsass.exe	c:\windows\system32\lsass.exe		1380	9	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.0 (srv03_rtm.030324-2048)	15.00 KB (15,360 bytes)		
svchost.exe	c:\windows\system32\svchost.exe		112	8	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	36.00 KB		
(36,864 bytes)			12/10/2004 1:18 PM		
svchost.exe	c:\windows\system32\svchost.exe		1964	8	
		409600	2826240	2/3/2005 1:26 PM	
		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	36.00 KB		
(36,864 bytes)			12/10/2004 1:18 PM		

svchost.exe	c:\windows\system32\svchost.exe	324	8	rdpclip.exe	c:\windows\system32\rdpclip.exe	1172	8	user32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB
409600	2826240	2/3/2005 1:26 PM		409600	2826240	2/3/2005 2:22 PM		(1,472,000 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
(36,864 bytes)			36.00 KB	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)			209.50	gdi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	880.50
svchost.exe	c:\windows\system32\svchost.exe	356	8	409600	2826240	2/3/2005 2:22 PM	6.00.3790.1289	KB (901,632 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
409600	2826240	2/3/2005 1:26 PM		(srv03_sp1_rc1.041202-1618)				c:\windows\system32\gdi32.dll		
(36,864 bytes)			36.00 KB	12/10/2004 1:17 PM				5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.82 MB	
svchost.exe	c:\windows\system32\svchost.exe	400	8	sqlmangr.exe	c:\program files\microsoft sql server\tools\bin\sqlmangr.exe	2204	8	(1,904,128 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
409600	2826240	2/3/2005 1:26 PM		2826240	2/3/2005 2:22 PM	2000.080.0760.00		c:\windows\system32\sxs.dll		
(36,864 bytes)			36.00 KB	225.00 KB (230,400 bytes)	12/10/2004 3:37 PM			5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB	
spoolsv.exe	c:\windows\system32\spoolsv.exe	1040	8	wuauclt.exe	c:\windows\system32\wuauclt.exe	2500	8	(1,467,904 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
409600	2826240	2/3/2005 1:26 PM		409600	2826240	2/3/2005 2:22 PM		c:\windows\system32\advapi32.dll		
(36,864 bytes)			143.50	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)			263.00	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.36 MB	
msdtc.exe	c:\windows\system32\msdtc.exe	1084	8	KB (269,312 bytes)	12/10/2004 1:59 PM			c:\windows\system32\rpcrt4.dll		
2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)			9.50 KB	cmd.exe	c:\windows\system32\cmd.exe	3316	8	(2,470,400 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
(9,728 bytes)				409600	2826240	2/3/2005 2:23 PM		c:\windows\system32\winlogon.exe		
svchost.exe	c:\windows\system32\svchost.exe	1632	8	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)			507.00	7.0.3790.1289 (srv03_sp1_rc1.041202-1618)	931.50	
409600	2826240	2/3/2005 1:26 PM		KB (519,168 bytes)	12/10/2004 1:17 PM			c:\windows\system32\msvcrt.dll		
(36,864 bytes)			36.00 KB	cmd.exe	c:\windows\system32\cmd.exe	3096	8	(953,856 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
svchost.exe	c:\windows\system32\svchost.exe	232	8	409600	2826240	2/3/2005 2:37 PM		userenv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.49 MB
409600	2826240	2/3/2005 1:26 PM		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)			507.00	(1,561,088 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
(36,864 bytes)			36.00 KB	KB (519,168 bytes)	12/10/2004 1:17 PM			c:\windows\system32\userenv.dll		
mssearch.exe	c:\program files\common files\system\mssearch\bin\mssearch.exe	268	8	wmiprvse.exe	c:\windows\system32\wbem\wmiprvse.exe	3856	8	nddeapi	5.2.3790.0 (srv03_rtm.030324-2048)	39.50 KB (40,448 bytes)
2826240	2/3/2005 1:26 PM			3:06 PM	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	718.00		c:\windows\system32\nddeapi.dll		
KB (471,040 bytes)				KB (735,232 bytes)	10/21/2004 10:19 AM			5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	1.68 MB	
svchost.exe	c:\windows\system32\svchost.exe	1000	8	[Loaded Modules]				c:\windows\system32\crypt32.dll		
409600	2826240	2/3/2005 1:26 PM		Name	Version	Size	File Date	Manufacturer Path		
(36,864 bytes)				csrss	5.2.3790.0 (srv03_rtm.030324-2048)	7.00 KB (7,168 bytes)			5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	177.50
wmiprvse.exe	c:\windows\system32\wbem\wmiprvse.exe	1204	8	ntdll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.56 MB (1,635,328 bytes)	12/10/2004 1:17 PM	c:\windows\system32\msasn1.dll		
1:27 PM				csrsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	129.50		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	186.00	
KB (735,232 bytes)				basesrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	156.00		c:\windows\system32\secur32.dll		
logon.scr	c:\windows\system32\logon.scr	1152	4	KB (159,744 bytes)	12/10/2004 1:17 PM			5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	141.50	
409600	2826240	2/3/2005 1:36 PM		csrsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	129.50		c:\windows\system32\winsta.dll		
(36,864 bytes)				KB (132,608 bytes)	12/10/2004 1:17 PM			5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	882.00	
winsrv	c:\windows\system32\winsrv.dll	496	13	netapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	882.00		c:\windows\system32\netapi32.dll		
409600	2826240	2/3/2005 2:22 PM		profmap	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	59.50 KB (60,928 bytes)	12/10/2004 1:17 PM	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	59.50 KB	
(36,864 bytes)				regapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	139.50		c:\windows\system32\profmap.dll		
winlogon.exe	c:\windows\system32\winlogon.exe	544	13	KB (142,848 bytes)	12/10/2004 1:18 PM			5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	139.50	
409600	2826240	2/3/2005 2:22 PM		kernel32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.87 MB (1,962,496 bytes)	12/10/2004 1:17 PM	c:\windows\system32\regapi.dll		
(36,864 bytes)				ws2_32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	246.00		5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	246.00	
KB (679,424 bytes)				KB (251,904 bytes)	12/10/2004 1:18 PM			12/10/2004 1:18 PM	Microsoft Corporation	
				c:\windows\system32\ws2_32.dll						

ws2help	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	49.00 KB
(50,176 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\ws2help.dll		
msgina	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.40 MB
(1,463,296 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msgina.dll		
shsvcs	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	354.00
KB (362,496 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\shsvcs.dll		
shlwapi	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	802.50
KB (821,760 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\shlwapi.dll		
sfc	5.2.3790.0 (srv03_rtm.030324-2048)	7.50 KB (7,680 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\sfc.dll		
sfc_os	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	273.00
KB (279,552 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\sfc_os.dll		
wintrust	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	459.00
KB (470,016 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wintrust.dll		
imagehlp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	140.00
KB (143,360 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\imagehlp.dll		
ole32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	3.80 MB
(3,988,480 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ole32.dll		
comctl32	6.0 (srv03_sp1_rc1.041202-1618)	2.50 MB (2,620,928 bytes)
	12/10/2004 5:29 AM	Microsoft Corporation
c:\windows\winsxs\ia64_microsoft.windows.common-controls_6595b64144ccf1df_6.0.3790.1289_x-ww_a74f17ad\comctl32.dll		
version	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	51.00 KB
(52,224 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\version.dll		
winscard	5.2.3790.0 (srv03_rtm.030324-2048)	291.50 KB (298,496 bytes)
	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wincard.dll		
wtsapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	51.00 KB
(52,224 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wtsapi32.dll		
shell32	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	12.62 MB
(13,235,200 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\shell32.dll		
setupapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.99 MB
(2,086,912 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\setupapi.dll		
wldap32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	460.50
KB (471,552 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wldap32.dll		

cscdll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	205.50
KB (210,432 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\cscdll.dll		
dimntfy	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	51.50 KB
(52,736 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dimntfy.dll		
wlnotify	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	238.50
KB (244,224 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wlnotify.dll		
winmm	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	428.00
KB (438,272 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\winmm.dll		
winspool	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	400.00
KB (409,600 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\winspool.drv		
mpr	5.2.3790.0 (srv03_rtm.030324-2048)	163.00 KB (166,912 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\mpr.dll		
oleaut32	5.2.3790.1289	3.74 MB (3,917,312 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\oleaut32.dll		
comctl32	5.82 (srv03_sp1_rc1.041202-1618)	1.72 MB (1,805,824 bytes)
	12/10/2004 5:29 AM	Microsoft Corporation
c:\windows\winsxs\ia64_microsoft.windows.common-controls_6595b64144ccf1df_5.82.3790.1289_x-ww_47dad228\comctl32.dll		
uxtheme	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	611.50
KB (626,176 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\uxtheme.dll		
clbcatq	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	1.30 MB
(1,358,848 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\clbcatq.dll		
comres	2001.12.4720.0 (srv03_rtm.030324-2048)	779.50
KB (798,208 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\comres.dll		
wbemprox	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	65.00 KB
(66,560 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\wbem\wbemprox.dll		
wbemcomn	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	664.50
KB (680,448 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wbem\wbemcomn.dll		
xpsp2res	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.76 MB
(2,897,920 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\xpsp2res.dll		
wbemsvc	5.2.3790.0 (srv03_rtm.030324-2048)	62.50 KB (64,000 bytes)
	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\wbem\wbemsvc.dll		
fastprox	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.63 MB
(1,710,080 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
c:\windows\system32\wbem\fastprox.dll		
msvcp60	6.10.2240.8 941.50 KB (964,096 bytes)	12/10/2004 1:17 PM
	Microsoft Corporation	c:\windows\system32\msvcp60.dll

ntdsapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	204.00
KB (208,896 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ntdsapi.dll		
dnsapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	425.50
KB (435,712 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dnsapi.dll		
services	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	299.00
KB (306,176 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\services.exe		
scserv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	806.50
KB (825,856 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\scserv.dll		
authz	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	216.50
KB (221,696 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\authz.dll		
umpnprmgr	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	321.00
KB (328,704 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\umpnprmgr.dll		
ncobjapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	121.00
KB (123,904 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ncobjapi.dll		
eventlog	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	178.00
KB (182,272 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\eventlog.dll		
psapi	5.2.3790.0 (srv03_rtm.030324-2048)	48.00 KB (49,152 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\psapi.dll		
lsass	5.2.3790.0 (srv03_rtm.030324-2048)	15.00 KB (15,360 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\lsass.exe		
lsasrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.07 MB
(2,170,880 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\lsasrv.dll		
samlib	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	103.50
KB (105,984 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\samlib.dll		
samsrv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.09 MB
(1,141,248 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\samsrv.dll		
cryptdll	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	67.50 KB
(69,120 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\cryptdll.dll		
msprivs	5.2.3790.0 (srv03_rtm.030324-2048)	46.00 KB (47,104 bytes)
	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msprivs.dll		
kerberos	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	932.00
KB (954,368 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\kerberos.dll		
msv1_0	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	376.00
KB (385,024 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msv1_0.dll		

iphlpapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	254.50 KB (260,608 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\iphlpapi.dll				
netlogon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	954.50 KB (977,408 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\netlogon.dll				
w32time	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	562.50 KB (576,000 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\w32time.dll				
schannel	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	455.50 KB (466,432 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\schannel.dll				
wdigest	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	209.50 KB (214,528 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wdigest.dll				
rsaenh	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	407.48 KB (417,256 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rsaenh.dll				
rassfm	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	66.50 KB (68,096 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rassfm.dll				
kdcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	595.50 KB (609,792 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\kdcsvc.dll				
ntdsa	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	4.04 MB (4,234,240 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ntdsa.dll				
esent	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.64 MB (2,767,872 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\esent.dll				
ntdsatq	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	79.50 KB (81,408 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ntdsatq.dll				
msock	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	759.00 KB (777,216 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msock.dll				
scedi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	459.00 KB (470,016 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\scedi.dll				
ws03res	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	773.50 KB (792,064 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\ws03res.dll				
ipsecvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	465.00 KB (476,160 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ipsecvc.dll				
oakley	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	514.00 KB (526,336 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\oakley.dll				
winiipsec	5.2.3790.0 (srv03_rtm.030324-2048)	78.50 KB (80,384 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\winiipsec.dll				

pstorsvc	5.2.3790.0 (srv03_rtm.030324-2048)	56.00 KB (57,344 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\pstorsvc.dll				
psbase	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	166.50 KB (170,496 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\psbase.dll				
hnetcfg	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.04 MB (1,095,168 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\hnetcfg.dll				
wshtcpip	5.2.3790.0 (srv03_rtm.030324-2048)	38.00 KB (38,912 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wshtcpip.dll				
dssenh	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	360.48 KB (369,128 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dssenh.dll				
wlbcctrl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	206.50 KB (211,456 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wlbcctrl.dll				
svchost	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	36.00 KB (36,864 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\svchost.exe				
rpcss	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	820.00 KB (839,680 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rpcss.dll				
dhcpcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	297.50 KB (304,640 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dhcpcsvc.dll				
dnssrslvr	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	123.50 KB (126,464 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\dnssrslvr.dll				
netman	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	706.00 KB (722,944 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\netman.dll				
netshell	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	2.95 MB (3,094,528 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\netshell.dll				
rtutils	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	90.00 KB (92,160 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rtutils.dll				
credui	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	311.00 KB (318,464 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\credui.dll				
atl	3.00.2282	348.00 KB (356,352 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\atl.dll				
clusapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	155.50 KB (159,232 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\clusapi.dll				
mprapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	263.00 KB (269,312 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\mprapi.dll				
activeds	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	581.50 KB (595,456 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\activeds.dll				

adslrpc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	326.00 KB (333,824 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\adslrpc.dll				
rasapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	632.00 KB (647,168 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rasapi32.dll				
rasman	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	166.50 KB (170,496 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rasman.dll				
tapi32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	518.00 KB (530,432 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\tapi32.dll				
wzcsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	816.00 KB (835,584 bytes)	12/2/2004 12:50 PM	Microsoft Corporation
c:\windows\system32\wzcsvc.dll				
wmi	5.2.3790.0 (srv03_rtm.030324-2048)	5.00 KB (5,120 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wmi.dll				
wininet	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	1.62 MB (1,695,744 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wininet.dll				
wzcsapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	102.00 KB (104,448 bytes)	12/2/2004 12:50 PM	Microsoft Corporation
c:\windows\system32\wzcsapi.dll				
ntmarta	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	365.50 KB (374,272 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\ntmarta.dll				
lmhsvc	5.2.3790.0 (srv03_rtm.030324-2048)	40.00 KB (40,960 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\lmhsvc.dll				
rastls	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	426.00 KB (436,224 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\rastls.dll				
cryptui	5.131.3790.1289 (srv03_sp1_rc1.041202-1618)	1.10 MB (1,158,144 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\cryptui.dll				
raschap	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	226.00 KB (231,424 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\raschap.dll				
schedsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	566.50 KB (580,096 bytes)	10/21/2004 10:21 AM	Microsoft Corporation
c:\windows\system32\schedsvc.dll				
msidle	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	11.50 KB (11,776 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
c:\windows\system32\msidle.dll				
wkssvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	313.50 KB (321,024 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wkssvc.dll				
wiarpc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	75.50 KB (77,312 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
c:\windows\system32\wiarpc.dll				

aelupsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	55.50 KB (56,832 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\aelupsvc.dll			
apphelp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	301.00 KB (308,224 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\apphelp.dll			
cryptsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	139.00 KB (142,336 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\cryptsvc.dll			
certcli	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	579.50 KB (593,408 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\certcli.dll			
vssapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.57 MB (1,641,984 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\vssapi.dll			
dmserver	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	50.00 KB (51,200 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\dmserver.dll			
es	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	682.50 KB (698,880 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\es.dll			
pchsvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	113.00 KB (115,712 bytes)	10/21/2004 10:21 AM	Microsoft Corporation
	c:\windows\pchealth\helpctr\binaries\pchsvc.dll			
srsvcs	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	196.00 KB (200,704 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\srsvcs.dll			
sacsvr	5.2.3790.0 (srv03_rtm.030324-2048)	27.50 KB (28,160 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\sacsvr.dll			
seclogon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	44.50 KB (45,568 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\seclogon.dll			
sens	5.2.3790.0 (srv03_rtm.030324-2048)	90.50 KB (92,672 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\sens.dll			
comsvcs	2001.12.4720.1289 (srv03_sp1_rc1.041202-1618)	3.15 MB (3,299,840 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\comsvcs.dll			
trkws	5.2.3790.0 (srv03_rtm.030324-2048)	246.00 KB (251,904 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\trkws.dll			
wmisvc	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	445.00 KB (455,680 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmisvc.dll			
wuauerv	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	24.50 KB (25,088 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wuauerv.dll			
wuaueng	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	3.07 MB (3,222,016 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wuaueng.dll			

advpack	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	259.50 KB (265,728 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\advpack.dll			
shfolder	6.00.3790.1289 (srv03_sp1_rc1.041202-1618)	42.00 KB (43,008 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\shfolder.dll			
winhttp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	993.00 KB (1,016,832 bytes)	12/10/2004 5:29 AM	Microsoft Corporation
	c:\windows\winsxs\ia64_microsoft.windows.winhttp_6595b64144cc1df_5.1.3790.1289_x-ww_a08099d9\winhttp.dll			
cabinet	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	250.50 KB (256,512 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\cabinet.dll			
mspatcha	5.2.3790.0 (srv03_rtm.030324-2048)	80.00 KB (81,920 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mspatcha.dll			
browser	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	198.50 KB (203,264 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\browser.dll			
netrap	5.2.3790.0 (srv03_rtm.030324-2048)	30.00 KB (30,720 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\netrap.dll			
wbemcore	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.94 MB (2,036,224 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wbemcore.dll			
esscli	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.01 MB (1,056,256 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\esscli.dll			
wmiutils	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	302.00 KB (309,248 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmiutils.dll			
repdrvfs	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	649.00 KB (664,576 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\repdrvfs.dll			
wmiprvsd	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.39 MB (1,454,592 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wmiprvsd.dll			
wbemess	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.02 MB (1,068,544 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\wbemess.dll			
ncprov	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	146.00 KB (149,504 bytes)	10/21/2004 10:19 AM	Microsoft Corporation
	c:\windows\system32\wbem\ncprov.dll			
ntlsapi	5.2.3790.0 (srv03_rtm.030324-2048)	14.50 KB (14,848 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\ntlsapi.dll			
wups	5.6.3790.1289 (srv03_sp1_rc1.041202-1618)	45.00 KB (46,080 bytes)	12/10/2004 1:59 PM	Microsoft Corporation
	c:\windows\system32\wups.dll			
rasdlg	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	1.44 MB (1,509,888 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasdlg.dll			

rasadhlp	5.2.3790.0 (srv03_rtm.030324-2048)	13.00 KB (13,312 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\rasadhlp.dll			
spoolsv	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	143.50 KB (146,944 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\spoolsv.exe			
spoolss	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	244.50 KB (250,368 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\spoolss.dll			
localspl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	938.50 KB (961,024 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\localspl.dll			
cnbjmon	5.2.3790.1224 (dnssrv(skatar).040514-1058)	100.00 KB (102,400 bytes)	12/2/2004 12:28 PM	Microsoft Corporation
	c:\windows\system32\cnbjmon.dll			
pjlmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	42.50 KB (43,520 bytes)	12/2/2004 12:36 PM	Microsoft Corporation
	c:\windows\system32\pjlmon.dll			
tcpmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	143.00 KB (146,432 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\tcpmon.dll			
wsnmp32	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	126.50 KB (129,536 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wsnmp32.dll			
tcpmib	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	47.00 KB (48,128 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\tcpmib.dll			
wssock32	5.2.3790.0 (srv03_rtm.030324-2048)	23.00 KB (23,552 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\wssock32.dll			
mgmtapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	45.00 KB (46,080 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\mgmtapi.dll			
snmpapi	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	59.50 KB (60,928 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\snmpapi.dll			
usbmon	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	48.50 KB (49,664 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\usbmon.dll			
winrr	5.2.3790.0 (srv03_rtm.030324-2048)	39.00 KB (39,936 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\winrr.dll			
win32spl	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	274.50 KB (281,088 bytes)	12/10/2004 1:18 PM	Microsoft Corporation
	c:\windows\system32\win32spl.dll			
inetpp	5.2.3790.1289 (srv03_sp1_rc1.041202-1618)	214.00 KB (219,136 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\inetpp.dll			
icmp	5.2.3790.0 (srv03_rtm.030324-2048)	2.50 KB (2,560 bytes)	12/10/2004 1:17 PM	Microsoft Corporation
	c:\windows\system32\icmp.dll			

ps5ui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 393.50 KB (402,944 bytes) 10/28/2004 12:15 PM Microsoft Corporation
 c:\windows\system32\pool\drivers\ia64\3\ps5ui.dll
 unidrvui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 533.50 KB (546,304 bytes) 12/3/2004 5:45 PM Microsoft Corporation
 c:\windows\system32\pool\drivers\ia64\3\unidrvui.dll
 mscms 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 221.50 KB (226,816 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mscms.dll
 icm32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 718.00 KB (735,232 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\icm32.dll
 msdtc 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 9.50 KB (9,728 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\msdtc.exe
 msdtctm 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 2.94 MB (3,085,824 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\msdtctm.dll
 msdtcprx 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 1.27 MB (1,328,640 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\msdtcprx.dll
 mtxclu 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 202.50 KB (207,360 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mtxclu.dll
 msdtclog 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 223.00 KB (228,352 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\msdtclog.dll
 xolehlp 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 18.00 KB (18,432 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\xolehlp.dll
 resutils 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 152.00 KB (155,648 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\resutils.dll
 mtxoci 2001.12.4720.1289 (srv03_sp1_rc1.041202-1618) 314.00 KB (321,536 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\mtxoci.dll
 ersvc 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 66.00 KB (67,584 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\ersvc.dll
 regsvc 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 212.50 KB (217,600 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\regsvc.dll
 mssearch 9.107.8320.0460.00 KB (471,040 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program files\common files\system\mssearch\bin\mssearch.exe
 mssws 9.107.8320.027.00 KB (27,648 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program files\common files\system\mssearch\bin\mssws.dll

mssrch 9.107.8320.06.50 MB (6,819,328 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program~1\common~1\system\mssearch\bin\mssrch.dll
 security 5.2.3790.0 (srv03_rtm.030324-2048) 7.00 KB (7,168 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\security.dll
 tquery 9.107.8320.05.85 MB (6,133,248 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program files\common files\system\mssearch\bin\tquery.dll
 propdefs 9.107.8320.0888.50 KB (909,824 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program~1\common~1\system\mssearch\bin\propdefs.dll
 srchidx 9.107.8320.02.26 MB (2,374,144 bytes) 10/21/2004 9:12 PM Microsoft Corporation
 c:\program~1\common~1\system\mssearch\bin\srchidx.dll
 iprop 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 3.00 KB (3,072 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\iprop.dll
 termsrv 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 674.50 KB (690,688 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\termsrv.dll
 icaapi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 31.50 KB (32,256 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\icaapi.dll
 mstlsapi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 338.00 KB (346,112 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mstlsapi.dll
 rdpwsx 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 323.13 KB (330,888 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\rdpwsx.dll
 wmiprvse 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 718.00 KB (735,232 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\wbem\wmiprvse.exe
 faultrep 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 249.50 KB (255,488 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\faultrep.dll
 wmiprov 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 502.50 KB (514,560 bytes) 10/21/2004 10:19 AM Microsoft Corporation
 c:\windows\system32\wbem\wmiprov.dll
 logon 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 702.00 KB (718,848 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\logon.scr
 rdpsnd 5.2.3790.0 (srv03_rtm.030324-2048) 63.00 KB (64,512 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\rdpsnd.dll
 scredir 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 68.50 KB (70,144 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 c:\windows\system32\scredir.dll
 cscui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 627.50 KB (642,560 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\cscui.dll

drprov 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 30.00 KB (30,720 bytes) 12/10/2004 1:18 PM Microsoft Corporation
 ntlanman 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 117.00 KB (119,808 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\ntlanman.dll
 netui0 5.2.3790.0 (srv03_rtm.030324-2048) 181.50 KB (185,856 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui0.dll
 netui1 5.2.3790.0 (srv03_rtm.030324-2048) 482.00 KB (493,568 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui1.dll
 msacm32 5.2.3790.0 (srv03_rtm.030324-2048) 77.00 KB (78,848 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msacm32.drv
 msacm32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 276.50 KB (283,136 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msacm32.dll
 davclnt 5.2.3790.0 (srv03_rtm.030324-2048) 59.00 KB (60,416 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\davclnt.dll
 mprui 5.2.3790.0 (srv03_rtm.030324-2048) 97.00 KB (99,328 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\mprui.dll
 netui2 5.2.3790.0 (srv03_rtm.030324-2048) 761.50 KB (779,776 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netui2.dll
 cmdlg32 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 745.00 KB (762,880 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\cmdlg32.dll
 netmsg 5.2.3790.0 (srv03_rtm.030324-2048) 177.50 KB (181,760 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\netmsg.dll
 imaadp32 5.2.3790.0 (srv03_rtm.030324-2048) 55.00 KB (56,320 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\imaadp32.acm
 msadp32 5.2.3790.0 (srv03_rtm.030324-2048) 49.00 KB (50,176 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msadp32.acm
 msg711 5.2.3790.0 (srv03_rtm.030324-2048) 33.00 KB (33,792 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msg711.acm
 msgsm32 5.2.3790.0 (srv03_rtm.030324-2048) 66.50 KB (68,096 bytes) 12/10/2004 1:17 PM Microsoft Corporation
 c:\windows\system32\msgsm32.acm
 tssoft32 1.01 29.00 KB (29,696 bytes) 12/10/2004 1:18 PM DSP GROUP, INC.
 c:\windows\system32\tssoft32.acm
 tsd32 1.03 38.00 KB (38,912 bytes) 12/10/2004 1:18 PM DSP GROUP, INC.
 c:\windows\system32\tsd32.dll

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printui 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.13 MB
(1,186,304 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\printui.dll
cfgmgr32 5.2.3790.0 (srv03_rtm.030324-2048) 16.00 KB (16,384
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\cfgmgr32.dll
cryptnet 5.131.3790.1289 (srv03_sp1_rc1.041202-1618) 168.50
KB (172,544 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\cryptnet.dll
sensapi 5.2.3790.0 (srv03_rtm.030324-2048) 11.50 KB (11,776
bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\sensapi.dll
rdpclip 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 209.50
KB (214,528 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\rdpclip.exe
urlmon 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 1.52 MB
(1,594,368 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\urlmon.dll
explorer 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 1.64 MB
(1,720,320 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\explorer.exe
browseui 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 2.42 MB
(2,542,080 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\browseui.dll
shdocvw 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 3.49 MB
(3,657,216 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\shdocvw.dll
themeui 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 890.50
KB (911,872 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\themeui.dll
msimg32 5.2.3790.0 (srv03_rtm.030324-2048) 7.00 KB (7,168 bytes)
12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\msimg32.dll
linkinfo 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 46.50 KB
(47,616 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\linkinfo.dll
ntshrui 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 244.00
KB (249,856 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\ntshrui.dll
msi 3.1.4000.1289 5.70 MB (5,980,160 bytes)
12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\msi.dll
webcheck 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 698.50
KB (715,264 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\webcheck.dll
stobject 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 175.00
KB (179,200 bytes) 12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\stobject.dll
batmeter 6.00.3790.0 (srv03_rtm.030324-2048) 55.50 KB (56,832
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\batmeter.dll

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powrprof 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 44.00 KB
(45,056 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\powrprof.dll
browselc 6.00.3790.0 (srv03_rtm.030324-2048) 61.50 KB (62,976
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\browselc.dll
mlang 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 813.00
KB (832,512 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\mlang.dll
msxml3 8.70.1006.0 3.31 MB (3,472,384 bytes) 12/10/2004 1:17 PM
Microsoft Corporation c:\windows\system32\msxml3.dll
mstask 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 625.00
KB (640,000 bytes) 10/21/2004 10:20 AM Microsoft Corporation
c:\windows\system32\mstask.dll
cabview 6.00.3790.1289 (srv03_sp1_rc1.041202-1618) 152.00
KB (155,648 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\cabview.dll
sqlmangr 2000.080.0760.00 225.00 KB (230,400 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql
server\80\tools\bin\sqlmangr.exe
w95scm 2000.080.0760.00 133.50 KB (136,704 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\w95scm.dll
odbc32 3.526.1289.0 (srv03_sp1_rc1.041202-1618) 704.00
KB (720,896 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\odbc32.dll
sqlsvc 2000.080.0760.00 315.50 KB (323,072 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\sqlsvc.dll
odbcbc 2000.086.1289.0 (srv03_sp1_rc1.041202-1618) 52.00 KB
(53,248 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\odbcbc.dll
sqlresld 2000.080.0760.00 28.50 KB (29,184 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql server\80\tools\bin\sqlresld.dll
odbcint 3.526.1289.0 (srv03_sp1_rc1.041202-1618) 88.00 KB
(90,112 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\odbcint.dll
sqlsvc 2000.080.0760.00 2.00 KB (2,048 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql
server\80\tools\bin\resources\1033\sqlsvc.rll
sqlmangr 2000.080.0760.00 75.50 KB (77,312 bytes)
12/10/2004 3:37 PM Microsoft Corporation
c:\program files\microsoft sql
server\80\tools\bin\resources\1033\sqlmangr.rll
wuauclt 5.6.3790.1289 (srv03_sp1_rc1.041202-1618) 263.00
KB (269,312 bytes) 12/10/2004 1:59 PM Microsoft Corporation
c:\windows\system32\wuauclt.exe

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wuauclt 5.6.3790.1289 (srv03_sp1_rc1.041202-1618) 225.00
KB (230,400 bytes) 12/10/2004 1:59 PM Microsoft Corporation
cmd 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 507.00
KB (519,168 bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\cmd.exe
cimwin32 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 4.81 MB
(5,042,688 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\wbem\cimwin32.dll
framedyn 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 536.50
KB (549,376 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\wbem\framedyn.dll
ntevt 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 691.00
KB (707,584 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\wbem\ntevt.dll
provthrd 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 631.00
KB (646,144 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\wbem\provthrd.dll
msvcirt 7.0.3790.0 (srv03_rtm.030324-2048) 161.50 KB (165,376
bytes) 12/10/2004 1:17 PM Microsoft Corporation
c:\windows\system32\msvcirt.dll
msinfo 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 1.26 MB
(1,319,936 bytes) 10/21/2004 10:21 AM Microsoft Corporation
c:\windows\pchealth\helpctr\binaries\msinfo.dll
mf42u 6.50.4245.0 3.35 MB (3,510,272 bytes) 12/10/2004 1:17 PM
Microsoft Corporation c:\windows\system32\mf42u.dll
riched32 5.2.3790.0 (srv03_rtm.030324-2048) 5.00 KB (5,120 bytes)
12/10/2004 1:18 PM Microsoft Corporation
c:\windows\system32\riched32.dll
riched20 5.31.23.12231.38 MB (1,448,448 bytes) 12/10/2004 1:18 PM
Microsoft Corporation c:\windows\system32\riched20.dll
tscfgwmi 5.2.3790.1289 (srv03_sp1_rc1.041202-1618) 356.00
KB (364,544 bytes) 10/21/2004 10:19 AM Microsoft Corporation
c:\windows\system32\tscfgwmi.dll

```

[Services]

Display Name	Name	State	Start Mode	Service
Type	Path	Error Control	Start Name	Tag ID
Application Experience	Lookup Service	AeLookupSvc	Running	Auto
	Share Process		c:\windows\system32\svchost.exe -k	
netsvcs	Normal	LocalSystem	0	
Alerter	Alerter	Stopped	Disabled	Share Process
			c:\windows\system32\svchost.exe -k localservice	Normal
	NT AUTHORITY\LocalService		0	
Application Layer Gateway Service	ALG	Stopped	Manual	
	Own Process	c:\windows\system32\alg.exe		Normal
	NT AUTHORITY\LocalService		0	

Application Management Process	AppMgmt	Stopped	Manual	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Windows Audio Process	AudioSrv	Stopped	Disabled	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Background Intelligent Transfer Service	BITS	Stopped	Manual	Share	Normal
Share Process c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Computer Browser Process	Browser	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Indexing Service Process	ISvc	Stopped	Disabled	Share	Normal
c:\windows\system32\cisvc.exe LocalSystem 0					
ClipBook Process	ClipSrv	Stopped	Disabled	Own Process	Normal
c:\windows\system32\clipsrv.exe LocalSystem 0					
COM+ System Application Process	COMSysApp	Stopped	Manual	Own	Normal
c:\windows\system32\dlhhost.exe /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235} Normal LocalSystem 0					
Cryptographic Services Process	CryptSvc	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
DCOM Server Process Launcher	DcomLaunch	Running	Auto	Share	Normal
Share Process c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Distributed File System Process	Dfs	Stopped	Manual	Own	Normal
c:\windows\system32\dfssvc.exe LocalSystem 0					
DHCP Client	Dhcp	Running	Auto	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 Process	dmserver	Running	Auto	Share	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 Process	ERSvc	Running	Auto	Share	Ignore
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 Process	EventSystem	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					

Help and Support Process	helpsvc	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Human Interface Device Access	HidServ	Stopped	Manual	Share Process	Disabled
Share Process c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
HTTP SSL	HTTPFilter	Stopped	Manual	Share Process	Normal
c:\windows\system32\lsass.exe LocalSystem 0					
IAS Jet Database Access Process	IASJet	Stopped	Manual	Share	Normal
c:\windows\system32\svchost.exe -k iasjet LocalSystem 0					
IMAPI CD-Burning COM Service	ImapiService	Stopped	Manual	Share	Normal
Own Process c:\windows\system32\imapi.exe LocalSystem 0					
Intersite Messaging Process	IsmServ	Stopped	Disabled	Own	Normal
c:\windows\system32\ismerv.exe LocalSystem 0					
Kerberos Key Distribution Center	kdc	Stopped	Manual	Share Process	Disabled
Share Process c:\windows\system32\lsass.exe LocalSystem 0					
Server	lanmanserver	Running	Auto	Share Process	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Workstation Process	lanmanworkstation	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
License Logging	LicenseService	Stopped	Manual	Share Process	Disabled
Own Process c:\windows\system32\lssrv.exe NT AUTHORITY\NetworkService 0					
TCP/IP NetBIOS Helper Process	LmHosts	Running	Auto	Share	Normal
c:\windows\system32\svchost.exe -k localservice NT AUTHORITY\LocalService 0					
Messenger	Messenger	Stopped	Disabled	Share Process	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
NetMeeting Remote Desktop Sharing	mnmsrvc	Stopped	Manual	Share	Normal
Own Process c:\windows\system32\mnmsrvc.exe LocalSystem 0					
Distributed Transaction Coordinator	MSDTC	Running	Auto	Share Process	Normal
Own Process c:\windows\system32\msdtc.exe NT AUTHORITY\NetworkService 1					
Windows Installer Process	MSIExec	Stopped	Manual	Share	Normal
c:\windows\system32\msiexec.exe /v LocalSystem 0					
Microsoft Search Process	MSSEARCH	Running	Auto	Share	Normal
"c:\program files\common files\system\mssearch\bin\mssearch.exe" LocalSystem 0					
MSSQLSERVER	MSSQLSERVER	Stopped	Manual	Share Process	Normal
Own Process "c:\program files\microsoft sql server\mssql\bin\sqlservr.exe" -smssqlserver LocalSystem 0					

MSSQLServerADHelper	MSSQLServerADHelper	Stopped	Manual	Share Process	Normal
Own Process c:\program files\microsoft sql server\80\tools\bin\sqladhlp.exe Normal LocalSystem 0					
MSSQLServerOLAPService	MSSQLServerOLAPService	Stopped	Manual	Share Process	Normal
Own Process "c:\program files\microsoft analysis services\bin\msmdsrv.exe" Normal LocalSystem 0					
Network DDE	NetDDE	Stopped	Disabled	Share Process	Normal
c:\windows\system32\netdde.exe LocalSystem 0					
Network DDE DSDM Process	NetDDEdsdm	Stopped	Disabled	Share	Normal
c:\windows\system32\netdde.exe LocalSystem 0					
Net Logon	Netlogon	Stopped	Manual	Share Process	Normal
c:\windows\system32\lsass.exe LocalSystem 0					
Network Connections Process	Netman	Running	Manual	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Network Location Awareness (NLA)	Nla	Running	Manual	Share Process	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
File Replication Process	NtFrs	Stopped	Manual	Own	Ignore
c:\windows\system32\ntfrs.exe LocalSystem 0					
NT LM Security Support Provider	NtLmSsp	Running	Manual	Share Process	Normal
c:\windows\system32\lsass.exe LocalSystem 0					
Removable Storage Process	NtmsSvc	Stopped	Manual	Share	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Plug and Play	PlugPlay	Running	Auto	Share Process	Normal
c:\windows\system32\services.exe LocalSystem 0					
IPSEC Services Process	PolicyAgent	Running	Auto	Share	Normal
c:\windows\system32\lsass.exe LocalSystem 0					
Protected Storage	ProtectedStorage	Running	Auto	Share Process	Normal
c:\windows\system32\lsass.exe LocalSystem 0					
Remote Access Auto Connection Manager	RasAuto	Stopped	Manual	Share Process	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Remote Access Connection Manager	RasMan	Stopped	Manual	Share Process	Normal
c:\windows\system32\svchost.exe -k netsvcs LocalSystem 0					
Remote Desktop Help Session Manager	RDSessMgr	Stopped	Manual	Share Process	Normal
Own Process c:\windows\system32\sessmgr.exe LocalSystem 0					

Routing and Remote Access	RemoteAccess	Stopped	Windows Image Acquisition (WIA)	stisvc	Stopped	Disabled	Windows Management Instrumentation	Driver Extensions	Wmi
Disabled	Share Process		Share Process	c:\windows\system32\svchost.exe -k			Stopped	Manual	Share Process
c:\windows\system32\svchost.exe -k netsvcs	Normal		imgsvc	Normal	NT AUTHORITY\LocalService	0	c:\windows\system32\svchost.exe -k netsvcs	Normal	Own
Remote Registry	RemoteRegistry	Running	Microsoft Software Shadow Copy Provider	swprv	Stopped		WMI Performance	WmiApSrv	Stopped
Share Process	c:\windows\system32\svchost.exe -k		Manual	Own Process	c:\windows\system32\svchost.exe -k		Process	c:\windows\system32\wbem\wmiapsrv.exe	Normal
regsvc	Normal	NT AUTHORITY\LocalService	0	Performance Logs and Alerts	SysmonLog	Stopped	Automatic Updates	wuauerv	Running
				Own Process	c:\windows\system32\smlogsvc.exe	0	Process	c:\windows\system32\svchost.exe -k netsvcs	Auto
Remote Procedure Call (RPC) Locator	RpcLocator	Stopped	NT Authority\NetworkService	0	Normal		Wireless Configuration	WZCSVC	Running
Own Process	c:\windows\system32\locator.exe	Manual	Telephony	TapiSrv	Stopped	Manual	Process	c:\windows\system32\svchost.exe -k netsvcs	Auto
NT AUTHORITY\NetworkService	0	Normal	c:\windows\system32\svchost.exe -k tapisrv	Normal			LocalSystem	0	Share
Remote Procedure Call (RPC)	RpcSs	Running	Terminal Services	TermService	Running	Manual	Network Provisioning Service	xmlprov	Stopped
Share Process	c:\windows\system32\svchost.exe -k	Auto	Process	c:\windows\system32\svchost.exe -k termsvcs	Normal	Share Process	Share Process	c:\windows\system32\svchost.exe -k	Manual
rpcss	Normal	NT AUTHORITY\NetworkService	0	Themes	Themes	Stopped	netsh	Normal	LocalSystem
				Themes	Stopped	Disabled	[Program Groups]		
Resultant Set of Policy Provider	RSoPProv	Stopped	Telnet	TIntSvr	Stopped	Disabled	Group Name	Name	User Name
Share Process	c:\windows\system32\rsopprov.exe	Manual	Authority\LocalService	0	Own Process	Normal	Accessories	Default User:Accessories	Default User
Normal	LocalSystem	0	Distributed Link Tracking Server	TrkSvr	Stopped	Disabled	Accessories\Accessibility	Default User:Accessories\Accessibility	Default User
Special Administration Console Helper	sacsvr	Running	Share Process	c:\windows\system32\svchost.exe -k			User		
Share Process	c:\windows\system32\svchost.exe -k	Manual	netsh	Normal	LocalSystem	0	Accessories\Entertainment	Default User:Accessories\Entertainment	Default User
netsh	Normal	LocalSystem	0	Distributed Link Tracking Client	TrkWks	Running	User		
Security Accounts Manager	SamSs	Running	Share Process	c:\windows\system32\svchost.exe -k			Startup	Default User:Startup	Default User
Process	c:\windows\system32\lsass.exe	Auto	netsh	Normal	LocalSystem	0	Accessories	All Users:Accessories	All Users
LocalSystem	0	Share	Terminal Services Session Directory	Tssdis	Stopped	Disabled	Accessories\Accessibility	All Users:Accessories\Accessibility	All Users
Smart Card	SCardSvr	Stopped	LocalSystem	0	Normal		Accessories\Communications	All Users	
Authority\LocalService	0	Manual	Uninterruptible Power Supply	UPS	Stopped	Manual	Users:Accessories\Communications	All Users	
Task Scheduler	Schedule	Running	Own Process	c:\windows\system32\ups.exe	0	Normal	Accessories\Entertainment	All Users:Accessories\Entertainment	All Users
Process	c:\windows\system32\svchost.exe -k	Auto	NT AUTHORITY\LocalService	0			Accessories\System Tools	All Users:Accessories\System Tools	All Users
LocalSystem	0	Share	Virtual Disk Service	vds	Stopped	Manual	Administrative Tools	All Users:Administrative Tools	All Users
Secondary Logon	seclogon	Running	Process	c:\windows\system32\vds.exe	Normal	Own	HP SAN Utilities	All Users:HP SAN Utilities	All Users
Process	c:\windows\system32\svchost.exe -k	Auto	Volume Shadow Copy	VSS	Stopped	Manual	HP System Tools	All Users:HP System Tools	All Users
LocalSystem	0	Ignore	Process	c:\windows\system32\vssvc.exe	Normal	Own	Tools\HP Array Configuration Utility	All Users	
System Event Notification	SENS	Running	LocalSystem	0			Tools\HP Array Diagnostic Utility	All Users:HP System Tools	
Process	c:\windows\system32\svchost.exe -k	Auto	Windows Time	W32Time	Running	Auto	Tools\HP Array Diagnostic Utility	All Users	
LocalSystem	0	Share	Process	c:\windows\system32\svchost.exe -k	localservice	Normal	Microsoft SQL Server	All Users:Microsoft SQL Server	All Users
Windows Firewall/Internet Connection Sharing (ICS)	SharedAccess	Stopped	WebClient	WebClient	Stopped	Disabled	Startup	All Users:Startup	All Users
Stopped	Disabled	Share Process	Process	c:\windows\system32\svchost.exe -k	localservice	Normal	Accessories	NT AUTHORITY\SYSTEM:Accessories	NT AUTHORITY\SYSTEM
LocalSystem	0	Normal	WinHTTP Web Proxy Auto-Discovery Service	WinHttpAutoProxySvc	Stopped	Manual	Accessories\Accessibility	NT AUTHORITY\SYSTEM:Accessories\Accessibility	NT AUTHORITY\SYSTEM
Shell Hardware Detection	ShellHWDetection	Running	Stopped	Manual	Share Process		Accessories\Accessibility	NT AUTHORITY\SYSTEM:Accessories\Accessibility	NT AUTHORITY\SYSTEM
Ignore	LocalSystem	0	Windows Management Instrumentation	wimgmt	Running	Auto	NT AUTHORITY\SYSTEM		
Print Spooler	Spooler	Running	Share Process	c:\windows\system32\svchost.exe -k	localservice	Normal			
Process	c:\windows\system32\spoolsv.exe	Auto	netsh	Ignore	LocalSystem	0			
LocalSystem	0	Own Process							
SQLSERVERAGENT	SQLSERVERAGENT	Stopped							
Own Process	"c:\program files\microsoft sql server\mssql\bin\sqlagent.exe" -i mssqlserver	Manual							
LocalSystem	0	Normal							

Accessories\Entertainment NT
 AUTHORITY\SYSTEM:Accessories\Entertainment NT
 AUTHORITY\SYSTEM
 Startup NT AUTHORITY\SYSTEM:Startup NT
 AUTHORITY\SYSTEM
 Accessories SQLOLY\Administrator:Accessories SQLOLY\Administrator

Accessories\Accessibility SQLOLY\Administrator:Accessories\Accessibility SQLOLY\Administrator
 Accessories\Entertainment SQLOLY\Administrator:Accessories\Entertainment SQLOLY\Administrator
 Administrative Tools SQLOLY\Administrator:Administrative Tools SQLOLY\Administrator
 HP SAN Utilities SQLOLY\Administrator:HP SAN Utilities SQLOLY\Administrator
 QLogic Corporation SQLOLY\Administrator:QLogic Corporation SQLOLY\Administrator
 QLogic Corporation\SANblade Control VIX SQLOLY\Administrator:QLogic Corporation\SANblade Control SQLOLY\Administrator
 VIX SQLOLY\Administrator
 Startup SQLOLY\Administrator:Startup SQLOLY\Administrator

[Startup Programs]

Program	Command	User Name	Location	Startup
desktop	desktop.ini	NT AUTHORITY\SYSTEM	Startup	Startup
desktop	desktop.ini	SQLOLY\Administrator	Startup	Startup
desktop	desktop.ini	.DEFAULT	Startup	Startup
desktop	desktop.ini	All Users	Common Startup	Startup

Service Manager
 c:\progra~1\micro~2\80\tools\bin\sqlmangr.exe /n All Users
 Common Startup

[OLE Registration]

Object	Local Server
Sound (OLE2)	sndrec32.exe
Media Clip	mplay32.exe
Video Clip	mplay32.exe /avi
MIDI Sequence	mplay32.exe /mid
Sound	Not Available
Media Clip	Not Available
WordPad Document	"%programfiles%\windows nt\accessories\wordpad.exe"
Bitmap Image	mspaint.exe

[Windows Error Reporting]

Time	Type	Details
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2/1/2005 9:44 AM Application Hang Hanging application taskmgr.exe, version 5.2.3790.1289, hang module hungapp, version 0.0.0.0, hang address 0x0000000000000000.
 1/17/2005 4:13 PM Application Hang Hanging application notepad.exe, version 5.2.3790.1289, hang module hungapp, version 0.0.0.0, hang address 0x0000000000000000.
 1/11/2005 4:13 PM Application Hang Hanging application mmc.exe, version 5.2.3790.1289, hang module hungapp, version 0.0.0.0, hang address 0x0000000000000000.

[Internet Settings]

[Internet Explorer]

[Following are sub-categories of this main category]
 [Summary]

Item	Value
Version	6.0.3790.1289
Build	63790.1289
Application Path	C:\Program Files\Internet Explorer
Language	English (United States)
Active Printer	17-1147-a on prn-corp1 (from V-JASGOE01) in session 1,winspool,TS004

Cipher Strength	128-bit
Content Advisor	Disabled
IEAK Install	No

[File Versions]

File	Version	Size	Date	Path	Company
actxprxy.dll	6.0.3790.1289	237 KB	12/2/2004 8:57:34 PM	C:\WINDOWS\system32	Microsoft Corporation
advpack.dll	6.0.3790.1289	260 KB	12/2/2004 8:57:34 PM	C:\WINDOWS\system32	Microsoft Corporation
asctrls.ocx	6.0.3790.0	219 KB	3/25/2003 1:18:37 PM	C:\WINDOWS\system32	Microsoft Corporation
browsecl.dll	6.0.3790.0	62 KB	3/25/2003 1:16:19 PM	C:\WINDOWS\system32	Microsoft Corporation
browseui.dll	6.0.3790.1289	2,483 KB	12/2/2004 8:57:36 PM	C:\WINDOWS\system32	Microsoft Corporation
cdfview.dll	6.0.3790.1289	302 KB	12/2/2004 8:57:36 PM	C:\WINDOWS\system32	Microsoft Corporation
comctl32.dll	5.82.3790.1289	1,764 KB	12/2/2004 8:58:45 PM	C:\WINDOWS\system32	Microsoft Corporation
dxtrans.dll	6.3.3790.1289	618 KB	12/2/2004 8:58:51 PM	C:\WINDOWS\system32	Microsoft Corporation
dxtmsft.dll	6.3.3790.1289	986 KB	12/2/2004 8:58:51 PM	C:\WINDOWS\system32	Microsoft Corporation

iecont.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iecont.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iedkcs32.dll	16.0.3790.1289	700 KB	12/2/2004 8:57:44 PM	C:\WINDOWS\system32	Microsoft Corporation
iepeers.dll	6.0.3790.1289	699 KB	12/2/2004 8:58:55 PM	C:\WINDOWS\system32	Microsoft Corporation
iesetup.dll	6.0.3790.1289	98 KB	12/2/2004 8:57:44 PM	C:\WINDOWS\system32	Microsoft Corporation
ieuinit.inf	Not Available	24 KB	12/2/2004 5:14:38 PM	C:\WINDOWS\system32	Not Available
ieexplore.exe	6.0.3790.1289	108 KB	12/2/2004 6:59:37 PM	C:\Program Files\Internet Explorer	Microsoft Corporation
imgutil.dll	6.0.3790.1289	114 KB	12/2/2004 8:57:45 PM	C:\WINDOWS\system32	Microsoft Corporation
inetctl.cpl	6.0.3790.1289	665 KB	12/2/2004 8:58:57 PM	C:\WINDOWS\system32	Microsoft Corporation
inetctl.dll	6.0.3790.0	108 KB	3/25/2003 1:17:29 PM	C:\WINDOWS\system32	Microsoft Corporation
inseng.dll	6.0.3790.1289	276 KB	12/2/2004 8:57:45 PM	C:\WINDOWS\system32	Microsoft Corporation
mlang.dll	6.0.3790.1289	813 KB	12/2/2004 8:58:31 PM	C:\WINDOWS\system32	Microsoft Corporation
msencode.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
mshta.exe	6.0.3790.1289	68 KB	12/2/2004 6:55:58 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.dll	6.0.3790.1289	9,066 KB	12/2/2004 8:58:30 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.tlb	6.0.3790.1289	1,319 KB	12/2/2004 5:09:16 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtmlmed.dll	6.0.3790.1289	1,495 KB	12/2/2004 8:58:29 PM	C:\WINDOWS\system32	Microsoft Corporation
mshtmlr.dll	6.0.3790.1289	56 KB	12/2/2004 5:09:18 PM	C:\WINDOWS\system32	Microsoft Corporation
msident.dll	6.0.3790.1289	145 KB	12/2/2004 8:57:50 PM	C:\WINDOWS\system32	Microsoft Corporation
msidntld.dll	6.0.3790.0	14 KB	3/25/2003 1:17:49 PM	C:\WINDOWS\system32	Microsoft Corporation
msieftp.dll	6.0.3790.1289	579 KB	12/2/2004 8:57:50 PM	C:\WINDOWS\system32	Microsoft Corporation
msrating.dll	6.0.3790.1289	415 KB	12/2/2004 8:59:02 PM	C:\WINDOWS\system32	Microsoft Corporation
mstime.dll	6.0.3790.1289	1,799 KB	12/2/2004 8:59:02 PM	C:\WINDOWS\system32	Microsoft Corporation
occache.dll	6.0.3790.1289	218 KB	12/2/2004 8:59:03 PM	C:\WINDOWS\system32	Microsoft Corporation
proctexe.ocx	<File Missing>	Not Available	Not Available	Not Available	Not Available

sendmail.dll	6.0.3790.1289	109 KB	12/2/2004 8:58:01 PM
	C:\WINDOWS\system32	Microsoft Corporation	
shdoclc.dll	6.0.3790.0	588 KB	3/25/2003 8:45:14 AM
	C:\WINDOWS\system32	Microsoft Corporation	
shdocvw.dll	6.0.3790.1289	3,572 KB	12/2/2004 8:58:18 PM
	C:\WINDOWS\system32	Microsoft Corporation	
shfolder.dll	6.0.3790.1289	42 KB	12/2/2004 8:58:01 PM
	C:\WINDOWS\system32	Microsoft Corporation	
shlwapi.dll	6.0.3790.1289	803 KB	12/2/2004 8:58:15 PM
	C:\WINDOWS\system32	Microsoft Corporation	
tdc.ocx	1.3.0.3130	177 KB	3/25/2003 1:18:38 PM
	C:\WINDOWS\system32	Microsoft Corporation	
url.dll	6.0.3790.1289	49 KB	12/2/2004 8:58:08 PM
	C:\WINDOWS\system32	Microsoft Corporation	
urlmon.dll	6.0.3790.1289	1,557 KB	12/2/2004 8:58:20 PM
	C:\WINDOWS\system32	Microsoft Corporation	
webcheck.dll	6.0.3790.1289	699 KB	12/2/2004 8:58:29 PM
	C:\WINDOWS\system32	Microsoft Corporation	
wininet.dll	6.0.3790.1289	1,656 KB	12/2/2004 8:58:20 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
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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	Low
Internet	Custom
Restricted sites	Custom

RTE Input Parameters

3Tier.pro

Profile:	3T_12DE_12WC_26592wh_New
File Path:	C:\Oly\Benchcraft\3T_12DE_12WC_26592wh_New.xml
Version:	4

Number of Engines: 24

Name: DRIVER01
Description:
Directory: c:\olylog.21.1
Machine: w21
Parameter Set: Audit
Index: 0
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER1-1433709671
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0
Additional Options:

Name: DRIVER02
Description:
Directory: c:\olylog.21.2
Machine: w21
Parameter Set: Audit
Index: 10000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER2-1433658218
Connect Rate: 30
Start Rate: 0

Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Name: DRIVER03
Description:
Directory: c:\olylog.22.1
Machine: w22
Parameter Set: Audit
Index: 20000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER3-1433643156
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0

Additional Options:

Name: DRIVER04
Description:
Directory: c:\olylog.22.2
Machine: w22
Parameter Set: Audit
Index: 30000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER4-1433631734
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1

Additional Options:

Name: DRIVER05
Description:
Directory: c:\olylog.23.1
Machine: w23
Parameter Set: Audit
Index: 40000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER5-1433617750
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0

Additional Options:

Name: DRIVER06
Description:
Directory: c:\olylog.23.2
Machine: w23
Parameter Set: Audit
Index: 50000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER6-1433579734
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1

Additional Options:

Name: DRIVER07
Description:
Directory: c:\olylog.24.1
Machine: w24
Parameter Set: Audit
Index: 60000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER7-1433567468
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0

Additional Options:

Name: DRIVER08
Description:
Directory: c:\olylog.24.2
Machine: w24
Parameter Set: Audit
Index: 70000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER8-1433555312
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1

Additional Options:

Name: DRIVER09
Description:
Directory: c:\olylog.25.1
Machine: w25
Parameter Set: Audit
Index: 80000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER9-1433543796
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0

Additional Options:

Name: DRIVER10
Description:

Name: DRIVER11
Description:
Directory: c:\olylog.25.2
Machine: w25
Parameter Set: Audit
Index: 90000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER10-1433517406
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1

Additional Options:

Name: DRIVER11
Description:
Directory: c:\olylog.26.1
Machine: w26
Parameter Set: Audit
Index: 10000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER11-1433487218
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0

Additional Options:

Name: DRIVER12

Description:
Directory: c:\olylog.26.2
Machine: w26
Parameter Set: Audit
Index: 11000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER12-1433384468
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1

Additional Options:

Name: DRIVER13
Description:
Directory: c:\olylog.27.1

Machine: w27
Parameter Set: Audit
Index: 120000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER13-1433372375
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0
Additional Options:

Name: DRIVER14
Description:
Directory: c:\olylog.27.2
Machine: w27
Parameter Set: Audit
Index: 130000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER14-1433356953
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Name: DRIVER15
Description:
Directory: c:\olylog.28.1
Machine: w28
Parameter Set: Audit
Index: 140000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER15-143338984
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0
Additional Options:

Name: DRIVER16
Description:
Directory: c:\olylog.28.2
Machine: w28

Name: DRIVER17
Description:
Directory: c:\olylog.29.1
Machine: w29
Parameter Set: Audit
Index: 160000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER17-1433291578
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Name: DRIVER18
Description:
Directory: c:\olylog.29.2
Machine: w29
Parameter Set: Audit
Index: 170000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER18-1433282015
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Name: DRIVER19
Description:
Directory: c:\olylog.30.1
Machine: w30
Parameter Set: Audit
Index: 180000000
Seed: 82204

Name: DRIVER20
Description:
Directory: c:\olylog.30.2
Machine: w30
Parameter Set: Audit
Index: 190000000
Seed: 82204

Name: DRIVER21
Description:
Directory: c:\olylog.31.1
Machine: w31
Parameter Set: Audit
Index: 200000000
Seed: 82204
Configured Users: 11080

Name: DRIVER22
Description:
Directory: c:\olylog.31.2
Machine: w31
Parameter Set: Audit
Index: 210000000
Seed: 82204
Configured Users: 11080

Name: DRIVER23
Description:
Directory: c:\olylog.31.3
Machine: w31
Parameter Set: Audit
Index: 220000000
Seed: 82204
Configured Users: 11080

Name: DRIVER24
Description:
Directory: c:\olylog.31.4
Machine: w31
Parameter Set: Audit
Index: 230000000
Seed: 82204
Configured Users: 11080

Pipe Name: DRIVER22-1433237843
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Name: DRIVER23
Description:
Directory: c:\olylog.32.1
Machine: w32
Parameter Set: Audit
Index: 220000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER23-1433209015
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 0
Additional Options:

Name: DRIVER24
Description:
Directory: c:\olylog.32.2
Machine: w32
Parameter Set: Audit
Index: 230000000
Seed: 82204
Configured Users: 11080
Pipe Name: DRIVER24-1433053515
Connect Rate: 30
Start Rate: 0
Max. Concurrency: -1
Concurrency Rate: 10
CLIENT_NURAND: 233
CPU: 1
Additional Options:

Number of User groups: 24

Driver Engine: DRIVER01
IIS Server: dl1
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 1 - 1108

w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER02
IIS Server: dl1
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 1109 - 2216
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER03
IIS Server: dl2
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 2217 - 3324
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER04
IIS Server: dl2
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 3325 - 4432
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER05
IIS Server: dl3
SQL Server: via:sqloly
Database: tpcc
User: sa

w_id Range: 4433 - 5540
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER06
IIS Server: dl3
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 5541 - 6648
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER07
IIS Server: dl4
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 6649 - 7756
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER08
IIS Server: dl4
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 7757 - 8864
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER09

IIS Server: dl5
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 8865 - 9972
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER10
IIS Server: dl5
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 9973 - 11080
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER11
IIS Server: dl6
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 11081 - 12188
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER12
IIS Server: dl6
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 12189 - 13296
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080

Scale Down: No

Driver Engine: DRIVER13
IIS Server: dl7
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 13297 - 14404
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER14
IIS Server: dl7
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 14405 - 15512
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER15
IIS Server: dl8
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 15513 - 16620
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER16
IIS Server: dl8
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 16621 - 17728
w_id Min Warehouse: 1
w_id Max Warehouse: 26592

Scale Down: No

User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER17
IIS Server: dl9
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 17729 - 18836
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER18
IIS Server: dl9
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 18837 - 19944
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER19
IIS Server: dl10
SQL Server: via:sqloly
Database: tpcc
User: sa
Protocol: HTML

w_id Range: 19945 - 21052
w_id Min Warehouse: 1
w_id Max Warehouse: 26592
Scale: Normal
User Count: 11080
District id: 1
Scale Down: No

Driver Engine: DRIVER20
IIS Server: dl10
SQL Server: via:sqloly
Database: tpcc
User: sa

Protocol: HTML
 w_id Range: 21053 - 22160
 w_id Min Warehouse: 1
 w_id Max Warehouse: 26592
 Scale: Normal
 User Count: 11080
 District id: 1
 Scale Down: No

Driver Engine: DRIVER21
 IIS Server: dl11
 SQL Server: via:sqloly
 Database: tpcc
 User: sa
 Protocol: HTML
 w_id Range: 22161 - 23268
 w_id Min Warehouse: 1
 w_id Max Warehouse: 26592
 Scale: Normal
 User Count: 11080
 District id: 1
 Scale Down: No

Driver Engine: DRIVER22
 IIS Server: dl11
 SQL Server: via:sqloly
 Database: tpcc
 User: sa
 Protocol: HTML
 w_id Range: 23269 - 24376
 w_id Min Warehouse: 1
 w_id Max Warehouse: 26592
 Scale: Normal
 User Count: 11080
 District id: 1
 Scale Down: No

Driver Engine: DRIVER23
 IIS Server: dl12
 SQL Server: via:sqloly
 Database: tpcc
 User: sa
 Protocol: HTML
 w_id Range: 24377 - 25484
 w_id Min Warehouse: 1
 w_id Max Warehouse: 26592
 Scale: Normal
 User Count: 11080
 District id: 1
 Scale Down: No

Driver Engine: DRIVER24

SQL Server: via:sqloly
 Database: tpcc
 User: sa
 Protocol: HTML
 w_id Range: 25485 - 26592
 w_id Min Warehouse: 1
 w_id Max Warehouse: 26592
 Scale: Normal
 User Count: 11080
 District id: 1
 Scale Down: No

Number of Parameter Sets: 1

		Audit				
		Audit parms				
		Txn	Think	Key	RT	RT
Menu	Delay	Weight	Time	Time	Delay	Fence
		New Order	44.95	12.05		18.01
0.10		5.00	0.10			
		Payment	43.02	12.05		3.01
0.10		5.00	0.10			
		Delivery	4.01	5.05		2.01
0.10		5.00	0.10			
		Stock Level	4.01	5.05		2.01
0.10		20.00	0.10			
		Order Status	4.01	10.05		2.01
0.10		5.00	0.10			

Appendix D 60 Day Space Requirements

TPC-C 60 Day Space Requirements						
Warehouses	28000				TpmC	332,265.87
Table	Rows	Data KB	Index KB	Extra 5% KB	8hr Space	Total Space KB
Warehouse	28000	3032	200	162		3394
District	280000	31632	3272	1,745		36649
Customer	840000000	610909136	38142816	32,452,598		681504550
History	840419338	50380896	348360		11,370,935	50729256
NewOrder	252033197	4912968	22608	246,779		5182355
Orders	840424848	27961856	82464		15,358,918	28044320
OrderLine	2147483647	560897496	1567360		145,216,600	562464856
Item	100000	9528	224	488		10240
Stock	2147483647	896000000	1918216	44,895,911		942814127
Total		2,151,106,544	42,085,520	77,597,682	171,946,452	2,270,789,746
	MB					
Dynamic Space	624,258	Sum of Data for Order, Orderline and History				
Static Space	1,593,310	Sum of Data+Index+5%-Dynamic Space				
Free Space	na	Total Allocated Spac - (Dynamic + Static Space)				
Daily Growth	118,526	(Dynamic Space/(W*62.5))*tpmc				
Daily Spread	-	(Free Space -1.5*Daily Growth) Zero Assumed				
60 Day Space MB	8,704,841					
60 Day Space GB	8,500.82	GB				
Log Size	59,999.99	MB				
KB Per New Order	4.85	KB				
8 hr log MB	754,726	MB				
8 hr log GB	737.0372	GB				
		Disks	Disks	Formatted Size	Space	
Space Usage	GB Needed	Measured	Size	Size	Available	
180 Day Space DB	8,500.82	644.00	18GB	16.90	10,883.60	
		28.00	36GB	33.40	935.20	
			4GB	4.00	-	
Total DB		672.00			11,818.80	
8-hr log + mirror	1,474.07	14.00	146GB	136.70	1,913.80	
OS, Swap	3.00	1.00	36.00	33.40	33.40	
Total Storage	9,977.90	GB			13,766.00	

Appendix E 3rd Party Pricing

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
<http://www.microsoft.com/>

Microsoft

January 17, 2005

Hewlett-Packard
Company
Gunter Zink
One Microsoft Way
Redmond, WA 98052

Mr. Zink:

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
810-00560	SQL Server 2000 Enterprise Edition <i>Per Processor Licensing</i> <i>Discount Schedule: Open Program - Level C</i> <i>Unit Price reflects a 17% discount from the retail unit price of \$19,999.</i>	\$16,541	16	\$264,656
C11-00821	Windows 2000 Server <i>Server License Only - No CALs</i> <i>Discount Schedule: No Level</i> <i>Unit Price reflects a 8% discount from the retail unit price of \$799.</i>	\$738	12	\$8,856
254-00170	Visual C++ Standard Edition <i>Discount Schedule: No Discounts Applied</i>	\$109	1	\$109
	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.

This quote is valid for the next 90 days.

If we can be of any further assistance, please contact Jamie Reding at (425) 703-0510 or jamiere@microsoft.com.

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Shipping: Same Day

Available in our warehouse; Usually ships same day if ordered before 5 p.m. CT.

QLogic SANbox 5200 - switch



Product ID

CDW Part: 583029
 Mfg. Part: SB5200-16A
 UNSPSC: 43222612

Usually Ships:  [Same Day](#)

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Main Features

- SANbox 5200 product with (16) 2-Gbit ports enabled.

The benefits of stackable IP switches are now available for SANs. The SANbox 5200 stackable switch delivers seamless scalability and performance of a chassis switch, in an easy-to-manage, pay-as-you-grow solution. With sixteen 2Gb ports plus a four-pack of high-speed 10Gb ISL ports, and entry as low as 8 ports with 4-port software-keyed increments, and built-in graphical user interface (GUI) wizards, each 5200 stackable switch provide maximum flexibility for configuring, managing and scaling SANs.



Product Pricing

Price: **\$4,979.99**
(\$149.65/month)

Qty:

Related Top Sellers

Service Packs



[QLogic SANtrack Exchange - extended service agreement - 3 years](#)
\$999.11

[QLogic SANtrack Select - extended service agreement - 1 year](#)
\$1,099.47

[QLogic SANtrack Prime - extended service agreement - 1 year](#)
\$1,459.44

Alternative Products

QLogic SANtrack Exchange - extended service agreement - 3 years



Services

Product ID

CDW Part: 626899
Mfg. Part: EXCHANGE-SB5200
UNSPSC: 81111812

Usually Ships: [2+ Weeks](#)

[Send To An Associate](#)
 [Find Similar Products](#)

Product Pricing

Price: **\$999.11**

Qty:

1

Add to Cart

Related Top Sellers

Alternative Products



Services

[QLogic SANtrack Prime - extended service agreement - 1 year](#)

\$1,459.44




[Overview](#) [Specs](#)

Main Features

- Extended service agreement
- replacement
- 3 years
- on-site
- 12x5
- NBD

QLogic understands the unique needs and complexities of each and every storage area network (SAN). As a result, QLogic's SANtrack service program provides customers with a flexible way to create a unique service package designed specifically to meet your distinct business requirements.

The SANtrack Exchange extends the switch factory warranty to three years and adds an advanced exchange option. The extended warranty period is calculated from the time of original factory shipment. The Exchange Service product can only be ordered prior to the expiration of the original warranty. Advanced exchange is next business day delivery for North America or second business day in Europe.

 Hewlett Packard Company		HP Server rx8620			TPCC Rev. 5.1	
				Report Date:		
Description	Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price
rx8620 16-way SMP Base System ind cell boards, core IO, power supplies, PCI-X backplan,						
16x1.6ghz Intel Itanium 2 6M processors	1	AB240A002	\$263,995	1	\$263,995	\$117,292
16GB SDRAM (4x4GB DIMMs)	1	AB322A	\$45,000	16	\$720,000	
PCI-x I/O chassis	1	A6434A	\$29,995	1	\$29,995	
36GB Hot Plug Ultra 320 SCSI (15K rpm)	1	A9880A	\$1,995	1	\$1,995	
Qlogic QLA-2360 Fibre-Channel V Adapter	1	A380975	\$1,256	4	\$5,024	
2GB PCI-X FC HBA	1	AB232A	\$1,550	1	\$1,550	
HP Smart Array Controller 6404	1	A9826A	\$2,399	12	\$28,788	
StorageWorks MSA30 SB	1	302969B21	\$2,978	48	\$142,944	
Support 3yrs 24x7	1	171242002	\$157	48		\$8,792
36GB, 15krpm Ultra3 Wide disk	1	286776B22	\$299	672	\$200,928	
36GB, 15krpm Ultra3 Wide disk (10% spares)	1	286776B22	\$299	68	\$20,332	
Modular Storage Array 1000	1	201723B22	\$6,995	1	\$6,995	
MSA1000 controller	1	218231B22	\$4,290	1	\$4,290	
Support 3yrs 24x7	1	402164002	\$3,538	1		\$7,076
146GB, 10krpm disk	1	286716B22	\$599	14	\$8,386	
146GB, 10krpm disk (10% spares)	1	286716B22	\$599	2	\$1,198	
HP9000 Standard Rack System E41	1	A4802D	\$1,910	5	\$9,550	
5m LC to LC Cable Kit	1	221692B22	\$82	1	\$82	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470B21	\$199	1	\$199	
HP Power Distribution Unit 120-240V	1	A5137AZ	\$145	6	\$870	
TA6300 Enclosure for DAT tape	1	C7508AZ	\$1,045	1	\$1,045	\$2,125
DVD Rom drive	1	C7499B	\$515	1	\$515	
DAT Tape	1	C7497B	\$1,049	1	\$1,049	
Server Subtotal					\$1,449,730	\$135,285
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372Aopt016	\$32,000	1	\$32,000	ind. line 4
Server Software Subtotal					\$32,000	\$0
DL140 Dual 3.06GHz Xeon 1GB 80GB ATA	1	366533B21	\$1,799	12	\$21,588	
1GB PC2100 ECC DDR	1	351109B21	\$419	12	\$5,028	
17" S7500 CRT Monitor	1	P9008A#ABA	\$149	1	\$149	
Tripp Lite 16-port KVM Switch USB	3	E022-016	\$555	1	\$555	
Qlogic QLA-2360 Fibre-Channel V Adapter (ind. spares)	1	A380975	\$1,256	14	\$17,584	
5m LC to LC Cable Kit	1	221692B22	\$82	16	\$1,312	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470B21	\$199	16	\$3,184	
HP 3 Yr. 4h 24x7 ProLiant DL140 Hardware Support	1	U8510E	\$469	12		\$5,628
Client Subtotal					\$49,410	\$5,628
HP's Large Configuration Discount*	* Discounts:				\$433,755	\$41,196
Total:					\$1,097,385	\$99,717
* All discounts are based on US list prices and for similar quantities and configurations					3 year cost of ownership: \$1,197,102	