UNISYS

TPC Benchmark™ C Full Disclosure Report

Unisys ES7000/600 Enterprise Server (8P)

using

Microsoft SQL Server 2005 Enterprise x64 Edition

on

Microsoft Windows Server 2003, Enterprise x64 Edition

First Edition
November 7, 2005

First Edition – November 2005

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All performance data contained in this report was obtained in a rigorously controlled environment, and therefore results obtained in other operating environments may vary significantly. Unisys Corporation and Microsoft Corporation do not warrant or represent that a user can or will achieve similar performance expressed in transactions per minute (tpmC) or normalized price/performance (USD/tpmC). No warranty of system performance or price/performance is expressed or implied in this report.

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Printed in USA, November 2005.

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Overview

This report documents the methodology and results of the TPC Benchmark C (TPC-C) conducted on the Unisys Corporation ES7000/600 Enterprise Server (8P). The operating system on the server was Microsoft Windows Server 2003, Enterprise x64 Edition. The DBMS used was Microsoft SQL Server 2005 Enterprise x64 Edition. The operating system on the clients was Microsoft Windows 2003 Server. The clients ran Microsoft's Internet Information Server 6.0 (IIS) and COM+.

TPC Benchmark 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.

Executive Summary

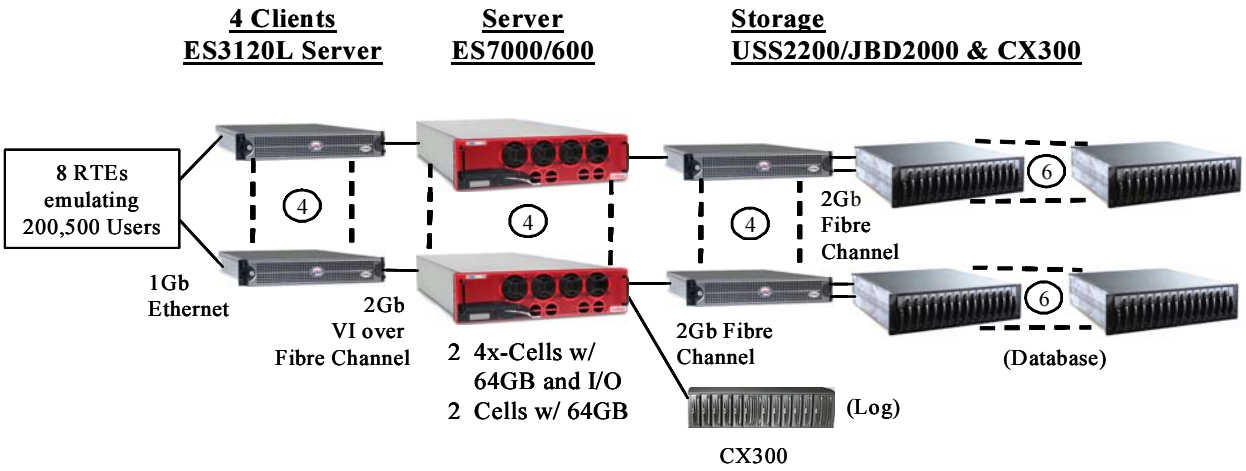
The following pages contain the executive summary results of the benchmark.

Auditor

Tom Sawyer of Performance Metrics, Inc. verified compliance with the relevant TPC specification and audited the benchmark configuration, environment, and methodology used to produce and validate the test results, along with the pricing model used to calculate the cost per tpmC.

UNISYS	ES7000/600 Enterprise Server (8P)		TPC-C Rev. 5.4 Report Date November 7, 2005
Total System Cost	**TPC-C Throughput**	**Price Performance**	**Availability Date**
$915,523 USD	**251,691 tpmC**	**$3.64 USD/tpmC**	**May 5, 2006**

Processors	Database Manager	Operating System	Other Software	Number of Users
8 - Database 8 - Clients	Microsoft SQL Server 2005 Enterprise x64 Edition	Microsoft Windows Server 2003, Enterprise x64 Edition	Windows Server 2003 w/ IIS 6.0 and COM+ Microsoft Visual C++	**200,500**



System Components	Qty.	Server	Qty.	Each Client (4)
Processors Cache	8	3.33GHz 64-bit Intel® Xeon™ Processor MP, 8MB Lvl 3 Cache	2	3.4GHz 64-bit Intel® Xeon™ Processor, 2MB Lvl 2 Cache
Memory	4	64 GB	2	1 GB
Disk Controllers	5 1	PCI Fibre Channel PCI SAS RAID (boot)	1	Inbuilt SCSI
Disk Drives	287 49 12 2	18GB FC 15K rpm 36GB FC 15K rpm 146GB FC 10K rpm 36GB SAS 10K rpm (boot media)	1	36GB SCSI 15K rpm
Total Storage		7.8 TB		34.3 GB
Other	4 2 1	Inbuilt 1Gb NIC (0 used) PCI VI-over-FC Controller IDE DVD-R/RW; CD-R/RW	2 1 1	Inbuilt 1Gb NIC (1 used) PCI VI-over-FC Controller IDE CD-ROM

UNISYS

ES7000/600
Enterprise Server (8P)

TPC-C Rev. 5.4
TPC Pricing 1.0.1
Report Date
November 7, 2005

Description	Part Number	Price Source	Unit Price	Qty.	Extended Price	3-yr.Maint. Price
Server Hardware:						
SYS: ES7000/600, 8x 3.33GHz/8MB, 256GB Mem. eService Processor & Server Mngmt SW	ES7600083-256 Included	1	$417,050	1	$417,050	$3,096
CTRL: Fibre Channel HBA, 2-Port, 64-bit PCI	FC76222-P64	1	$2,850	5	$14,250	
CTRL: VI-over-FC HBA, 2Gb 2-Port, 64-bit PCI	FCH752323-PCX	1	$2,138	2	$4,276	
KIT: 1x RAID Controller, 1x 36GB Disk (boot media)	FAC7600361-IDK	1	$618	1	$618	
DISK: 1x 36GB 10Krpm SAS (boot media)	HDF4036100-X25	1	$428	1	$428	
I/F: Monitor, 17-inch LCD, Kybrd, Mse & Cable	ES70006-UIF	1	$546	1	$546	
				Subtotal	**$437,168**	**$3,096**
Server Software:						
O/S: Windows 2003 Server, Enterprise x64 Edition	P72-00274	2	$2,334	1	$2,334	** Inc. below
APP: Microsoft SQL Server 2005 Enterprise x64 Edtn.	810-03134	2	$23,432	8	$187,456	** Inc. below
SRVC: Microsoft Problem Resolution Services **		2	$245	1		$245
				Subtotal	**$189,790**	**$245**
Storage Hardware:						
DISK: 1.5TB Pkg, 84x 18GB, 15Krpm *	JBD201815-P84	1	$28,220	3	$84,660	Spared
DISK: 1.3TB Pkg, 70x 18GB, 15Krpm *	JBD201815-P70	1	$24,281	1	$24,281	Spared
DISK: 2.0TB Pkg, 56x 36GB, 15Krpm *	JBD203615-P56	1	$27,132	1	$27,132	Spared
DISK: 146GB, 10Krpm, 2Gb FC	CXR14610-2GF	1	$1,435	12	$17,220	
RCK: Storage Enclosure, FC 2Gb Copper/Copper I/F	JBD2002-SA	1	$3,197	16	$51,152	$8,064
RCK: Storage Enclosure, FC 2Gb Optical/Copper I/F	JBD2011-SA	1	$3,413	8	$27,304	$4,320
CTRL: Symmetric Disk Virt. 2xCPU, 512MB Mem	RMM20103-ELS	1	$4,559	4	$18,236	$4,656
CTRL: USS, Fibre Channel HBA, 1-Port, 64-bit PCI	RMM20701-TAR	1	$1,805	12	$21,660	$5,472
APP: Unisys Storage Sentinel 2200 SDV Software	USS10300-SW	1	$5,472	1	$5,472	$4,068
APP: Storage Sentinel SDV SW, 10TB License	USS20310-LIC	1	$25,200	1	$25,200	
CBL: FC, Copper, HSDC2 Conn's, 0.3m	JBD20003-CCL	1	$53	16	$848	
CBL: FC, Optical, LC->LC Conn's, 10m *	GCFAZLL20	3	$38	15	$570	Spared
RCK: Rack Mount Kit, Disk Enclosure	JBD2001-RMK	1	$190	24	$4,560	
CTRL: DPE, 2 RAID Cntrl, 1GB Cache ea., 0 Disk	CX300-DPE	1	$13,300	1	$13,300	$1,404
SYS MGT: Storage, Navisphere Manager	CXN300-WRK	1	$2,138	1	$2,138	$1,008
SWTCH: KVM 16-Port PS/2-Cat5	KVM9163101-SWC	1	$1,805	1	$1,805	
I/F: Monitor, 17-inch LCD, Kybrd, Mse & Cable	ES70004-UIF	1	$665	1	$665	
ADPTR: Cat5 to PS/2	KVM9001301-CNV	1	$114	8	$912	
CBL: Ethernet, Cat5e, RJ45 Conn's, 10ft *	GCPO888910	3	$1	10	$10	Spared
PWR: Distribution Strip, 9-Plug, 220V	SFR9-PWR	1	$162	9	$1,458	
CBL: Power, U.S. (Domestic), C20 - L6-20P	USE1936-LC6	1	$86	9	$774	
CAB: 36U x 19" x 41" Open Front Cabinet	HRT361941-OFT	1	$1,425	3	$4,275	
				Subtotal	**$333,632**	**$28,992**
Client Hardware:						
SYS: ES3120L w/ 1x 3.4GHz Proc., 0MB Mem	ESL312002-340	1	$2,006	4	$8,024	$2,592
PROC:1x 3.4GHz Intel Xeon/2MB Cache	CPL3120342-2MB	1	$1,196	4	$4,784	
MEM: 2GB, 2x 1GB DIMMs DDR SDRAM	DIM3120021-2GB	1	$864	4	$3,456	
DISK: 36GB 15Krpm U320 3.5 Internal	HDP36115-DC4	1	$385	4	$1,540	
RCK: ES3120L HSBP Modual & SCSI Cable	HBP3120101-MOD	1	$264	4	$1,056	
RCK: ES3120L Universal Rack Kit	ESL3120-VRL	1	$331	4	$1,324	
CTRL: VI-over-FC HBA, 2Gb 2-Port, 64-bit PCI	FCH752323-PCX	1	$2,138	4	$8,552	
CDR: 24x Slimline CD-ROM & Cable	CDR12243-AIS	1	$41	4	$164	
				Subtotal	**$28,900**	**$2,592**
Client Software:						
O/S: Windows Server 2003, Standard Edition	P73-00295	2	$719	4	$2,876	** Inc. above
ACC: Microsoft Visual C++ Standard Edition	254-00170	2	$109	1	$109	** Inc. above
				Subtotal	**$2,985**	**$0**
Computer Resolutions Inc. 14% Volume Cash Discount (Ext.Price where Price Source=1)					($111,877)	
				Total USD	**$880,598**	**$34,925**

Notes:

1. * 10% or minimum 2 spares are added in place of onsite service.
2. HW & SW maintenance at 24 x 7 w/ 4 hr. max. response time for spares.
3. Price Source: 1 = CRI Product Price, Unisys Maintenance Price
   2 = Microsoft 3 = GoCables

3-Year Cost of Ownership: **$915,523 USD**
tpmC Rating: **251,691**
$ / tpmC: **$3.64 USD**

Benchmark results and test methodology audited by Tom Sawyer of Performance Metrics, Inc.

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

Numerical Quantities Summary

MQTh, Computed Maximum Qualified Throughput: **251,691** **tpmC**

Response Times, in seconds

Transaction	90th %ile	Average	Maximum
New-Order	0.40	0.27	5.25
Payment	0.39	0.26	5.27
Order-Status	0.40	0.27	4.92
Delivery (interactive portion)	0.28	0.19	1.00
Delivery (deferred portion)	0.19	0.14	4.80
Stock-Level	0.48	0.32	1.63
Menu	0.28	0.19	1.55

Response time delay added for emulated components, in seconds

RT Response time	0.1
Menu Response time	0.1

Transaction Mix, in percent of total transactions

New Order	44.92%
Payment	43.03%
Order-Status	4.01%
Delivery (interactive portion)	4.00%
Stock-Level	4.01%

Keying / Think Time Times, in seconds

Transaction	Minimum	Average	Maximum
New Order	18.01 / 0.00	18.01 / 12.03	18.03 / 120.31
Payment	3.01 / 0.00	3.01 / 12.03	3.03 / 120.31
Order-Status	2.01 / 0.00	2.01 / 10.07	2.03 / 100.70
Delivery (interactive portion)	2.01 / 0.00	2.01 / 5.06	2.03 / 50.61
Stock-Level	2.01 / 0.00	2.01 / 5.06	2.03 / 50.61

Test Duration

Ramp up time	117 minutes
Measurement interval (M)	120 minutes
Transactions (all types) completed during measurement interval	67,223,171
Ramp-down time	6 minutes

Checkpointing:

Number of checkpoints	4
Checkpoint interval	30 minutes

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Document Structure

The TPC Benchmark C Standard Specification requires test sponsors to publish, submit to the TPC, and make available to the public, a full disclosure report for any result to be considered compliant with the specification. The required contents of the full disclosure report are specified in Clause 8.

This report is submitted to satisfy the specification's requirement for full disclosure. It documents the compliance of the benchmark implementation and execution reported for the Unisys ES7000/600 Enterprise Server (8P) using Microsoft SQL Server 2005 Enterprise x64 Edition on Microsoft Windows Server 2003, Enterprise x64 Edition.

TPC Benchmark C Overview

The Transaction Processing Performance Council (TPC) developed The TPC Benchmark™ C Standard Specification Revision 5.4. It is the intent of the TPC to develop a suite of benchmarks to measure the performance of computer systems executing a wide range of applications. Unisys and Microsoft Corporations are active participants in the TPC to define and develop such a suite of benchmarks.

TPC Benchmark™ C (TPC-C) is an OLTP workload. It is a mixture of read-only and update intensive transactions that simulate the activities found in complex OLTP application environments. It does so by exercising a breadth of system components associated with 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 on data access and update.

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

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

0. General Items

0.1. Order and Titles

The order and titles of sections in the Test Sponsor's Full Disclosure report must correspond with the order and titles of sections from the TPC-C standard specification (i.e., this document). The intent is to make it as easy as possible for readers to compare and contrast material in different Full Disclosure reports. (8.1.1.1)

The order and titles of the sections in this report correspond with those from the TPC-C standard specification.

0.2. Executive Summary Statement

The TPC Executive Summary Statement must be included near the beginning of the Full Disclosure report. (8.1.1.2)

The TPC Executive Summary Statement is included near the beginning of this report.

0.3. Numerical Quantities Summary

The numerical quantities listed below must be summarized near the beginning of the Full Disclosure Report: (8.1.1.3)

- *Measurement interval in minutes,*
- *Number of checkpoints in the measurement interval,*
- *Checkpoint interval in minutes,*
- *Number of transactions (all types) completed within the measurement interval,*
- *Computed Maximum Qualified Throughput in tpmC,*
- *Ninetieth percentile, average and maximum response times for the New-Order, Payment, Order-Status, Stock-Level, Delivery (deferred and interactive) and Menu transactions,*
- *Time in seconds added to response time to compensate for delays associated with emulated components,*
- *Percentage of transaction mix for each transaction type.*

These numerical quantities are summarized near the beginning of this report.

0.4. Application Code Disclosure

The applicable program (as defined in Clause 2.1.7) must be disclosed. This includes, but is not limited to, the code implementing the five transactions and the terminal input and output functions. (8.1.1.4)

Appendix A contains the client application code used in this TPC-C benchmark. Appendix B contains the SQL stored procedures that implement the TPC-C transactions.

0.5. Benchmark Sponsor

A statement identifying the benchmark sponsor(s) and other participating companies must be provided. (8.1.1.5)

Unisys Corporation sponsored this TPC benchmark C. Microsoft and Unisys developed the benchmark test. The benchmark was conducted at Unisys, Mission Viejo, California.

0.6. Parameter Settings

Settings must be provided for all customer-tunable parameters and options which have been changed from the defaults found in actual products, including but not limited to: (8.1.1.6)

- *Data Base tuning options*
- *Recovery/commit options*
- *Consistency/locking options*
- *Operating system and application configuration parameters*

Appendix C contains the configuration and system parameters used in running these TPC-C tests. It also contains all the client and server OS and SQL Server tunable parameters.

0.7. Configuration Diagrams

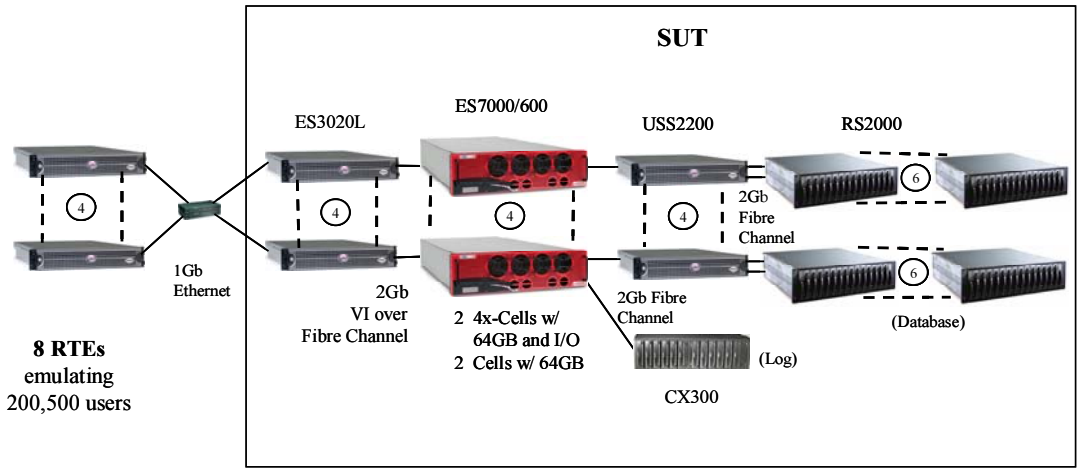
Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences. This includes, but is not limited to: (8.1.1.7)

- *Number and type of processors.*
- *Size of allocated memory, and any specific mapping/partitioning of memory unique to the test.*
- *Number and type of disk units (and controllers, if applicable).*
- *Number of channels or bus connections to disk units, including their protocol type.*
- *Number of LAN (e.g., Ethernet) connections, including routers, workstations, terminals, etc., that were physically used in the test or are incorporated into the pricing structure (see Clause 8.1.8).*
- *Type and the run-time execution location of software components (e.g., DBMS, client processes, transaction monitors, software drivers, etc.).*

The Remote Terminal Emulator (RTE) software used for these TPC-C tests is proprietary to Unisys. The benchmarked configuration of the RTE and Unisys ES7000/600 Enterprise Server (8P) is illustrated in Figure 0.1. Tables 4.3 and 4.5 contain a detailed explanation of the disk configuration.

The differences between the measured and priced configurations, if any, are described in the auditor's notes (attestation letter) in clause 9 of this document.

Figure 0.1: Benchmarked Configuration

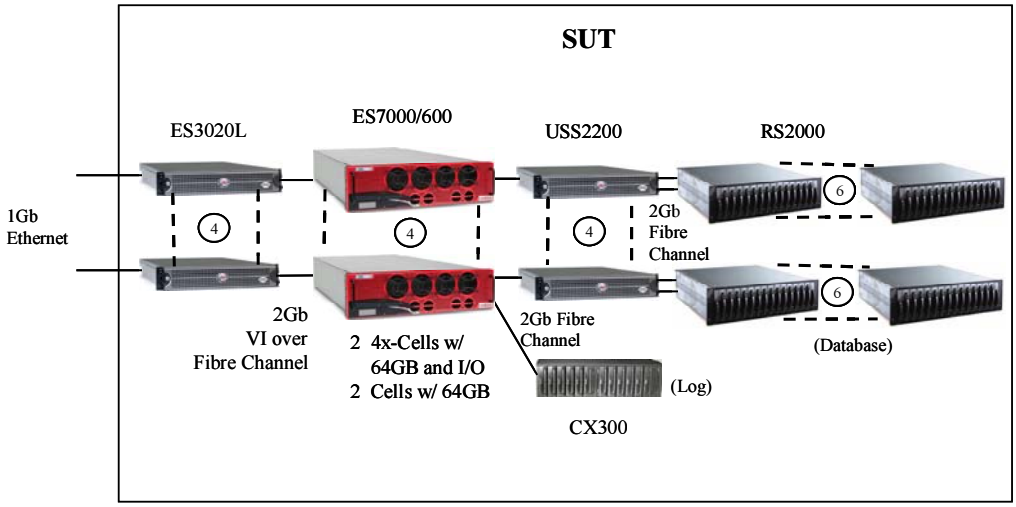


Clients (each of 4)
ES3120L Server
2 x 3.4GHz Intel® Xeon™ w/ 1MB L2 cache,
2 GB memory,
1 x 36GB internal disk,
1 x PCI VI controller,
2 Inbuilt 1Gb Eth. cntrls. (1 used).

Server
ES7000/600
8 x 3.33GHz 64-bit Intel® Xeon™ MP w/ 8MB L3 cache,
256 GB memory,
2 x 36GB SAS disk, internal ,
1 x PCI SAS RAID cntrl, internal,
5 x PCI Fibre Channel cntrls,
2 x PCI VI-over-FC cntrls,
4 Inbuilt 1Gb Eth. cntrls. (0 used).

Storage
USS2200/RS2000 & CX300
329 x 18GB + 7 x 36GB
12 x 146GB
External Fibre Channel disks,
6 x FC RAID controllers

Figure 0.2: Priced Configuration



Clients (each of 4)
ES3120L Server
2 x 3.4GHz Intel® Xeon™ w/ 2MB L2 cache,
2 GB memory,
1 x 36GB internal disk,
1 x PCI VI controller,
2 Inbuilt 1Gb Eth. cntrls. (1 used).

Server
ES7000/600
8 x 3.33GHz 64-bit Intel® Xeon™ MP w/ 8MB L3 cache,
256 GB memory,
2 x 36GB SAS disk, internal ,
1 x PCI SAS RAID cntrl, internal,
5 x PCI Fibre Channel cntrls,
2 x PCI VI-over-FC cntrls,
4 Inbuilt 1Gb Eth. cntrls. (0 used).

Storage
USS2200/RS2000 & CX300
287 x 18GB + 49 x 36GB
12 x 146GB
External Fibre Channel disks,
6 x FC RAID controllers

1. Clause 1: Logical Database Design

1.1. Table Definitions

Listings must be provided for all table definition statements and all other statements used to setup the database. (8.1.2.1)

Appendix B contains the SQL definitions of all the required database files, filegroups, tables, indexes and stored procedures, plus a listing of the program used to load the database and establish the required initial populations of each table.

1.2. Physical Organization of the Database

The physical organization of tables and indices, within the database, must be disclosed. (8.1.2.2)

The disk space was allocated to SQL Server according to the data in Tables 4.3 and 4.5. The SQL definitions are contained in Appendix B.

1.3. Insert and/or Delete Operations

It must be ascertained that insert and/or delete operations to any of the tables can occur concurrently with the TPC-C transaction mix. Furthermore, any restriction in the SUT database implementation that precludes inserts beyond the limits defined in Clause 1.4.11 must be disclosed. This includes the maximum number of rows that can be inserted and the maximum key value for these new rows. (8.1.2.3)

There were no restrictions on insert and/or delete operations to any of the tables.

1.4. Partitioning

While there are few restrictions placed upon horizontal or vertical partitioning of tables and rows in the TPC-C benchmark (see Clause 1.6), any such partitioning must be disclosed. (8.1.2.4)

Partitioning was not used for any table in this implementation.

1.5. Replication, Duplication or Additions

Replication of tables, if used, must be disclosed (see Clause 1.4.6). (8.1.2.5).

Additional and/or duplicate attributes in any table must be disclosed along with a statement on the impact on performance (see Clause 1.4.7). (8.1.2.6)

No replications, duplications or additional attributes were used in this implementation.

2. Clause 2: Transaction & Terminal Profiles

2.1. Random Number Generation

The method of verification for the random number generation must be disclosed. (8.1.3.1)

The drivers used the Unisys RTE program. The initial population of the database was performed by the loader program from the Microsoft TPC-C toolkit (V4.62). Both the Unisys RTE program and the loader program from the Microsoft TPC-C toolkit (V4.62) were independently audited.

2.2. Input/Output Screen Layout

The actual layout of the terminal input/output screens must be disclosed. (8.1.3.2)

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 Benchmark C Standard Specification. There are some minor differences in appearance due to the use of a web client implementation.

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). (8.1.3.3)

This was verified by the auditor.

2.4. Presentation Managers or Intelligent Terminal

Any usage of presentation managers or intelligent terminals must be explained. (8.1.3.4)

Application code running on the client implemented the TPC-C user interface. A listing of this code is included in Appendix A. No presentation manager was used on the client, as screen manipulation and data input/output was handled for each user by the Microsoft Internet Explorer web browser running on each user PC.

2.5. Transaction Statistics

The percentage of home and remote order-lines in the New-Order transactions must be disclosed. (8.1.3.5)

The percentage of New-Order transactions that were rolled back as a result of an unused item number must be disclosed. (8.1.3.6)

The number of items per order entered by New-Order transactions must be disclosed. (8.1.3.7)

The percentage of home and remote Payment transactions must be disclosed. (8.1.3.8)

The percentage of Payment and Order-Status transactions that used non-primary key (C_LAST) access to the database must be disclosed. (8.1.3.9)

The percentage of Delivery transactions that were skipped as a result of an insufficient number of rows in the NEW-ORDER table must be disclosed. (8.1.3.10)

The mix (i.e., percentages) of transaction types seen by the SUT must be disclosed. (8.1.3.11)

Table 5.4 in Section 5 contains all these statistics.

2.6. Queuing Mechanism of Delivery

The queuing mechanism used to defer execution of the Delivery transaction must be disclosed (8.1.3.12).

Deferred deliveries are queued by making an entry in an array within the application process (tpcc.dll) running on the client systems. Background threads within the application process asynchronously process the queued delivery transactions and log the results to a file upon completion.

3. Clause 3: Transaction & System Properties

3.1. Transaction System Properties (ACID)

The results of the ACID tests must be disclosed along with a description of how the ACID requirements were met. This includes disclosing which case was followed for the execution of Isolation Test 7. (8.1.4.1)

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).

This section defines each of these properties, describes the steps taken to ensure that they were present during the test and describes a series of tests done to demonstrate compliance with the specification. All ACID property tests were executed successfully.

3.2. Atomicity

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

3.2.1. Completed Transaction

Perform the Payment transaction for a randomly selected warehouse, district, and customer (by customer number) and verify that the records in the CUSTOMER, DISTRICT, and WAREHOUSE tables have been changed appropriately.

The balances from a randomly selected warehouse, district, and customer row were retrieved by customer number from a script. A Payment transaction was submitted with the same warehouse, district and customer identifiers for a known amount. After completion of the Payment transaction, the balances of the selected warehouse, district, and customer were again retrieved to verify that the changes had been made correctly.

3.2.2. Aborted Transactions

Perform the Payment transaction for a randomly selected warehouse, district, and customer (by customer number) and substitute a ROLLBACK of the transaction for the COMMIT of the transaction. Verify that the records in the CUSTOMER, DISTRICT, and WAREHOUSE tables have NOT been changed.

The balances from a randomly selected warehouse, district, and customer row were retrieved by customer number from a script. A Payment transaction was submitted with the same warehouse, district and customer identifiers that issued a ROLLBACK command rather than a COMMIT. After the transaction completed, the balances of the selected warehouse, district, and customer were again retrieved to verify that no changes had been made to the database.

3.3. Consistency

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

The benchmark specification requires explicit demonstration of the following four consistency conditions:

1. The sum of the district balances in a warehouse is equal to the warehouse balance;
2. For each district, the next order id minus one is equal to maximum order id in the ORDER table and equal to the maximum new order id in the NEW ORDER table;
3. For each district, the maximum order id minus minimum order id in the ORDER table plus one equals the number of rows in the NEW-ORDER table for that district;
4. For each district, the sum of the order line counts in the ORDER table equals the number of rows in the ORDER-LINE table for that district;

In order to demonstrate this consistency, the following steps were taken:

1. Prior to the start of a benchmark run, the consistency of the database was verified by testing successfully conditions 1-4 described above with a script.
2. A run under full user load was executed for over 10 minutes with a checkpoint during the run.
3. After completion of that test, the consistency of the database was again verified by successfully testing using the same consistency script as in step 1.

3.4. Isolation

Sufficient conditions must be enabled at either the system or application level to ensure the required isolation defined above (clause 3.4.1) is obtained.

The benchmark specification defines seven required tests to be performed to demonstrate that required levels of transaction isolation are met. These tests, described in Clauses 3.4.2.1 - 3.4.2.7, were all performed from a script and verified by the auditor. In Isolation Test 7, Case A was observed. In addition, the phantom tests and stock level tests were executed and verified to be successful.

3.5. Durability

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

Three durability tests were executed to satisfy the requirements of the specification. The tests for loss of memory and instantaneous interruption were combined and performed with a fully scaled database with all emulated users. The loss of log and loss of data tests were performed on the same database with 26,280 emulated users. To the best of our knowledge, these tests prove that the fully scaled configuration used for the throughput test would also meet all durability tests.

3.5.1. Loss of Log Disk and Loss of Data Disk

The following steps were taken with only 26,280 emulated users to demonstrate durability in the case of loss of a log disk and loss of a data disk:

1. The database was backed up to extra space on a backup volume.
2. The D_NEXT_O_ID fields for all rows in the district table were summed up to determine the initial count of orders present in the database.
3. The RTE was started with 26,280 users. On the driver systems, committed and rolled back New-Order transactions were recorded in a “success” file.
4. After five minutes of running at steady state, a hot-pluggable log disk was removed from the disk cabinet, with no effect on the OS or SQLServer.

5. After 5 additional minutes of operation, a hot-pluggable data disk was removed from the disk cabinet.
6. Windows Enterprise and SQL Server encountered IO errors due to the missing disk and recorded these errors in the system event log and SQL Server error log, respectively. The RTEs also recorded errors.
7. First, the RTEs and clients were stopped, and then SQL Server was used to backup the transaction log to the backup volume.
8. Next, scripts were executed to drop the database and all its files. Then, SQL Server was shutdown.
9. A data disk was inserted in the disk cabinet to replace the one removed. The RAID controller, via Storage Sentinel Manager, was used to recreate the stripe set containing the new data disk. (The missing log drive was not replaced.)
10. The SUT was restarted, SQL Server was then restarted, and a new (empty) database created as part of the restore database process. That process loaded the initial database into the new database, but did not perform any recovery. Next the transaction log was restored, followed by transaction recovery. The latter step restored all committed transactions to the database.
11. Consistency condition 3 of Clause 3.3.2.3 was executed to verify database consistency.
12. Step 2 was repeated to determine the total number of orders. This number was subtracted from the count obtained previously in Step 2 to determine the number of additional orders added to the database.
13. The contents of the "success" files on the drivers were sampled to verify that the records in the "success" file for committed New-Order transactions had corresponding records in the ORDER table. Step 1 was repeated to determine the total number of orders (count2). Count2 minus count1 was not less than the number of committed New-Order records in the "success" file from the drivers.

3.5.2. Instantaneous Interruption and Loss of Memory

Instantaneous interruption and loss of memory tests were combined because the loss of power erased the contents of memory. Removing the primary power to the System Under Test while the benchmark was executing induced this failure.

1. The D_NEXT_O_ID fields for all rows in the district table were summed up to determine the initial count of orders present in the database (count1).
2. On the driver systems, committed and rolled back New-Order transactions were recorded in a "success" file.
3. The benchmark was executed at full load with all emulated users for a minimum of 5 minutes.
4. The system's primary power was then turned off.
5. After transaction failures were noted by the RTEs, the RTEs and clients were shutdown.
6. Power was restored to the SUT, the system rebooted, SQL Server was restarted, and automatic database recovery was performed. The database recovery used the transaction log to reapply all committed transactions and rollback any (in progress) uncommitted transactions, so that the database disks were correct.
7. After recovery finished, Consistency Condition 3 of Clause 3.3.2.3 (no gaps in NO_O_ID) was executed to verify that the database was consistent.
8. Finally, step 1 was repeated to determine the total number of orders (count2). Count2 minus count1 was not less than the number of committed New-Order records in the "success" file from the drivers.
9. The contents of the "success" files on the drivers were sampled to verify that the records in the "success" file for committed New-Order transactions had corresponding records in the ORDER table.

4. Clause 4: Scaling & Database Population

4.1. Initial Cardinality of Tables

The Cardinality (e.g., the number of rows) of each table, as it existed at the start of the benchmark run (see Clause 4.2), must be disclosed. If the database was over-scaled and inactive rows of the WAREHOUSE table were deleted (see Clause 4.2.2), the cardinality of the WAREHOUSE table as initially configured and the number of rows deleted must be disclosed. (8.1.5.1)

The TPC-C database for this test was configured with 20,200 warehouses. The cardinality of each table in the database is listed in Table 4.1

Table 4.1: Initial Cardinality of Database Table

Table	Occurrences
Warehouse	20,200
District	202,000
Customer	606,000,000
History	606,000,000
Order	606,000,000
New-Order	181,800,000
Order Line	6,059,984,194
Stock	2,020,000,000
Item	100,000

150 rows from the warehouse table were inactive while executing the measurement runs.

4.2. Constant Values

The following values were used as the constant C input values to the NURand function during Build and Run time for this implementation.

Table 4.2: Constant C for NURand

Function	Value
C_LAST (Build)	123
C_LAST (Run)	208

4.3. Database Layout

The distribution of tables and logs across all media must be explicitly depicted for the tested and priced systems. (8.1.5.2)

Tables 4.3 and 4.5 list the distribution of the database over 329 18GB disks, 7 36GB disks, and the transaction log over 6 mirrored pairs of 146GB disks for the benchmark configuration. In addition, there were 2 36GB mirrored disks in the host server containing Windows Server 2003, Enterprise x64 Edition and SQL Server 2005 Enterprise x64 Edition code and the Master database plus the paging file. Unused-space partitions on the database drives were used for database backup. These partitions were not used during the measurements.

4.4. DBMS: Data Model and DBMS Interface/Access Language

A statement must be provided that describes: (8.1.5.3)

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/1, COBOL, read/write) used to implement the TPC-C transactions. If more than one interface/access language is used to implement TPC-C, each interface/access language must be described and a list of which interface/access language is used with which transaction type must be disclosed.*

Microsoft SQL Server 2005 is a relational DBMS.

The client software interfaced to SQL Server through Stored Procedures invoked through ODBC calls embedded in the C application code.

4.5. DBMS Partitions/Replications

The mapping of database partitions/replications must be explicitly described. (8.1.5.4)

No table partitioning or replication was done.

4.6. DBMS Space Requirements

Details of the 60-day space computation along with proof that the database is configured to sustain 8 hours of growth for dynamic tables (Order, Order-line, and History) must be disclosed (see Clause 4.2.3) (8.1.5.5).

Appendix E lists the space requirements for the 60-day space as well as the logical log space for eight hours.

Table 4.3: Disk Rack Configuration

Disk Rack Configuration																
Controller	HBA	Rack	Raid Level	ID 0	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	ID 7	ID 8	ID 9	ID 10	ID 11	ID 12	ID 13
USS1	0	1	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS1	0	2	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS1	0	3	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS1	1	4	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS1	1	5	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS1	1	6	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	0	7	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	0	8	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	0	9	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	1	10	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	1	11	0	36GB	36GB	36GB	36GB	36GB	36GB	36GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS2	1	12	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	0	13	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	0	14	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	0	15	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	1	16	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	1	17	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS3	1	18	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	0	19	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	0	20	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	0	21	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	1	22	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	1	23	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
USS4	1	24	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB
CX300	n/a	1,2	10	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB	146GB

Table 4.4: ES7000 Server HBA-PCI Slot Map

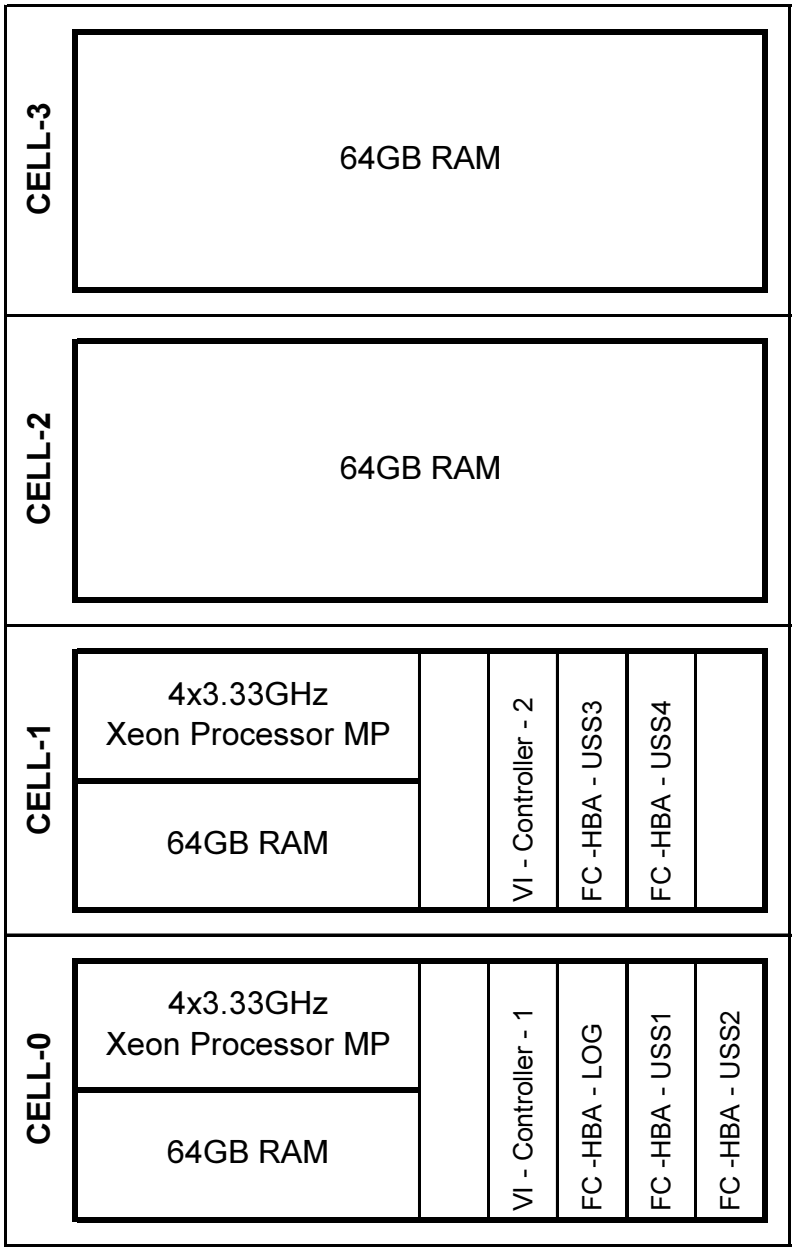


Table 4.5: Disk Management Configuration

Disk Management Configuration				
System Disks	Logical Disk#	Partition 1 Drive Letter	File System	
36 GB Disk	0	C: System	NTFS	Capacity=33.89GB
CD-ROM	CD-ROM 0	D:		

CX300	SP	Logical Disk#	Partition 1 Size=764.60GB FS=Raw Junction Point
1,2	A	1	C:\BigDb\dbLogs\tpcclog1

Disk Management Configuration						
USS	HBA	Logical Disk#	Partition 1 Size=12.22GB FS=Raw Junction Point	Partition 2 Size=17.59GB FS=Raw Junction Point	Partition 3 Size=9.29GB FS=Raw Junction Point	Partition 4 Size=80.53GB FS=NTFS Junction Point
1	1	2	C:\BigDb\cabA\ord1	C:\BigDb\cabA\cs1	C:\BigDb\cabA\misc1	C:\BigDb\dbBackups\backupA1
		3	C:\BigDb\cabA\ord2	C:\BigDb\cabA\cs2	C:\BigDb\cabA\misc2	C:\BigDb\dbBackups\backupA2
		4	C:\BigDb\cabA\ord3	C:\BigDb\cabA\cs3	C:\BigDb\cabA\misc3	C:\BigDb\dbBackups\backupA3
		5	C:\BigDb\cabA\ord4	C:\BigDb\cabA\cs4	C:\BigDb\cabA\misc4	C:\BigDb\dbBackups\backupA4
		6	C:\BigDb\cabA\ord5	C:\BigDb\cabA\cs5	C:\BigDb\cabA\misc5	C:\BigDb\dbBackups\backupA5
		7	C:\BigDb\cabA\ord6	C:\BigDb\cabA\cs6	C:\BigDb\cabA\misc6	C:\BigDb\dbBackups\backupA6
		8	C:\BigDb\cabA\ord7	C:\BigDb\cabA\cs7	C:\BigDb\cabA\misc7	Unallocated
		9	C:\BigDb\cabA\ord8	C:\BigDb\cabA\cs8	C:\BigDb\cabA\misc8	Unallocated
		10	C:\BigDb\cabA\ord9	C:\BigDb\cabA\cs9	C:\BigDb\cabA\misc9	Unallocated
		11	C:\BigDb\cabA\ord10	C:\BigDb\cabA\cs10	C:\BigDb\cabA\misc10	Unallocated
		12	C:\BigDb\cabA\ord11	C:\BigDb\cabA\cs11	C:\BigDb\cabA\misc11	Unallocated
		13	C:\BigDb\cabA\ord12	C:\BigDb\cabA\cs12	C:\BigDb\cabA\misc12	Unallocated
2	2	14	C:\BigDb\cabB\ord1	C:\BigDb\cabB\cs1	C:\BigDb\cabB\misc1	C:\BigDb\dbBackups\backupB1
		15	C:\BigDb\cabB\ord2	C:\BigDb\cabB\cs2	C:\BigDb\cabB\misc2	C:\BigDb\dbBackups\backupB2
		16	C:\BigDb\cabB\ord3	C:\BigDb\cabB\cs3	C:\BigDb\cabB\misc3	C:\BigDb\dbBackups\backupB3
		17	C:\BigDb\cabB\ord4	C:\BigDb\cabB\cs4	C:\BigDb\cabB\misc4	C:\BigDb\dbBackups\backupB4
		18	C:\BigDb\cabB\ord5	C:\BigDb\cabB\cs5	C:\BigDb\cabB\misc5	C:\BigDb\dbBackups\backupB5
		19	C:\BigDb\cabB\ord6	C:\BigDb\cabB\cs6	C:\BigDb\cabB\misc6	C:\BigDb\dbBackups\backupB6
		20	C:\BigDb\cabB\ord7	C:\BigDb\cabB\cs7	C:\BigDb\cabB\misc7	Unallocated
		21	C:\BigDb\cabB\ord8	C:\BigDb\cabB\cs8	C:\BigDb\cabB\misc8	Unallocated
		22	C:\BigDb\cabB\ord9	C:\BigDb\cabB\cs9	C:\BigDb\cabB\misc9	Unallocated*
		23	C:\BigDb\cabB\ord10	C:\BigDb\cabB\cs10	C:\BigDb\cabB\misc10	Unallocated
		24	C:\BigDb\cabB\ord11	C:\BigDb\cabB\cs11	C:\BigDb\cabB\misc11	Unallocated
		25	C:\BigDb\cabB\ord12	C:\BigDb\cabB\cs12	C:\BigDb\cabB\misc12	Unallocated
3	3	26	C:\BigDb\cabC\ord1	C:\BigDb\cabC\cs1	C:\BigDb\cabC\misc1	C:\BigDb\dbBackups\backupC1
		27	C:\BigDb\cabC\ord2	C:\BigDb\cabC\cs2	C:\BigDb\cabC\misc2	C:\BigDb\dbBackups\backupC2
		28	C:\BigDb\cabC\ord3	C:\BigDb\cabC\cs3	C:\BigDb\cabC\misc3	C:\BigDb\dbBackups\backupC3
		29	C:\BigDb\cabC\ord4	C:\BigDb\cabC\cs4	C:\BigDb\cabC\misc4	C:\BigDb\dbBackups\backupC4
		30	C:\BigDb\cabC\ord5	C:\BigDb\cabC\cs5	C:\BigDb\cabC\misc5	C:\BigDb\dbBackups\backupC5
		31	C:\BigDb\cabC\ord6	C:\BigDb\cabC\cs6	C:\BigDb\cabC\misc6	C:\BigDb\dbBackups\backupC6
		32	C:\BigDb\cabC\ord7	C:\BigDb\cabC\cs7	C:\BigDb\cabC\misc7	Unallocated
		33	C:\BigDb\cabC\ord8	C:\BigDb\cabC\cs8	C:\BigDb\cabC\misc8	Unallocated
		34	C:\BigDb\cabC\ord9	C:\BigDb\cabC\cs9	C:\BigDb\cabC\misc9	Unallocated
		35	C:\BigDb\cabC\ord10	C:\BigDb\cabC\cs10	C:\BigDb\cabC\misc10	Unallocated
		36	C:\BigDb\cabC\ord11	C:\BigDb\cabC\cs11	C:\BigDb\cabC\misc11	Unallocated
		37	C:\BigDb\cabC\ord12	C:\BigDb\cabC\cs12	C:\BigDb\cabC\misc12	Unallocated
4	4	38	C:\BigDb\cabD\ord1	C:\BigDb\cabD\cs1	C:\BigDb\cabD\misc1	C:\BigDb\dbBackups\backupD1
		39	C:\BigDb\cabD\ord2	C:\BigDb\cabD\cs2	C:\BigDb\cabD\misc2	C:\BigDb\dbBackups\backupD2
		40	C:\BigDb\cabD\ord3	C:\BigDb\cabD\cs3	C:\BigDb\cabD\misc3	C:\BigDb\dbBackups\backupD3
		41	C:\BigDb\cabD\ord4	C:\BigDb\cabD\cs4	C:\BigDb\cabD\misc4	C:\BigDb\dbBackups\backupD4
		42	C:\BigDb\cabD\ord5	C:\BigDb\cabD\cs5	C:\BigDb\cabD\misc5	C:\BigDb\dbBackups\backupD5
		43	C:\BigDb\cabD\ord6	C:\BigDb\cabD\cs6	C:\BigDb\cabD\misc6	C:\BigDb\dbBackups\backupD6
		44	C:\BigDb\cabD\ord7	C:\BigDb\cabD\cs7	C:\BigDb\cabD\misc7	Unallocated
		45	C:\BigDb\cabD\ord8	C:\BigDb\cabD\cs8	C:\BigDb\cabD\misc8	Unallocated
		46	C:\BigDb\cabD\ord9	C:\BigDb\cabD\cs9	C:\BigDb\cabD\misc9	Unallocated
		47	C:\BigDb\cabD\ord10	C:\BigDb\cabD\cs10	C:\BigDb\cabD\misc10	Unallocated
		48	C:\BigDb\cabD\ord11	C:\BigDb\cabD\cs11	C:\BigDb\cabD\misc11	Unallocated
		49	C:\BigDb\cabD\ord12	C:\BigDb\cabD\cs12	C:\BigDb\cabD\misc12	Unallocated

* Partition size is 200.15 GB

5. Clause 5: Performance Metrics & Response Time

5.1. Measured Throughput (tpmC)

Measured tpmC must be reported. (8.1.6.1)

The measured tpmC was 251,691

5.2. Response Times

Ninetieth percentile, maximum and average response times must be reported for all transaction types as well as for the Menu response time. (8.1.6.2)

Table 5.1: Response Time Data

Transaction	Average	Maximum	90th %ile
New-Order	0.27	5.25	0.40
Payment	0.26	5.27	0.39
Order Status	0.27	4.92	0.40
Delivery (interactive)	0.19	1.00	0.28
Delivery (deferred)	0.14	4.80	0.19
Stock-Level	0.32	1.63	0.48
Menu	0.19	1.55	0.28

5.3. Keying and Think Times

The minimum, the average, and the maximum keying and think times must be reported for each transaction type. (8.1.6.3)

Table 5.2: Keying Times

Transaction	Minimum	Average	Maximum
New-Order	18.01	18.01	18.03
Payment	3.01	3.01	3.03
Order Status	2.01	2.01	2.03
Delivery (interactive)	2.01	2.01	2.03
Stock-Level	2.01	2.01	2.03

Table 5.3: Think Times

Transaction	Minimum	Average	Maximum
New-Order	0.00	12.03	120.31
Payment	0.00	12.03	120.31
Order Status	0.00	10.07	100.70
Delivery (interactive)	0.00	5.06	50.61
Stock-Level	0.00	5.06	50.61

5.4. Response Time Frequency Distribution Curves

Response Time frequency distribution curves (see Clause 5.6.1) must be reported for each transaction type. (8.1.6.4)

Figure 5.1: New Order Response Time Distribution

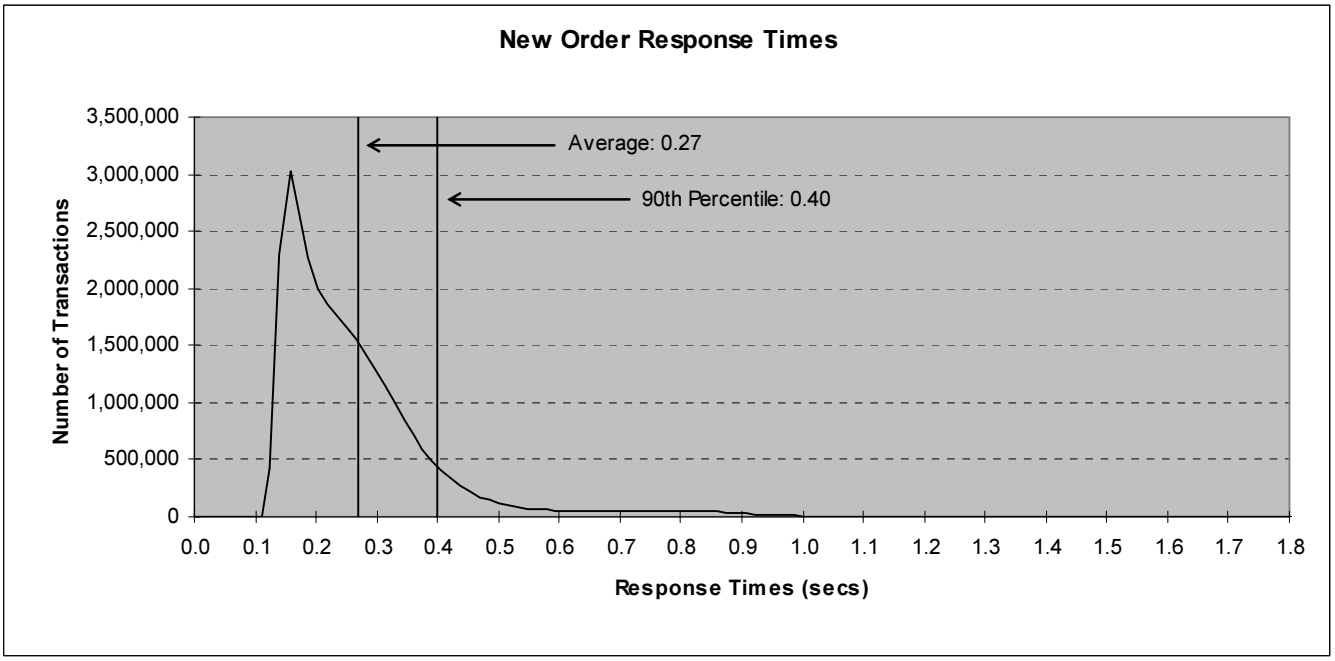


Figure 5.2: Payment Response Time Distribution

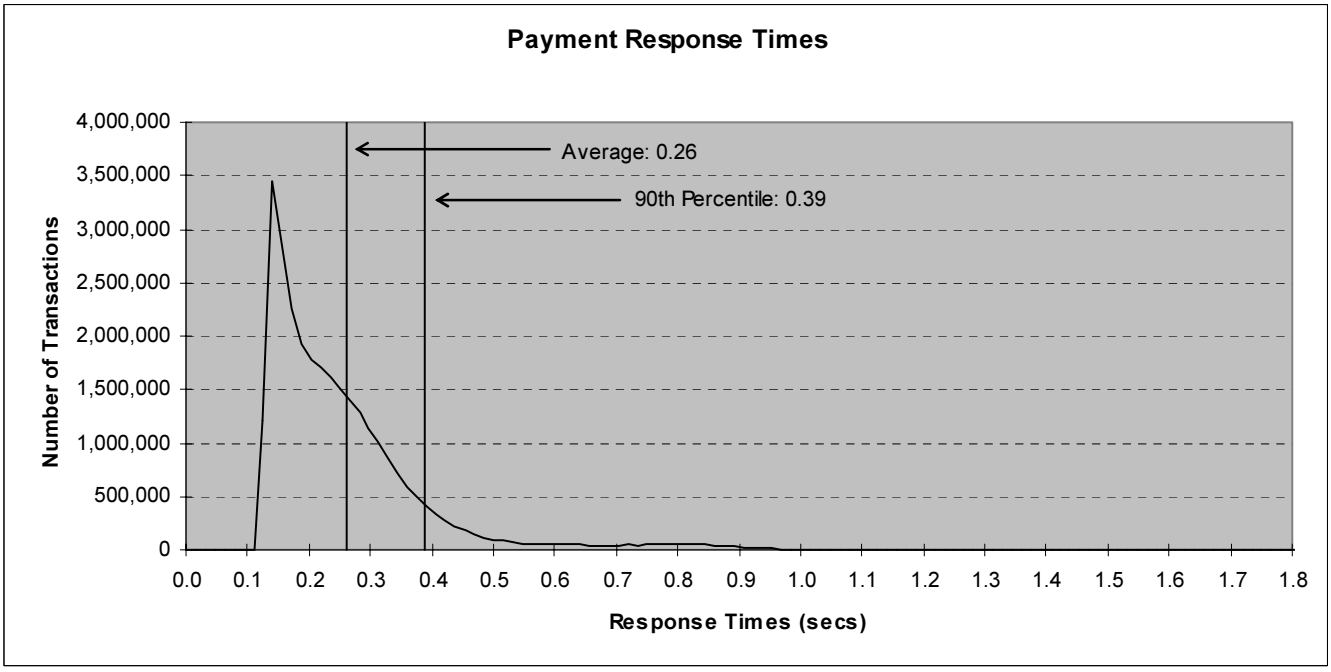


Figure 5.3: Order Status Response Time Distribution

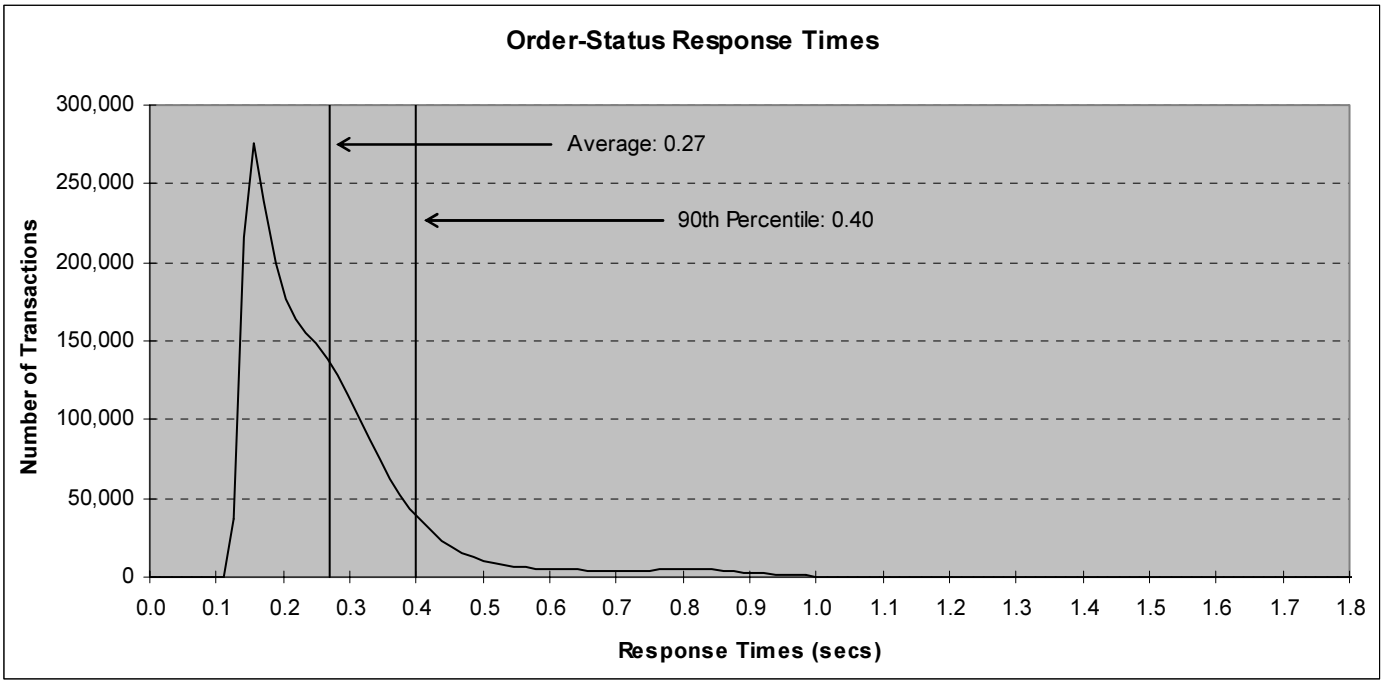


Figure 5.4: Delivery Response Time Distribution

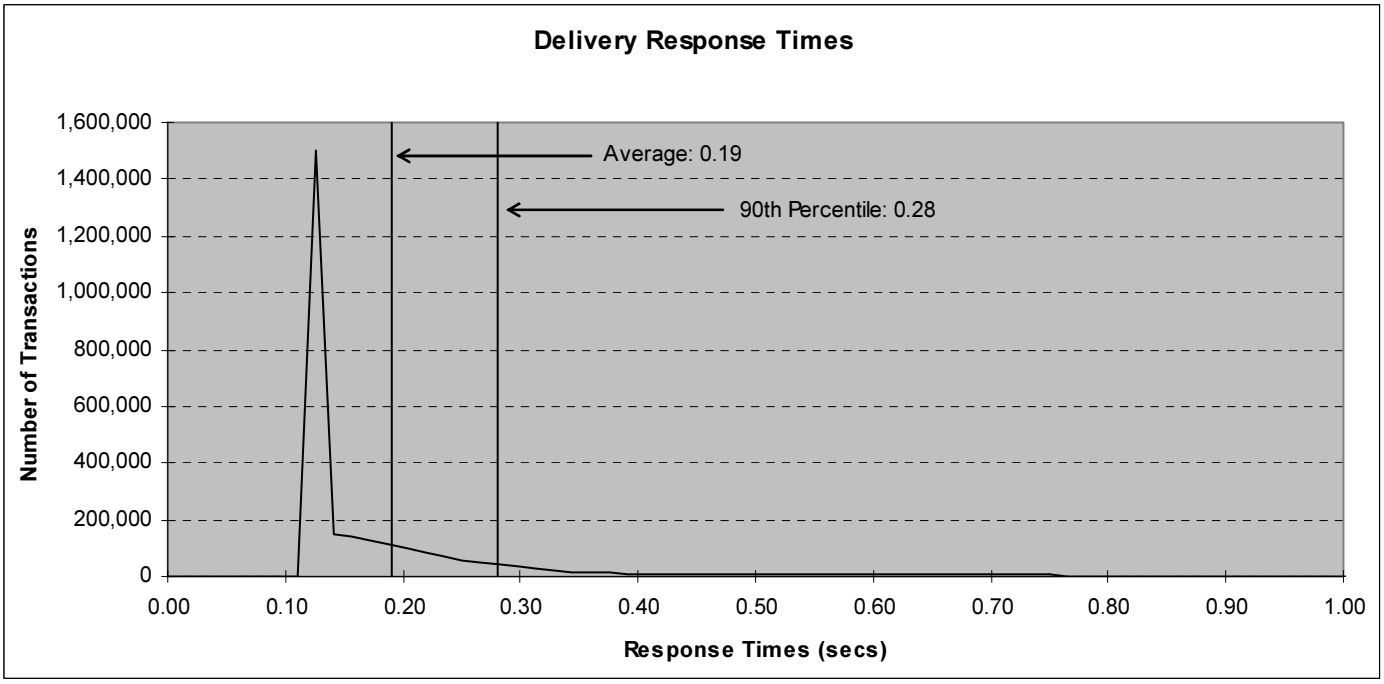
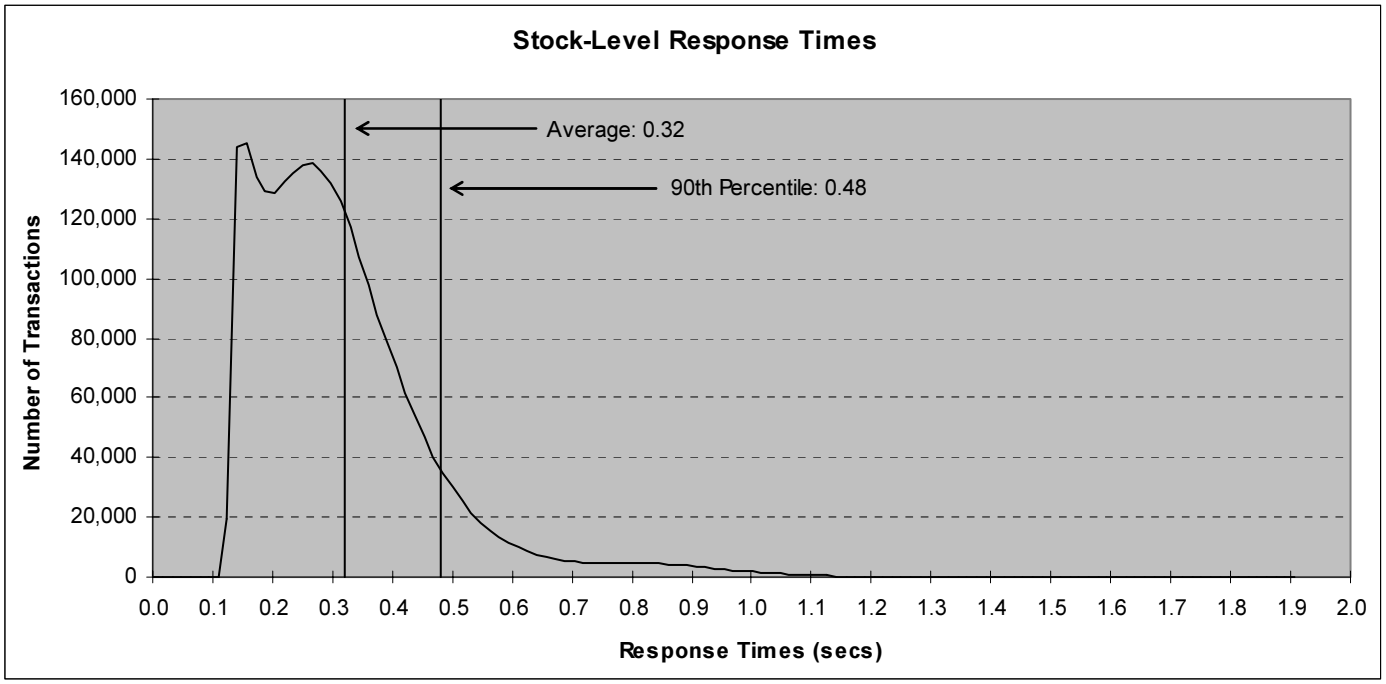


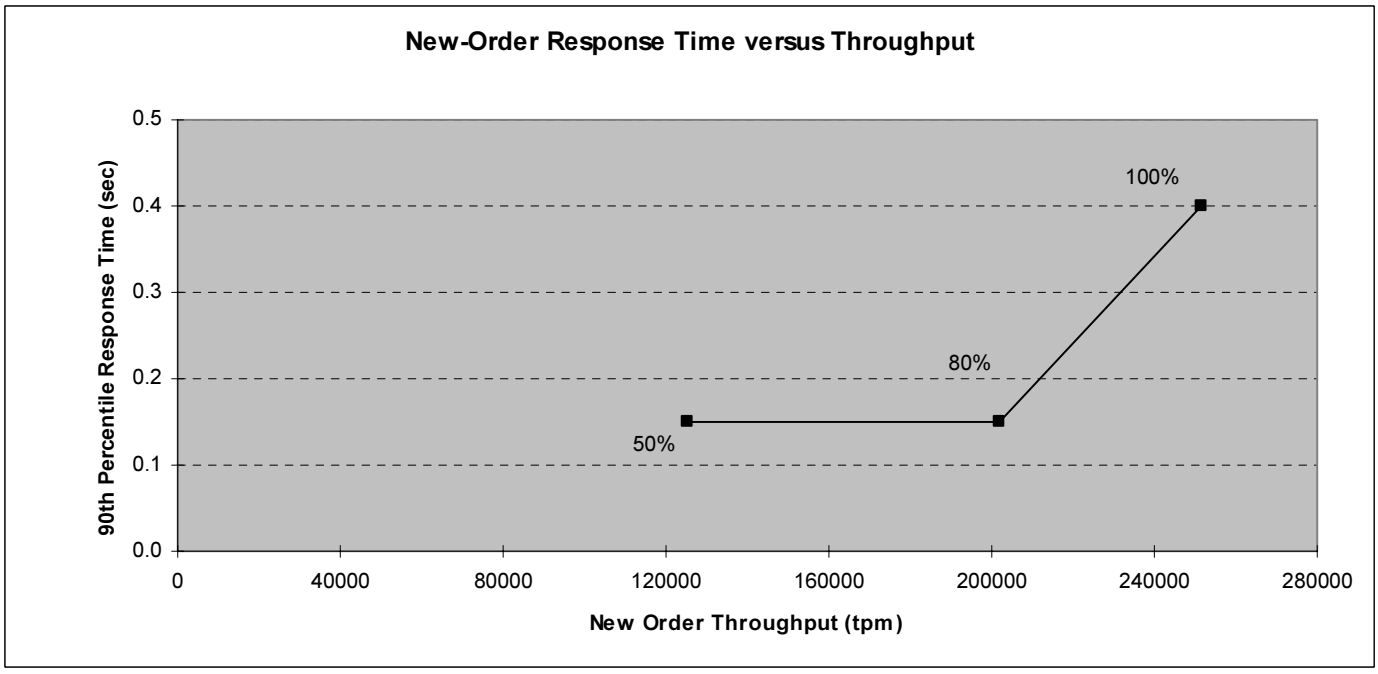
Figure 5.5: Stock Level Response Time Distribution



5.5. Response Time versus Throughput Performance Curve

The performance curve for response times versus throughput (Clause 5.6.2) must be reported for the New-Order transaction. (8.1.6.5)

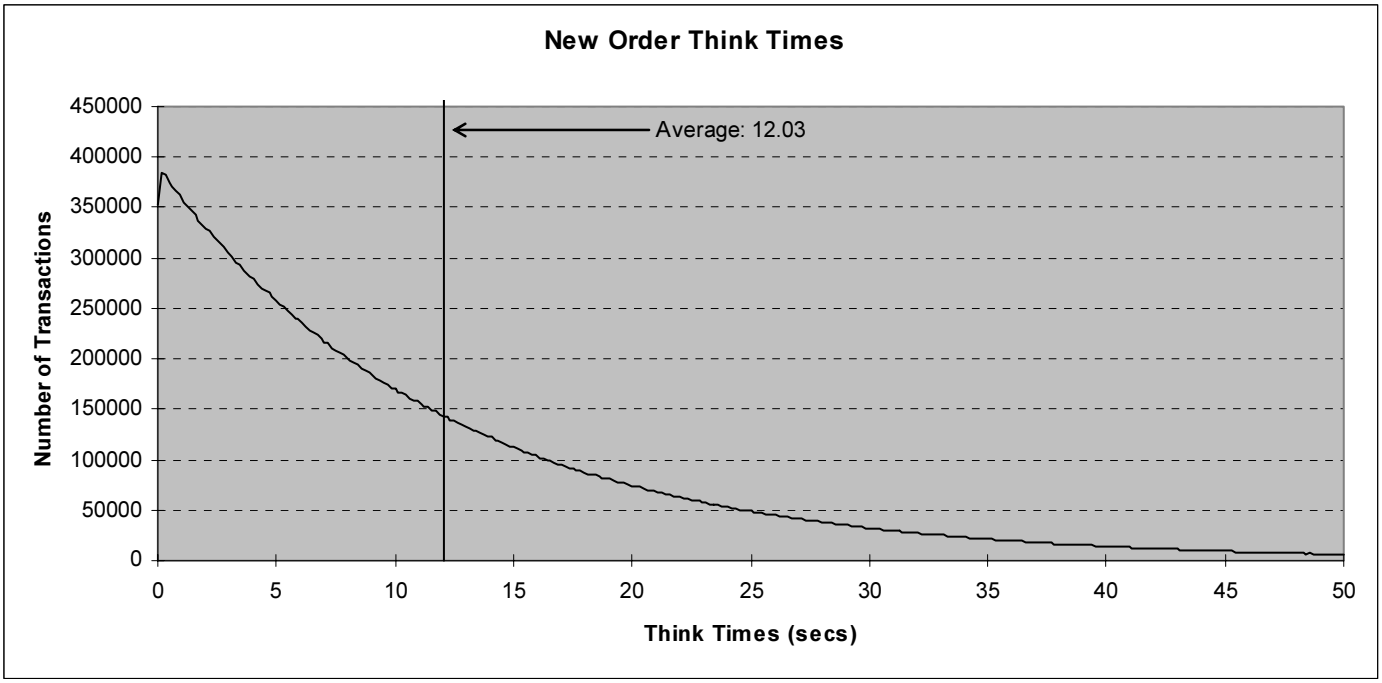
Figure 5.6: New Order Response Time versus Throughput



5.6. New Order Think Time Frequency Distribution Curve

Think Time frequency distribution curve (see Clause 5.6.3) must be reported for the New-Order transaction. (8.1.6.6)

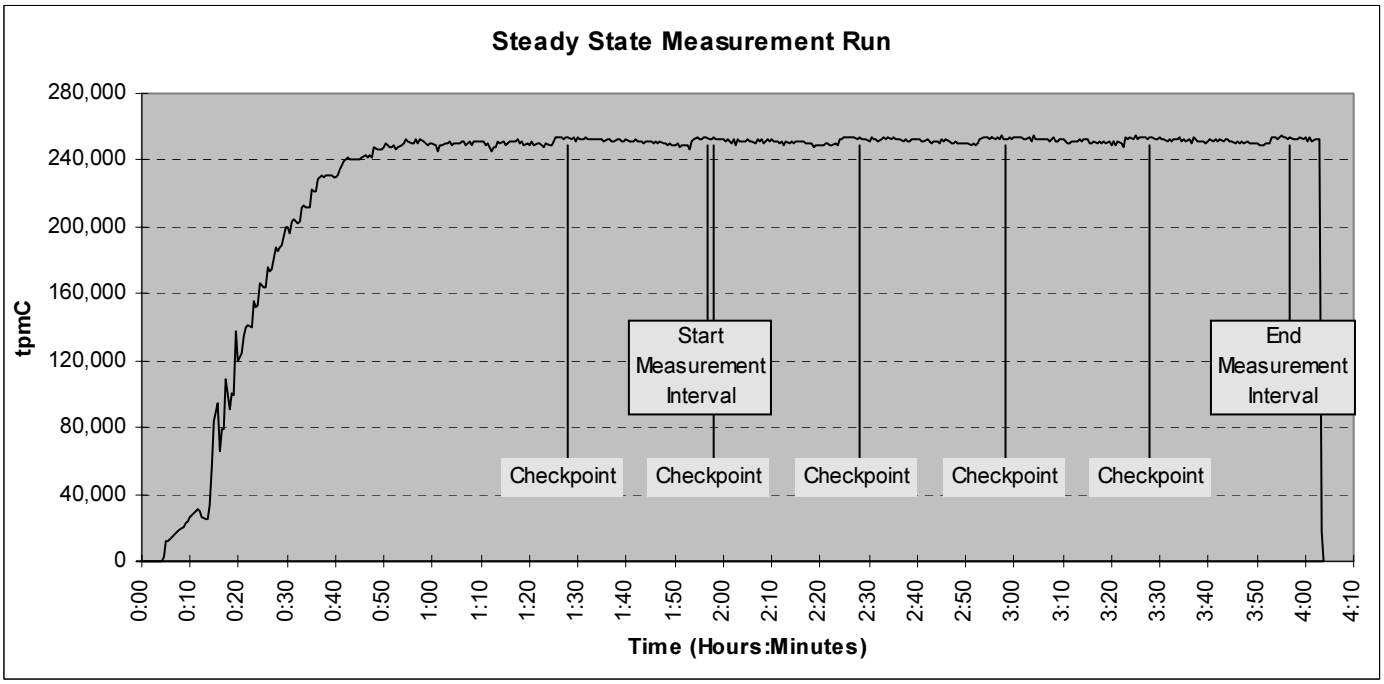
Figure 5.7: New Order Think Time Distribution



5.7. New-Order Throughput vs. Time

A graph of throughput versus elapsed time (Clause 5.6.4) must be reported for the New-Order transaction. (8.1.6.8)

Figure 5.8: Throughput (tpmC) versus Time



5.8. Determination of "Steady State"

The method used to determine that the SUT had reached a steady state prior to commencing the measurement interval (see Clause 5.5) must be described. (8.1.6.9)

The transaction throughput rate (tpmC) and response time were relatively constant after the initial 'ramp up' period. The throughput and response time behavior were determined by examining data reported for each 30-second interval over the duration of the benchmark. Ramp-up and steady state are discernible in the graph presented in Figure 5.8.

5.9. 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. (8.1.6.10)

The RTE selects a transaction type from the menu and prepares to request the appropriate blank form. A timestamp is taken before the form request is sent and after the response is returned. The difference between the two is saved off as the menu response time. The RTE then generates input data for the transaction to create a completed form and waits the appropriate key time. A timestamp is taken before the completed form is sent and after the response is returned. The difference between these two is saved off as the transaction response time. Both response times are padded with a 0.1 second delay per spec to account for the web browser delay. The appropriate transaction data and response times are logged and the RTE waits the required think time interval before repeating the process. Each RTE driver maintains its own log file. Log file contents are consolidated for the reports.

The RTE emulates web browsers (not terminals) in this client-server implementation. The RTE sends and receives HTML formatted data using HTTP through Ethernet LANs to a client application running on the client machine. The client application processes the request, sends the transaction to a COM+ component, waits for the transaction response, and returns an appropriately formatted HTML form back to the (emulated) web browser (RTE). When activated, the COM+ component calls a stored procedure on the data base server using Microsoft SQL Server ODBC, collects the response, and returns the result to the requestor.

To perform checkpoints at specific intervals,a utility was written to schedule checkpoints at parameter-specified intervals and record the start and end time of each checkpoint. The checkpoint script was started manually on one of the client machines after the RTE had all users logged in and sending transactions and a steady state had been achieved.

At each checkpoint, SQL Server wrote to disk all database pages in memory that had been updated but not yet physically written to the disk. Upon completion of the checkpoint, SQL Server also wrote records to the error log indicating that a checkpoint had completed.

5.10. Measurement Interval Duration

A statement of the duration of the measurement interval for the reported Maximum Qualified Throughput (tpmC) must be included. (8.1.6.12)

The measurement interval was 120 minutes.

5.11. 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. (8.1.6.13)

The RTE was given a weighed random distribution, which could not be adjusted during the run.

5.12. Transaction Statistics

The percentage of the total mix for each transaction type must be disclosed. (8.1.6.14)

The percentage of New-Order transactions rolled back as a result of invalid item number must be disclosed. (8.1.6.15)

The average number of order-lines entered per New-Order transaction must be disclosed. (8.1.6.16)

The percentage of remote order-lines entered per New-Order transaction must be disclosed. (8.1.6.17)

The percentage of remote Payment transactions must be disclosed. (8.1.6.18)

The percentage of customer selections by customer last name in the Payment and Order-Status transactions must be disclosed. (8.1.6.19)

The percentage of Delivery transactions skipped due to there being fewer than necessary orders in the New-Order table must be disclosed. (8.1.6.20)

Table 5.4 shows this information.

Table 5.4: Transaction Statistics

Transaction Type	Statistic	Value
New Order	Rolled back transactions	1.00%
	Home warehouse	99.00%
	Remote warehouse	1.00%
	Average Items per Order	10.00
Payment	Home warehouse	84.99%
	Remote warehouse	15.01%
	Non-primary key access	60.00%
Order Status	Non-primary key access	59.94%
Delivery	Skipped transactions (Interactive)	0
	Skipped transaction counts (Deferred)	0
	Skipped District counts (Deferred)	0
Transaction Mix	New Order	44.92%
	Payment	43.03%
	Order-Status	4.01%
	Delivery	4.00%
	Stock-Level	4.01%

5.13. Checkpoint Statistics

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. (8.1.6.21)

There are four checkpoints in the measurement interval. The first checkpoint starts approximately 68 seconds into the measurement interval. The checkpoint interval is 30 minutes (from the start of one to the start of the next) and a checkpoint lasts approximately 28.4 minutes.

The start time and duration in seconds of at least the four (4) longest checkpoints during the Measurement Interval must be disclosed (see Clause 5.5.2.2 (2)). (8.1.6.11)

Table 5.5: Checkpoint Start Time and Duration

Item	Start	End	Duration
Measurement Interval	1:56:53	3:56:53	7200
1st Checkpoint	1:58:01	2:26:23	1702
2nd Checkpoint	2:28:01	2:56:23	1702
3rd Checkpoint	2:58:01	3:26:23	1702
4th Checkpoint	3:28:01	3:56:22	1701

6. Clause 6: SUT, Driver & Communications Definition

6.1. Remote Terminal Emulator (RTE) Description

The RTE input parameters, code fragments, functions, etc. used to generate each transaction input field must be disclosed. (8.1.7.1)

The RTE used is proprietary to Unisys. Appendix D contains the profile used as input to this RTE.

6.2. Loss of Terminal Connections

The number of terminal connections lost during the Measurement Interval must be disclosed (see Clause 6.6.2). (8.1.7.2)

No terminal connections were lost.

6.3. Emulated Components

It must be demonstrated that the functionality and performance of the components being emulated in the Driver System are equivalent to that of the priced system. The results of the test described in Clause 6.6.3.4 must be disclosed. (8.1.7.3)

There were no emulated components in the benchmark configuration other than the emulated web browsers on the users' PCs.

6.4. Functional Diagrams

A complete functional diagram of both benchmark and the configuration of the proposed (target) system must be disclosed. A detailed list of all hardware and software functionality being performed on the Driver System and its interface to the SUT must be disclosed (see Clause 6.6.3.6). (8.1.7.4)

Section 0.7 describes and shows functional diagrams of the benchmarked and priced systems.

6.5. Network Configuration

The network configuration of both the tested and proposed (target) services which are being represented and a thorough explanation of exactly which parts are being replaced with the Driver System must be disclosed (see Clause 6.6.4). (8.1.7.5)

Figures 0.1 and 0.2 in Section 0.7 also diagram the network configurations of the benchmark and configured systems and represent the RTEs connected via LAN replacing the user PCs that are directly connected via LAN.

6.6. Network Bandwidth

The bandwidth of the network(s) used in the tested/priced configuration must be disclosed. (8.1.7.6)

Local area networks (LANs) are used in the priced and tested configurations. The database server contains two (2) dual-port VI 2 gigabit-per-second LAN adapters. Each was direct connected to a VI adapter in the four (4) clients. These LAN segments run at 2 gigabit-per-second in the priced and tested configurations. Each client also contains two 10/100/1000 megabit-per-second inbuilt LAN controllers of which one was used in the tested configuration. A 10/100/1000 megabit-per-second switch was used to connect the clients to RTE driver systems emulating web browsers in the tested configuration. The 10/100/1000 LAN connections between the clients and switches run at 1000 megabits-per-second in the priced and tested configurations.

6.7. Operator Intervention

If the configuration requires operator intervention (see Clause 6.6.6), the mechanism and the frequency of this intervention must be disclosed. (8.1.7.7)

No operator intervention was required to sustain eight hours of operation at the reported throughput.

7. Clause 7: Pricing

7.1. 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 date. If package pricing is used, vendor part number of the package and a description uniquely identifying each of the components of the package must be disclosed. Pricing source(s) and effective date(s) must also be reported. (8.1.8.1)

The total 3-year price of the entire configuration must be reported, including: hardware, software, and maintenance charges. Separate component pricing is recommended. The basis of all discounts used must be disclosed. (8.1.8.2)

System pricing should include subtotals for the following components: Server Hardware, Server Software, Client Hardware, Client Software, and Network Components used for terminal connection (see Clause 7.2.2.3). Clause 6.1 describes the Server and Client components. (8.1.8.7)

System pricing must include line item indication where non-sponsoring companies' brands are used. System pricing must also include line item indication of third party pricing. (8.1.8.8)

A detailed list of hardware and software components along with their part numbers and prices are given in the Executive Summary near the beginning of this document. Microsoft Windows Server 2003, Enterprise x64 Edition has been supplemented by Service Pack 1 and with Microsoft Knowledge Base # KB899008. Portions of the measured SQL Server 2005 binary will be available in Service Pack 1.

7.1.1. System Pricing

The hardware, software and support/maintenance products priced in this benchmark are detailed on page v.

7.1.2. Maintenance Pricing

Three-year support pricing for Unisys Corporation products is based on standard new product warranty, upgraded to provide 24 hours/day, 7 days/week support with four hour maximum response for hardware spare parts.

Microsoft defect support is included in the purchase price. Problem resolution service is provided on an incident by incident basis at $245 per call.

Server disks are covered by Computer Resolutions, Inc.'s 3-year, return-to-factory warranty with seven-day maximum replenishment, and appropriate spares are included in the priced configuration.

7.1.3. Discounts

Computer Resolutions, Inc. provides a standard volume cash discount for the client, server and storage components of the priced configuration. Discount amoumt is shown on page v.

Prices for the three Microsoft products shown on page v include a discount. See Microsoft quote in Appendix F for amount per product

7.2. Availability

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. (8.1.8.3)

All components will be available by the date shown on page iv.

All hardware components will be available by January 3, 2006.

VI-over-FC HBA software can be obtained through the Unisys Corp. support website.

7.3. Measured tpmC, Pricing, Price/Performance, and Availability Date

A statement of the measured tpmC as well as the respective calculations for the 3-year pricing, price/performance (price/tpmC), and the availability date must be included. (8.1.8.4)

The measured tpmC, plus pricing calculations, price/performance, and availability are shown on pages iv and v.

7.4. Country-Specific Pricing

Additional Clause 7 related items might be included in the Full Disclosure Report for each country specific priced configuration. Country specific pricing is subject to Clause 7.1.7. (8.1.8.5)

None.

7.5. Usage Pricing

For any usage pricing, the sponsor must disclose: (8.1.8.6)

- *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:

- One (1) Microsoft Windows Server 2003, Enterprise x64 Edition license, 8 processor
- One (1) Microsoft SQL Server 2005 Enterprise x64 Edition license, 8 processor
- Four (4) Microsoft Windows 2003 Server licenses
- One (1) Microsoft Visual C++ Standard license

8. Clause 8 : Full Disclosure Availability

8.1. Availability

The Full Disclosure Report must be readily available to the public at a reasonable charge, similar to charges for similar documents by that test sponsor. (8.2)

Copies of this Full Disclosure Report may be downloaded from the Transaction Processing Performance Council web site at www.tpc.org or obtained by contacting:

TPC Benchmark Administrator
Systems Analysis, Modeling & Measurement Group
Unisys Corporation, M/S 237
25725 Jeronimo Road
Mission Viejo, CA 92691
USA

9. *Clause 9 : Audit*

9.1. Auditor's Report

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. (8.1.9.1)

A review of the pricing model is required to ensure that all components required are priced (see Clause 9.2.8). The auditor is not required to review the final Full Disclosure Report or the final pricing prior to issuing the attestations letter. (8.1.9.2)

Tom Sawyer, a TPC certified auditor, audited this implementation of the TPC Benchmark C on the Unisys ES7000/600 Enterprise Server (8P) representing:

Performance Metrics, Inc.
P.O. Box 984
Klamath, CA 95548-0984

Phone: (707) 482-0575
Fax: (707) 482-0115
Email: Lorna@PerfMetrics.com

The attestation letter is shown on the next 2 pages.

PERFORMANCE METRICS INC.
TPC Certified Auditors

November 2, 2005

Jerrold Buggert
Director of Modeling and Measurement
Unisys Corporation
25725 Jeronimo Road
Mission Viejo, CA 92691

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

Platform:	Unisys ES7000/600 Enterprise Server (8P)
Database Manager:	Microsoft SQL Server 2005 Enterprise x64 Edition
Operating System:	Microsoft Windows Server 2003 Enterprise x64 Edition
Transaction Manager:	Microsoft COM+ (included in Windows 2003, SP1)

Server: Unisys ES7000/600 Enterprise Server (8P)				
CPU's	Memory	Disks	90% Response	TpmC
8 Intel Xeon MP @ 3.33 GHz	Main: 256 GB	329 @ 18GB 7 @ 36GB 12 @ 146GB 2@ 36GB (OS)	**0.40 sec**	**251,691**
4 Clients: Unisys ES3120L Server				
2 Intel Xeon @ 3.4 GHz	Main: 2 GB	1 @ 36GB	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 was properly scaled and populated with 20,200 warehouses, of which 20,050 were active during the Measured Interval. I verified that the unused warehouses had their respective warehouse rows deleted.

PO Box 984, Klamath CA 95548-0984
(707) 482-0115 fax: (707) 482-0575 email: Lorna@PerfMetrics.com

- The ACID properties were successfully demonstrated.
- The durability data loss and log loss tests were demonstrated on a subset of the SUT with 2,628 active warehouses, running over 10% load.
- Input data was generated according to the specified percentages.
- Eight hours of mirrored log space was configured on the measured system.
- Eight hours of dynamic table growth space was configured on the measured system.
- The 60-day space calculation was verified – see Auditor's Notes.
- Measurement cycle times included a 0.1 second menu and a 0.1 second response time delays for emulated Web browsers.
- There were 200,500 user contexts present on the system.
- Each emulated user started with a different random number seed.
- The NURand constants used for database load and at run time were 123 and 208 respectively.
- The steady state portion of the test was 2 hours (7200 seconds).
- One checkpoint was taken before the measured interval and after steady state was reached.
- Four checkpoints were taken during the measured interval.
- The system pricing was checked for major components and maintenance.

Auditor Notes:

There were four ES3120L clients in the measured configuration, each with dual 3.4GHz processors with 1MB cache, 800MHz FSB. The pricing uses four new ES3120L clients in the benchmark configuration, each with dual 3.4GHz processors with 2MB cache, 800MHz FSB because clients with the older processors in the measured configuration are no longer orderable through Unisys. This substitution is compliant with current substitution rules - TAB Id 401.

To satisfy the 60-day space requirement, 42 of the 18GB drives were upgraded to 36GB drives. This substitution was done in accordance with TAB ID 309. The pricing spared both sizes appropriately.

Portions of the measured SQL Server 2005 binary will be available in Service Pack 1.

Sincerely,

Tom Sawyer

Tom Sawyer
Auditor

PO Box 984, Klamath CA 95548-0984
(707) 482-0115 fax: (707) 482-0575 email: Lorna@PerfMetrics.com

Appendix A - Client Source

tpcc.def

```
EXPORTS
   GetExtensionVersion
   HttpExtensionProc
```

tpcc.h

```
// tpcc.h
//
// Copyright Unisys, 2000

#include <time.h>

#define VERSIONINFO "--- 1.2.8 ---"

// TPCCHandler return codes
#define TPCCSEND 1
#define TPCCSENDEND 2
#define TPCCENDNOW 3

// TPCC Service return codes
#define SVC_BADITEMID 1
#define SVC_NOERROR 0
#define SVCERR_DEADLOCK -1
#define SVCERR_NOCUSTOMER -2
#define SVCERR_NOORDERS -3
#define SVCERR_DBLIB -4
#define SVCERR_EXCEPTION -5
#define SVCERR_DQFULL -6
#define SVCERR_DQSTART -7
#define SVCERR_ODBC -8

// Min/Max transaction data definitions
#define MIN_DId 1
#define MAX_DId 10
#define MIN_OL 5
#define MAX_OL 15
#define MIN_QUANTITY 1
#define MAX_QUANTITY 10
#define MIN_ITEM_ID 1
#define MAX_ITEM_ID 100000
#define MIN_CUST_ID 1
#define MAX_CUST_ID 3000
#define MIN_CARRIER 1
#define MAX_CARRIER 10
#define MIN_THRESHOLD 10
#define MAX_THRESHOLD 20

// pTPCC->iStatusId codes
#define INVALID_IID             1
#define STATUS_OK               0
#define ERR_CMD_UNKNOWN         -10
#define ERRTXT_CMD_UNKNOWN      "Unrecognized Command"
#define ERR_ALREADY_LOGGEDIN    -11
#define ERRTXT_ALREADY_LOGGEDIN "Already Logged In"
#define ERR_TERMID              -12
#define ERRTXT_TERMID           "TermId or SyncId in Error"
#define ERR_FORM_UNKNOWN        -13
#define ERRTXT_FORM_UNKNOWN     "Unrecognized FormId"
#define ERR_WID_INVALID         -14
#define ERR_DID_INVALID         -15
#define ERR_MISSING_KEY         -16
#define ERR_NOT_NUMERIC         -17
#define ERR_THRESHOLD_RANGE     -18
#define ERR_EMBEDDED_EMPTY_OL   -19
#define ERR_QUANTITY_INVALID    -20
#define ERR_OL_INVALID          -21
#define ERR_OL_COUNT            -22
#define ERR_TM_INTERFACE        -23
#define ERR_SERVICE_RSLT        -24
#define ERR_INPUT_TOOLONG       -25
#define ERR_IDANDNAME_EMPTY     -26
#define ERR_IDANDNAME_ENTERED   -27
#define ERR_AMOUNT_BADFORM      -28
#define ERR_AMOUNT_INVALID      -29
#define ERR_CARRIER_INVALID     -30
#define ERR_TERM_ALLOC          -31

#define STATUS_LEN 30
#define NAME_LEN 16
#define ADDR_LEN 20
#define STATE_LEN 2
#define ZIP_LEN 9

#define CTEXT "Content-length: "
#define HTTPHdr "Content-type: text/html\r\nContent-length:     \r\n\r\n"

typedef struct
{
   unsigned short year;
   unsigned short month;
   unsigned short day;
   unsigned short hour;
   unsigned short minute;
   unsigned short second;
} DATEDETAILS;

typedef struct
{
#ifdef LONG_WID
   long ol_supply_w_id;
#else
   short ol_supply_w_id;
#endif
   long ol_i_id;
   char ol_i_name[25];
   short ol_quantity;
```

```
   char ol_brand_generic[2];
   double ol_i_price;
   double ol_amount;
   short ol_stock;
} OL_NEW_ORDER_DATA;

typedef struct
{
   bool bTPRslt;
   short iTPRslt;
#ifdef LONG_WID
   long w_id;
#else
   short w_id;
#endif
   short d_id;
   long        c_id;
   short o_ol_cnt;
   char c_last[NAME_LEN + 1];
   char c_credit[3];
   double c_discount;
   double w_tax;
   double d_tax;
   long o_id;
   short o_all_local;
   short o_commit_flag;
   DATEDETAILS o_entry_d;
   double total_amount;
   char execution_status[STATUS_LEN];
   OL_NEW_ORDER_DATA Ol[MAX_OL];
} NEW_ORDER_DATA;

typedef struct
{
   bool bTPRslt;
   short iTPRslt;
#ifdef LONG_WID
   long w_id;
#else
   short w_id;
#endif
   short d_id;
   long c_id;
   short c_d_id;
#ifdef LONG_WID
   long c_w_id;
#else
   short c_w_id;
#endif
   double h_amount;
   DATEDETAILS h_date;
   char w_street_1[ADDR_LEN + 1];
   char w_street_2[ADDR_LEN + 1];
   char w_city[ADDR_LEN + 1];
   char w_state[STATE_LEN + 1];
   char w_zip[ZIP_LEN + 1];
   char d_street_1[ADDR_LEN + 1];
   char d_street_2[ADDR_LEN + 1];
   char d_city[ADDR_LEN + 1];
   char d_state[STATE_LEN + 1];
   char d_zip[ZIP_LEN + 1];
   char c_first[NAME_LEN + 1];
   char c_middle[3];
   char c_last[NAME_LEN + 1];
   char c_street_1[ADDR_LEN + 1];
   char c_street_2[ADDR_LEN + 1];
   char c_city[ADDR_LEN + 1];
   char c_state[STATE_LEN + 1];
   char c_zip[ZIP_LEN + 1];
   char c_phone[17];
   DATEDETAILS c_since;
   char c_credit[3];
   double c_credit_lim;
   double c_discount;
   double c_balance;
   char c_data[200+1];
   char execution_status[STATUS_LEN];
} PAYMENT_DATA;

typedef struct
{
   long ol_i_id;
#ifdef LONG_WID
   long ol_supply_w_id;
#else
   short ol_supply_w_id;
#endif
   short ol_quantity;
   double ol_amount;
   DATEDETAILS ol_delivery_d;
} OL_ORDER_STATUS_DATA;

typedef struct
{
   bool bTPRslt;
   short iTPRslt;
#ifdef LONG_WID
   long w_id;
#else
   short w_id;
#endif
   short d_id;
   long c_id;
   char c_first[NAME_LEN + 1];
   short o_ol_cnt;
   char c_middle[3];
   char c_last[NAME_LEN + 1];
   double c_balance;
   long o_id;
   DATEDETAILS o_entry_d;
   short o_carrier_id;
   OL_ORDER_STATUS_DATA OlOrderStatusData[MAX_OL];
   char execution_status[STATUS_LEN];
} ORDER_STATUS_DATA;

typedef struct
{
   bool bTPRslt;
   short iTPRslt;
#ifdef LONG_WID
   long w_id;
#else
```

```
   short w_id;
#endif
   short o_carrier_id;
   long o_id[10];
   SYSTEMTIME QTime;                // time delivery was queued
   SYSTEMTIME EndTime;              // time delivery completed
} DELIVERY_DATA;

typedef struct
{
   bool bTPRslt;
   short iTPRslt;
#ifdef LONG_WID
   long w_id;
#else
   short w_id;
#endif
   short d_id;
   short thresh_hold;
   long low_stock;
   char execution_status[STATUS_LEN];
} STOCK_LEVEL_DATA;
```

tpcc.cpp

```
// tpcc.cpp
//
// Copyright Unisys, 1999
//

#include <windows.h>
#include <stdio.h>
#include <malloc.h>
#include <stdlib.h>
#include <string.h>
#include <winreg.h>
#include <httpext.h>

#include "..\tpccsvr\tpcc.h"
#include "tmon.h"
#include "diagio.h"
#include "term.h"
#include "delivery.h"
#include "tpcchandler.h"

#define EXTN_VERSION MAKELONG(HSE_VERSION_MINOR,HSE_VERSION_MAJOR)
#define TLS_NULL 0xFFFFFFFF
DWORD dwTlsInx;
CHAR * pTitle = "IIS TPCC COM DLL";
CRITICAL_SECTION csDllMain;

// Diagnostic logging settings
BOOL bSetEventLog = TRUE;
BOOL bSetConsole = FALSE;
UINT uSetDiagLevel = DIAG_INFO;

// TMon Interface Settings
INT iTMMaxMsg = 0;

// Term Interface Settings
INT iMaxTerms = 3000;

// Delivery Settings
long lSetDThreads = 8;
long lSetDQSize = DEFAULTDQSIZE;
char szSetPath[200] = "\\inetpub\\wwwroot\\";

static CHAR * szTPCCError =
   HTTPHdr "<HTML>"
   "<HEAD><TITLE>Welcome To TPC-C</TITLE></HEAD><BODY>"
   "<B>TPCC Extension Error (TPCC Array Not Allocated)</B><BR>"
   "</BODY></HTML>";

static CHAR * szTMInitError =
   HTTPHdr "<HTML>"
   "<HEAD><TITLE>Welcome To TPC-C</TITLE></HEAD><BODY>"
   "<B>TPCC Extension Error (TMInit Failed)</B><BR>"
   "</BODY></HTML>";
INT iHHdrLen = 0;
INT iCTextLen = 0;

BOOL ThreadAttach(TPCC_STATE * pTPCC,CHAR * pDiag);
VOID ThreadDetach(TPCC_STATE * pTPCC);
VOID SendResponse(EXTENSION_CONTROL_BLOCK * pECB,CHAR * pMsg,CHAR *
pWork);
BOOL ReadRegistry(VOID);

//============================================================================
//
// Function name: DllMain
//
//============================================================================
BOOL APIENTRY DllMain(HANDLE hInst, ULONG ul_reason_for_call,
                      LPVOID lpReserved)
{
   TPCC_STATE * pTPCC = NULL;
   CHAR szDiag[MAX_DIAG_SZ];
   UINT iTMMaxSz =0;
   switch(ul_reason_for_call)
   {
      case DLL_PROCESS_ATTACH:
         // Process initialization

         InitializeCriticalSection(&csDllMain);
         ReadRegistry();
         DiagIoInit(pTitle,bSetConsole,bSetEventLog,uSetDiagLevel);
         wsprintf(szDiag,
            "(%s) EventLog = %d, Console = %d, DiagLevel = %d\n"
            "MaxTerms = %d\n",
            VERSIONINFO,bSetEventLog,bSetConsole,uSetDiagLevel,iMaxTerms);
         DiagIoWrite(szDiag,DIAG_FORCE);
#ifdef LONG_WID
         DiagIoWrite("tpccdll - long w_id", DIAG_FORCE);
#endif
         dwTlsInx = TlsAlloc();
         if (dwTlsInx == TLS_NULL)
         {
            wsprintf(szDiag,"PAttach(%ld): Tls Alloc Failed (%ld)\n",
               GetCurrentThreadId(),GetLastError);
            DiagIoWrite(szDiag,DIAG_ERROR);
```

```
            return(FALSE);
         };
         if (TermInit(iMaxTerms))
            return(FALSE);
         iTMMaxSz = max(iTMMaxSz,sizeof(NEW_ORDER_DATA));
         iTMMaxSz = max(iTMMaxSz,sizeof(PAYMENT_DATA));
         iTMMaxSz = max(iTMMaxSz,sizeof(ORDER_STATUS_DATA));
         iTMMaxSz = max(iTMMaxSz,sizeof(DELIVERY_DATA));
         iTMMaxSz = max(iTMMaxSz,sizeof(STOCK_LEVEL_DATA));
         iTMMaxSz += 10;
         TMonInit(iTMMaxSz);
         if (DeliveryInit(lSetDThreads,lSetDQSize,szSetPath))
         {
            DeliveryTerm();
            return(FALSE);
         };
         iHHdrLen = strlen(HTTPHdr);
         iCTextLen = strlen(CTEXT);

         break;
      case DLL_THREAD_ATTACH:
         // Move ThreadAttach call to HttpExt since the DllMain call
         // for Thread Attach did not reliably come before the first
         // call to HttpExtProc.
         break;
               case DLL_THREAD_DETACH:
         ThreadDetach(pTPCC);
                     break;
               case DLL_PROCESS_DETACH:
         ThreadDetach(pTPCC);
         DeleteCriticalSection(&csDllMain);
         DeliveryTerm();
         TMonTerm();
         TermTerm();
         TlsFree(dwTlsInx);
         dwTlsInx = TLS_NULL;
         DiagIoTerm();
                     break;
       };
       return TRUE;
};   // DllMain

//=========================================================================
//
// Function name: ThreadAttach
//
// Result:
//    FALSE Thread state structure initialized
//    TRUE  Thread state structure initialization failure
//
//=========================================================================
BOOL ThreadAttach(TPCC_STATE * pTPCC,CHAR * pDiag)
{
   EnterCriticalSection(&csDllMain);
   __try
   {

      pTPCC = (TPCC_STATE *) calloc(1,sizeof(TPCC_STATE));
      if (pTPCC == NULL)
      {
         wsprintf(pDiag,"ThrAtt(%ld): pTPCC Alloc Failed (%ld)\n",
            GetCurrentThreadId(),GetLastError);
         DiagIoWrite(pDiag,DIAG_ERROR);
         return(TRUE);
      };

          char filename[64];
          long threadId;
          threadId = GetCurrentThreadId();
          sprintf(filename, "c:\\temp\\testing%ld.txt", threadId);
          pTPCC->fp = fopen(filename, "w");
          if (pTPCC->fp != NULL)
          {
                fprintf(pTPCC->fp, "Init %ld\n", threadId);
                fflush(pTPCC->fp);
          }

      TlsSetValue(dwTlsInx,pTPCC);
      pTPCC->tsTMon.pszErrTxt = pTPCC->ErrTxt;
      if (TMInit(&pTPCC->tsTMon))
      {
         wsprintf(pDiag,"ThrAtt(%ld): TMInit %s\n",
            GetCurrentThreadId(),pTPCC->ErrTxt);
         DiagIoWrite(pDiag,DIAG_ERROR);
         return(TRUE);
      };
   }
   __finally
   {
      LeaveCriticalSection(&csDllMain);
   };
   return(FALSE);
};   // ThreadAttach

//=========================================================================
//
// Function name: ThreadDetach
//
//=========================================================================
VOID ThreadDetach(TPCC_STATE * pTPCC)
{
   EnterCriticalSection(&csDllMain);
   __try
   {
      pTPCC = (TPCC_STATE *) TlsGetValue(dwTlsInx);
      if (pTPCC != NULL)
      {
         TMDone(&pTPCC->tsTMon);
                fclose(pTPCC->fp);
         free(pTPCC);
         pTPCC = NULL;
         TlsSetValue(dwTlsInx,pTPCC);
      };
   }
   __finally
   {
      LeaveCriticalSection(&csDllMain);
   };
};   // ThreadDetach

//=========================================================================
//
```

```
// Function name: GetExtensionVersion
//
//====================================================================
BOOL WINAPI GetExtensionVersion(HSE_VERSION_INFO *pVersion)
{
   pVersion->dwExtensionVersion = EXTN_VERSION;
   strncpy(pVersion->lpszExtensionDesc,pTitle,HSE_MAX_EXT_DLL_NAME_LEN);
   return TRUE;
};   // GetExtensionVersion

//====================================================================
//
// Function name: HttpExtensionProc
//
//
// Returns:
//    HSE_STATUS_SUCCESS               send msg, drop connection
//    HSE_STATUS_SUCCESS_AND_KEEP_CONN       send msg, keep connection
//
//====================================================================
DWORD WINAPI HttpExtensionProc(EXTENSION_CONTROL_BLOCK * pECB)
{
   TPCC_STATE * pTPCC;
   //DWORD dwRslt = HSE_STATUS_SUCCESS;
   DWORD dwRslt = HSE_STATUS_SUCCESS_AND_KEEP_CONN;
   UINT uRslt;

   pTPCC = (TPCC_STATE *) TlsGetValue(dwTlsInx);
   if (pTPCC == NULL)
   {
      CHAR szWork[200];
      ThreadAttach(pTPCC,szWork);
      pTPCC = (TPCC_STATE *) TlsGetValue(dwTlsInx);
      if (pTPCC == NULL)
      {
         SendResponse(pECB,szTPCCError,szWork);
         goto HttpXit;
      };
   };
   if (pTPCC->tsTMon.pTxnData == NULL)
      SendResponse(pECB,szTMInitError,pTPCC->szHeader);
   TPCCClear(pTPCC);
   pTPCC->ConnID = pECB->ConnID;
   pTPCC->RecvMsg = pECB->lpszQueryString;
   uRslt = TPCCHandler(pTPCC);
   switch (uRslt)
   {
      case TPCCSEND:
         SendResponse(pECB,pTPCC->SendMsg,pTPCC->szHeader);
         dwRslt = HSE_STATUS_SUCCESS_AND_KEEP_CONN;
         break;
      case TPCCSENDEND:
         SendResponse(pECB,pTPCC->SendMsg,pTPCC->szHeader);
         break;
      case TPCCENDNOW:
      default:
         break;
   };   // switch (TPCCHandler result)

HttpXit:
      if (uRslt != TPCCSEND && pTPCC->fp)
      {
            fprintf(pTPCC->fp, "%ld %s (%ld,%ld) \n", pTPCC->iTermId,
pTPCC->ErrTxt, pTPCC->sWId, pTPCC->sDId);
            fflush(pTPCC->fp);
      }


      return(dwRslt);

};   // HttpExtensionProc

//====================================================================
//
// Function name: SendResponse
//
//====================================================================
VOID SendResponse(EXTENSION_CONTROL_BLOCK * pECB,CHAR * pMsg,CHAR * pWork)
{
   DWORD dwMsgBytes;
   DWORD dwDataBytes;
   CHAR * pCL;
   HSE_SEND_HEADER_EX_INFO HeaderExInfo;
   dwMsgBytes = strlen(pMsg);
   pCL=strstr(pMsg,CTEXT);
   dwDataBytes = dwMsgBytes - iHHdrLen;
   wsprintf(pWork,"%4ld",dwDataBytes);
   pCL += iCTextLen;
   strncpy(pCL,pWork,4);
   HeaderExInfo.pszHeader = pMsg;
   HeaderExInfo.cchHeader = dwMsgBytes;
   HeaderExInfo.pszStatus = "200 OK";
   HeaderExInfo.cchStatus = 6;
   HeaderExInfo.fKeepConn = TRUE;
   (*pECB->ServerSupportFunction)
      (pECB->ConnID,
      HSE_REQ_SEND_RESPONSE_HEADER_EX,
      &HeaderExInfo,
      NULL,
      NULL);
};   // SendResponse

//====================================================================
//
// Function name: ReadRegistry
//
//    Sets global operational parameters from registry if they exist.
//    Otherwise, compiled in defaults apply.
//
// Result:
//    FALSE    Registry entry found
//    TRUE     Registry entry does not exist
//
//====================================================================
BOOL ReadRegistry(VOID)
{
   HKEY hkTPCC;
   DWORD       dwMax;
   DWORD       dwRT;
   INT i;
   CHAR szValue[100];
```

```
   if (RegOpenKeyEx(HKEY_LOCAL_MACHINE,"SOFTWARE\\Unisys\\TPCC",0,
      KEY_READ, &hkTPCC) != ERROR_SUCCESS )
      return(TRUE);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"EVENTLOG",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS)
   {
      if (abs(atoi(szValue) == 0))
         bSetEventLog = FALSE;
      else
         bSetEventLog = TRUE;
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"CONSOLE",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      if (abs(atoi(szValue) == 0))
         bSetConsole = FALSE;
      else
         bSetConsole = TRUE;
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"DIAGLEVEL",0,&dwRT,(BYTE *)
&szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      i = atoi(szValue);
      if (i < DIAG_FORCE)
         i = DIAG_FORCE;
      else
      if (i > DIAG_INFO)
         i = DIAG_INFO;
      uSetDiagLevel = i;
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"MAXTERMS",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      iMaxTerms = abs(atoi(szValue));
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"DELIVERYTHREADS",0,&dwRT,(BYTE *)
&szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      lSetDThreads = abs(atoi(szValue));
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"DQSIZE",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      lSetDQSize = abs(atoi(szValue));
   };
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"DQPATH",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS )
   {
      strcpy(szSetPath,szValue);
   };
   RegCloseKey(hkTPCC);
   return(FALSE);
};   // ReadRegistry
```

tpcchandler.h

```
// tpcchandler.h
//
// Copyright Unisys, 1999

#define MAX_MSG_SZ  5000

typedef struct
{
   LPVOID ConnID;                          // Active Connection Id
#ifdef LONG_WID
   LONG sWId;                              // TPCC WareHouse Id
#else
   SHORT sWId;                              // TPCC WareHouse Id
#endif
   SHORT sDId;                             // TPCC District Id
   INT  iSyncId;                           // TPCC Sync Id
   INT  iTermId;                           // TPCC Term Id
   UINT uFormId;                           // TPCC Form Id
   INT  iStatusId;                         // TPCC Status Id
   CHAR ErrTxt[500];                       // Error text
   CHAR szWork[200];                       // Thread work area
   CHAR szHeader[100];                     // HTTP work area
   CHAR * RecvMsg;                         // HTML message from ECB
   CHAR SendMsg[MAX_MSG_SZ];               // HTML work area
   TMON_STATE tsTMon;                      // TMon Interface
   FILE *fp;                                                  // file for error
info
} TPCC_STATE;

BOOL TPCCClear(TPCC_STATE * pTPCC);
UINT TPCCHandler(TPCC_STATE * pTPCC);
```

tpcchandler.cpp

```
// tpcchandler.cpp
//
// Copyright Unisys, 1999
//
#include <windows.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#include "..\tpccsvr\tpcc.h"
#include "tmon.h"
#include "diagio.h"
#include "delivery.h"
#include "tpcchandler.h"
#include "term.h"

#define INIT_RETRY      0
```

```
// pTPCC->iFormId - TPCC forms enumeration.
#define FORM_NULL        0
#define FORM_LOGON       1
#define FORM_MENU        2
#define FORM_NEWORDER    3
#define FORM_PAYMENT     4
#define FORM_DELIVERY    5
#define FORM_ORDERSTATUS 6
#define FORM_STOCKLEVEL  7
#define FORM_EXIT        8
#define FORM_MAX         9

// CMD= HTML Command Enumeration and Name
#define CMD_NULL              0
#define CMD_PROCESS           1
#define CMD_NEWORDER_FORM     2
#define CMD_PAYMENT_FORM      3
#define CMD_DELIVERY_FORM     4
#define CMD_ORDERSTATUS_FORM  5
#define CMD_STOCKLEVEL_FORM   6
#define CMD_EXIT              7
#define CMD_SUBMIT            8
#define CMD_MENU_FORM         9
#define CMD_MAX               10

static CHAR * szCmds[] =
{
   "Unknown",
   "Process",
   "..NewOrder..",
   "..Payment..",
   "..Delivery..",
   "..Order-Status..",
   "..Stock-Level..",
   "..Exit..",
   "Submit",
   "Menu"
};

static CHAR * szFormLogin =
   HTTPHdr "<HTML>"
   "<HEAD><TITLE>Welcome To TPC-C</TITLE></HEAD><BODY>"
   "Please Identify your Warehouse and District for this session.<BR>"
   "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
   "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"0\">"
   "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"1\">"
   "<INPUT TYPE=\"hidden\" NAME=\"TERMID\" VALUE=\"-2\">"
   "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"0\">"
#ifdef LONG_WID
   "Warehouse ID <INPUT NAME=\"w_id\" SIZE=6><BR>"
#else
   "Warehouse ID <INPUT NAME=\"w_id\" SIZE=4><BR>"
#endif
   "District ID <INPUT NAME=\"d_id\" SIZE=2><BR>"
   "<HR>"
   "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Submit\">"
   "</FORM>";

static CHAR * szMenuList =
   "<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..\">";

static CHAR * HTMLTrailer =
   "</BODY></HTML>";

static CHAR * TERMIDTOKEN = "TERMID=";
static CHAR * SYNCIDTOKEN = "SYNCID=";
static CHAR * FORMIDTOKEN = "FORMID=";
static CHAR * STATUSIDTOKEN = "STATUSID=";
static CHAR * CMDTOKEN = "CMD=";
static CHAR * NEWORDER_SERVICE = "NEWORDER";
static CHAR * PAYMENT_SERVICE = "PAYMENT";
static CHAR * ORDERSTATUS_SERVICE = "ORDERSTS";
static CHAR * DELIVERY_SERVICE = "DELIVERY";
static CHAR * STOCKLEVEL_SERVICE = "STOCKLVL";
static CHAR * ZIPPIC = "XXXXX-XXXX";

BOOL ProcessLogin(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessForm(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessNewOrder(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessPayment(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessDelivery(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessOrderStatus(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
BOOL ProcessStockLevel(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatLogin(CHAR * pMsg,CHAR * pAddText);
BOOL GetHidden(CHAR * pMsg,UINT * uFormId,INT * iSyncId,INT * iTermId);
BOOL GetCmd(CHAR * pMsg,CHAR * pWork,UINT uLen);
BOOL GetLongKey(LONG * lRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE * pTPCC);
BOOL GetIntKey(INT * iRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE * pTPCC);
BOOL GetShortKey(SHORT * sRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE *
pTPCC);
BOOL GetStringKey(CHAR * szRslt,CHAR * pHTML,CHAR * pKey,
                  TPCC_STATE * pTPCC,UINT uMax);
BOOL GetAmountKey(DOUBLE * dRslt,CHAR * pHTML,CHAR * pKey,
                  TPCC_STATE * pTPCC);
BOOL GetKeyValue(CHAR * pHTML,CHAR * pKey,CHAR * pValue,UINT uMax);
VOID FormatLogin(CHAR * pOut,CHAR * pAddText);
VOID FormatMenu(CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatNewOrder(CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatPayment(CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatDelivery(CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatOrderStatus(CHAR * pOut,TPCC_STATE * pTPCC);
VOID FormatStockLevel(CHAR * pOut,TPCC_STATE * pTPCC);
INT FormatFormHdr(CHAR * pOut,CHAR * pTitle,TPCC_STATE * pTPCC);
INT FormatRespHdr(CHAR * pOut,CHAR * pTitle,TPCC_STATE * pTPCC);
VOID FormatString(CHAR * pOut,CHAR * pPic,CHAR * pIn);
VOID UtilStrCpy(CHAR * pDest,CHAR * pSrc,INT n);
BOOL CheckNumeric(CHAR * pNum);
void WriteEventLog(char * pMsg,bool bError);

//============================================================================
//
// Function name: TPCCClear
//
//============================================================================
BOOL TPCCClear(TPCC_STATE * pTPCC)
{
   pTPCC->ConnID = 0;
```

```
   pTPCC->sWId = 0;
   pTPCC->sDId = 0;
   pTPCC->iSyncId = 0;
   pTPCC->iTermId = -2;
   pTPCC->uFormId = FORM_NULL;
   pTPCC->iStatusId = 0;
   strcpy(pTPCC->ErrTxt,"");
   return(FALSE);
};   // TPCCClear

//=============================================================================
//
// Function name: TPCCHandler
//
//=============================================================================
UINT TPCCHandler(TPCC_STATE * pTPCC)
{
   INT iSyncId;
   INT iTermId;
   UINT uCmdId;
   UINT uRslt = TPCCSENDEND;  // default error handling
   TERM_STATE * pTerm;

   pTPCC->iStatusId = STATUS_OK;
   if (GetHidden(pTPCC->RecvMsg,&pTPCC->uFormId,&iSyncId,&iTermId))
   {
      uRslt = TPCCSEND;
      FormatLogin(pTPCC->SendMsg,pTPCC->ErrTxt);
      goto HdlrXit;
   };
   if (iTermId > 0)
   {
      pTerm = TermGet(iTermId);
      if (pTerm == NULL)
      {
         uRslt = TPCCSEND;
         strcpy(pTPCC->ErrTxt,"Invalid Term Id");
         FormatLogin(pTPCC->SendMsg,pTPCC->ErrTxt);
         goto HdlrXit;
      };
      pTPCC->sWId = pTerm->sWId;
      pTPCC->sDId = pTerm->sDId;
      pTPCC->iSyncId = pTerm->iSyncId;
      pTPCC->iTermId = pTerm->iTermId;
   };
   uCmdId = GetCmd(pTPCC->RecvMsg,pTPCC->szWork,sizeof(pTPCC->szWork));
   // Except for Submit(log in), sWId must already be set
   if (pTPCC->sWId == 0 && uCmdId != CMD_SUBMIT)
   {
      strcpy(pTPCC->ErrTxt,"Must log in first!");
      FormatLogin(pTPCC->SendMsg,pTPCC->ErrTxt);
      uRslt = TPCCSEND;
      goto HdlrXit;
   };
   // Check for multiple log in attempts
   if (pTPCC->sWId != 0 && uCmdId == CMD_SUBMIT)
   {
      strcpy(pTPCC->ErrTxt,ERRTXT_ALREADY_LOGGEDIN);
      pTPCC->iStatusId = ERR_ALREADY_LOGGEDIN;
      FormatMenu(pTPCC->SendMsg,pTPCC);
      uRslt = TPCCSEND;
      goto HdlrXit;
   };
   // If not logging in, validate hidden fields
   if (uCmdId != CMD_SUBMIT)
   {
      if (iTermId != pTPCC->iTermId || iTermId != iSyncId)
      {
         wsprintf(pTPCC->ErrTxt,"%s: Received %ld, %ld (%ld)",
            ERRTXT_TERMID,iTermId,iSyncId,pTPCC->iTermId);
         pTPCC->iStatusId = ERR_TERMID;
         FormatMenu(pTPCC->SendMsg,pTPCC);
         goto HdlrXit;
      };
   };
   // Process the command
   switch (uCmdId)
   {
      case CMD_SUBMIT:
         ProcessLogin(pTPCC->RecvMsg,pTPCC->SendMsg,pTPCC);
         break;
      case CMD_MENU_FORM:
         FormatMenu(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_PROCESS:
         ProcessForm(pTPCC->RecvMsg,pTPCC->SendMsg,pTPCC);
         break;
      case CMD_NEWORDER_FORM:
         FormatNewOrder(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_PAYMENT_FORM:
         FormatPayment(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_DELIVERY_FORM:
         FormatDelivery(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_ORDERSTATUS_FORM:
         FormatOrderStatus(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_STOCKLEVEL_FORM:
         FormatStockLevel(pTPCC->SendMsg,pTPCC);
         break;
      case CMD_EXIT:
         TermFree(pTPCC->iTermId);
         strcpy(pTPCC->ErrTxt,"Logged Off");
         FormatLogin(pTPCC->SendMsg,pTPCC->ErrTxt);
         goto HdlrXit;
      default:
         strcpy(pTPCC->ErrTxt,ERRTXT_CMD_UNKNOWN);
         pTPCC->iStatusId = ERR_CMD_UNKNOWN;
         if (pTPCC->sWId == 0)
            FormatLogin(pTPCC->SendMsg,pTPCC->ErrTxt);
         else
            FormatMenu(pTPCC->SendMsg,pTPCC);
         break;
   };   // switch (uCmdId)

   uRslt = TPCCSEND;

HdlrXit:

   return(uRslt);
```

```
};   // TPCCHandler

//================================================================================
//
// Function name: ProcessLogin
//
//    ProcessLogin extracts WId and DId from the incoming form.  Assumes
//    log in has not previously completed (sWId == 0 already verified).
//
//    Result:
//       FALSE - log in successful, sWId and sDId set in pTPCC,
//               pOut contains menu.
//       TRUE - log in failed, pOut contains log in form with
//              error message.
//
//================================================================================
BOOL ProcessLogin(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
#ifdef LONG_WID
   LONG sWId;
#else
   SHORT sWId;
#endif
   SHORT sDId;
   TERM_STATE * pTerm;

#ifdef LONG_WID
   if (GetLongKey(&sWId,pIn,"w_id",pTPCC))
#else
   if (GetShortKey(&sWId,pIn,"w_id",pTPCC))
#endif
   {
     FormatLogin(pOut,pTPCC->ErrTxt);
     return(TRUE);
   };
   if (sWId < 1)
   {
      wsprintf(pTPCC->ErrTxt,"Warehouse Id (%d) Invalid",sWId);
      pTPCC->iStatusId = ERR_WID_INVALID;
      FormatLogin(pOut,pTPCC->ErrTxt);
      return(TRUE);
   };
   if (GetShortKey(&sDId,pIn,"d_id",pTPCC))
   {
     FormatLogin(pOut,pTPCC->ErrTxt);
     return(TRUE);
   };
   if (sDId < MIN_DId || sDId > MAX_DId)
   {
      wsprintf(pTPCC->ErrTxt,"DId Out of Range(%ld,%ld) - %ld",
         MIN_DId,MAX_DId,sDId);
      pTPCC->iStatusId = ERR_DID_INVALID;
      FormatLogin(pOut,pTPCC->ErrTxt);
      return(TRUE);
   };
   pTerm = TermAlloc();
   if (pTerm == NULL)
   {
      wsprintf(pTPCC->ErrTxt,"Unable to Allocate Terminal Entry");
      pTPCC->iStatusId = ERR_TERM_ALLOC;
      FormatLogin(pOut,pTPCC->ErrTxt);
      return(TRUE);
   };
   pTerm->ConnID = pTPCC->ConnID;
   pTerm->iSyncId = pTerm->iTermId;
   pTerm->sWId = abs(sWId);
   pTerm->sDId = abs(sDId);
   pTPCC->iTermId = pTerm->iTermId;
   pTPCC->iSyncId = pTerm->iSyncId;
   pTPCC->sWId = pTerm->sWId;
   pTPCC->sDId = pTerm->sDId;
   FormatMenu(pOut,pTPCC);
   return(FALSE);
};   // ProcessLogin

//================================================================================
//
// Function name: ProcessForm
//
//    ProcessForm uses pTPCC->uFormId to determine which form input is
//    present and ready for processing.  Actual processing is done by
//    the form specific routine.
//
//    Result:
//       FALSE - form processed, pOut contains response.
//       TRUE - error processing form input, pOut contains reason.
//
//================================================================================
BOOL ProcessForm(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   switch (pTPCC->uFormId )
   {
      case FORM_NEWORDER:
               return(ProcessNewOrder(pIn,pOut,pTPCC));
      case FORM_PAYMENT:
               return(ProcessPayment(pIn,pOut,pTPCC));
      case FORM_DELIVERY:
               return(ProcessDelivery(pIn,pOut,pTPCC));
      case FORM_ORDERSTATUS:
               return(ProcessOrderStatus(pIn,pOut,pTPCC));
      case FORM_STOCKLEVEL:
               return(ProcessStockLevel(pIn,pOut,pTPCC));
      default:
         wsprintf(pTPCC->ErrTxt,"%s (%ld)",
            ERRTXT_FORM_UNKNOWN,pTPCC->uFormId);
         pTPCC->iStatusId = ERR_FORM_UNKNOWN;
         FormatMenu(pOut,pTPCC);
         break;
      }
   return(TRUE);
};   // ProcessForm

//================================================================================
//
// Function name: ProcessNewOrder
//
//    ProcessNewOrder extracts the input data fields from pIn, processes
//    the data, and returns a response in pOut.
//
//    Result:
//       FALSE - NewOrder processed successfully.
```

```
//       TRUE - NewOrder processing failed.
//
//============================================================================
BOOL ProcessNewOrder(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   NEW_ORDER_DATA * pnod;
   TMON_STATE * pTMon;
   CHAR szKey[20];
   CHAR * ptr;
   INT iInx;
   UINT u;
   UINT uLine;
   HRESULT hr;
   int iSize;
   int retCnt = 0;

   pTMon = &pTPCC->tsTMon;
   pnod = (NEW_ORDER_DATA *) pTMon->pTxnData;
   ZeroMemory(pnod,sizeof(NEW_ORDER_DATA));
   pnod->w_id = pTPCC->sWId;
   if (GetShortKey(&pnod->d_id,pIn,"DID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (pnod->d_id < MIN_DId || pnod->d_id > MAX_DId)
   {
      wsprintf(pTPCC->ErrTxt,"DId Out of Range(%ld,%ld) - %ld",
         MIN_DId,MAX_DId,pnod->d_id);
      pTPCC->iStatusId = ERR_DID_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   if (GetLongKey(&pnod->c_id,pIn,"CID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   pnod->o_ol_cnt = 0;
   ptr = pIn;
   for(u=0, uLine=0; u < MAX_OL; u++)
   {
      wsprintf(szKey,"SP%2.2d*",u);
      ptr = strstr(ptr,szKey);
#ifdef LONG_WID
      if (GetLongKey(&pnod->Ol[uLine].ol_supply_w_id,ptr,szKey,pTPCC))
#else
      if (GetShortKey(&pnod->Ol[uLine].ol_supply_w_id,ptr,szKey,pTPCC))
#endif
      {
         FormatMenu(pOut,pTPCC);
         return(TRUE);
      };
      wsprintf(szKey,"IID%2.2d*",u);
      if (GetLongKey(&pnod->Ol[uLine].ol_i_id,ptr,szKey,pTPCC))
      {
         FormatMenu(pOut,pTPCC);
         return(TRUE);
      };
      wsprintf(szKey,"Qty%2.2d*",u);
      if (GetShortKey(&pnod->Ol[uLine].ol_quantity,ptr,szKey,pTPCC))
      {
         FormatMenu(pOut,pTPCC);
         return(TRUE);
      };
      if (pnod->Ol[uLine].ol_i_id != 0)
      {
         if (pnod->Ol[uLine].ol_supply_w_id < 1)
         {
            wsprintf(pTPCC->ErrTxt,
               "Order Line %ld Contains Invalid WId %ld",
               u + 1,pnod->Ol[uLine].ol_supply_w_id);
            pTPCC->iStatusId = ERR_WID_INVALID;
            FormatMenu(pOut,pTPCC);
            return(TRUE);
         };
         if (pnod->Ol[uLine].ol_quantity < MIN_QUANTITY ||
             pnod->Ol[uLine].ol_quantity > MAX_QUANTITY)
         {
            wsprintf(pTPCC->ErrTxt,
               "Order Line %ld Contains Invalid Qty %d",
               u + 1,pnod->Ol[uLine].ol_quantity);
            pTPCC->iStatusId = ERR_QUANTITY_INVALID;
            FormatMenu(pOut,pTPCC);
            return(TRUE);
         };
         uLine++;
      }   // if (ol_i_id !=0)
      else
      {
         if (pnod->Ol[uLine].ol_supply_w_id != 0)
         {
            wsprintf(pTPCC->ErrTxt,
               "Order Line %ld WId Supplied with No Item",u + 1);
            pTPCC->iStatusId = ERR_OL_INVALID;
            FormatMenu(pOut,pTPCC);
            return(TRUE);
         };
         if (pnod->Ol[uLine].ol_quantity != 0)
         {
            wsprintf(pTPCC->ErrTxt,
               "Order Line %ld Qty Supplied with No Item",u + 1);
            pTPCC->iStatusId = ERR_OL_INVALID;
            FormatMenu(pOut,pTPCC);
            return(TRUE);
         };
      };   // empty order line
   };   // for (u < MAX_OL)
   pnod->o_ol_cnt = uLine;
   if (pnod->o_ol_cnt < MIN_OL)
   {
      wsprintf(pTPCC->ErrTxt,"Too Few Order Lines %d",pnod->o_ol_cnt);
      pTPCC->iStatusId = ERR_OL_COUNT;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iSize = pTMon->iSize;
   do
   {
      hr = pTMon->pIAllTxn->NewOrder(&iSize,(unsigned char**)&pTMon-
>pTxnData);
      if (retCnt > 0) Sleep(1000);
```

```
   }while ((FAILED(hr)) && (retCnt++ < INIT_RETRY));

   if (FAILED(hr))
   {
      pTPCC->iStatusId = ERR_TM_INTERFACE;
      wsprintf(pTPCC->ErrTxt,
         "COM Interface to NewOrder Call Failed, HRESULT %x",
         hr);
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   pnod = (NEW_ORDER_DATA *) pTMon->pTxnData;
   // Exclude invalid item id case
   if (pnod->bTPRslt && pnod->iTPRslt < SVC_NOERROR)
   {
      wsprintf(pTPCC->ErrTxt,
         "New Order Service Returned Error(%ld): %s",
         pnod->iTPRslt,pnod->execution_status);
      pTPCC->iStatusId = ERR_SERVICE_RSLT;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   if (pnod->iTPRslt == SVC_BADITEMID)
      pTPCC->iStatusId = INVALID_IID;

   iInx = FormatRespHdr(pOut,"TPC-C New Order",pTPCC);
   if (!pnod->bTPRslt)
   {
      iInx += wsprintf(pOut + iInx,
         "<PRE>                                New Order<BR>"
#ifdef LONG_WID
         "Warehouse: %6.6d   District: %2.2d                          "
#else
         "Warehouse: %4.4d   District: %2.2d                          "
#endif
         "Date: %2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d <BR>"
         "Customer:  %4.4d   Name: %-16s   Credit: %-2s   ",
         pnod->w_id,pnod->d_id,
         pnod->o_entry_d.day,pnod->o_entry_d.month,
         pnod->o_entry_d.year,pnod->o_entry_d.hour,
         pnod->o_entry_d.minute,pnod->o_entry_d.second,
         pnod->c_id,pnod->c_last,pnod->c_credit);
      iInx += sprintf(pOut + iInx,
         "%%Disc: %5.2f            <BR>"
         "Order Number: %8.8d  Number of Lines: %2.2d        W_tax: %5.2f
D_tax: %5.2f  <BR><BR>"
         "  Supp_W   Item_Id  Item Name                  Qty  Stock  B/G
Price    Amount<BR>",
         pnod->c_discount * 100,pnod->o_id,pnod->o_ol_cnt,pnod->w_tax *
100,pnod->d_tax * 100);
      for (u = 0; u < (UINT) pnod->o_ol_cnt; u++)
      {
         iInx += sprintf(pOut + iInx,
#ifdef LONG_WID
            "  %6.6d   %6.6d   %-24s  %2.2d    %3.3d    %1.1s   $%6.2f
$%7.2f  <BR>",
#else
            "  %4.4d   %6.6d   %-24s  %2.2d    %3.3d    %1.1s   $%6.2f
$%7.2f  <BR>",
#endif
            pnod->Ol[u].ol_supply_w_id,pnod->Ol[u].ol_i_id,
            pnod->Ol[u].ol_i_name,pnod->Ol[u].ol_quantity,pnod-
>Ol[u].ol_stock,
            pnod->Ol[u].ol_brand_generic,pnod->Ol[u].ol_i_price,
            pnod->Ol[u].ol_amount);
      };
      for(; u < MAX_OL; u++)
      {
         strcat(pOut + iInx," <BR>");
         iInx += 5;
      };
      sprintf(pOut + iInx,
         "Execution Status: %24.24s                    Total:  $%8.2f  "
         "</PRE><HR><BR>%s</FORM>%s",
         pnod->execution_status,pnod->total_amount,
         szMenuList,HTMLTrailer);
   }   // !bTPRslt
   else
   {
      iInx += wsprintf(pOut + iInx,
         "<PRE>                                New Order<BR>"
#ifdef LONG_WID
         "Warehouse: %6.6d   District: %2.2d
Date:<BR>"
#else
         "Warehouse: %4.4d   District: %2.2d
Date:<BR>"
#endif
         "Customer:  %4.4d   Name: %-16s   Credit: %-2s   "
         "%Disc:<BR>"
         "Order Number: %8.8d  Number of Lines:              W_tax:
D_tax:<BR><BR>"
         " Supp_W  Item_Id  Item Name                  Qty  Stock  B/G
Price    Amount<BR>",
         pnod->w_id,pnod->d_id,
         pnod->c_id,pnod->c_last,pnod->c_credit,
         pnod->o_id);
      for(u = 0; u < MAX_OL; u++)
      {
         strcat(pOut + iInx," <BR>");
         iInx += 5;
      };
      iInx += wsprintf(pOut + iInx,
         "Execution Status: %24.24s                    Total:"
         "</PRE><HR><BR>%s</FORM>%s",
         pnod->execution_status,szMenuList,HTMLTrailer);
   };   // bTPRslt

   return(FALSE);

};   // ProcessNewOrder

//================================================================================
//
// Function name: ProcessPayment
//
//    ProcessPayment extracts the input data fields from pIn, processes
//    the data, and returns a response in pOut.
//
//    Result:
//       FALSE - Payment processed successfully.
//       TRUE - Payment processing failed.
```

```
//
//=====================================================================
BOOL ProcessPayment(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   PAYMENT_DATA * ppd;
   TMON_STATE * pTMon;
   CHAR szWork1[60];
   CHAR szZip1[20];
   CHAR szZip2[20];
   CHAR szZip3[20];
   INT iInx;
   HRESULT hr;
   int iSize;
   int retCnt = 0;

   pTMon = &pTPCC->tsTMon;
   ppd = (PAYMENT_DATA *) pTMon->pTxnData;
   ZeroMemory(ppd,sizeof(PAYMENT_DATA));
   ppd->w_id = pTPCC->sWId;
   // Get and validate DId
   if (GetShortKey(&ppd->d_id,pIn,"DID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (ppd->d_id < MIN_DId || ppd->d_id > MAX_DId)
   {
      wsprintf(pTPCC->ErrTxt,"DId Out of Range(%ld,%ld) - %ld",
         MIN_DId,MAX_DId,ppd->d_id);
      pTPCC->iStatusId = ERR_DID_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   // Get and validate customer Id and name
   if (GetLongKey(&ppd->c_id,pIn,"CID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (GetStringKey(ppd->c_last,pIn,"CLT*",pTPCC,NAME_LEN))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (ppd->c_id == 0 && ppd->c_last[0] == 0)
   {
      strcpy(pTPCC->ErrTxt,"Error - Customer Id and Name Empty");
      pTPCC->iStatusId = ERR_IDANDNAME_EMPTY;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   if (ppd->c_id != 0 && ppd->c_last[0] != 0)
   {
      strcpy(pTPCC->ErrTxt,
         "Error - Specify Customer Id or Name, not Both");
      pTPCC->iStatusId = ERR_IDANDNAME_ENTERED;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   // Get and validate customer DId
   if (GetShortKey(&ppd->c_d_id,pIn,"CDI*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (ppd->c_d_id < MIN_DId || ppd->c_d_id > MAX_DId)
   {
      wsprintf(pTPCC->ErrTxt,"Cust DId Out of Range(%ld,%ld) - %ld",
         MIN_DId,MAX_DId,ppd->d_id);
      pTPCC->iStatusId = ERR_DID_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   // Get and validate customer WId
#ifdef LONG_WID
   if (GetLongKey(&ppd->c_w_id,pIn,"CWI*",pTPCC))
#else
   if (GetShortKey(&ppd->c_w_id,pIn,"CWI*",pTPCC))
#endif
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (ppd->c_w_id < 1)
   {
      wsprintf(pTPCC->ErrTxt,
         "Payment Contains Invalid Customer WId %ld",
         ppd->c_w_id);
      pTPCC->iStatusId = ERR_WID_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   // Get and validate amount
   if (GetAmountKey(&ppd->h_amount,pIn,"HAM*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (ppd->h_amount <= 0)
   {
      wsprintf(pTPCC->ErrTxt,
         "Payment Amount Negative or Missing");
      pTPCC->iStatusId = ERR_AMOUNT_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iSize = pTMon->iSize;
   do
   {
      hr = pTMon->pIAllTxn->Payment(&iSize,(unsigned char**)&pTMon-
>pTxnData);
      if (retCnt > 0) Sleep(1000);
   }while ((FAILED(hr)) && (retCnt++ < INIT_RETRY));

   if (FAILED(hr))
   {
      pTPCC->iStatusId = ERR_TM_INTERFACE;
      wsprintf(pTPCC->ErrTxt,
         "COM Interface to Payment Call Failed, HRESULT %x",
         hr);
      FormatMenu(pOut,pTPCC);
      return(TRUE);
```

```
   };
   ppd = (PAYMENT_DATA *) pTMon->pTxnData;
   if (ppd->bTPRslt)
   {
      wsprintf(pTPCC->ErrTxt,
         "Payment Service Returned Error(%ld): %s",
         ppd->iTPRslt,ppd->execution_status);
      pTPCC->iStatusId = ERR_SERVICE_RSLT;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iInx = FormatRespHdr(pOut,"TPC-C Payment",pTPCC);
   FormatString(szZip1,ZIPPIC,ppd->w_zip);
   FormatString(szZip2,ZIPPIC,ppd->d_zip);
   FormatString(szZip3,ZIPPIC,ppd->c_zip);
   FormatString(szWork1,"XXXXXX-XXX-XXX-XXXX",ppd->c_phone);
   iInx += wsprintf(pOut + iInx,
          "<PRE>                                        Payment<BR>"
      "Date: %2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d <BR><BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d"
#else
      "Warehouse: %4.4d"
#endif
      "                         District: %2.2d<BR>"
      "%-20s                      %-20s<BR>"
      "%-20s                      %-20s<BR>"
      "%-20s %-2s %10.10s       %-20s %-2s %10.10s<BR><BR>"
#ifdef LONG_WID
      "Customer: %4.4d  Cust-Warehouse: %6.6d  Cust-District: %2.2d<BR>"
#else
      "Customer: %4.4d  Cust-Warehouse: %4.4d  Cust-District: %2.2d<BR>"
#endif
      "Name:   %-16s %-2s %-16s     Since:  %2.2d-%2.2d-%4.4d<BR>"
      "        %-20s                     Credit: %-2s<BR>"
      "        %-20s                     ",
          ppd->h_date.day,ppd->h_date.month,
      ppd->h_date.year,ppd->h_date.hour,
      ppd->h_date.minute,ppd->h_date.second,
      ppd->w_id,ppd->d_id,
      ppd->w_street_1,ppd->d_street_1,
      ppd->w_street_2,ppd->d_street_2,
      ppd->w_city,ppd->w_state,szZip1,ppd->d_city,ppd->d_state,szZip2,
      ppd->c_id,ppd->c_w_id,ppd->c_d_id,
      ppd->c_first,ppd->c_middle,ppd->c_last,
      ppd->c_since.day,ppd->c_since.month,ppd->c_since.year,
      ppd->c_street_1,ppd->c_credit,ppd->c_street_2);
   iInx += sprintf(pOut + iInx,"%%Disc:  %5.2f<BR>",ppd->c_discount *
100);
   iInx += wsprintf(pOut + iInx,
      "        %-20s %-2s %10.10s       Phone:  %-19.19s<BR><BR>",
      ppd->c_city,ppd->c_state,szZip3,szWork1);
   iInx += sprintf(pOut + iInx,
      "Amount Paid:          $%7.2f      New Cust Balance: $%14.2f<BR>"
      "Credit Limit:   $%13.2f<BR><BR>",
      ppd->h_amount,ppd->c_balance,ppd->c_credit_lim);
   if (ppd->c_credit[0] == 'B' && ppd->c_credit[1] == 'C')
   {
      wsprintf(pOut + iInx,
         "Cust-Data: %-50.50s<BR>           %-50.50s<BR>           "
         "%-50.50s<BR>           %-50.50s<BR>"
         "</PRE><HR><BR>%s</FORM>%s",
         ppd->c_data,(ppd->c_data + 50),(ppd->c_data + 100),(ppd->c_data +
150),
         szMenuList,HTMLTrailer);
   }
   else
   {
      wsprintf(pOut + iInx,
         "Cust-Data: <BR><BR><BR><BR>"
         "</PRE><HR><BR>%s</FORM>%s",
         szMenuList,HTMLTrailer);
   };

   return(FALSE);

};   // ProcessPayment

//================================================================================
//
// Function name: ProcessDelivery
//
//    ProcessDelivery extracts the input data fields from pIn, processes
//    the data, and returns a response in pOut.
//
//    Result:
//       FALSE - Delivery processed successfully.
//       TRUE - Delivery processing failed.
//
//================================================================================
BOOL ProcessDelivery(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   DELIVERY_DATA * pdd;
   TMON_STATE * pTMon;
   INT iInx;

   pTMon = &pTPCC->tsTMon;
   pdd = (DELIVERY_DATA *) pTMon->pTxnData;
   ZeroMemory(pdd,sizeof(DELIVERY_DATA));
   pdd->w_id = pTPCC->sWId;
   // Get and validate carrier id
   if (GetShortKey(&pdd->o_carrier_id,pIn,"OCD*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (pdd->o_carrier_id < MIN_CARRIER ||
       pdd->o_carrier_id > MAX_CARRIER)
   {
      wsprintf(pTPCC->ErrTxt,"Carrier Id Out of Range(%ld,%ld) - %ld",
         MIN_CARRIER,MAX_CARRIER,pdd->o_carrier_id);
      pTPCC->iStatusId = ERR_CARRIER_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   GetLocalTime(&pdd->QTime);
   DeliveryPost(pdd);
   if (pdd->bTPRslt)
   {
      wsprintf(pTPCC->ErrTxt,
         "Delivery Post Returned Error(%ld): Queue Request Failed",
         pdd->iTPRslt);
```

```
      pTPCC->iStatusId = ERR_SERVICE_RSLT;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iInx = FormatRespHdr(pOut,"TPC-C Delivery",pTPCC);
   iInx += wsprintf(pOut + iInx,
      "<PRE>                                  Delivery<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d<BR><BR>"
#else
      "Warehouse: %4.4d<BR><BR>"
#endif
      "Carrier Number: %2.2d<BR><BR>"
      "Execution Status: %25.25s<BR>"
      "</PRE><HR><BR>%s</FORM>%s",
      pdd->w_id,pdd->o_carrier_id,"Delivery has been queued.",
      szMenuList,HTMLTrailer);

   return(FALSE);

};   // ProcessDelivery

//====================================================================
//
// Function name: ProcessOrderStatus
//
//    ProcessOrderStatus extracts the input data fields from pIn,
//    processes the data, and returns a response in pOut.
//
//    Result:
//       FALSE - OrderStatus processed successfully.
//       TRUE - OrderStatus processing failed.
//
//====================================================================
BOOL ProcessOrderStatus(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   ORDER_STATUS_DATA * posd;
   TMON_STATE * pTMon;
   INT i;
   INT iInx;
   HRESULT hr;
   int iSize;
   int retCnt = 0;

   pTMon = &pTPCC->tsTMon;
   posd = (ORDER_STATUS_DATA *) pTMon->pTxnData;
   ZeroMemory(posd,sizeof(ORDER_STATUS_DATA));
   posd->w_id = pTPCC->sWId;
   if (GetShortKey(&posd->d_id,pIn,"DID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (posd->d_id < MIN_DId || posd->d_id > MAX_DId)
   {
      wsprintf(pTPCC->ErrTxt,"DId Out of Range(%ld,%ld) - %ld",
         MIN_DId,MAX_DId,posd->d_id);
      pTPCC->iStatusId = ERR_DID_INVALID;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   if (GetLongKey(&posd->c_id,pIn,"CID*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (GetStringKey(posd->c_last,pIn,"CLT*",pTPCC,NAME_LEN))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (posd->c_id == 0 && posd->c_last[0] == 0)
   {
      strcpy(pTPCC->ErrTxt,"Error - Customer Id and Name Empty");
      pTPCC->iStatusId = ERR_IDANDNAME_EMPTY;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   if (posd->c_id != 0 && posd->c_last[0] != 0)
   {
      strcpy(pTPCC->ErrTxt,
         "Error - Specify Customer Id or Name, not Both");
      pTPCC->iStatusId = ERR_IDANDNAME_ENTERED;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iSize = pTMon->iSize;
   do
   {
      hr = pTMon->pIAllTxn->OrderStatus(&iSize,(unsigned char**)&pTMon-
>pTxnData);
      if (retCnt > 0) Sleep(1000);
   }while ((FAILED(hr)) && (retCnt++ < INIT_RETRY));

   if (FAILED(hr))
   {
      pTPCC->iStatusId = ERR_TM_INTERFACE;

      wsprintf(pTPCC->ErrTxt,
         "COM Interface to OrderStatus Call Failed, HRESULT %x",hr);

      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   posd = (ORDER_STATUS_DATA *) pTMon->pTxnData;
   if (posd->bTPRslt)
   {
      wsprintf(pTPCC->ErrTxt,
         "Order Status Service Returned Error(%ld): %s",
         posd->iTPRslt,posd->execution_status);
      pTPCC->iStatusId = ERR_SERVICE_RSLT;
      DiagIoWrite(pTPCC->ErrTxt, DIAG_FORCE);
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iInx = FormatRespHdr(pOut,"TPC-C Order-Status",pTPCC);
   iInx += wsprintf(pOut + iInx,
      "<PRE>                                  Order-Status<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d   District: %2.2d<BR>"
#else
      "Warehouse: %4.4d   District: %2.2d<BR>"
```

```
#endif
      "Customer: %4.4d   Name: %-16s %-2s %-16s<BR>",
      posd->w_id,posd->d_id,
      posd->c_id,posd->c_first,posd->c_middle,posd->c_last);
   iInx += sprintf(pOut + iInx,"Cust-Balance: $%9.2f<BR><BR>",posd-
>c_balance);
   iInx += wsprintf(pOut + iInx,
      "Order-Number: %8.8d   Entry-Date: %2.2d-%2.2d-%4.4d
%2.2d:%2.2d:%2.2d   Carrier-Number: %2.2d<BR>"
      "Supply-W       Item-Id    Qty     Amount      Delivery-Date<BR>",
      posd->o_id,posd->o_entry_d.day,posd->o_entry_d.month,
      posd->o_entry_d.year,posd->o_entry_d.hour,
      posd->o_entry_d.minute,posd->o_entry_d.second,
      posd->o_carrier_id);
   for(i = 0; i < posd->o_ol_cnt; i++)
   {
      iInx += sprintf(pOut + iInx,
#ifdef LONG_WID
         "  %6.6d       %6.6d     %2.2d     $%8.2f      %2.2d-%2.2d-
%4.4d<BR>",
#else
         "  %4.4d       %6.6d     %2.2d     $%8.2f      %2.2d-%2.2d-
%4.4d<BR>",
#endif
         posd->OlOrderStatusData[i].ol_supply_w_id,
         posd->OlOrderStatusData[i].ol_i_id,
         posd->OlOrderStatusData[i].ol_quantity,
         posd->OlOrderStatusData[i].ol_amount,
         posd->OlOrderStatusData[i].ol_delivery_d.day,
         posd->OlOrderStatusData[i].ol_delivery_d.month,
         posd->OlOrderStatusData[i].ol_delivery_d.year);
   };
   wsprintf(pOut + iInx,
      "<BR></PRE><HR><BR>%s</FORM>%s",szMenuList,HTMLTrailer);

   return(FALSE);

};   // ProcessOrderStatus

//============================================================================
//
// Function name: ProcessStockLevel
//
//    ProcessStockLevel extracts the input data fields from pIn,
//    processes the data, and returns a response in pOut.
//
//    Result:
//       FALSE - StockLevel processed successfully.
//       TRUE - StockLevel processing failed.
//
//============================================================================
BOOL ProcessStockLevel(CHAR * pIn,CHAR * pOut,TPCC_STATE * pTPCC)
{
   STOCK_LEVEL_DATA * psld;
   TMON_STATE * pTMon;
   HRESULT hr;
   INT iInx;
   int iSize;
   int retCnt = 0;

   pTMon = &pTPCC->tsTMon;
   psld = (STOCK_LEVEL_DATA *) pTMon->pTxnData;
   ZeroMemory(psld,sizeof(STOCK_LEVEL_DATA));
   psld->w_id = pTPCC->sWId;
   psld->d_id = pTPCC->sDId;
   psld->low_stock = 0;
   psld->execution_status[0] = 0;
   if (GetShortKey(&psld->thresh_hold,pIn,"TT*",pTPCC))
   {
     FormatMenu(pOut,pTPCC);
     return(TRUE);
   };
   if (psld->thresh_hold < MIN_THRESHOLD ||
       psld->thresh_hold > MAX_THRESHOLD)
   {
      wsprintf(pTPCC->ErrTxt,"Threshold Out of Range(%ld,%ld) - %ld",
         MIN_THRESHOLD,MAX_THRESHOLD,psld->thresh_hold);
      pTPCC->iStatusId = ERR_THRESHOLD_RANGE;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iSize = pTMon->iSize;
   do
   {
      hr = pTMon->pIAllTxn->StockLevel(&iSize,(unsigned char**)&pTMon-
>pTxnData);
      if (retCnt > 0) Sleep(1000);
   }while ((FAILED(hr)) && (retCnt++ < INIT_RETRY));



   if (FAILED(hr))
   {
      pTPCC->iStatusId = ERR_TM_INTERFACE;
      wsprintf(pTPCC->ErrTxt,
         "COM Interface to StockLevel Call Failed, HRESULT %x",
         hr);
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   psld = (STOCK_LEVEL_DATA *) pTMon->pTxnData;
   if (psld->bTPRslt)
   {
      wsprintf(pTPCC->ErrTxt,
         "Stock Level Service Returned Error(%ld): %s",
         psld->iTPRslt,psld->execution_status);
      pTPCC->iStatusId = ERR_SERVICE_RSLT;
      FormatMenu(pOut,pTPCC);
      return(TRUE);
   };
   iInx = FormatRespHdr(pOut,"TPC-C Stock Level",pTPCC);
   wsprintf(pOut + iInx,
      "<PRE>                                  Stock-Level<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d   District: %2.2d<BR><BR>"
#else
      "Warehouse: %4.4d   District: %2.2d<BR><BR>"
#endif
      "Stock Level Threshold: %2.2d<BR><BR>"
      "low stock: %3.3ld</PRE><BR><HR>"
      "%s</FORM>%s",
      pTPCC->sWId,pTPCC->sDId,psld->thresh_hold,psld->low_stock,
```

```
      szMenuList,HTMLTrailer);

   return(FALSE);

};   // ProcessStockLevel

//==============================================================================
//
// Function name: GetHidden
//
//==============================================================================
BOOL GetHidden(CHAR * pMsg,UINT * uFormId,INT * iSyncId,INT * iTermId)
{
   CHAR * pPtr;
   BOOL bRslt = TRUE;

   // Extract TERMID
   pPtr = strstr(pMsg,TERMIDTOKEN);
   if (pPtr == NULL)
      goto xit;
   pPtr += strlen(TERMIDTOKEN);
   *iTermId = atoi(pPtr);

   // Extract SYNCID
   pPtr = strstr(pMsg,SYNCIDTOKEN);
   if (pPtr == NULL)
      goto xit;
   pPtr += strlen(SYNCIDTOKEN);
   *iSyncId = atoi(pPtr);

   // Extract FORMID
   pPtr = strstr(pMsg,FORMIDTOKEN);
   if (pPtr == NULL)
      goto xit;
   pPtr += strlen(FORMIDTOKEN);
   *uFormId = abs(atoi(pPtr));

   bRslt = FALSE;

xit:

   return(bRslt);

};   // GetHidden

//==============================================================================
//
// Function name: GetCmd
//
//==============================================================================
BOOL GetCmd(CHAR * pMsg,CHAR * pWork,UINT uLen)
{
   UINT u;
   CHAR * ptr;
   CHAR * pUpd;

   // Check for CMD key
   if (!(ptr = strstr(pMsg,CMDTOKEN)))
      return(CMD_NULL);
   ptr += sizeof(CMDTOKEN);
   pUpd = pWork;
   while (*ptr && *ptr != '&')
      *pUpd++ = *ptr++;
   *pUpd = 0;

   // Convert command name into command index
   for(u=0; u < CMD_MAX; u++)
   {
      if (!strcmp(szCmds[u],pWork))
         return(u);
   };

   // Command string not found
   return(CMD_NULL);

};   // GetCmd

//==============================================================================
//
// Function name: GetLongKey
//
//==============================================================================
BOOL GetLongKey(LONG * lRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE * pTPCC)
{
   if (GetKeyValue(pHTML,pKey,pTPCC->szWork,sizeof(pTPCC->szWork)))
   {
      wsprintf(pTPCC->ErrTxt,"Error - Missing %s Key",pKey);
      pTPCC->iStatusId = ERR_MISSING_KEY;
      return(TRUE);
   };
   if (pTPCC->szWork[0] != 0 )
   {
      if (CheckNumeric(pTPCC->szWork))
      {
         wsprintf(pTPCC->ErrTxt,"Error - %s Value Not Numeric",pKey);
         pTPCC->iStatusId = ERR_NOT_NUMERIC;
         return(TRUE);
      };
   };
   *lRslt = atol(pTPCC->szWork);
   return(FALSE);
};   // GetLongKey

//==============================================================================
//
// Function name: GetIntKey
//
//==============================================================================
BOOL GetIntKey(INT * iRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE * pTPCC)
{
   if (GetKeyValue(pHTML,pKey,pTPCC->szWork,sizeof(pTPCC->szWork)))
   {
      wsprintf(pTPCC->ErrTxt,"Error - Missing %s Key",pKey);
      pTPCC->iStatusId = ERR_MISSING_KEY;
      return(TRUE);
   };
   if (pTPCC->szWork[0] != 0 )
   {
      if (CheckNumeric(pTPCC->szWork))
      {
         wsprintf(pTPCC->ErrTxt,"Error - %s Value Not Numeric",pKey);
         pTPCC->iStatusId = ERR_NOT_NUMERIC;
```

```
         return(TRUE);
      };
   };
   *iRslt = atoi(pTPCC->szWork);
   return(FALSE);
};   // GetIntKey

//========================================================================
//
// Function name: GetShortKey
//
//========================================================================
BOOL GetShortKey(SHORT * sRslt,CHAR * pHTML,CHAR * pKey,TPCC_STATE *
pTPCC)
{
   if (GetKeyValue(pHTML,pKey,pTPCC->szWork,sizeof(pTPCC->szWork)))
   {
      wsprintf(pTPCC->ErrTxt,"Error - Missing %s Key",pKey);
      pTPCC->iStatusId = ERR_MISSING_KEY;
      return(TRUE);
   };
   if (pTPCC->szWork[0] != 0 )
   {
      if (CheckNumeric(pTPCC->szWork))
      {
         wsprintf(pTPCC->ErrTxt,"Error - %s Value Not Numeric",pKey);
         pTPCC->iStatusId = ERR_NOT_NUMERIC;
         return(TRUE);
      };
   };
   *sRslt = (SHORT) atoi(pTPCC->szWork);
   return(FALSE);
};   // GetShortKey

//========================================================================
//
// Function name: GetStringKey
//
//========================================================================
BOOL GetStringKey(CHAR * szRslt,CHAR * pHTML,CHAR * pKey,
                  TPCC_STATE * pTPCC,UINT uMax)
{
   UINT uLen;
   if (GetKeyValue(pHTML,pKey,pTPCC->szWork,sizeof(pTPCC->szWork)))
   {
      wsprintf(pTPCC->ErrTxt,"Error - Missing %s Key",pKey);
      pTPCC->iStatusId = ERR_MISSING_KEY;
      return(TRUE);
   };
   uLen = strlen(pTPCC->szWork);
   if (uLen > uMax)
   {
      wsprintf(pTPCC->ErrTxt,
         "Error - %s Key Input (%ld) Too Long (%ld)"
         ,pKey,uLen,uMax);
      pTPCC->iStatusId = ERR_INPUT_TOOLONG;
      return(TRUE);
   };
   _strupr(pTPCC->szWork);
   strcpy(szRslt,pTPCC->szWork);
   return(FALSE);
};   // GetStringKey

//========================================================================
//
// Function name: GetAmountKey
//
//========================================================================
BOOL GetAmountKey(DOUBLE * dRslt,CHAR * pHTML,CHAR * pKey,
                  TPCC_STATE * pTPCC)
{
   CHAR * ptr;
   BOOL bInvalid = FALSE;

   if (GetKeyValue(pHTML,pKey,pTPCC->szWork,sizeof(pTPCC->szWork)))
   {
      wsprintf(pTPCC->ErrTxt,"Error - Missing %s Key",pKey);
      pTPCC->iStatusId = ERR_MISSING_KEY;
      return(TRUE);
   };
   ptr = pTPCC->szWork;
   while(*ptr)
   {
      if (*ptr == '.')
      {
         ptr++;
         if (!*ptr)
            break;
         if (*ptr < '0' || *ptr > '9')
         {
            bInvalid = TRUE;
            break;
         };
         ptr++;
         if (!*ptr)
            break;
         if (*ptr < '0' || *ptr > '9')
         {
            bInvalid = TRUE;
            break;
         };
         ptr++;
         if (*ptr)
         {
            bInvalid = TRUE;
            break;
         };
         break;
      }
      else
      if (*ptr < '0' || *ptr > '9')
      {
         bInvalid = TRUE;
         break;
      };
               ptr++;
       };   // while(!*ptr)

   if (!bInvalid)
      *dRslt = atof(pTPCC->szWork);
   else
   {
```

```
      wsprintf(pTPCC->ErrTxt,
         "Error - Invalid Amount Format (%s)",pTPCC->szWork);
      pTPCC->iStatusId = ERR_AMOUNT_BADFORM;
   };

   return(bInvalid);

};   // GetAmountKey

//========================================================================
//
// Function name: GetKeyValue
//   This function parses an HTTP formatted string for specific key
//   values.  HTTP keys terminate with '='.  HTTP values terminate
//   with an '&' or '\0'.
//
//    Result:
//       FALSE - Key found, string value return in pValue
//       TRUE - Key not found
//
//========================================================================
BOOL GetKeyValue(CHAR * pHTML,CHAR * pKey,CHAR * pValue,UINT uMax)
{
   CHAR * ptr;
   if (!(ptr=strstr(pHTML,pKey)))
      return(TRUE);
   if (!(ptr=strchr(ptr,'=')))
      return(TRUE);
   ptr++;
   uMax--;
   while (*ptr && *ptr != '&' && uMax)
   {
      *pValue++ = *ptr++;
      uMax--;
   };
   *pValue = 0;
   return(FALSE);
};   // GetKeyValue

//========================================================================
//
// Function name: FormatLogin
//
//========================================================================
VOID FormatLogin(CHAR * pOut,CHAR * pAddText)
{
   wsprintf(pOut,"%s<BR>%s<BR>%s",szFormLogin,pAddText,HTMLTrailer);
};   // FormatLogin

//========================================================================
//
// Function name: FormatMenu
//
//========================================================================
VOID FormatMenu(CHAR * pOut,TPCC_STATE * pTPCC)
{
   wsprintf(pOut,
      "%s<HTML><HEAD><TITLE>TPC-C MainMenu</TITLE></HEAD><BODY>"
      "Select Desired Transaction.<BR><HR>"
      "<FORM ACTION=\"tpcc.dll\"METHOD=\"GET\">"
      "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"TERMID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
      "%s</FORM><BR>%s<BR>%s",
      HTTPHdr,pTPCC->iStatusId,pTPCC->iTermId,pTPCC->iSyncId,FORM_MENU,
      szMenuList,pTPCC->ErrTxt,HTMLTrailer);
};   // FormatMenu

//========================================================================
//
// Function name: FormatNewOrder
//
//========================================================================
VOID FormatNewOrder(CHAR * pOut,TPCC_STATE * pTPCC)
{
   INT iInx;
   pTPCC->uFormId = FORM_NEWORDER;
   iInx = FormatFormHdr(pOut,"TPC-C New Order",pTPCC);
   iInx += wsprintf(pOut + iInx,
      "<PRE>                                   New Order<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d   District: <INPUT NAME=\"DID*\" SIZE=1>
Date:<BR>",
#else
      "Warehouse: %4.4d   District: <INPUT NAME=\"DID*\" SIZE=1>
Date:<BR>",
#endif
      pTPCC->sWId);
        strcpy(pOut + iInx,
      "Customer:  <INPUT NAME=\"CID*\" SIZE=4>   Name:
Credit:      %Disc:<BR>"
      "Order Number:           Number of Lines:           W_tax:
D_tax:<BR><BR>"
      " Supp_W  Item_Id  Item Name                 Qty  Stock  B/G  Price
Amount<BR>"
#ifdef LONG_WID
      " <INPUT NAME=\"SP00*\" SIZE=6>  <INPUT NAME=\"IID00*\" SIZE=6>
<INPUT NAME=\"Qty00*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP01*\" SIZE=6>  <INPUT NAME=\"IID01*\" SIZE=6>
<INPUT NAME=\"Qty01*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP02*\" SIZE=6>  <INPUT NAME=\"IID02*\" SIZE=6>
<INPUT NAME=\"Qty02*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP03*\" SIZE=6>  <INPUT NAME=\"IID03*\" SIZE=6>
<INPUT NAME=\"Qty03*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP04*\" SIZE=6>  <INPUT NAME=\"IID04*\" SIZE=6>
<INPUT NAME=\"Qty04*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP05*\" SIZE=6>  <INPUT NAME=\"IID05*\" SIZE=6>
<INPUT NAME=\"Qty05*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP06*\" SIZE=6>  <INPUT NAME=\"IID06*\" SIZE=6>
<INPUT NAME=\"Qty06*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP07*\" SIZE=6>  <INPUT NAME=\"IID07*\" SIZE=6>
<INPUT NAME=\"Qty07*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP08*\" SIZE=6>  <INPUT NAME=\"IID08*\" SIZE=6>
<INPUT NAME=\"Qty08*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP09*\" SIZE=6>  <INPUT NAME=\"IID09*\" SIZE=6>
<INPUT NAME=\"Qty09*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP10*\" SIZE=6>  <INPUT NAME=\"IID10*\" SIZE=6>
<INPUT NAME=\"Qty10*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP11*\" SIZE=6>  <INPUT NAME=\"IID11*\" SIZE=6>
<INPUT NAME=\"Qty11*\" SIZE=1><BR>"
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      " <INPUT NAME=\"SP12*\" SIZE=6>  <INPUT NAME=\"IID12*\" SIZE=6>
<INPUT NAME=\"Qty12*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP13*\" SIZE=6>  <INPUT NAME=\"IID13*\" SIZE=6>
<INPUT NAME=\"Qty13*\" SIZE=1><BR>"
      " <INPUT NAME=\"SP14*\" SIZE=6>  <INPUT NAME=\"IID14*\" SIZE=6>
<INPUT NAME=\"Qty14*\" SIZE=1><BR>"
#else
      " <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>"
#endif
      "Execution Status:
Total:<BR><HR>"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Process\">"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Menu\">"
      "</FORM></BODY></HTML>");
};   // FormatNewOrder

//============================================================================
//
// Function name: FormatPayment
//
//============================================================================
VOID FormatPayment(CHAR * pOut,TPCC_STATE * pTPCC)
{
   INT iInx;
   pTPCC->uFormId = FORM_PAYMENT;
   iInx = FormatFormHdr(pOut,"TPC-C Payment",pTPCC);
   iInx += wsprintf(pOut + iInx,
      "<PRE>                                    Payment<BR>"
      "Date:<BR><BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d",
#else
      "Warehouse: %4.4d",
#endif
      pTPCC->sWId);
   strcpy(pOut + iInx,
      "                              District: <INPUT NAME=\"DID*\"
SIZE=1><BR><BR><BR><BR><BR>"
      "Customer: <INPUT NAME=\"CID*\" SIZE=4>"
#ifdef LONG_WID
      "Cust-Warehouse: <INPUT NAME=\"CWI*\" SIZE=6>  "
#else
      "Cust-Warehouse: <INPUT NAME=\"CWI*\" SIZE=4>  "
#endif
      "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></PRE><HR>"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Process\">"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Menu\">"
      "</FORM></BODY></HTML>");
};   // FormatPayment

//============================================================================
//
// Function name: FormatDelivery
//
//============================================================================
VOID FormatDelivery(CHAR * pOut,TPCC_STATE * pTPCC)
{
   INT iInx;
   pTPCC->uFormId = FORM_DELIVERY;
   iInx = FormatFormHdr(pOut,"TPC-C Delivery",pTPCC);
   wsprintf(pOut + iInx,
      "<PRE>                                    Delivery<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d<BR><BR>"
#else
      "Warehouse: %4.4d<BR><BR>"
#endif
      "Carrier Number: <INPUT NAME=\"OCD*\" SIZE=1><BR><BR>"
      "Execution Status:<BR></PRE><HR>"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Process\">"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Menu\">"
      "</FORM></BODY></HTML>",
      pTPCC->sWId);
};   // FormatDelivery

//============================================================================
//
// Function name: FormatOrderStatus
//
//============================================================================
VOID FormatOrderStatus(CHAR * pOut,TPCC_STATE * pTPCC)
{
   INT iInx;
   pTPCC->uFormId = FORM_ORDERSTATUS;
   iInx = FormatFormHdr(pOut,"TPC-C Order-Status",pTPCC);
```

```
   wsprintf(pOut + iInx,
      "<PRE>                                Order-Status<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d   "
#else
      "Warehouse: %4.4d   "
#endif
      "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></PRE><HR>"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Process\">"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Menu\">"
      "</FORM></BODY></HTML>",
      pTPCC->sWId);
};   // FormatOrderStatus

//=========================================================================
//
// Function name: FormatStockLevel
//
//=========================================================================
VOID FormatStockLevel(CHAR * pOut,TPCC_STATE * pTPCC)
{
   INT iInx;
   pTPCC->uFormId = FORM_STOCKLEVEL;
   iInx = FormatFormHdr(pOut,"TPC-C Stock Level",pTPCC);
   wsprintf(pOut + iInx,
      "<PRE>                                Stock-Level<BR>"
#ifdef LONG_WID
      "Warehouse: %6.6d   District: %2.2d<BR><BR>"
#else
      "Warehouse: %4.4d   District: %2.2d<BR><BR>"
#endif
      "Stock Level Threshold: <INPUT NAME=\"TT*\"SIZE=2><BR><BR>"
      "low stock:    <BR><HR>"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Process\">"
      "<INPUT TYPE=\"submit\"NAME=\"CMD\" VALUE=\"Menu\">"
      "</FORM></BODY></HTML>",
      pTPCC->sWId,pTPCC->sDId);
};   // FormatStockLevel

//=========================================================================
//
// Function name: FormatFormHdr
//
//=========================================================================
INT FormatFormHdr(CHAR * pOut,CHAR * pTitle,TPCC_STATE * pTPCC)
{
   return(wsprintf(pOut,
      "%s<HTML><HEAD><TITLE>%s</TITLE></HEAD>"
      "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
      "<INPUT TYPE=\"hidden\" NAME=\"PI*\" VALUE=\"\">"
      "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"0\">"
      "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"TERMID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">",
      HTTPHdr,pTitle,pTPCC->uFormId,pTPCC->iTermId,pTPCC->iSyncId)
      );
};   // FormatFormHdr

//=========================================================================
//
// Function name: FormatRespHdr
//
//=========================================================================
INT FormatRespHdr(CHAR * pOut,CHAR * pTitle,TPCC_STATE * pTPCC)
{
   return(wsprintf(pOut,
      "%s<HTML><HEAD><TITLE>%s</TITLE></HEAD>"
      "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
      "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"TERMID\" VALUE=\"%d\">"
      "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">",
      HTTPHdr,pTitle,pTPCC->iStatusId,pTPCC->uFormId,
      pTPCC->iTermId,pTPCC->iSyncId)
      );
};   // FormatRespHdr

//=========================================================================
//
// Function name: FormatString
//
//    Encodes formatted string for HTML transmission.
//
//=========================================================================
VOID FormatString(CHAR * pOut,CHAR * pPic,CHAR * pIn)
{
   while(*pPic)
   {
      if (*pPic == 'X' )
      {
         if (*pIn)
            *pOut++ = *pIn++;
         else
            *pOut++ = ' ';
      }
      else
         *pOut++ = *pPic;
      pPic++;
   };
   *pOut = 0;
};   // FormatString

//=========================================================================
// FUNCTION: UtilStrCpy
//
//    Copies n characters from string pSrc to pDst and places a null
//    null character at the end of the destination string.  Unlike
//    strncpy this function ensures that the result string is always
//    null terminated.
//
//=========================================================================
VOID UtilStrCpy(CHAR * pDest,CHAR * pSrc,INT n)
{
   strncpy(pDest,pSrc,n);
   pDest[n] = '\0';
```

```
   return;
};   // UtilStrCpy

//============================================================================
//
// Function name: CheckNumeric
//
//    Result
//       FALSE - string is all numeric
//       TRUE - sting contains non-numeric characters
//
//============================================================================
BOOL CheckNumeric(CHAR * pNum)
{
   if (*pNum == 0 )
      return(TRUE);
   while (*pNum && isdigit(*pNum))
      pNum++;
   return(*pNum);
};   // CheckNumeric


//============================================================================
//
// Function name: WriteEventLog
//
//============================================================================
void WriteEventLog(char * pMsg,bool bError)
{
   WORD wType;
   char szHeader[100];
   char * pDMsgs[2];

   char *pProgId = "Testing";

   HANDLE hEventLog = NULL;
   if (bError)
      wType = EVENTLOG_ERROR_TYPE;
   else
      wType = EVENTLOG_INFORMATION_TYPE;
   hEventLog = RegisterEventSource(NULL,pProgId);
   wsprintf(szHeader,"%s (%ld)\n",pProgId,GetCurrentThreadId());
   pDMsgs[0] = szHeader;
   pDMsgs[1] = pMsg;
   if (hEventLog != NULL)
   {
      ReportEvent(hEventLog,           // event log handle
                  wType,               // event type
                  0,                   // category zero
                  0,                   // no event identifier
                  NULL,                // no user security identifier
                  2,                   // # of substitution strings
                  0,                   // no binary data
                  (LPCTSTR *) pDMsgs,  // address of string array
                  NULL);               // address of binary data
      DeregisterEventSource(hEventLog);
   };
   return;
};   // WriteEventLog
```

delivery.h

```
// delivery.h
//
// Copyright Unisys, 1999

#define DEFAULTDQSIZE 2000

bool DeliveryInit(long lSetThreads,long lSetQSize,char * pszPath);
void DeliveryTerm(void);
bool DeliveryPost(DELIVERY_DATA * pdd);
```

delivery.cpp

```
// delivery.cpp
//
// Copyright Unisys, 1999

#include <windows.h>
#include <stdio.h>
#include <time.h>
#include <sys\timeb.h>
#include <process.h>

#include "..\tpccsvr\tpcc.h"
#include "tmon.h"
#include "diagio.h"
#include "delivery.h"

CRITICAL_SECTION csDQRead;
CRITICAL_SECTION csDQWrite;
HANDLE hDQRead;
HANDLE hDQStart;
bool bDQStarted = FALSE;
bool bDQQuit = FALSE;
long lDeliveryThreads;
long lDQSize;
char szPath[200];
long lDeliveryActive = 0;
typedef struct
{
   bool bInUse;
   DELIVERY_DATA ddEntry;
} DELIVERY_QUEUE;
DELIVERY_QUEUE * pDQ;
long lDQNextWrite = 0;
long lDQNextRead = 0;

bool DoDQStart(void);
UINT WINAPI DoDelivery(void * Unused);
void CalculateElapsed(int * pElapsed,LPSYSTEMTIME lpBegin,
                      LPSYSTEMTIME lpEnd);

//============================================================================
//
// Function name: DeliveryInit
//
//============================================================================
bool DeliveryInit(long lSetThreads,long lSetQSize,char * pszPath)
```

```
{
   char szDiag[MAX_DIAG_SZ];

   lDeliveryThreads = lSetThreads;
   lDQSize = lSetQSize;
   if (lDQSize <= 0)
      lDQSize = DEFAULTDQSIZE;
   strcpy(szPath,pszPath);
   InitializeCriticalSection(&csDQRead);
   InitializeCriticalSection(&csDQWrite);
   hDQRead = CreateEvent(NULL,TRUE,FALSE,NULL);
   if (!hDQRead)
   {
      wsprintf(szDiag,"DeliveryInit: Create DQRead Event Failure (%ld)\n",
         GetLastError());
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(TRUE);
   };
   pDQ = (DELIVERY_QUEUE *) calloc(lDQSize,sizeof(DELIVERY_QUEUE));
   if (pDQ == NULL)
   {
      DiagIoWrite("DeliveryInit: Allocate Delivery Queue
Failure\n",DIAG_ERROR);
      return(TRUE);
   };
   wsprintf(szDiag,
      "DeliveryInit: Threads = %ld, DQSize(entries) = %ld\n",
      lDeliveryThreads,lDQSize);
   DiagIoWrite(szDiag,DIAG_FORCE);
   return(FALSE);
};   // DeliveryInit

//============================================================================
//
// Function name: DoDQStart
//
//============================================================================
bool DoDQStart(void)
{
   UINT uThread;
   ULONG hThread;
   DWORD dwRslt;
   char szDiag[MAX_DIAG_SZ];
   void * Unused = NULL;
   int i;

   bDQStarted = TRUE;
   hDQStart = CreateEvent(NULL,TRUE,FALSE,NULL);
   if (!hDQStart)
   {
      wsprintf(szDiag,"DoDQStart: Create Event Failure (%ld)\n",
         GetLastError());
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(TRUE);
   };
   for (i = 0; i < lDeliveryThreads; i++)
   {
      hThread =
         _beginthreadex(NULL,
                        0,
                        DoDelivery,
                        Unused,
                        0,
                        &uThread);
      if (hThread == 0)
      {
         wsprintf(szDiag,
            "DoDQStart: Begin Delivery Thread(%d) Failed(%ld)\n",
            i + 1,errno);
         DiagIoWrite(szDiag,DIAG_ERROR);
         return(TRUE);
      };
      dwRslt = WaitForSingleObject(hDQStart,60000);
      if (dwRslt == WAIT_TIMEOUT)
      {
         DiagIoWrite("DoDQStart: Wait Delivery Start Timed
Out\n",DIAG_ERROR);
         return(TRUE);
      };
      if (lDeliveryActive != (i + 1))
      {
         wsprintf(szDiag,
            "DoDQStart: Delivery Thread Initialization Failed(%ld)\n",
            i + 1);
         DiagIoWrite(szDiag,DIAG_ERROR);
         return(TRUE);
      };
      ResetEvent(hDQStart);
   };   // for (lDeliveryThreads)
   CloseHandle(hDQStart);
   return(FALSE);
};   // DoDQStart

//============================================================================
//
// Function name: DeliveryTerm
//
//============================================================================
void DeliveryTerm(void)
{
   int i = 0;
   bDQQuit = TRUE;
   while (i < 12 && lDeliveryActive > 0)
   {
      SetEvent(hDQRead);
      Sleep(5000);
      i++;
   };
   if (lDeliveryActive != 0)
   {
      CHAR szDiag[MAX_DIAG_SZ];
      wsprintf(szDiag,
         "DeliveryTerm: %ld DeliveryThreads still active\n",
         lDeliveryThreads);
      DiagIoWrite(szDiag,DIAG_ERROR);
   };
   free(pDQ);
   CloseHandle(hDQRead);
   DeleteCriticalSection(&csDQWrite);
   DeleteCriticalSection(&csDQRead);
   return;
};   // DeliveryTerm
```

```
//============================================================================
//
// Function name: DeliveryPost
//
//============================================================================
bool DeliveryPost(DELIVERY_DATA * pPost)
{
   DELIVERY_QUEUE * pDQSlot;
   DELIVERY_DATA * pddEntry;
   if (!bDQStarted)
   {
      if (DoDQStart())
      {
         pPost->bTPRslt = TRUE;
         pPost->iTPRslt = SVCERR_DQSTART;
         return(TRUE);
      };
   };
   __try
   {
      EnterCriticalSection(&csDQWrite);
      pDQSlot = &pDQ[lDQNextWrite];
      if (pDQSlot->bInUse)
      {
         char szDiag[MAX_DIAG_SZ];
         pPost->bTPRslt = TRUE;
         pPost->iTPRslt = SVCERR_DQFULL;
         wsprintf(szDiag,
            "Delivery Post: Queue Limit (%d) Exceeded\n",
            lDQSize);
         DiagIoWrite(szDiag,DIAG_ERROR);
         return(TRUE);
      };
      pddEntry = &pDQSlot->ddEntry;
      memcpy(pddEntry,pPost,sizeof(DELIVERY_DATA));
      pDQSlot->bInUse = TRUE;
      if (lDQNextWrite == lDQNextRead)
         SetEvent(hDQRead);
      lDQNextWrite++;
      if (lDQNextWrite == lDQSize)
         lDQNextWrite = 0;
   }
   __finally
   {
      LeaveCriticalSection(&csDQWrite);
   };
   pPost->bTPRslt = FALSE;
   pPost->iTPRslt = SVC_NOERROR;
   return(FALSE);
};   // DeliveryPost

//============================================================================
//
// Function name: DoDelivery
//
//============================================================================
UINT WINAPI DoDelivery(void * Unused)
{
   FILE *fpLog;
   char  szLogTitle[300];
   bool bFlush = FALSE;
   DELIVERY_QUEUE * pDQSlot;
   DELIVERY_DATA * pddEntry;
   DELIVERY_DATA * pdd;
   TMON_STATE tsState;
   TMON_STATE * pTMon;
   HRESULT hr;
   int iSize;
   long lMyId;
   char szTMErrTxt[500];
   char szDiag[MAX_DIAG_SZ];
   int iElapsed;
   int iInx;
   long lDQReport = 0;
   bool bDQReport = FALSE;


   lMyId = InterlockedIncrement(&lDeliveryActive);
   pTMon = &tsState;
   pTMon->pIAllTxn = NULL;
   pTMon->pTxnData = NULL;
   pTMon->pszErrTxt = szTMErrTxt;
   if (TMInit(pTMon))
   {
      wsprintf(szDiag,"DoDelivery(%ld): TMInit %s\n",lMyId,szTMErrTxt);
      DiagIoWrite(szDiag,DIAG_ERROR);
      InterlockedDecrement(&lDeliveryActive);
      SetEvent(hDQStart);
      return(1);
   };
   wsprintf(szLogTitle,"%sdelilog%ld",szPath,lMyId);
   fpLog = fopen(szLogTitle,"ab");
       if (!fpLog)
   {
      wsprintf(szDiag,
         "DoDelivery(%ld): LogFile %s Open Failed (%ld)\n",
         lMyId,szLogTitle,GetLastError());
      DiagIoWrite(szDiag,DIAG_ERROR);
      InterlockedDecrement(&lDeliveryActive);
      SetEvent(hDQStart);
      return(1);
   };
   wsprintf(szDiag,"DoDelivery(%ld): Initialized\n",lMyId);
   DiagIoWrite(szDiag,DIAG_FORCE);
   SetEvent(hDQStart);

   while (!bDQQuit)
   {
      EnterCriticalSection(&csDQRead);
      WaitForSingleObject(hDQRead,INFINITE);
      if (bDQQuit)
      {
         LeaveCriticalSection(&csDQRead);
         break;
      };
      pDQSlot = &pDQ[lDQNextRead];
      if (!pDQSlot->bInUse)
      {
         wsprintf(szDiag,
            "DoDelivery(%ld): QSlot for Read Not InUse (%ld)\n",
            lMyId);
```

```
         DiagIoWrite(szDiag,DIAG_ERROR);
         LeaveCriticalSection(&csDQRead);
         break;
      };
      pddEntry = &pDQSlot->ddEntry;
      pdd = (DELIVERY_DATA *) pTMon->pTxnData;
      memcpy(pdd,pddEntry,sizeof(DELIVERY_DATA));
      EnterCriticalSection(&csDQWrite);
      pDQSlot->bInUse = FALSE;
      lDQNextRead++;
      if (lDQNextRead == lDQSize)
      {
         lDQNextRead = 0;
         bDQReport = TRUE;
         lDQReport = lDQNextWrite;
      };
      if (lDQNextRead == lDQNextWrite)
         ResetEvent(hDQRead);
      LeaveCriticalSection(&csDQWrite);
      LeaveCriticalSection(&csDQRead);
      // Process delivery transaction
      iSize = pTMon->iSize;
      hr = pTMon->pIAllTxn->Delivery(&iSize,(unsigned char**)&pTMon-
>pTxnData);
      if (FAILED(hr))
      {
         wsprintf(szDiag,
            "DoDelivery(%ld): COM Interface Call Failed HRESULT %x\n",
            lMyId,hr);
         DiagIoWrite(szDiag,DIAG_ERROR);
         break;
      };
      pdd = (DELIVERY_DATA *) pTMon->pTxnData;
      GetLocalTime(&pdd->EndTime);
      iElapsed = 9999999;
      if (!pdd->bTPRslt)
         CalculateElapsed(&iElapsed,&pdd->QTime,&pdd->EndTime);
      iInx =  wsprintf(szDiag,

"%4.4d/%2.2d/%2.2d,%2.2d:%2.2d:%2.2d:%3.3d,%2.2d:%2.2d:%2.2d:%3.3d,"
         "%d,%d,%d,%d,%d,%d,%d,%d,%d,%d,%d,%d,%d\r\n",
         pdd->EndTime.wYear,pdd->EndTime.wMonth,pdd->EndTime.wDay,
         pdd->QTime.wHour,pdd->QTime.wMinute,
         pdd->QTime.wSecond,pdd->QTime.wMilliseconds,
         pdd->EndTime.wHour,pdd->EndTime.wMinute,
         pdd->EndTime.wSecond,pdd->EndTime.wMilliseconds,
         iElapsed,pdd->w_id,pdd->o_carrier_id,
         pdd->o_id[0],pdd->o_id[1],pdd->o_id[2],pdd->o_id[3],pdd->o_id[4],
         pdd->o_id[5],pdd->o_id[6],pdd->o_id[7],pdd->o_id[8],pdd->o_id[9]
);
      fwrite(szDiag,iInx,1,fpLog);
      if (bDQReport)
      {
         wsprintf(szDiag,"DoDelivery(%ld): DQDepth
%ld\n",lMyId,lDQReport);
         DiagIoWrite(szDiag,DIAG_FORCE);
         bDQReport = FALSE;
      };
   };   // while !bDQQuit

   if (fpLog)
      fclose(fpLog);
   TMDone(pTMon);
   InterlockedDecrement(&lDeliveryActive);
   wsprintf(szDiag,"DoDelivery(%ld): Shutdown\n",lMyId);
   DiagIoWrite(szDiag,DIAG_FORCE);
   return(0);
};   // DoDelivery

//============================================================================
//
// Function name: CalculateElapsed (milliseconds)
//
//============================================================================
void CalculateElapsed(int * pElapsed,LPSYSTEMTIME lpBegin,
                      LPSYSTEMTIME lpEnd)
{
   int tmBegin;
   int tmEnd;
   tmBegin = (lpBegin->wHour * 3600000) + (lpBegin->wMinute * 60000) +
      (lpBegin->wSecond * 1000) + lpBegin->wMilliseconds;
   tmEnd = (lpEnd->wHour * 3600000) + (lpEnd->wMinute * 60000) +
      (lpEnd->wSecond * 1000) + lpEnd->wMilliseconds;
   *pElapsed = tmEnd - tmBegin;
   // Check for day boundry, this will function for 24 hour period but
   // will fail over a 48 hours period.
   if (*pElapsed < 0)
      *pElapsed = *pElapsed + (24 * 60 * 60 * 1000);
   return;
};   // CalculateElapsed
```

term.h

```
// term.h
//
// Copyright Unisys, 1999

#include <sys\timeb.h>

#define TMILLI_TIMEOUT 3600000       // One hour

typedef struct
{
   BOOL bInUse;                          // In use flag
   INT iTermId;                          // TermId
   LPVOID ConnID;                        // Connection Id
   INT  iSyncId;                         // Sync Id
#ifdef LONG_WID
   LONG sWId;                            // TPCC WareHouse Id
#else
   SHORT sWId;
#endif
   SHORT sDId;                           // TPCC District Id
   struct _timeb tbLastAccess;           // Last activity timestamp
} TERM_STATE;

BOOL TermInit(INT iSetMaxTerm);
VOID TermTerm(VOID);
TERM_STATE * TermAlloc(VOID);
TERM_STATE * TermGet(INT iTermId);
```

BOOL TermFree(INT iTermId);

term.cpp

```
// term.cpp
//
// Copyright Unisys, 1999
//
#include <windows.h>
#include <stdio.h>
#include "diagio.h"
#include "timesupp.h"
#include "term.h"

TERM_STATE * pTArray;
INT iNextTerm = 0;
INT iMaxTerm = 0;
CRITICAL_SECTION csTerm;

VOID TermMaint(VOID);

//=========================================================================
//
// Function name: TermInit
//    Creates and initializes the first TERMINITIAL TArray entries.
//    Initializes critical section to control access to TArray.  Assumes
//    access to function is single threaded, no other threads will start
//    until this function completes and that function is called once
//    (DLL_PROCESS_ATTACH).
//
// Returns:
//    FALSE TArray allocated and initialized
//    TRUE  TArray allocation failure
//
//=========================================================================
BOOL TermInit(INT iSetMaxTerm)
{
   INT iTermId;
   CHAR szDiag[MAX_DIAG_SZ];
   if (pTArray != NULL)
   {
      wsprintf(szDiag,"TermInit(%ld): TArray Already Initialized\n",
         GetCurrentThreadId());
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(TRUE);
   };
   InitializeCriticalSection(&csTerm);
   iMaxTerm = iSetMaxTerm;
   pTArray = (TERM_STATE *) malloc(sizeof(TERM_STATE) * (iMaxTerm + 1));
   if (pTArray == NULL)
   {
      wsprintf(szDiag,"TermInit(%ld): malloc failed (%ld)\n",
         GetCurrentThreadId(),GetLastError());
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(TRUE);
   }
   for (iTermId = 1; iTermId <= iMaxTerm; iTermId++)
      TermFree(iTermId);
   iNextTerm = 1;
   return(FALSE);
};   // TermInit

//=========================================================================
//
// Function name: TermTerm
//    Frees TArray and deletes csTerm critical section.  Assumes access
//    to function is single threaded and no other threads are actively
//    accessing TArray entries (DLL_PROCESS_DETACH).
//
//=========================================================================
VOID TermTerm(VOID)
{
   DeleteCriticalSection(&csTerm);
   if (pTArray != NULL)
      free(pTArray);
   iNextTerm = 0;
   iMaxTerm =0;
};   // TermTerm

//=========================================================================
//
// Function name: TermAlloc
//    Allocates empty TArray.  Uses iNextTerm to start search.
//
// Returns:
//    > 0   TArray entry index (iTermId)
//    < 0   Empty TArray entry not available
//
//=========================================================================
TERM_STATE * TermAlloc(VOID)
{
   INT iTermId = -1;
   if (pTArray == NULL)
   {
      CHAR szDiag[MAX_DIAG_SZ];
      wsprintf(szDiag,"TermAlloc(%ld): Term Array Not Allocated\n",
         GetCurrentThreadId());
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(NULL);
   };
   EnterCriticalSection(&csTerm);
   __try
   {
      while(iNextTerm <= iMaxTerm)
      {
         if (!pTArray[iNextTerm].bInUse)
         {
            pTArray[iNextTerm].bInUse = TRUE;
            _ftime(&pTArray[iNextTerm].tbLastAccess);
            iTermId = iNextTerm;
            iNextTerm++;
            break;
         };
         iNextTerm++;
      };   // while(iNextTerm <= iMaxTerm) (1st Try)
      if (iTermId <= 0)
      {
         // No entry found.  Perform maint and try again
         TermMaint();
         iNextTerm = 1;
         while(iNextTerm <= iMaxTerm)
```

```
         {
            if (!pTArray[iNextTerm].bInUse)
            {
               pTArray[iNextTerm].bInUse = TRUE;
               _ftime(&pTArray[iNextTerm].tbLastAccess);
               iTermId = iNextTerm;
               iNextTerm++;
               break;
            };
            iNextTerm++;
         };   // while(iNextTerm <= iMaxTerm) (2nd Try)
      };   // if (iTermId <= 0)
      if (iTermId <= 0)
         iNextTerm = 1;
   }
   __finally
   {
      LeaveCriticalSection(&csTerm);
   };

   if (iTermId > 0)
      return(&pTArray[iTermId]);
   else
      return(NULL);


};   // TermAlloc

//============================================================================
//
// Function name: TermMaint
//    Clears entries whose last access time exceeds TMILLI_TIMEOUT.
//    Assumes caller has entered csTerm.
//
//============================================================================
VOID TermMaint(VOID)
{
   INT iTermId;
   TMILLI tmElapsed;
   // Free entries that have timed out
   for (iTermId = 1; iTermId <= iMaxTerm; iTermId++)
   {
      if (pTArray[iTermId].bInUse)
      {
         tmElapsed = TimebElapsed(&pTArray[iTermId].tbLastAccess);
         if (tmElapsed > TMILLI_TIMEOUT)
            TermFree(iTermId);
      };
   };
};   // TermMaint

//============================================================================
//
// Function name: TermGet
//    Returns pointer to TArray slot at iTermId.
//
// Returns:
//    FALSE TArray entry made available
//    TRUE  iTermId invalid.
//
//============================================================================
TERM_STATE * TermGet(INT iTermId)
{
   TERM_STATE * pTerm;
   TMILLI tmElapsed;
   if (iTermId <= 0 || iTermId > iMaxTerm)
   {
      CHAR szDiag[MAX_DIAG_SZ];
      wsprintf(szDiag,"TermGet(%ld): Invalid TermId (%ld)\n",
         GetCurrentThreadId(),iTermId);
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(NULL);
   };
   pTerm = &pTArray[iTermId];
   if (!pTerm->bInUse)
      return(NULL);
   tmElapsed = TimebElapsed(&pTerm->tbLastAccess);
   if (tmElapsed > TMILLI_TIMEOUT)
      return(NULL);   // Entry destined to be freed by maint
   _ftime(&pTArray[iTermId].tbLastAccess);
   return(&pTArray[iTermId]);
};   // TermGet

//============================================================================
//
// Function name: TermFree
//    Initializes contents of TArray slot at iTermId.
//
// Returns:
//    FALSE TArray entry made available
//    TRUE  iTermId invalid.
//
//============================================================================
BOOL TermFree(INT iTermId)
{
   TERM_STATE * pTerm;
   if (iTermId <= 0 || iTermId > iMaxTerm)
   {
      CHAR szDiag[MAX_DIAG_SZ];
      wsprintf(szDiag,"TermFree(%ld): Invalid TermId (%ld)\n",
         GetCurrentThreadId(),iTermId);
      DiagIoWrite(szDiag,DIAG_ERROR);
      return(TRUE);
   };
   pTerm = &pTArray[iTermId];
   pTerm->ConnID = 0;
   pTerm->sWId = 0;
   pTerm->sDId = 0;
   pTerm->iSyncId = 0;
   pTerm->iTermId = iTermId;
   TimebClear(&pTerm->tbLastAccess);
   pTerm->bInUse = FALSE;
   return(FALSE);
};   // TermFree
```

tmon.h

```
// tmon.h
//
// Copyright Unisys, 1999
```

```
#include "..\tpccproxy\tpccproxy.h"

typedef struct
{
   CHAR * pszErrTxt;                    // Error text
   INT iSize;
   ITPCC * pIAllTxn;
   CHAR * pTxnData;                     // TM buffer area
} TMON_STATE;

VOID TMonInit(INT iSetMaxMsg);
VOID TMonTerm(VOID);
BOOL TMInit(TMON_STATE * pTMon);
VOID TMDone(TMON_STATE * pTMon);
```

tmon.cpp

```
// tmon.cpp
//
// Copyright Unisys, 1999
//

// needed for CoinitializeEx
#define _WIN32_WINNT 0x0400

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

#include "..\tpccproxy\tpccproxy_i.c"
#include "..\tpccsvr\tpccsvr_i.c"

#include "tmon.h"

INT iTMMaxSz;

//============================================================================
//
// Function name: TMonInit
//
//============================================================================
VOID TMonInit(INT iSetMaxMsg)
{
   iTMMaxSz = iSetMaxMsg;
};   // TMonInit


//============================================================================
//
// Function name: TMonTerm
//
//============================================================================
VOID TMonTerm(VOID)
{
};   // TMonTerm

//============================================================================
//
// Function name: TMInit
//
//    Result:
//       FALSE    Initialization completed successfully
//       TRUE     Initialization failed
//
//============================================================================
BOOL TMInit(TMON_STATE * pTMon)
{
   HRESULT hr = NULL;
   long lRet = 0;

   pTMon->pIAllTxn = NULL;
   pTMon->pTxnData = NULL;
   pTMon->iSize = 0;
   // Must have ErrTxt message area set before init
   if (pTMon->pszErrTxt == NULL)
      return(TRUE);

   hr = CoInitializeEx(NULL,COINIT_MULTITHREADED);
   if (FAILED(hr))
   {
      wsprintf(pTMon->pszErrTxt,"COM Initialize Failed, HRESULT %x\n",hr);
      return(TRUE);
   };

   hr = CoCreateInstance(CLSID_TPCC,NULL,CLSCTX_SERVER,IID_ITPCC,
      (void **)&pTMon->pIAllTxn);
   if (FAILED(hr))
   {
      wsprintf(pTMon->pszErrTxt,"COM Create Instance Failed, HRESULT
%x\n",hr);
      return(TRUE);
   };
   hr = (pTMon->pIAllTxn)->CallSetComplete();
   if (FAILED(hr))
   {
      wsprintf(pTMon->pszErrTxt,"COM Call SetComplete Failed, HRESULT
%x\n",hr);
      return(TRUE);
   };
   pTMon->pTxnData = (char *) CoTaskMemAlloc(iTMMaxSz);
   if (!(pTMon->pTxnData))
   {
      wsprintf(pTMon->pszErrTxt,"COM Allocate TxnData Failed\n");
      return(TRUE);
   };
   pTMon->iSize = iTMMaxSz;
   return(FALSE);
};   // TMInit

//============================================================================
//
// Function name: TMDone
//
//============================================================================
VOID TMDone(TMON_STATE * pTMon)
{
   CoTaskMemFree(pTMon->pTxnData);
   pTMon->pIAllTxn->Release();
   pTMon->pIAllTxn = NULL;
   CoUninitialize();
```

```
};   // TMDone
```

timesupp.c

```
// timesupp.c
//
// Copyright Unisys, 1997 1998 1999
//

#include <stdio.h>
#include "timesupp.h"

// These global variables are used for implementing hi resolution time
stamps
// based on the QueryPerformanceCounter() API.
// These variables should be initialized at startup by a single call to
// InitHiresTime().
struct _timeb tbInitialTimeb;
LARGE_INTEGER liInitialTickCount;
LARGE_INTEGER liTickFreq;
DOUBLE dTickSecs;                    // period of ticks in seconds
DOUBLE dTickMillisecs; // period of ticks in milliseconds
BOOL bHRT = FALSE;      // true => using HRT

//============================================================================
//
// Function name: InitHiresTime
//
//============================================================================
BOOL InitHiresTime(BOOL bOn)
{
    bHRT = bOn;
    if (bOn == FALSE)
        return(TRUE);

       //printf("InitHiresTime: Setup hi res timing using
QueryPerformanceFrequency() / QueryPerformanceCounter()\n");

       // Get performance counter tick frequency
       if(!QueryPerformanceFrequency(&liTickFreq))
       {
              //printf("InitHiresTime: QueryPerformanceFrequency
indicates no hi res timer supported\n");
              return(FALSE);
       }

       // Set tick period info
       dTickSecs     =       1.0    / (DOUBLE)liTickFreq.QuadPart;
       dTickMillisecs =      1000.0 / (DOUBLE)liTickFreq.QuadPart;

       // Establish initial time
       _ftime(&tbInitialTimeb);


       // Establish initial tick count associated with this initial time
       if(!QueryPerformanceCounter(&liInitialTickCount))
       {
              //printf("InitHiresTime: QueryPerformanceCounter call to
set initial tick count failed\n");
              return(FALSE);
       }

/*
       // Printout some info
       printf("InitHiresTime: tick frequency            : %I64d\n"
                     "InitHiresTime: tick period (secs)         :
%18.16f\n"
                     "InitHiresTime: tick period (milliseconds) :
%15.12f\n",
                      liTickFreq.QuadPart, dTickSecs, dTickMillisecs);

       printf("InitHiresTime: Initial _ftime            : %d secs %d
millisecs\n",
                           tbInitialTimeb.time,
tbInitialTimeb.millitm);

       printf("InitHiresTime: Initial tick count        :
%I64d\n",liInitialTickCount.QuadPart);
*/
       return(TRUE);

}//InitHiresTime

//============================================================================
//
// Function name: TimebCopy
//    Structure contents copy of _timeb source to _timeb dest.
//
//============================================================================
VOID TimebCopy(struct _timeb * p_tbDest, struct _timeb * p_tbSource)
{
   p_tbDest->time = p_tbSource->time;
   p_tbDest->millitm = p_tbSource->millitm;
   p_tbDest->dstflag = p_tbSource->dstflag;
   p_tbDest->timezone = p_tbSource->timezone;

};   // TimebCopy

//============================================================================
//
// Function name: TimebDiff
//    Time difference in milliseconds between _timeb _t1 and _timeb _t2.
//
//============================================================================
TMILLI TimebDiff(struct _timeb * p_tb1, struct _timeb * p_tb2)
{
   LONG lRslt;
   lRslt = ((p_tb2->time - p_tb1->time) * 1000) +
               (p_tb2->millitm - p_tb1->millitm);
   if (lRslt < 0)
      return(0);
   else
      return((TMILLI) lRslt);

};   // TimebDiff

//============================================================================
//
// Function name: TimebElaspsed
//
```

```
//====================================================================
TMILLI TimebElapsed(struct _timeb * p_tb1)
{
   struct _timeb _tb2;
   TimebStamp(&_tb2);

   return (TimebDiff(p_tb1,&_tb2));

};   // TimebElapsed

//====================================================================
//
// Function name: TimebClear
//
//====================================================================
VOID TimebClear(struct _timeb * p_tb1)
{
   p_tb1->time = 0;
   p_tb1->millitm = 0;

};   // TimebClear

//====================================================================
//
// Function name: TimebToString
//    Converts timeb to yyyy:mm:dd,hh:mm:ss.sss format
//
//====================================================================
CHAR * TimebToString(struct _timeb * p_tb1,CHAR * psz,BOOL bMillis)
{
   struct tm * ptm;
   INT iInx;
   ptm = localtime(&p_tb1->time);
   iInx = wsprintf(psz,"%4.4d/%2.2d/%2.2d,%2.2d:%2.2d:%2.2d",
      ptm->tm_year + 1900,ptm->tm_mon + 1,ptm->tm_mday,
      ptm->tm_hour,ptm->tm_min,ptm->tm_sec);
   if (bMillis)
      wsprintf(psz + iInx,".%3.3d",p_tb1->millitm);
   return(psz);
};   // TimebToString

//====================================================================
//
// Function name: TimebFromString
//    Converts yyyy:mm:dd,hh:mm:ss.sss (TimebToString) format to timeb
//
//====================================================================
BOOL TimebFromString(struct _timeb * p_tb1,CHAR * psz)
{
   struct tm tmTime;
   struct tm * ptm;
   UINT uLen;

   ptm = &tmTime;
   uLen = strlen(psz);
   if (uLen < (TIMEB_STRING_SZ - 4))   // millis are optional
   {
      p_tb1->time = 0;
      p_tb1->millitm = 0;
      return (TRUE);
   };
   // Clear fields that won't be set
   ptm->tm_wday = 0;
   ptm->tm_yday = 0;
   ptm->tm_isdst = -1;
   // Set tm struct fields from string
   ptm->tm_year = (atoi(psz)) - 1900;
   psz += 5;
   ptm->tm_mon = (atoi(psz)) - 1;
   psz += 3;
   ptm->tm_mday = atoi(psz);
   psz += 3;
   ptm->tm_hour = atoi(psz);
   psz += 3;
   ptm->tm_min = atoi(psz);
   psz +=3;
   ptm->tm_sec = atoi(psz);
   if (uLen >= TIMEB_STRING_SZ)   // Millis present
   {
      psz += 3;
      p_tb1->millitm = atoi(psz);
   }
   else
      p_tb1->millitm = 0;
   p_tb1->time = mktime(ptm);
   return(FALSE);
};   // TimebFromString

//====================================================================
//
// Function name: TimebAddSecs
//
//====================================================================
VOID TimebAddSecs(struct _timeb * p_tb1,INT iSeconds)
{
   p_tb1->time += iSeconds;
};   // TimebAddSecs

//====================================================================
//
// Function name: TimebAddMillisecs
//
//====================================================================
VOID TimebAddMillisecs(struct _timeb * p_tb, TMILLI tmMillisecs)
{
       time_t ttSecs;
       unsigned short utm;

       ttSecs = tmMillisecs / 1000;
       if(ttSecs)
       {
              utm = p_tb->millitm += (unsigned short) tmMillisecs -
(ttSecs * 1000);
       }
       else
       {
              utm = p_tb->millitm += (unsigned short) tmMillisecs;
       }

       if(utm > 999)
       {
              p_tb->millitm -= 1000;
```

```
                ttSecs++;
        }

        p_tb->time += ttSecs;


};//TimebAddMillisecs


//=========================================================================
//
// Function name: TimebSeed
//
//=========================================================================
ULONG TimebSeed(VOID)
{
   ULONG ulSeed;
   struct _timeb tb_1;
   _ftime(&tb_1);
   ulSeed = ((tb_1.time % TIMEBSEED_MOD) * TIMEBSEED_SHIFT) +
tb_1.millitm;
   return(ulSeed);
};   // TimebSeed

//=========================================================================
//
// Function name: TimebStamp
//
//              This functions generates a struct _timeb timestamp and
returns it
//              in *p_tb. It does this as follows:
//
//              1. Using the QueryPerformanceCounter(), calculates clock
ticks
//                      elapsed from liInitTickCount.
//              2. Converts this to a DOUBLE elapsed millisecs.
//              3. Rounds this to a TMILLI (ULONG) elapsed millisecs.
//              4. Gets a copy of tbInitialTimeb.
//              5. Add elapsed millisecs to this tbInitialTimeb and writes
this
//                      _timeb into *p_tb.
//
//=========================================================================
BOOL TimebStamp(struct _timeb * p_tb)
{
        LARGE_INTEGER liTickCount;
        TMILLI tmMillisecs;
        DOUBLE d1,d2;

   if (bHRT == FALSE)
   {
      _ftime(p_tb);
      return (TRUE);
   }

        if( !QueryPerformanceCounter(&liTickCount) )
      return(FALSE);

        d1 = (DOUBLE)(liTickCount.QuadPart -liInitialTickCount.QuadPart);

        d2 = dTickMillisecs * d1;

        d1 = d2 + 0.5;

        tmMillisecs = (TMILLI) d1;

        TimebCopy(p_tb, &tbInitialTimeb);
        TimebAddMillisecs(p_tb, tmMillisecs);

        return(TRUE);

}//TimebStamp
```

timesupp.h

```
// timesupp.h

#include <windows.h>
#include <time.h>
#include <sys\timeb.h>

#define TIMEBSEED_MOD 10000
#define TIMEBSEED_SHIFT 1000
#define TIMEB_STRING_SZ 23
#define TIMEB_STRING_DATESZ 10
#define TIMEB_STRING_TIMEOFFSET 11
#define TIMEB_STRING_TIMESZ 12

typedef ULONG TMILLI;
typedef ULONG TMICRO;

TMILLI TimebDiff(struct _timeb * p_tb1, struct _timeb * p_tb2);
VOID TimebCopy(struct _timeb * p_tbDest, struct _timeb * p_tbSource);
TMILLI TimebElapsed(struct _timeb * p_tb1);
VOID TimebClear(struct _timeb * p_tb1);
CHAR * TimebToString(struct _timeb * p_tb1,CHAR * psz,BOOL bMillis);
BOOL TimebFromString(struct _timeb * p_tb1,CHAR * psz);
VOID TimebAddSecs(struct _timeb * p_tb1,INT iSeconds);
ULONG TimebSeed(VOID);

BOOL InitHiresTime(BOOL bOn);
VOID TimebAddMillisecs(struct _timeb * p_tb, TMILLI tmMillisecs);
BOOL TimebStamp(struct _timeb * p_tb);
```

diagio.h

```
// diagio.h
//
// Copyright Unisys, 1999

// Environment variable defaults
#define DEFAULTDIAGLEVEL DIAG_INFO
#define DEFAULTEVENTLOG 0

#define DIAGNOSTICS TRUE
#define MAX_DIAG_SZ 2000

// Severity level of diagnostic report
#define DIAG_FORCE 1
#define DIAG_ERROR 2
```

```
#define DIAG_STATE 3
#define DIAG_INFO 4

VOID DiagIoInit(CHAR * pDiagId,BOOL bConsole,BOOL bEvent,UINT uLevel);
VOID DiagIoTerm(VOID);
VOID DiagIoWrite(CHAR * pDiagBuffer, UINT uSeverity);
```

diagio.cpp

```
// diagio.cpp
//
// Copyright Unisys, 1999
//
#include <windows.h>
#include <stdio.h>
#include "diagio.h"

CRITICAL_SECTION csDiagIo;
HANDLE hEventLog = NULL;
UINT uDiagLevel;
BOOL bEventLog;
BOOL bConsoleLog;
CHAR * pDiagHdr;
CHAR * pEventHost;
CHAR * pErrHdr =
   {"*** ERROR *** ERROR *** ERROR *** ERROR *** ERROR ***"};

INT WriteEventLog(CHAR * pDMsgs[],UINT uMsgCnt,UINT uSeverity);

//============================================================================
//
// Function name: DiagIoInit
//
//============================================================================
VOID DiagIoInit(CHAR * pDiagId,BOOL bConsole,BOOL bEvent,UINT uLevel)
{
   if (DIAGNOSTICS)
   {
      InitializeCriticalSection(&csDiagIo);

      uDiagLevel = uLevel;
      bEventLog = bEvent;
      bConsoleLog = bConsole;
      pEventHost = (CHAR *) malloc(10);
      strcpy(pEventHost,"");  // local host
      pDiagHdr = (CHAR *) malloc(strlen(pDiagId) + 1);
      strcpy(pDiagHdr,pDiagId);
      if (bEventLog)
      {
         hEventLog = RegisterEventSource(pEventHost,pDiagId);
         if (hEventLog == NULL)
         {
            bEventLog = FALSE;
            if (bConsoleLog)
               fprintf(stdout,
                  "%s: Event Log Register Failed (%ld)\n"
                  "Event Log Will NOT be Used\n",
                  pDiagHdr,GetLastError());
         }
         else
         {
            if (bConsoleLog)
               fprintf(stdout,"%s: Event Logging to LocalHost as %s\n",
                  pDiagHdr,pDiagHdr);
         };
      };   // if bEventLog
   };   // if Diagnostics
};   // DiagIoInit


//============================================================================
//
// Function name: DiagIoTerm
//
//============================================================================
VOID DiagIoTerm(VOID)
{
   if (DIAGNOSTICS)
   {
      DeleteCriticalSection(&csDiagIo);
      if (hEventLog != NULL)
         DeregisterEventSource(hEventLog);
      free(pDiagHdr);
      free(pEventHost);
   };
};   // DiagIoTerm

//============================================================================
//
// Function name: DiagIoWrite
//
//============================================================================
VOID DiagIoWrite(CHAR * pDiagBuffer, UINT uSeverity)
{
   CHAR * pDMsgs[3];
   UINT uMsgCnt = 0;
   INT iERslt = 0;
   if (DIAGNOSTICS)
   {
      if (uDiagLevel >= uSeverity)
      {
         EnterCriticalSection(&csDiagIo);
         __try
         {
            if (uSeverity == DIAG_ERROR)
            {
               pDMsgs[0] = pDiagHdr;
               pDMsgs[1] = pErrHdr;
               pDMsgs[2] = pDiagBuffer;
               uMsgCnt = 3;
            }
            else
            {
               pDMsgs[0] = pDiagHdr;
               pDMsgs[1] = pDiagBuffer;
               uMsgCnt = 2;
            };
            if (bEventLog)
               iERslt = WriteEventLog(pDMsgs,uMsgCnt,uSeverity);
            if (bConsoleLog)
```

```
            {
               if (uMsgCnt == 3)
                  fprintf(stdout,"\n%s:
%s\n%s",pDMsgs[0],pDMsgs[1],pDMsgs[2]);
               else
                  fprintf(stdout,"\n%s: %s",pDMsgs[0],pDMsgs[1]);
               if (iERslt != 0)
                  fprintf(stdout,
                     "EventLog Write Failed (%ld), No Longer in Use\n",
                     iERslt);
            };
         }
         __finally
         {
            LeaveCriticalSection(&csDiagIo);
         };
      };   // if uDiagLevel >= uSeverity
   };   // if Diagnostics
};   // DiagIoWrite

INT WriteEventLog(CHAR * pDMsgs[],UINT uMsgCnt,UINT uSeverity)
{
   WORD wType;
   WORD wCount;
   wCount = uMsgCnt;
   switch (uSeverity)
   {
      case DIAG_ERROR:
         wType = EVENTLOG_ERROR_TYPE;
         break;
      default:
         wType = EVENTLOG_INFORMATION_TYPE;
         break;
   };
   if (wType != 0)
   {
      if (!ReportEvent(hEventLog,           // event log handle
                       wType,               // event type
                       0,                   // category zero
                       uSeverity,           // no event identifier
                       NULL,                // no user security identifier
                       wCount,              // # of substitution strings
                       0,                   // no binary data
                       (LPCTSTR *) pDMsgs,  // address of string array
                       NULL))               // address of binary
      {
         DeregisterEventSource(hEventLog);
         hEventLog = NULL;
         bEventLog = FALSE;
         return(GetLastError());
      };   // ReportEvent failed
   };   // if wType != 0
   return(0);
};   // WriteEventLog
```

tpccproxy.def

```
LIBRARY      "tpcc_com_ps"

DESCRIPTION  'Proxy/Stub DLL'

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

tpccproxy.idl

```
// tpccproxy.idl
//
// Copyright Unisys, 1999
// Copyright Microsoft, 1999

// Forward declare all types defined
// Interface ITPCC;
import "oaidl.idl";
import "ocidl.idl";

   [
      object,
      uuid(FEEE6AA2-84B1-11d2-BA47-00C04FBFE08B),
      helpstring("ITPCC Interface"),
      pointer_default(unique)
   ]
   interface ITPCC : IUnknown
   {

         HRESULT _stdcall NewOrder
            (
               [in, out] int * iSize,
               [in, out, size_is(,*iSize)] char ** pTData
            );

         HRESULT _stdcall Payment
            (
               [in, out] int * iSize,
               [in, out, size_is(,*iSize)] char ** pTData
            );

         HRESULT _stdcall Delivery
            (
               [in] int * iSize,
               [in, out, size_is(,*iSize)] char ** pTData
            );

         HRESULT _stdcall StockLevel
            (
               [in, out] int* iSize,
               [in, out, size_is(,*iSize)] char ** pTData
            );

         HRESULT _stdcall OrderStatus
            (
               [in, out] int* iSize,
               [in, out, size_is(,*iSize)] char ** pTData
            );
```

```
        HRESULT _stdcall CallSetComplete
           (
           );

   };   // interface ITPCC
```

tpccsvr.def

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

LIBRARY      "tpcc_com_all.dll"

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

tpccsvr.idl

```
// tpccsvr.idl
//
// Copyright Unisys, 1999
// Copyright Microsoft, 1999

interface TPCC;

import "oaidl.idl";
import "ocidl.idl";
import "..\tpccproxy\tpccproxy.idl";

[
       uuid(122A3117-2520-11D3-BA71-00C04FBFE08B),
       version(1.0),
       helpstring("TPC-C 1.0 Type Library")
]
library TPCCLib
{
       importlib("stdole32.tlb");
       importlib("stdole2.tlb");

       [
              uuid(122A3128-2520-11D3-BA71-00C04FBFE08B),
              helpstring("All Txns Class")
       ]
       coclass TPCC
       {
              [default] interface ITPCC;
       };

};
```

tpccsvr.h

```
// tpccsvr.h
//
// Copyright Unisys, 1999

class CTPCC_Common :
   public ITPCC,
   public IObjectControl,
   public IObjectConstruct,
   public CComObjectRootEx<CComSingleThreadModel>
{
   public:
   BEGIN_COM_MAP(CTPCC_Common)
      COM_INTERFACE_ENTRY(ITPCC)
      COM_INTERFACE_ENTRY(IObjectControl)
      COM_INTERFACE_ENTRY(IObjectConstruct)
   END_COM_MAP()

   CTPCC_Common();
   ~CTPCC_Common();

   // ITPCC
   public:
      HRESULT __stdcall NewOrder(int * iSize,UCHAR ** pTData);
      HRESULT __stdcall Payment(int * iSize,UCHAR ** pTData);
      HRESULT __stdcall Delivery(int * iSize,UCHAR ** pTData);
      HRESULT __stdcall StockLevel(  int* iSize, UCHAR ** pTData);
      HRESULT __stdcall OrderStatus(int* iSize, UCHAR ** pTData);
      HRESULT __stdcall CallSetComplete();

   // IObjectControl
      STDMETHODIMP_(BOOL) CanBePooled() {return m_bCanBePooled;}
      STDMETHODIMP Activate() {return S_OK;} // no transactions enlistment
      STDMETHODIMP_(void) Deactivate() {   }

   // IObjectConstruct
      STDMETHODIMP Construct(IDispatch * pUnk);

        // state
   private:
      bool m_bCanBePooled;
      long m_lRefId;
      int m_iMaxRetry;
      int m_iTryCount;
      bool m_bTPRslt;
      int m_iTPRslt;
      union
      {
         NEW_ORDER_DATA NOData;
         PAYMENT_DATA PYData;
         DELIVERY_DATA DLData;
         ORDER_STATUS_DATA OSData;
         STOCK_LEVEL_DATA SLData;
      } m_TData;
      SQLHDBC m_hdbc;
      SQLHSTMT m_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;
      SQLUINTEGER m_BindOffset;
      SQLUINTEGER m_RowsFetched;
      int m_no_commit_flag;

      bool InitNOParams(void);
      bool InitPYParams(void);
      bool InitDLParams(void);
      bool InitOSParams(void);
      bool InitSLParams(void);
      bool CheckDBError(char * pSource);

};   // Class CTPCC_Common

class CTPCC :
   public CTPCC_Common,
   public CComCoClass<CTPCC, &CLSID_TPCC>
{
   public:
   DECLARE_REGISTRY_RESOURCEID(IDR_TPCC)

   BEGIN_COM_MAP(CTPCC)
      COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
      COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
   END_COM_MAP()
};   // Class CTPCC
```

tpccsvr.cpp

```
// tpccsvr.cpp
//
// Copyright Unisys, 1999
// Copyright Microsoft, 1999

#define STRICT
#define _WIN32_WINNT 0x0400
#define _ATL_APARTMENT_THREADED

#include <stdio.h>
#include <atlbase.h>
//You may derive a class from CComModule and use it if you want to
override
//something, but do not change the name of _Module
extern CComModule _Module;

#include <atlcom.h>
#include <initguid.h>
#include <transact.h>
#include <atlimpl.cpp>
#include <comsvcs.h>
#include <time.h>
#include <sys\timeb.h>

#define DBNTWIN32
#include <sqltypes.h>
#include <sql.h>
#include <sqlext.h>

#ifdef USE_SNAC
#include <sqlncli.h>
#else
#include <odbcss.h>
#endif

#include "..\tpccproxy\tpccproxy.h"
#include "..\tpccsvr\tpcc.h"

#include "resource.h"
#include "..\tpccsvr\tpccsvr_i.h"
#include "..\tpccsvr\tpccsvr_i.c"
#include "tpccsvr.h"
#include "..\tpccproxy\tpccproxy_i.c"

CComModule _Module;

BEGIN_OBJECT_MAP(ObjectMap)
       OBJECT_ENTRY(CLSID_TPCC, CTPCC)
END_OBJECT_MAP()

FILE *fp;
char pProgId[100];
char * pPName = "TPCC Server";
int iInstance = 1;
char szServer[100]     = "hostname";
char szMyHost[MAX_COMPUTERNAME_LENGTH + 1];
char szUser[100]               = "sa";
char szPassword[100]   = "";
char szDatabase[100]   = "tpcc";
int iDeadlockRetry     = 5;

static SQLHENV henv = SQL_NULL_HENV;         // ODBC environment handle
long lCount = 0;
long lActive = 0;

bool ReadRegistry(VOID);
void WriteEventLog(char * pMsg,bool bError);
CHAR * TimeStamp(char *timeStr);

int iSPNumber = 0;
wchar_t wszSPNumber[100];

////////////////////////////////////////////////////////////////////////
///
// DLL Entry Point

extern "C"
BOOL WINAPI DllMain(HINSTANCE hInst,ULONG ul_reason_for_call,LPVOID
lpReserved)
{
   char szDiag[300];
   DWORD dwCNSize = MAX_COMPUTERNAME_LENGTH;
   try
   {
      switch(ul_reason_for_call)
```

```
      {
         case DLL_PROCESS_ATTACH:
                        if (fp == NULL)
                               fp = fopen("c:\\temp\\tpccsvr.txt", "w");

                        _Module.Init(ObjectMap,hInst);
                        DisableThreadLibraryCalls(hInst);
            wsprintf(pProgId,"%s%d",pPName,iInstance);
            if (ReadRegistry())
            {
               WriteEventLog("DllMain: Registry Key Not Present\n",TRUE);
               return(FALSE);
            };

wsprintf(pProgId,"%s%d(%s,%d)",pPName,iInstance,szServer,iSPNumber);
            GetComputerName(szMyHost,&dwCNSize);
            szMyHost[dwCNSize] = 0;
            if (SQLAllocHandleStd(SQL_HANDLE_ENV,SQL_NULL_HANDLE,&henv) !=
SQL_SUCCESS)
            {
               wsprintf(szDiag,"DllMain(%s): Allocate Environment
Failed\n"
                  "ServerName=%s,DB=%s,User=%s,PW=%s,Retries=%d\n",

VERSIONINFO,szServer,szDatabase,szUser,szPassword,iDeadlockRetry);
               WriteEventLog(szDiag,FALSE);
               return FALSE;
            };

                        #ifdef LONG_WID
                               WriteEventLog("tpccsvr - long w_id", false);
                        #endif
                        #ifdef USE_SNAC
                               WriteEventLog("tpccsvr - using SNAC instead
of ODBC", false);
                        #endif

            wsprintf(szDiag,"DllMain(%s): Initialization Complete\n"
               "ServerName=%s,DB=%s,User=%s,PW=%s,Retries=%d\n",

VERSIONINFO,szServer,szDatabase,szUser,szPassword,iDeadlockRetry);
            WriteEventLog(szDiag,FALSE);
            break;

               case DLL_PROCESS_DETACH:
            WriteEventLog("DllMain: Closing down for Process
Detach\n",FALSE);
            if (henv != NULL)
               SQLFreeEnv(henv);
            _Module.Term();
                        //if (fp != NULL)
                        //     fclose(fp);
            break;
      };   // switch ul_reason_for_call
   }
   catch (...)
   {
      wsprintf(szDiag,"DllMain: Unhandled exception during %s call\n",
         ul_reason_for_call == DLL_PROCESS_ATTACH ? "ATTACH" : "DETACH");
      WriteEventLog(szDiag,TRUE);
      return FALSE;
   };

   return TRUE;

};   // DllMain

STDAPI DllCanUnloadNow(void)
{
   return (_Module.GetLockCount()==0) ? S_OK : S_FALSE;
};

STDAPI DllGetClassObject(REFCLSID rclsid,REFIID riid,LPVOID* ppv)
{
       return _Module.GetClassObject(rclsid,riid,ppv);
};

STDAPI DllRegisterServer(void)
{
       WriteEventLog("DllRegisterServer", FALSE);

       // registers object, typelib and all interfaces in typelib
   return _Module.RegisterServer(TRUE);
};

STDAPI DllUnregisterServer(void)
{
       WriteEventLog("DllUnregisterServer", FALSE);

   _Module.UnregisterServer();
   return S_OK;
};

inline void ReleaseInterface(IUnknown *pUnk)
{
   if (pUnk)
   {
      pUnk->Release();
      pUnk = NULL;
   };
};

CTPCC_Common::CTPCC_Common()
{
   char szDiag[300];
   Sleep(100);
   m_bCanBePooled = TRUE;
   m_iMaxRetry = iDeadlockRetry;
   m_lRefId = InterlockedIncrement(&lCount);
   InterlockedIncrement(&lActive);
   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;
   wsprintf(szDiag,"CTPCC_Common: Initialized %ld\n",m_lRefId);
```

```
   WriteEventLog(szDiag,FALSE);
};

CTPCC_Common::~CTPCC_Common()
{
   char szDiag[300];
   SQLFreeHandle(SQL_HANDLE_STMT,m_hstmtNewOrder);
   SQLFreeHandle(SQL_HANDLE_STMT,m_hstmtPayment);
   SQLFreeHandle(SQL_HANDLE_STMT,m_hstmtDelivery);
   SQLFreeHandle(SQL_HANDLE_STMT,m_hstmtOrderStatus);
   SQLFreeHandle(SQL_HANDLE_STMT,m_hstmtStockLevel);
   SQLDisconnect(m_hdbc);
   SQLFreeHandle(SQL_HANDLE_DBC,m_hdbc);
   InterlockedDecrement(&lActive);
   wsprintf(szDiag,"~CTPCC_Common(%ld): Database closed\n",m_lRefId);
   WriteEventLog(szDiag,FALSE);
};

HRESULT CTPCC_Common::CallSetComplete()
{
   IObjectContext * pObjectContext = NULL;
   HRESULT hr = CoGetObjectContext( IID_IObjectContext, (void
**)&pObjectContext );
   pObjectContext->SetComplete();
   ReleaseInterface(pObjectContext);
   return hr;
};

bool CTPCC_Common::CheckDBError(char * pSource)
{
   RETCODE rc;
   SDWORD lNativeError;
   char szState[6];
   char szMsg[SQL_MAX_MESSAGE_LENGTH];
   char szTmp[7 * (SQL_MAX_MESSAGE_LENGTH + 2)];
   int iInx;
   int iMsgs = 0;
   bool bRslt = FALSE;
   iInx = wsprintf(szTmp,"%s",pSource);
   while (iMsgs < 6)
   {
      rc = SQLError(henv,m_hdbc,m_hstmt,(BYTE *) &szState,&lNativeError,
         (BYTE *) &szMsg,sizeof(szMsg),NULL);
      if (rc == SQL_NO_DATA)
         break;
      iMsgs++;
      // check for deadlock
      if (lNativeError == 1205)
      {
         iInx += wsprintf(szTmp + iInx,"Deadlock retry
(%d)\n",m_iTryCount);
         Sleep(10 * m_iTryCount);
         continue;
      };
      bRslt = TRUE;
      iInx += wsprintf(szTmp + iInx,"(%ld)%s\n",lNativeError,szMsg);
   };   // while iMsgs
   SQLFreeStmt(m_hstmt,SQL_CLOSE);
   WriteEventLog(szTmp,TRUE);
      if ((fp = fopen("c:\\temp\\dberror.txt", "a")) != NULL)
      {
            fprintf(fp, "%s\n", szTmp);
            fclose(fp);
      }


   return(bRslt);
};   // CheckDBError

STDMETHODIMP CTPCC_Common::Construct(IDispatch * pUnk)
{
   char szDiag[300];
   char szConnectStr[256];
   char szOutStr[1024];
   SQLSMALLINT iOutStrLen;
   char buffer[128];
   RETCODE rc;

   try
       {
      if (SQLAllocHandle(SQL_HANDLE_DBC,henv,&m_hdbc) != SQL_SUCCESS)
      {
         wsprintf(szDiag,"Construct(%ld): Allocate DBC Handle
failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(E_FAIL);
      };
      if (SQLSetConnectOption(m_hdbc,SQL_PACKET_SIZE,4096) != SQL_SUCCESS)
      {
         wsprintf(szDiag,
            "Construct(%ld): Set Connection Packet Size failed\n",
            m_lRefId);
         CheckDBError(szDiag);
         return(E_FAIL);
      };
      wsprintf(szConnectStr,
#ifdef USE_SNAC
         "DRIVER=SQL Native
Client;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s;WSID=%s-%ld",
         szServer,szUser,szPassword,szDatabase,szMyHost,m_lRefId);
#else
         "DRIVER=SQL Server;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s;WSID=%s-
%ld",
         szServer,szUser,szPassword,szDatabase,szMyHost,m_lRefId);
#endif

      rc = SQLDriverConnect(m_hdbc,NULL,(SQLCHAR * ) szConnectStr,
         sizeof(szConnectStr),(SQLCHAR * ) szOutStr, sizeof(szOutStr),
         &iOutStrLen,SQL_DRIVER_NOPROMPT);
      if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
      {
         wsprintf(szDiag,"Construct(%ld): Connect failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(E_FAIL);
      };
      if (SQLAllocHandle(SQL_HANDLE_STMT,m_hdbc,&m_hstmt) != SQL_SUCCESS)
      {
         wsprintf(szDiag,"Construct(%ld): Allocate STMT Handle
failed\n",m_lRefId);
         CheckDBError(szDiag);
```

```
         return(E_FAIL);
      };

      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)
      {
         wsprintf(szDiag,"Construct(%ld): Set DB Options
failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(E_FAIL);
      };
      SQLFreeHandle(SQL_HANDLE_STMT,m_hstmt);

      if (InitNOParams())
         return(E_FAIL);
      if (InitPYParams())
         return(E_FAIL);
      if (InitDLParams())
         return(E_FAIL);
      if (InitOSParams())
         return(E_FAIL);
      if (InitSLParams())
         return(E_FAIL);
       }
       catch (...)
       {
      wsprintf(szDiag,"Construct(%ld): Unhandled exception\n",m_lRefId);
      WriteEventLog(szDiag,TRUE);
               return(E_FAIL);
       };

   wsprintf(szDiag,"Construct(%ld): Db connection
initialized\n",m_lRefId);
   WriteEventLog(szDiag,FALSE);
       return(S_OK);
};   // Construct

//============================================================================
// FUNCTION: UtilStrCpy
//
//    Copies n characters from string pSrc to pDst and places a null
//    null character at the end of the destination string.  Unlike
//    strncpy this function ensures that the result string is always
//    null terminated.
//
//============================================================================
inline static void UtilStrCpy(char * pDest, const unsigned char * pSrc,
int n)
{
   strncpy(pDest,(char *)pSrc,n);
   pDest[n] = '\0';
   return;
};   // UtilStrCpy

bool CTPCC_Common::InitNOParams(void)
{
   char szDiag[300];
   int i, j;

   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
      )
   {
      wsprintf(szDiag,"InitNOParams(%ld): Allocate Stmt Handles
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   m_hstmt = m_hstmtNewOrder;

   if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,
      m_descNewOrderCols1,SQL_IS_POINTER ) != SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitNOParams(%ld): SetStmtAttr NOCols1
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
#ifdef LONG_WID
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
#else
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
            0,0,&m_TData.NOData.w_id,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.NOData.d_id,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
            0,0,&m_TData.NOData.c_id,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.NOData.o_ol_cnt,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.NOData.o_all_local,0,NULL) != SQL_SUCCESS
      )
   {
      wsprintf(szDiag,"InitNOParams(%ld): Bind Param failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   for (j=0; j < MAX_OL; j++)
   {
      if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
               0,0,&m_TData.NOData.Ol[j].ol_i_id,0,NULL) != SQL_SUCCESS
#ifdef LONG_WID
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
```

```
#else
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
               0,0,&m_TData.NOData.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_TData.NOData.Ol[j].ol_quantity,0,NULL) !=
SQL_SUCCESS
         )
      {
         wsprintf(szDiag,"InitNOParams(%ld): Bind Param(%d)
failed\n",m_lRefId,j);
         CheckDBError(szDiag);
         return(TRUE);
      };
   };

        // set the bind offset pointer
   if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_ROW_BIND_OFFSET_PTR,
      &m_BindOffset,SQL_IS_POINTER ) != SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitNOParams(%ld): SetStmtAttr BindOffset
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
   if (SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.NOData.Ol[0].ol_i_name,
            sizeof(m_TData.NOData.Ol[j].ol_i_name),NULL) != SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_SSHORT,&m_TData.NOData.Ol[0].ol_stock,
            0,NULL) != SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.NOData.Ol[0].ol_brand_generic,
            sizeof(m_TData.NOData.Ol[j].ol_brand_generic),NULL) !=
SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.NOData.Ol[0].ol_i_price,
            0,NULL) != SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.NOData.Ol[0].ol_amount,
            0,NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitNOParams(%ld): Bind Col Ol %d
failed\n",m_lRefId, j);
         CheckDBError(szDiag);
         return(TRUE);
   };

        // 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)
   {
      wsprintf(szDiag,"InitNOParams(%ld): SetStmtAttr NOCols2
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
   if (SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.NOData.w_tax,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.NOData.d_tax,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_SLONG,&m_TData.NOData.o_id,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.NOData.c_last,
            sizeof(m_TData.NOData.c_last),NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.NOData.c_discount,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.NOData.c_credit,
            sizeof(m_TData.NOData.c_credit),NULL) != SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_TYPE_TIMESTAMP,&m_TData.NOData.o_entry_d,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt, ++i,SQL_C_SLONG,&m_no_commit_flag,
            0,NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitNOParams(%ld): Bind Col failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };
   return(FALSE);
};   // InitNOParams

HRESULT CTPCC_Common::NewOrder(int * iSize,UCHAR ** pTData)
{
   NEW_ORDER_DATA * pnod;
   RETCODE rc;
   bool bRetry;
   bool bUnique;
   char szDiag[300];

                              // 0         1         2
                              // 012345678901234567890123456789
   wchar_t szSqlTemplate[] = L"{call tpcc_neworder(?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?)}";
   wchar_t szSqlTemplateNew[] = L"{call tpcc_neworder_new(?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,"
                              L"?,?,?,?,?,?,?,?,?,?,?,?,?,?)}";


   // If supplied, insert stored procedure number into name
   if (iSPNumber)
      wcsncpy(&szSqlTemplate[8],wszSPNumber,2);

   int i, j;

   pnod = (NEW_ORDER_DATA *) *pTData;
   try
   {
      m_hstmt = m_hstmtNewOrder;
      m_bTPRslt = TRUE;
      m_iTPRslt = SVCERR_DEADLOCK;
```

```
      // 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)
      {
         wsprintf(szDiag,"NewOrder(%ld): SetStmtAttr NOCols1\n",m_lRefId);
         CheckDBError(szDiag);
         pnod->bTPRslt = TRUE;
         pnod->iTPRslt = SVCERR_ODBC;
         strcpy(pnod->execution_status,"Error, Bind NOCols1 Failed");
         return(S_OK);
      };

      // check whether any order lines are for a remote warehouse
      pnod->o_all_local = 1;
      for (i = 0; i < pnod->o_ol_cnt; i++)
      {
         if (pnod->Ol[i].ol_supply_w_id != pnod->w_id)
         {
            pnod->o_all_local = 0;
            break;
         };
      };

#ifdef YUKON
          // check if all ol_i_id are unique - we'll use tpcc_neworder_new
          bUnique = TRUE;
          for (i = 0; i < pnod->o_ol_cnt; i++)
      {
                for (j = i + 1; j < pnod->o_ol_cnt; j++)
                {
                        if (pnod->Ol[i].ol_i_id == pnod->Ol[j].ol_i_id)
                        {
                                bUnique = FALSE;
                                break;
                        };
                };
                if (bUnique == FALSE)
                        break;
      };
#else
          //if not YUKON handle all as if ol_i_id not unique - use
tpcc_neworder
          bUnique = FALSE;
#endif

      // clip statement buffer based on number of parameters
          // fixed part is 29 (33) chars and variable part is 6 chars per
line item
      wcscpy(&szSqlTemplate[29 + pnod->o_ol_cnt * 6],L")}");
      wcscpy(&szSqlTemplateNew[33 + pnod->o_ol_cnt * 6],L")}");

      memcpy(&m_TData.NOData,pnod,sizeof(NEW_ORDER_DATA));
      for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
      {
         bRetry = FALSE;
         m_BindOffset = 0;

                if (bUnique == TRUE)
                        rc = SQLExecDirectW(m_hstmt,(SQLWCHAR *)
szSqlTemplateNew,SQL_NTS);
                else
                        rc = SQLExecDirectW(m_hstmt,(SQLWCHAR *)
szSqlTemplate,SQL_NTS);

                if (m_iTryCount > 1 && (rc == SQL_SUCCESS || rc ==
       SQL_SUCCESS_WITH_INFO))
                {
                   wsprintf(szDiag,"NewOrder(%ld): Execute Direct Attempt %ld
SUCCESS \n",m_lRefId, m_iTryCount);
                        WriteEventLog(szDiag, FALSE);
                }

                if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
        {
           wsprintf(szDiag,"NewOrder(%ld): Execute Direct\n",m_lRefId);
           if (CheckDBError(szDiag))
           {
              m_iTPRslt = SVCERR_ODBC;
              break;
           };
           continue;
        }

        // Get order line results
        m_TData.NOData.total_amount = 0;
                for (i = 0; i < m_TData.NOData.o_ol_cnt; i++)
                {
                        // set the bind offset value...
                        m_BindOffset = i * sizeof(m_TData.NOData.Ol[0]);
                        if (SQLFetch(m_hstmt) == SQL_ERROR)
                        {
                                wsprintf(szDiag,"NewOrder(%ld): Fetch
Ol\n",m_lRefId);
                                if (CheckDBError(szDiag))
                                        m_iTPRslt = SVCERR_ODBC;
                                else
                                        bRetry = TRUE;
                                break;
                        };

                        if ((bUnique == FALSE) || (i ==
m_TData.NOData.o_ol_cnt - 1))
                        {
                                // move to the next resultset
                                if (SQLMoreResults(m_hstmt) == SQL_ERROR)
                                {
                                   wsprintf(szDiag,"NewOrder(%ld):
MoreResults Ol%d\n",m_lRefId,(i + 1));
                                   if (CheckDBError(szDiag))
                                         m_iTPRslt = SVCERR_ODBC;
                                   else
                                         bRetry = TRUE;
                                   break;
                                };
                        };
                                m_TData.NOData.total_amount +=
m_TData.NOData.Ol[i].ol_amount;
                };   // for o_ol_cnt
         if (m_iTPRslt == SVCERR_ODBC)
            break;
         if (bRetry)
            continue;
```

```
         // 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)
         {
            wsprintf(szDiag,"NewOrder(%ld): SetStmtAttr
NOCols2\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         if (SQLFetch(m_hstmt) == SQL_ERROR)
         {
            wsprintf(szDiag,"NewOrder(%ld): Fetch\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };

         SQLFreeStmt(m_hstmt,SQL_CLOSE);

         if (m_no_commit_flag == 1)
         {
            m_TData.NOData.total_amount *=
               ((1 + m_TData.NOData.w_tax + m_TData.NOData.d_tax) *
               (1 - m_TData.NOData.c_discount));
            m_bTPRslt = FALSE;
            m_iTPRslt = SVC_NOERROR;
         }
         else
            m_iTPRslt = SVC_BADITEMID;
         break;
      };   // for m_iMaxRetry
      memcpy(pnod,&m_TData.NOData,sizeof(NEW_ORDER_DATA));
      pnod->bTPRslt = m_bTPRslt;
      pnod->iTPRslt = m_iTPRslt;
      if (!m_bTPRslt)
      {
         strcpy(pnod->execution_status,"Transaction commited.");
         return(S_OK);
      };
      if (m_iTPRslt == SVC_BADITEMID)
      {
         strcpy(pnod->execution_status,"Item number is not valid.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_DEADLOCK)
         wsprintf(pnod->execution_status,"Hit retry
max(%d).",m_iMaxRetry);
      else
         strcpy(pnod->execution_status,"DBTranAbort, Check Input Data");
      return(S_OK);
   }
       catch (...)
       {
         wsprintf(szDiag,"NewOrder(%ld): Unhandled exception\n",m_lRefId);
                  WriteEventLog(szDiag,TRUE);
                  m_bCanBePooled = FALSE;
         pnod->bTPRslt = TRUE;
         pnod->iTPRslt = SVCERR_EXCEPTION;
         strcpy(pnod->execution_status,"Error, Unhandled exception");
                  return(S_OK);
          };
};   // NewOrder

bool CTPCC_Common::InitPYParams(void)
{
   int i;
   char szDiag[300];
   if (SQLAllocHandle(SQL_HANDLE_STMT,m_hdbc,&m_hstmtPayment) !=
SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitPYParams(%ld): Allocate Stmt Handle
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };
   m_hstmt = m_hstmtPayment;
   i = 0;
#ifdef LONG_WID
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
            0,0,&m_TData.PYData.w_id,0,NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
#else
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
            0,0,&m_TData.PYData.w_id,0,NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
            0,0,&m_TData.PYData.c_w_id,0,NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_DOUBLE,SQL_NUMERIC,
            6,2,&m_TData.PYData.h_amount,0,NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.PYData.d_id, 0, NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.PYData.c_d_id,0,NULL) != SQL_SUCCESS
         ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
            0,0,&m_TData.PYData.c_id,0,NULL) != SQL_SUCCESS
         || SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_CHAR,SQL_CHAR,
               sizeof(m_TData.PYData.c_last),0,&m_TData.PYData.c_last,
               sizeof(m_TData.PYData.c_last), NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitPYParams(%ld): Bind Param
failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };
   i = 0;
```

```
   if (SQLBindCol(m_hstmt,++i,SQL_C_SLONG,&m_TData.PYData.
            c_id,0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_last,
            sizeof(m_TData.PYData.c_last), NULL) != SQL_SUCCESS
       ||
SQLBindCol(m_hstmt,++i,SQL_C_TYPE_TIMESTAMP,&m_TData.PYData.h_date,
            0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.w_street_1,
            sizeof(m_TData.PYData.w_street_1), NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.w_street_2,
            sizeof(m_TData.PYData.w_street_2),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.w_city,
            sizeof(m_TData.PYData.w_city),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.w_state,
            sizeof(m_TData.PYData.w_state),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.w_zip,
            sizeof(m_TData.PYData.w_zip),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.d_street_1,
            sizeof(m_TData.PYData.d_street_1),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.d_street_2,
            sizeof(m_TData.PYData.d_street_2),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.d_city,
            sizeof(m_TData.PYData.d_city),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.d_state,
            sizeof(m_TData.PYData.d_state),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.d_zip,
            sizeof(m_TData.PYData.d_zip),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_first,
            sizeof(m_TData.PYData.c_first),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_middle,
            sizeof(m_TData.PYData.c_middle),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_street_1,
            sizeof(m_TData.PYData.c_street_1),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_street_2,
            sizeof(m_TData.PYData.c_street_2),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_city,
            sizeof(m_TData.PYData.c_city),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_state,
            sizeof(m_TData.PYData.c_state),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_zip,
            sizeof(m_TData.PYData.c_zip),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_phone,
            sizeof(m_TData.PYData.c_phone),NULL) != SQL_SUCCESS
       ||
SQLBindCol(m_hstmt,++i,SQL_C_TYPE_TIMESTAMP,&m_TData.PYData.c_since,
            0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_credit,
            sizeof(m_TData.PYData.c_credit),NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.PYData.c_credit_lim,
            0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.PYData.c_discount,
            0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.PYData.c_balance,
            0,NULL) != SQL_SUCCESS
       || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.PYData.c_data,
            sizeof(m_TData.PYData.c_data),NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitPYParams(%ld): Bind Col failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };
   return(FALSE);
};   // InitPYParams

HRESULT CTPCC_Common::Payment(int * iSize,UCHAR ** pTData)
{
   PAYMENT_DATA * ppd;
   RETCODE rc;
   char szDiag[300];

   wchar_t szSqlTemplate[] = L"{call tpcc_payment(?,?,?,?,?,?,?)}";
   // If supplied, insert stored procedure number into name
   if (iSPNumber)
      wcsncpy(&szSqlTemplate[8],wszSPNumber,2);


   ppd = (PAYMENT_DATA *) *pTData;
   try
   {
      m_hstmt = m_hstmtPayment;
      m_bTPRslt = TRUE;
      m_iTPRslt = SVCERR_DEADLOCK;
      if (ppd->c_id != 0)
         ppd->c_last[0] = 0;
      memcpy(&m_TData.PYData,ppd,sizeof(PAYMENT_DATA));
      for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
      {
         rc = SQLExecDirectW(m_hstmt,(SQLWCHAR *) szSqlTemplate,SQL_NTS);

                if (m_iTryCount > 1 && (rc == SQL_SUCCESS || rc ==
           SQL_SUCCESS_WITH_INFO))
                {
            wsprintf(szDiag,"Payment(%ld): Execute Direct Attempt %ld
SUCCESS \n",m_lRefId, m_iTryCount);
                        WriteEventLog(szDiag, FALSE);
                }

         if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
         {
            wsprintf(szDiag,"Payment(%ld): Execute Direct\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         if (SQLFetch(m_hstmt) == SQL_ERROR)
         {
            wsprintf(szDiag,"Payment(%ld): Fetch\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         SQLFreeStmt(m_hstmt,SQL_CLOSE);
         if (m_TData.PYData.c_id == 0)
            m_iTPRslt = SVCERR_NOCUSTOMER;
         else
```

```
         {
            m_bTPRslt = FALSE;
            m_iTPRslt = SVC_NOERROR;
         }
         break;
      };   // for m_iMaxRetry
      memcpy(ppd,&m_TData.PYData,sizeof(PAYMENT_DATA));
      ppd->bTPRslt = m_bTPRslt;
      ppd->iTPRslt = m_iTPRslt;
      if (!m_bTPRslt)
      {
         strcpy(ppd->execution_status,"Transaction commited.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_NOCUSTOMER)
      {
         strcpy(ppd->execution_status,"Invalid Customer id,name.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_DEADLOCK)
         wsprintf(ppd->execution_status,"Hit retry max(%d).",m_iMaxRetry);
      else
         strcpy(ppd->execution_status,"DBTranAbort, Check Input Data");
      return(S_OK);
   }
       catch (...)
       {
      wsprintf(szDiag,"Payment(%ld): Unhandled exception\n",m_lRefId);
               WriteEventLog(szDiag,TRUE);
               m_bCanBePooled = FALSE;
      ppd->bTPRslt = TRUE;
      ppd->iTPRslt = SVCERR_EXCEPTION;
      strcpy(ppd->execution_status,"Error, Unhandled exception");
               return(S_OK);
       };
};   // Payment

bool CTPCC_Common::InitDLParams(void)
{
   int i;
   char szDiag[300];
   if (SQLAllocHandle(SQL_HANDLE_STMT,m_hdbc,&m_hstmtDelivery) !=
SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitDLParams(%ld): Allocate Stmt Handle
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };
   m_hstmt = m_hstmtDelivery;
   i = 0;
#ifdef LONG_WID
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
#else
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
            0,0,&m_TData.DLData.w_id, 0, NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
            0,0,&m_TData.DLData.o_carrier_id,0,NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitDLParams(%ld): Bind Param
failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };
   for (i = 0; i < 10; i++)
   {
      if
(SQLBindCol(m_hstmt,(UWORD)(i+1),SQL_C_SLONG,&m_TData.DLData.o_id[i],
         0,NULL) != SQL_SUCCESS)
      {
         wsprintf(szDiag,"InitPYParams(%ld): Bind Col (%d)
failed\n",m_lRefId,(i+1));
         CheckDBError(szDiag);
         return(TRUE);
      };
   };
   return(FALSE);
};   // InitDLParams

HRESULT CTPCC_Common::Delivery(int * iSize,UCHAR ** pTData)
{
   DELIVERY_DATA * pdd;
   RETCODE rc;
   char szDiag[300];

   wchar_t szSqlTemplate[] = L"{call tpcc_delivery(?,?)}";

   // If supplied, insert stored procedure number into name
   if (iSPNumber)
      wcsncpy(&szSqlTemplate[8],wszSPNumber,2);


   pdd = (DELIVERY_DATA *) *pTData;
   try
   {
      m_hstmt = m_hstmtDelivery;
      m_bTPRslt = TRUE;
      m_iTPRslt = SVCERR_DEADLOCK;
      memcpy(&m_TData.DLData,pdd,sizeof(DELIVERY_DATA));
      for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
      {
               rc = SQLExecDirectW(m_hstmt,(SQLWCHAR *)
szSqlTemplate,SQL_NTS);

               if (m_iTryCount > 1 && (rc == SQL_SUCCESS || rc ==
       SQL_SUCCESS_WITH_INFO))
               {
            wsprintf(szDiag,"Delivery(%ld): Execute Direct Attempt %ld
SUCCESS \n",m_lRefId, m_iTryCount);
                     WriteEventLog(szDiag, FALSE);
               }

         if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
         {
            wsprintf(szDiag,"Delivery(%ld): Execute Direct\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
```

```
            m_iTPRslt = SVCERR_ODBC;
            break;
         };
         continue;
      };
      if ( SQLFetch(m_hstmt) == SQL_ERROR )
      {
         wsprintf(szDiag,"Delivery(%ld): Fetch\n",m_lRefId);
         if (CheckDBError(szDiag))
         {
            m_iTPRslt = SVCERR_ODBC;
            break;
         };
         continue;
      };
      SQLFreeStmt(m_hstmt,SQL_CLOSE);
      m_bTPRslt = FALSE;
      m_iTPRslt = SVC_NOERROR;
      break;
   };   // for m_iMaxRetry
   memcpy(pdd,&m_TData.DLData,sizeof(DELIVERY_DATA));
   pdd->bTPRslt = m_bTPRslt;
   pdd->iTPRslt = m_iTPRslt;
   return(S_OK);
}
     catch (...)
     {
   wsprintf(szDiag,"Delivery(%ld): Unhandled exception\n",m_lRefId);
            WriteEventLog(szDiag,TRUE);
            m_bCanBePooled = FALSE;
   pdd->bTPRslt = TRUE;
   pdd->iTPRslt = SVCERR_EXCEPTION;
            return(S_OK);
     };
};   // Delivery

bool CTPCC_Common::InitOSParams(void)
{
   char szDiag[300];
   int i;
   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
      )
   {
      wsprintf(szDiag,"InitOSParams(%ld): Allocate Stmt Handles
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   m_hstmt = m_hstmtOrderStatus;

   if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,
      m_descOrderStatusCols1,SQL_IS_POINTER) != SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitOSParams(%ld): SetStmtAttr OSCols1
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
#ifdef LONG_WID
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
#else
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
            0,0,&m_TData.OSData.w_id,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.OSData.d_id,0,NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
            0,0,&m_TData.OSData.c_id,0,NULL) != SQL_SUCCESS
      || SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_CHAR,SQL_CHAR,
            sizeof(m_TData.OSData.c_last),0,&m_TData.OSData.c_last,
            sizeof(m_TData.OSData.c_last),NULL) != SQL_SUCCESS
      )
   {
      wsprintf(szDiag,"InitOSParams(%ld): Bind Param failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   // configure block cursor
   if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_ROW_BIND_TYPE,
            (SQLPOINTER)sizeof(m_TData.OSData.OlOrderStatusData[0]),0) !=
SQL_SUCCESS
      || SQLSetStmtAttrW(m_hstmt,SQL_ATTR_ROWS_FETCHED_PTR,
            &m_RowsFetched,0) != SQL_SUCCESS
      )
   {
      wsprintf(szDiag,"InitOSParams(%ld): SetStmtAttr RowsFetched
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
#ifdef LONG_WID
   if (SQLBindCol(m_hstmt,++i,SQL_C_SLONG,
#else
   if (SQLBindCol(m_hstmt,++i,SQL_C_SSHORT,
#endif
            &m_TData.OSData.OlOrderStatusData[0].ol_supply_w_id, 0, NULL)
!= SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_SLONG,
            &m_TData.OSData.OlOrderStatusData[0].ol_i_id, 0, NULL) !=
SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_SSHORT,
            &m_TData.OSData.OlOrderStatusData[0].ol_quantity, 0, NULL) !=
SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,
            &m_TData.OSData.OlOrderStatusData[0].ol_amount, 0, NULL) !=
SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_TYPE_TIMESTAMP,
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            &m_TData.OSData.OlOrderStatusData[0].ol_delivery_d, 0, NULL)
!= SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitOSParams(%ld): Bind Col Ol
failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };

   if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,
      m_descOrderStatusCols2,SQL_IS_POINTER) != SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitOSParams(%ld): SetStmtAttr OSCols2
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };

   i = 0;
   if (SQLBindCol(m_hstmt,++i,SQL_C_SLONG,&m_TData.OSData.c_id,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.OSData.c_last,
            sizeof(m_TData.OSData.c_last),NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.OSData.c_first,
            sizeof(m_TData.OSData.c_first),NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_CHAR,&m_TData.OSData.c_middle,
            sizeof(m_TData.OSData.c_middle), NULL) != SQL_SUCCESS
      ||
SQLBindCol(m_hstmt,++i,SQL_C_TYPE_TIMESTAMP,&m_TData.OSData.o_entry_d,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_SSHORT,&m_TData.OSData.o_carrier_id,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_DOUBLE,&m_TData.OSData.c_balance,
            0,NULL) != SQL_SUCCESS
      || SQLBindCol(m_hstmt,++i,SQL_C_SLONG,&m_TData.OSData.o_id,
            0,NULL) != SQL_SUCCESS
      )
      {
         wsprintf(szDiag,"InitOSParams(%ld): Bind Col failed\n",m_lRefId);
         CheckDBError(szDiag);
         return(TRUE);
      };
   return(FALSE);
};   // InitOSParams

HRESULT CTPCC_Common::OrderStatus(int * iSize,UCHAR ** pTData)
{
   ORDER_STATUS_DATA * posd;
   RETCODE rc;
   char szDiag[300];

   wchar_t szSqlTemplate[] = L"{call tpcc_orderstatus(?,?,?,?)}";

   // If supplied, insert stored procedure number into name
   if (iSPNumber)
      wcsncpy(&szSqlTemplate[8],wszSPNumber,2);


   posd = (ORDER_STATUS_DATA *) *pTData;
   try
   {
      m_hstmt = m_hstmtOrderStatus;
      m_bTPRslt = TRUE;
      m_iTPRslt = SVCERR_DEADLOCK;
      if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,
         m_descOrderStatusCols1,SQL_IS_POINTER ) != SQL_SUCCESS)
      {
         wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr
OSCols1\n",m_lRefId);
         CheckDBError(szDiag);
         posd->bTPRslt = TRUE;
         posd->iTPRslt = SVCERR_ODBC;
         strcpy(posd->execution_status,"Error, SetStmt OSCols1");
         return(S_OK);
      };
      if (posd->c_id != 0)
                posd->c_last[0] = 0;
      memcpy(&m_TData.OSData,posd,sizeof(ORDER_STATUS_DATA));
      for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
      {
         // configure block cursor
         if
(SQLSetStmtAttrW(m_hstmt,SQL_ATTR_ROW_ARRAY_SIZE,(SQLPOINTER)1,0) !=
SQL_SUCCESS)
         {
            wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr
RowArraySize\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         rc = SQLExecDirectW(m_hstmt,(SQLWCHAR*) szSqlTemplate,SQL_NTS);

               if (m_iTryCount > 1 && (rc == SQL_SUCCESS || rc ==
       SQL_SUCCESS_WITH_INFO))
            {
            wsprintf(szDiag,"OrderStatus(%ld): Execute Direct Attempt %ld
SUCCESS \n",m_lRefId, m_iTryCount);
                     WriteEventLog(szDiag, FALSE);
                  }

         if ( ((rc == SQL_SUCCESS_WITH_INFO) && (m_RowsFetched != 0)) ||
(rc == SQL_ERROR) )
         {
            wsprintf(szDiag,"OrderStatus(%ld): Execute
Direct\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         // configure block cursor
         if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_ROW_ARRAY_SIZE,
            (SQLPOINTER)MAX_OL, 0) != SQL_SUCCESS)
         {
```

```
            wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr RowArraySize
MAX_OL\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         rc = SQLFetchScroll(m_hstmt,SQL_FETCH_NEXT,0);
         if ( ((rc == SQL_SUCCESS_WITH_INFO) && (m_RowsFetched != 0)) ||
(rc == SQL_ERROR) )
         {
            wsprintf(szDiag,"OrderStatus(%ld): FetchScroll\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         m_TData.OSData.o_ol_cnt = (short)m_RowsFetched;

         if (m_TData.OSData.o_ol_cnt != 0)
         {
            if
(SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,m_descOrderStatusCols2,
               SQL_IS_POINTER) != SQL_SUCCESS)
            {
               wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr
OSCols2\n",m_lRefId);
               if (CheckDBError(szDiag))
               {
                  m_iTPRslt = SVCERR_ODBC;
                  break;
               };
               continue;
            };
            if (SQLMoreResults(m_hstmt) == SQL_ERROR)
            {
               wsprintf(szDiag,"OrderStatus(%ld):
MoreResults\n",m_lRefId);
               if (CheckDBError(szDiag))
               {
                  m_iTPRslt = SVCERR_ODBC;
                  break;
               };
               continue;
            };
            if (SQLFetch(m_hstmt) == SQL_ERROR)
            {
               wsprintf(szDiag,"OrderStatus(%ld): Fetch\n",m_lRefId);
               CheckDBError(szDiag);
               if (SQLSetStmtAttrW(m_hstmt,SQL_ATTR_APP_ROW_DESC,
                  m_descOrderStatusCols1,SQL_IS_POINTER ) != SQL_SUCCESS)
               {
                  wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr (Fetch)
OSCols1\n",m_lRefId);
                  CheckDBError(szDiag);
                  posd->bTPRslt = TRUE;
                  posd->iTPRslt = SVCERR_ODBC;
                  strcpy(posd->execution_status,"Error, SetStmt Cols1
Fetch");
                  return(S_OK);
               };
               memcpy(&m_TData.OSData,posd,sizeof(ORDER_STATUS_DATA));
               Sleep(20);
               continue;
            };
         };   // order lines exist
         SQLFreeStmt(m_hstmt,SQL_CLOSE);
         if (m_TData.OSData.o_ol_cnt == 0)
            m_iTPRslt = SVCERR_NOORDERS;
         else
         if (m_TData.OSData.c_id == 0 && m_TData.OSData.c_last[0] == 0)
            m_iTPRslt = SVCERR_NOCUSTOMER;
         else
         {
            m_bTPRslt = FALSE;
            m_iTPRslt = SVC_NOERROR;
         };
         break;
      };   // for m_iMaxRetry
      memcpy(posd,&m_TData.OSData,sizeof(ORDER_STATUS_DATA));
      posd->bTPRslt = m_bTPRslt;
      posd->iTPRslt = m_iTPRslt;
      if (!m_bTPRslt)
      {
         strcpy(posd->execution_status,"Transaction commited.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_NOCUSTOMER)
      {
         strcpy(posd->execution_status,"Invalid Customer id,name.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_NOORDERS)
      {
         strcpy(posd->execution_status,"Customer has no orders.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_DEADLOCK)
         wsprintf(posd->execution_status,"Hit retry
max(%d).",m_iMaxRetry);
      else
         strcpy(posd->execution_status,"DBTranAbort, Check Input Data");
      return(S_OK);
   }
      catch (...)
      {
      wsprintf(szDiag,"OrderStatus(%ld): Unhandled exception\n",m_lRefId);
               WriteEventLog(szDiag,TRUE);
               m_bCanBePooled = FALSE;
      posd->bTPRslt = TRUE;
      posd->iTPRslt = SVCERR_EXCEPTION;
      strcpy(posd->execution_status,"Error, Unhandled exception");
               return(S_OK);
      };
};   // Orderstatus

bool CTPCC_Common::InitSLParams(void)
{
```

```
   char szDiag[300];
   int i = 0;
   if (SQLAllocHandle(SQL_HANDLE_STMT,m_hdbc,&m_hstmtStockLevel) !=
SQL_SUCCESS )
   {
      wsprintf(szDiag,"InitSLParams(%ld): Allocate Stmt Handle
failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };
   m_hstmt = m_hstmtStockLevel;
#ifdef LONG_WID
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SLONG,SQL_INTEGER,
#else
   if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
#endif
            0,0,&m_TData.SLData.w_id, 0, NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_UTINYINT,SQL_TINYINT,
            0,0,&m_TData.SLData.d_id, 0, NULL) != SQL_SUCCESS
      ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
            0,0,&m_TData.SLData.thresh_hold, 0, NULL) != SQL_SUCCESS
      )
   {
      wsprintf(szDiag,"InitSLParams(%ld): Bind Param failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };
   if (SQLBindCol(m_hstmt,1,SQL_C_SLONG,
      &m_TData.SLData.low_stock,0,NULL) != SQL_SUCCESS)
   {
      wsprintf(szDiag,"InitSLParams(%ld): Bind Column failed\n",m_lRefId);
      CheckDBError(szDiag);
      return(TRUE);
   };
   return(FALSE);
};   // InitSLParams

HRESULT CTPCC_Common::StockLevel(int * iSize,UCHAR ** pTData)
{
   STOCK_LEVEL_DATA * psld;
   RETCODE rc;
   char szDiag[300];

   wchar_t szSqlTemplate[] = L"{call tpcc_stocklevel(?,?,?)}";

   // If supplied, insert stored procedure number into name
   if (iSPNumber)
      wcsncpy(&szSqlTemplate[8],wszSPNumber,2);

   psld = (STOCK_LEVEL_DATA *) *pTData;
   try
   {
      m_hstmt = m_hstmtStockLevel;
      m_bTPRslt = TRUE;
      m_iTPRslt = SVCERR_DEADLOCK;
      memcpy(&m_TData.SLData,psld,sizeof(STOCK_LEVEL_DATA));
      for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
      {
               rc = SQLExecDirectW(m_hstmt,(SQLWCHAR*)
szSqlTemplate,SQL_NTS);

               if (m_iTryCount > 1 && (rc == SQL_SUCCESS || rc ==
       SQL_SUCCESS_WITH_INFO))
               {
            wsprintf(szDiag,"StockLevel(%ld): Execute Direct Attempt %ld
SUCCESS \n",m_lRefId, m_iTryCount);
                     WriteEventLog(szDiag, FALSE);
               }

         if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
         {
            wsprintf(szDiag,"StockLevel(%ld): Execute Direct\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
         if (SQLFetch(m_hstmt) == SQL_ERROR)
         {
            wsprintf(szDiag,"StockLevel(%ld): Fetch\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
               m_iTPRslt = SVCERR_ODBC;
               break;
            };
            continue;
         };
                     SQLFreeStmt(m_hstmt,SQL_CLOSE);
         m_bTPRslt = FALSE;
         m_iTPRslt = SVC_NOERROR;
                     break;
      };   // for m_iMaxRetry
      memcpy(psld,&m_TData.SLData,sizeof(STOCK_LEVEL_DATA));
      psld->bTPRslt = m_bTPRslt;
      psld->iTPRslt = m_iTPRslt;
      if (!m_bTPRslt)
      {
         strcpy(psld->execution_status,"Transaction commited.");
         return(S_OK);
      };
      if (m_iTPRslt == SVCERR_DEADLOCK)
         wsprintf(psld->execution_status,"Hit retry
max(%d).",m_iMaxRetry);
      else
         strcpy(psld->execution_status,"DBTranAbort, Check Input Data");
      return(S_OK);
   }
     catch (...)
     {
      wsprintf(szDiag,"StockLevel(%ld): Unhandled exception\n",m_lRefId);
               WriteEventLog(szDiag,TRUE);
               m_bCanBePooled = FALSE;
      psld->bTPRslt = TRUE;
      psld->iTPRslt = SVCERR_EXCEPTION;
      strcpy(psld->execution_status,"Error, Unhandled exception");
               return(S_OK);
```

```
        };
};   // Stocklevel

//==============================================================================
//
// Function name: ReadRegistry
//
//    Sets global operational parameters from registry if they exist.
//    Otherwise, compiled in defaults apply.
//
// Result:
//    FALSE    Registry entry found
//    TRUE     Registry entry does not exist
//
//==============================================================================
bool ReadRegistry(VOID)
{
   HKEY hkTPCC;
   DWORD       dwMax;
   DWORD       dwRT;
   CHAR * pszEnvData;
   char szValue[100];
   if (RegOpenKeyEx(HKEY_LOCAL_MACHINE,"SOFTWARE\\Unisys\\TPCC",0,
      KEY_READ, &hkTPCC) != ERROR_SUCCESS )
      return(TRUE);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"SERVERNAME",0,&dwRT,(BYTE *)
&szValue,&dwMax)
      == ERROR_SUCCESS)
      strcpy(szServer,szValue);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"DATABASE",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS)
      strcpy(szDatabase,szValue);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"USER",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS)
      strcpy(szUser,szValue);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"PASSWORD",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS)
      strcpy(szPassword,szValue);
   dwMax = sizeof(szValue);
   if (RegQueryValueEx(hkTPCC,"MAXRETRY",0,&dwRT,(BYTE *) &szValue,&dwMax)
      == ERROR_SUCCESS )
      iDeadlockRetry = abs(atoi(szValue));
   RegCloseKey(hkTPCC);
   if ((pszEnvData = getenv("WEBINSTANCE")) != NULL)
      strcpy(szServer,pszEnvData);
   if ((pszEnvData = getenv("WEBDATABASE")) != NULL)
      strcpy(szDatabase,pszEnvData);
   if ((pszEnvData = getenv("WEBDRIVERNO")) != NULL)
      iInstance = abs(atoi(pszEnvData));
   if ((pszEnvData = getenv("WEBSPNUMBER")) != NULL)
   {
      iSPNumber = abs(atoi(pszEnvData));
      swprintf(wszSPNumber,L"%2.2d",iSPNumber);
   };

   return(FALSE);
};   // ReadRegistry

//==============================================================================
//
// Function name: WriteEventLog
//
//==============================================================================
void WriteEventLog(char * pMsg,bool bError)
{
   WORD wType;
   char szHeader[100];
   char * pDMsgs[2];
   HANDLE hEventLog = NULL;
   if (bError)
      wType = EVENTLOG_ERROR_TYPE;
   else
      wType = EVENTLOG_INFORMATION_TYPE;
   hEventLog = RegisterEventSource(NULL,pProgId);
   wsprintf(szHeader,"%s (%ld)\n",pProgId,GetCurrentThreadId());
   pDMsgs[0] = szHeader;
   pDMsgs[1] = pMsg;
   if (hEventLog != NULL)
   {
      ReportEvent(hEventLog,           // event log handle
                  wType,               // event type
                  0,                   // category zero
                  0,                   // no event identifier
                  NULL,                // no user security identifier
                  2,                   // # of substitution strings
                  0,                   // no binary data
                  (LPCTSTR *) pDMsgs,  // address of string array
                  NULL);               // address of binary data
      DeregisterEventSource(hEventLog);
   };

   char szTimeStr[64];
   TimeStamp(szTimeStr);

   //if (bError &&(fp != NULL))
   if ((fp != NULL))
   {
          fprintf(fp, "%s (%ld) %s\n", szTimeStr, GetCurrentThreadId(),
pMsg);
          fflush(fp);
   }
   return;
};   // WriteEventLog

//==============================================================================
//
// Function name: TimebToString
//    Converts timeb to yyyy:mm:dd,hh:mm:ss.sss format
//
//==============================================================================
CHAR * TimeStamp(char *timeStr)
{
       struct _timeb tb;
       struct tm *ptm;

       _ftime(& tb);
   ptm = localtime(&tb.time);
```

```
   wsprintf(timeStr,"%4.4d/%2.2d/%2.2d,%2.2d:%2.2d:%2.2d.%3.3d",
      ptm->tm_year + 1900,ptm->tm_mon + 1,ptm->tm_mday,
      ptm->tm_hour,ptm->tm_min,ptm->tm_sec,tb.millitm);

   return(timeStr);
};   // TimebToString
```

Appendix B - Database Design

Build Scripts

BACKUP.SQL

```
declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select 'Start date:', convert(varchar(30),@startdate,9)
backup database tpcc to
    DISK = 'C:\Bigdb\dbbackups\BackupA1\backupA1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB1\backupB1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC1\backupC1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD1\backupD1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA2\backupA2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB2\backupB2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC2\backupC2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD2\backupD2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA3\backupA3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB3\backupB3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC3\backupC3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD3\backupD3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA4\backupA4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB4\backupB4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC4\backupC4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD4\backupD4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA5\backupA5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB5\backupB5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC5\backupC5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD5\backupD5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA6\backupA6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB6\backupB6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC6\backupC6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD6\backupD6.dmp'
with format, stats = 1
select @enddate = getdate()
select 'End date:', convert(varchar(30),@enddate,9)
select 'Elapsed time (in seconds):', datediff(second, @startdate,
@enddate)
go
restore verifyonly from
    DISK = 'C:\Bigdb\dbbackups\BackupA1\backupA1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB1\backupB1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC1\backupC1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD1\backupD1.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA2\backupA2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB2\backupB2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC2\backupC2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD2\backupD2.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA3\backupA3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB3\backupB3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC3\backupC3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD3\backupD3.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA4\backupA4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB4\backupB4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC4\backupC4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD4\backupD4.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA5\backupA5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB5\backupB5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC5\backupC5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD5\backupD5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA6\backupA6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB6\backupB6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC6\backupC6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD6\backupD6.dmp'
Go
```

CREATEDB.SQL

```
SET ANSI_NULL_DFLT_OFF ON
go
use master
go
if exists ( select name from sysobjects where name = 'tpcc_timer' )
drop table tpcc_timer
go

create table tpcc_timer
(
  start_date                          char(30),
  end_date                            char(30)
)

insert  into tpcc_timer values (0,0)
go

update  tpcc_timer
  set   start_date     = (select convert(char(30), getdate(),9))
go
CREATE DATABASE tpcc
  ON PRIMARY
   (    NAME           = MSSQL_tpcc_root,
   FILENAME    = "C:\Bigdb\dbRoots\tpcc_root.mdf",
   SIZE        = 10MB,         FILEGROWTH     = 0),
FILEGROUP      MSSQL_misc_fg
(   NAME = MSSQL_miscA1,
    FILENAME = "C:\Bigdb\cabA\misc1\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscB1,
    FILENAME = "C:\Bigdb\cabB\misc1\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscC1,
    FILENAME = "C:\Bigdb\cabC\misc1\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscD1,
    FILENAME = "C:\Bigdb\cabD\misc1\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
```

```
(   NAME = MSSQL_miscA2,
    FILENAME = "C:\Bigdb\cabA\misc2\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscB2,
    FILENAME = "C:\Bigdb\cabB\misc2\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscC2,
    FILENAME = "C:\Bigdb\cabC\misc2\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscD2,
    FILENAME = "C:\Bigdb\cabD\misc2\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscA3,
    FILENAME = "C:\Bigdb\cabA\misc3\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscB3,
    FILENAME = "C:\Bigdb\cabB\misc3\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscC3,
    FILENAME = "C:\Bigdb\cabC\misc3\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscD3,
    FILENAME = "C:\Bigdb\cabD\misc3\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscA4,
    FILENAME = "C:\Bigdb\cabA\misc4\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscB4,
    FILENAME = "C:\Bigdb\cabB\misc4\",
    SIZE     = 9500MB,   FILEGROWTH = 0),
(   NAME = MSSQL_miscC4,
    FILENAME = "C:\Bigdb\cabC\misc4\",
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(   NAME = MSSQL_ordC12,
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LOG ON
(   NAME     = MSSQL_tpcc_log1,
    FILENAME = "C:\Bigdb\dblogs\tpcclog1\",
    SIZE = 764500MB, FILEGROWTH = 0)
update tpcc_timer
set    end_date       = (select convert(char(30), getdate(),9))
go
select "Elapsed time (in seconds): ", datediff(second,(select start_date
from tpcc_timer),(select end_date from tpcc_timer))
if exists ( select name from sysobjects where name = 'tpcc_timer' )
drop table tpcc_timer
go
```

DBOPT1.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   DBOPT1.SQL                                          --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Sets database options for load                      --
--                                                              --
------------------------------------------------------------------
USE master
GO

ALTER DATABASE tpcc SET RECOVERY BULK_LOGGED
GO

EXEC sp_dboption tpcc,'trunc. log on chkpt.',TRUE
GO

ALTER DATABASE tpcc SET TORN_PAGE_DETECTION OFF
GO

ALTER DATABASE tpcc SET PAGE_VERIFY NONE
GO

USE tpcc
GO

CHECKPOINT
GO
```

DBOPT2.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   DBOPT2.SQL                                          --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Sets database options after load                    --
--                                                              --
------------------------------------------------------------------
EXEC sp_dboption tpcc,'trunc. log on chkpt.',FALSE
GO
ALTER DATABASE tpcc SET RECOVERY FULL
GO
```

```
USE tpcc
GO

CHECKPOINT
GO

sp_configure 'allow updates',1
GO

RECONFIGURE WITH OVERRIDE
GO

DECLARE @msg           varchar(50)

------------------------------------------------
--        OPTIONS FOR SQL SERVER 2005         --
-- Set option values for user-defined indexes --
------------------------------------------------

SET     @msg    = ' '
PRINT   @msg
SET     @msg    = 'Setting SQL Server indexoptions'
PRINT   @msg
SET     @msg    = ' '
PRINT   @msg

EXEC sp_indexoption    'customer',     'DisAllowPageLocks',  TRUE
EXEC sp_indexoption    'district',        'DisAllowPageLocks',      TRUE
EXEC sp_indexoption    'warehouse',    'DisAllowPageLocks',  TRUE
EXEC sp_indexoption    'stock',        'DisAllowPageLocks',  TRUE
EXEC sp_indexoption    'order_line',   'DisAllowRowLocks',     TRUE
EXEC sp_indexoption    'orders',       'DisAllowRowLocks',     TRUE
EXEC sp_indexoption    'new_order',    'DisAllowRowLocks',     TRUE
EXEC sp_indexoption    'item',         'DisAllowRowLocks',     TRUE
EXEC sp_indexoption    'item',         'DisAllowPageLocks',    FALSE
GO

Print ' '
Print '******************'
Print 'Pre-specified Locking Hierarchy:'
Print '   Lockflag = 0 ==> No pre-specified hierarchy'
Print '   Lockflag = 1 ==> Lock at Page-level then Table-level'
Print '   Lockflag = 2 ==> Lock at Row-level then Table-level'
Print '   Lockflag = 3 ==> Lock at Table-level'
Print ' '

SELECT  name,
        lockflags
FROM    sysindexes
WHERE   object_id('warehouse')  = id OR
        object_id('district')   = id OR
        object_id('customer')   = id OR
        object_id('stock')      = id OR
        object_id('orders')     = id OR
        object_id('order_line') = id OR
        object_id('history')    = id OR
        object_id('new_order')  = id OR
        object_id('item')       = id
ORDER   BY lockflags asc
GO

sp_configure 'allow updates',0
GO

RECONFIGURE WITH OVERRIDE
GO

EXEC sp_dboption tpcc, 'auto update statistics',     FALSE
EXEC sp_dboption tpcc, 'auto create statistics',     FALSE
GO

DECLARE @db_id  int,
        @tbl_id int

SET     @db_id  = DB_ID('tpcc')
SET     @tbl_id = OBJECT_ID('tpcc..warehouse')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..district')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..new_order')
DBCC PINTABLE (@db_id, @tbl_id)

SET     @tbl_id = OBJECT_ID('tpcc..item')
DBCC PINTABLE (@db_id, @tbl_id)
GO
```

REMOVEDB.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   REMOVEDB.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
------------------------------------------------------------------
USE master
GO

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

RESTORE.SQL

```
declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select 'Start date:', convert(varchar(30),@startdate,9)
restore database tpcc from
    DISK = 'C:\Bigdb\dbbackups\backupA1\backupA1.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupB1\backupB1.dmp',
```

```
    DISK = 'C:\Bigdb\dbbackups\backupC1\backupC1.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupD1\backupD1.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupA2\backupA2.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupB2\backupB2.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupC2\backupC2.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupD2\backupD2.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupA3\backupA3.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupB3\backupB3.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupC3\backupC3.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupD3\backupD3.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupA4\backupA4.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupB4\backupB4.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupC4\backupC4.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupD4\backupD4.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupA5\backupA5.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupB5\backupB5.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupC5\backupC5.dmp',
    DISK = 'C:\Bigdb\dbbackups\backupD5\backupD5.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupA6\backupA6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupB6\backupB6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupC6\backupC6.dmp',
    DISK = 'C:\Bigdb\dbbackups\BackupD6\backupD6.dmp'
with replace, stats = 1
select @enddate = getdate()
select 'End date:', convert(varchar(30),@enddate,9)
select 'Elapsed time (in seconds):', datediff(second, @startdate,
@enddate)
go
use tpcc
EXEC sp_tableoption 'new_order','pintable',false
Go
```

TEMPDB.SQL

```
ALTER database tempdb
add file
( NAME = tempdbA11,
  FILENAME = 'C:\Bigdb\dbbackups\backupA11\tempdbA11.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbB11,
  FILENAME = 'C:\Bigdb\dbbackups\backupB11\tempdbB11.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbC11,
  FILENAME = 'C:\Bigdb\dbbackups\backupC11\tempdbC11.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbD11,
  FILENAME = 'C:\Bigdb\dbbackups\backupD11\tempdbD11.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbA12,
  FILENAME = 'C:\Bigdb\dbbackups\backupA12\tempdbA12.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbB12,
  FILENAME = 'C:\Bigdb\dbbackups\backupB12\tempdbB12.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB),
( NAME = tempdbC12,
  FILENAME = 'C:\Bigdb\dbbackups\backupC12\tempdbC12.mdf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB)
go
ALTER database tempdb
add log file
( NAME = tempdblogD12,
  FILENAME = 'C:\Bigdb\dbbackups\backupD12\tempdblogD12.ldf',
  SIZE = 15000 MB,
  FILEGROWTH = 10%,
  MAXSIZE = 74210 MB)
Go
```

VERIFYTPCCLOAD

```
-------------------------------------------------------------------
--                                                               --
--  File:   VerifyTPCCLoad.SQL                                   --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62              --
--          Copyright Microsoft, 2005                            --
--                                                               --
-------------------------------------------------------------------
SET NOCOUNT ON
PRINT   ' '
SELECT  CONVERT(CHAR(30), GETDATE(), 21)
PRINT   ' '

USE    tpcc
GO

IF  EXISTS  (SELECT name
             FROM   sysobjects
             WHERE  name    = 'TPCC_INFO' AND
                    type    = 'U')
    DROP TABLE TPCC_INFO
GO
PRINT   'WAREHOUSE TABLE'
SELECT  count_big(*)
FROM    warehouse
GO

PRINT   'DISTRICT TABLE = (10 * No of warehouses)'
SELECT  count_big(*)
FROM    district
GO

PRINT   'ITEM TABLE = 100,000'
SELECT  count_big(*)
```

```
FROM    item
GO

PRINT   'CUSTOMER TABLE = (30,000 * No of warehouses)'
SELECT  count_big(*)
FROM    customer
GO

PRINT   'ORDERS TABLE = (30,000 * No of warehouses)'
SELECT  count_big(*)
FROM    orders
GO

PRINT   'HISTORY TABLE = (30,000 * No of warehouses)'
SELECT  count_big(*)
FROM    history
GO

PRINT   'STOCK TABLE = (100,000 * No of warehouses)'
SELECT  count_big(*)
FROM    stock
GO

PRINT   'ORDER_LINE TABLE = (300,000 * No of warehouses + some change)'
SELECT  count_big(*)
FROM    order_line
GO

PRINT   'NEW_ORDER TABLE = (9000 * No of warehouses)'
SELECT  count_big(*)
FROM    new_order
GO

CREATE TABLE TPCC_INFO
    (   INFO_DATE                   datetime,
        NUM_WAREHOUSE               bigint,
        WAREHOUSE_TARGET            bigint,
        NUM_DISTRICT                bigint,
        DISTRICT_TARGET             bigint,
        NUM_ITEM                    bigint,
        ITEM_TARGET                 bigint,
        NUM_CUSTOMER                bigint,
        CUSTOMER_TARGET             bigint,
        NUM_ORDERS                  bigint,
        ORDERS_TARGET               bigint,
        ORDERS_TARGET_LOW           bigint,
        ORDERS_TARGET_HIGH          bigint,
        NUM_ORDER_LINE              bigint,
        ORDER_LINE_TARGET           bigint,
        ORDER_LINE_TARGET_LOW       bigint,
        ORDER_LINE_TARGET_HIGH      bigint,
        NUM_NEW_ORDER               bigint,
        NEW_ORDER_TARGET            bigint,
        NEW_ORDER_TARGET_LOW        bigint,
        NEW_ORDER_TARGET_HIGH       bigint,
        NUM_HISTORY                 bigint,
        HISTORY_TARGET              bigint,
        NUM_STOCK                   bigint,
        STOCK_TARGET                bigint)
GO
```

```
DECLARE @NUM_WAREHOUSE              bigint,
        @WAREHOUSE_TARGET           bigint,
        @NUM_DISTRICT               bigint,
        @DISTRICT_TARGET            bigint,
        @NUM_ITEM                   bigint,
        @ITEM_TARGET                bigint,
        @NUM_CUSTOMER               bigint,
        @CUSTOMER_TARGET            bigint,
        @NUM_ORDERS                 bigint,
        @ORDERS_TARGET              bigint,
        @ORDERS_TARGET_LOW          bigint,
        @ORDERS_TARGET_HIGH         bigint,
        @NUM_ORDER_LINE             bigint,
        @ORDER_LINE_TARGET          bigint,
        @ORDER_LINE_TARGET_LOW      bigint,
        @ORDER_LINE_TARGET_HIGH     bigint,
        @NUM_NEW_ORDER              bigint,
        @NEW_ORDER_TARGET           bigint,
        @NEW_ORDER_TARGET_LOW       bigint,
        @NEW_ORDER_TARGET_HIGH      bigint,
        @NUM_HISTORY                bigint,
        @HISTORY_TARGET             bigint,
        @NUM_STOCK                  bigint,
        @STOCK_TARGET               bigint

-- set the local variables prior to inserting them into the TPCC_INFO
table
SELECT  @NUM_WAREHOUSE      = COUNT_BIG(*)
FROM    warehouse

SELECT  @NUM_DISTRICT       = COUNT_BIG(*)
FROM    district

SELECT  @NUM_ITEM           = COUNT_BIG(*)
FROM    item

SELECT  @NUM_CUSTOMER       = COUNT_BIG(*)
FROM    customer

SELECT  @NUM_ORDERS         = COUNT_BIG(*)
FROM    orders

SELECT  @NUM_ORDER_LINE     = COUNT_BIG(*)
FROM    order_line

SELECT  @NUM_NEW_ORDER      = COUNT_BIG(*)
FROM    new_order

SELECT  @NUM_HISTORY        = COUNT_BIG(*)
FROM    history

SELECT  @NUM_STOCK          = COUNT_BIG(*)
FROM    stock

--- now calculate and set the target values
SELECT  @WAREHOUSE_TARGET       = @NUM_WAREHOUSE,
        @DISTRICT_TARGET        = @NUM_WAREHOUSE * 10,
        @ITEM_TARGET            = 100000,
        @CUSTOMER_TARGET        = @NUM_WAREHOUSE * 30000,
        @ORDERS_TARGET          = @NUM_WAREHOUSE * 30000,
```

```
        @ORDERS_TARGET_LOW      = @ORDERS_TARGET - FLOOR(@ORDERS_TARGET *
.01),
        @ORDERS_TARGET_HIGH     = @ORDERS_TARGET + FLOOR(@ORDERS_TARGET *
.01),
        @ORDER_LINE_TARGET      = @NUM_WAREHOUSE * 300000,
        @ORDER_LINE_TARGET_LOW  = @ORDER_LINE_TARGET -
FLOOR(@ORDER_LINE_TARGET * .01),
        @ORDER_LINE_TARGET_HIGH = @ORDER_LINE_TARGET +
FLOOR(@ORDER_LINE_TARGET * .01),
        @NEW_ORDER_TARGET       = @NUM_WAREHOUSE * 9000,
        @NEW_ORDER_TARGET_LOW   = @NEW_ORDER_TARGET -
FLOOR(@NEW_ORDER_TARGET * .01),
        @NEW_ORDER_TARGET_HIGH  = @NEW_ORDER_TARGET +
FLOOR(@NEW_ORDER_TARGET * .01),
        @HISTORY_TARGET         = @NUM_WAREHOUSE * 30000,
        @STOCK_TARGET           = @NUM_WAREHOUSE * 100000

--- insert the values into TPCC_INFO
INSERT INTO TPCC_INFO VALUES    (GETDATE(),
                                 @NUM_WAREHOUSE,
                                 @WAREHOUSE_TARGET,
                                 @NUM_DISTRICT,
                                 @DISTRICT_TARGET,
                                 @NUM_ITEM,
                                 @ITEM_TARGET,
                                 @NUM_CUSTOMER,
                                 @CUSTOMER_TARGET,
                                 @NUM_ORDERS,
                                 @ORDERS_TARGET,
                                 @ORDERS_TARGET_LOW,
                                 @ORDERS_TARGET_HIGH,
                                 @NUM_ORDER_LINE,
                                 @ORDER_LINE_TARGET,
                                 @ORDER_LINE_TARGET_LOW,
                                 @ORDER_LINE_TARGET_HIGH,
                                 @NUM_NEW_ORDER,
                                 @NEW_ORDER_TARGET,
                                 @NEW_ORDER_TARGET_LOW,
                                 @NEW_ORDER_TARGET_HIGH,
                                 @NUM_HISTORY,
                                 @HISTORY_TARGET,
                                 @NUM_STOCK,
                                 @STOCK_TARGET)
GO

--- output the row counts from the build
PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|    WAREHOUSE TABLE      |'
PRINT   '---------------------------'
SELECT  TOP 1
        CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
        NUM_WAREHOUSE                   AS  'Warehouse Rows',
        WAREHOUSE_TARGET                AS   'Warehouse Target',
        CASE WHEN (NUM_WAREHOUSE = WAREHOUSE_TARGET)
             THEN 'OK!'
             ELSE 'ERROR!!!'
        END                             AS  'Warehouse Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|    DISTRICT TABLE       |'
PRINT   '---------------------------'
SELECT  TOP 1
        CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
        NUM_DISTRICT                    AS  'District Rows',
        DISTRICT_TARGET                 AS   'District Target',
        CASE WHEN (NUM_DISTRICT = DISTRICT_TARGET)
             THEN 'OK!'
             ELSE 'ERROR!!!'
        END                             AS  'District Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|      ITEM TABLE         |'
PRINT   '---------------------------'
SELECT  TOP 1
        CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
        NUM_ITEM                        AS  'Item Rows',
        ITEM_TARGET                     AS   'Item Target',
        CASE WHEN (NUM_ITEM = ITEM_TARGET)
             THEN 'OK!'
             ELSE 'ERROR!!!'
        END                             AS  'Item Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|    CUSTOMER TABLE       |'
PRINT   '---------------------------'
SELECT  TOP 1
        CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
        NUM_CUSTOMER                    AS  'Customer Rows',
        CUSTOMER_TARGET                 AS   'Customer Target',
        CASE WHEN (NUM_CUSTOMER = CUSTOMER_TARGET)
             THEN 'OK!'
             ELSE 'ERROR!!!'
        END                             AS  'Customer Message'
FROM    TPCC_INFO
GO

PRINT   ''
PRINT   ''
PRINT   '---------------------------'
PRINT   '|     ORDERS TABLE        |'
PRINT   '---------------------------'
SELECT  TOP 1
        CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
        NUM_ORDERS                      AS  'Orders Rows',
        ORDERS_TARGET                   AS   'Orders Target',
        CASE WHEN (NUM_ORDERS = ORDERS_TARGET)
             THEN 'OK!'
```

```
            WHEN (NUM_ORDERS BETWEEN ORDERS_TARGET_LOW AND
ORDERS_TARGET_HIGH)
            THEN 'OK! (within 1%)'
            ELSE 'ERROR!!!'
       END                              AS  'Orders Message'
FROM   TPCC_INFO
GO

PRINT  ''
PRINT  ''
PRINT  '---------------------------'
PRINT  '|   ORDER LINE TABLE      |'
PRINT  '---------------------------'
SELECT  TOP 1
       CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
       NUM_ORDER_LINE                  AS  'Order Line Rows',
       ORDER_LINE_TARGET               AS   'Order Line Target',
       CASE WHEN (NUM_ORDER_LINE = ORDER_LINE_TARGET)
            THEN 'OK!'
            WHEN (NUM_ORDER_LINE BETWEEN ORDER_LINE_TARGET_LOW AND
ORDER_LINE_TARGET_HIGH)
            THEN 'OK! (within 1%)'
            ELSE 'ERROR!!!'
       END                              AS  'Orders Message'
FROM   TPCC_INFO
GO

PRINT  ''
PRINT  ''
PRINT  '---------------------------'
PRINT  '|    NEW ORDER TABLE      |'
PRINT  '---------------------------'
SELECT  TOP 1
       CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
       NUM_NEW_ORDER                   AS  'New Order Rows',
       NEW_ORDER_TARGET                AS   'New Order Target',
       CASE WHEN (NUM_NEW_ORDER = NEW_ORDER_TARGET)
            THEN 'OK!'
            WHEN (NUM_NEW_ORDER BETWEEN NEW_ORDER_TARGET_LOW AND
NEW_ORDER_TARGET_HIGH)
            THEN 'OK! (within 1%)'
            ELSE 'ERROR!!!'
       END                              AS  'New Order Message'
FROM   TPCC_INFO
GO

PRINT  ''
PRINT  ''
PRINT  '---------------------------'
PRINT  '|     HISTORY TABLE       |'
PRINT  '---------------------------'
SELECT  TOP 1
       CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
       NUM_HISTORY                     AS  'History Rows',
       HISTORY_TARGET                  AS   'History Target',
       CASE WHEN (NUM_HISTORY = HISTORY_TARGET)
            THEN 'OK!'
            ELSE 'ERROR!!!'
       END                              AS  'New Order Message'
FROM   TPCC_INFO
GO

PRINT  ''
PRINT  ''
PRINT  '---------------------------'
PRINT  '|      STOCK TABLE        |'
PRINT  '---------------------------'
SELECT  TOP 1
       CONVERT(CHAR(30),INFO_DATE,21)  AS  'Date',
       NUM_STOCK                       AS  'Stock Rows',
       STOCK_TARGET                    AS   'Stock Target',
       CASE WHEN (NUM_STOCK = STOCK_TARGET)
            THEN 'OK!'
            ELSE 'ERROR!!!'
       END                              AS  'Stock Message'
FROM   TPCC_INFO
GO

------------------
-- Check Indexes
------------------
USE tpcc
GO

PRINT  ''
PRINT  ''
PRINT  '---------------------------'
PRINT  '|      TPC-C INDEXES      |'
PRINT  '---------------------------'
EXEC   sp_helpindex   warehouse
EXEC   sp_helpindex   district
EXEC   sp_helpindex   item
EXEC   sp_helpindex   customer
EXEC   sp_helpindex   orders
EXEC   sp_helpindex   order_line
EXEC   sp_helpindex   new_order
EXEC   sp_helpindex   history
EXEC   sp_helpindex   stock
GO
```

Indexes and Tables

IDXCUSCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXCUSCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on customer table          --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate    DATETIME,
        @enddate      DATETIME

SELECT  @startdate = GETDATE()
```

```
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'customer_c1' )
    DROP INDEX customer.customer_c1

CREATE UNIQUE CLUSTERED INDEX customer_c1 ON customer(c_w_id, c_d_id,
c_id)
    ON MSSQL_cs_fg

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

IDXCUSNC.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   IDXCUSNC.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates non-clustered index on customer table       --
------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'customer_nc1' )
    DROP INDEX customer.customer_nc1

CREATE UNIQUE NONCLUSTERED INDEX customer_nc1 ON customer(c_w_id, c_d_id,
c_last, c_first, c_id)
    ON MSSQL_cs_fg

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

IDXDISCL.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   IDXDISCL.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates clustered index on district table           --
------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'district_c1' )
    DROP INDEX district.district_c1

CREATE UNIQUE CLUSTERED INDEX district_c1 ON district(d_w_id, d_id)
    WITH FILLFACTOR=100 ON MSSQL_misc_fg

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

IDXHISCL.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   IDXHISCL.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates clustered index on history table            --
--                                                              --
--          CAUTION: This index is only beneficial for systems  --
--          CAUTION: with 8 or more processors.                 --
--          CAUTION: It may negatively impact performance on    --
--          CAUTION: systems with less than 8 processors.       --
--                                                              --
------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'history_c1' )
    DROP INDEX history.history_c1
```

```
CREATE UNIQUE CLUSTERED INDEX history_c1 ON history(h_c_w_id, h_date,
h_c_d_id, h_c_id, h_amount)
    ON MSSQL_misc_fg

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

IDXITMCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXITMCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on item table              --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'item_c1' )
    DROP INDEX item.item_c1

CREATE UNIQUE CLUSTERED INDEX item_c1 ON item(i_id)
    ON MSSQL_misc_fg

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

IDXNODCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXNODCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on new-order table         --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'new_order_c1' )
    DROP INDEX new_order.new_order_c1

CREATE UNIQUE CLUSTERED INDEX new_order_c1 ON new_order(no_w_id, no_d_id,
no_o_id)
    ON MSSQL_ord_fg

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

IDXODLCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXODLCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on order-line table        --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'order_line_c1' )
    DROP INDEX order_line.order_line_c1

CREATE UNIQUE CLUSTERED INDEX order_line_c1 ON order_line(ol_w_id,
ol_d_id, ol_o_id, ol_number)
    ON MSSQL_ord_fg

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

```
GO
```

IDXORDCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXORDCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on orders table            --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'orders_c1' )
    DROP INDEX orders.orders_c1

CREATE UNIQUE CLUSTERED INDEX orders_c1 ON orders(o_w_id, o_d_id, o_id)
    ON MSSQL_ord_fg

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

IDXORDNC.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXORDNC.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates non-clustered index on orders table        --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

--IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'orders_nc1' )
--  DROP INDEX orders.orders_nc1

--CREATE INDEX orders_nc1 ON orders(o_w_id, o_d_id, o_c_id, o_id)
--    ON MSSQL_ord_fg

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

IDXSTKCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXSTKCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates clustered index on stock table             --
--                                                             --
-----------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'stock_c1' )
    DROP INDEX stock.stock_c1

CREATE UNIQUE CLUSTERED INDEX stock_c1 ON stock(s_i_id, s_w_id)
    ON MSSQL_cs_fg

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

IDXWARCL.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   IDXWARCL.SQL                                       --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
```

```
--                                                                  --
--          Creates clustered index on warehouse table              --
--                                                                  --
----------------------------------------------------------------------
USE tpcc
GO

DECLARE @startdate     DATETIME,
        @enddate       DATETIME

SELECT  @startdate = GETDATE()
SELECT  'Start date:',
        CONVERT(VARCHAR(30),@startdate,21)

IF EXISTS ( SELECT name FROM sysindexes WHERE name = 'warehouse_c1' )
    DROP INDEX warehouse.warehouse_c1

CREATE UNIQUE CLUSTERED INDEX warehouse_c1 ON warehouse(w_id)
    WITH FILLFACTOR=100 ON MSSQL_misc_fg

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

TABLES.SQL

```
----------------------------------------------------------------------
--                                                                  --
--  File:   TABLES.SQL                                              --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62                 --
--          Copyright Microsoft, 2005                               --
--                                                                  --
--          Creates TPC-C tables                                    --
----------------------------------------------------------------------

SET ANSI_NULL_DFLT_OFF ON
GO

USE tpcc
GO

-----------------------------------
-- Remove all existing TPC-C tables
-----------------------------------
if exists ( select name from sysobjects where name = 'warehouse' )
       drop table warehouse
go
if exists ( select name from sysobjects where name = 'district' )
       drop table district
go
if exists ( select name from sysobjects where name = 'customer' )
       drop table customer
go
if exists ( select name from sysobjects where name = 'history' )
       drop table history
go
if exists ( select name from sysobjects where name = 'new_order' )
       drop table new_order
go
if exists ( select name from sysobjects where name = 'orders' )
       drop table orders
go
if exists ( select name from sysobjects where name = 'order_line' )
       drop table order_line
go
if exists ( select name from sysobjects where name = 'item' )
       drop table item
go
if exists ( select name from sysobjects where name = 'stock' )
       drop table stock
go

--------------------
-- Create new tables
--------------------
create table warehouse
(
       w_id                int,
       w_ytd               money,
       w_tax               smallmoney,
       w_name              char(10),
       w_street_1          char(20),
       w_street_2          char(20),
       w_city              char(20),
       w_state             char(2),
       w_zip               char(9)
) on MSSQL_misc_fg
go

create table district
(
       d_id                tinyint,
       d_w_id              int,
       d_ytd               money,
       d_next_o_id            int,
       d_tax               smallmoney,
       d_name              char(10),
       d_street_1          char(20),
       d_street_2          char(20),
       d_city              char(20),
       d_state             char(2),
       d_zip               char(9)
) on MSSQL_misc_fg
go

create table customer
(
       c_id                int,
       c_d_id              tinyint,
       c_w_id              int,
       c_discount          smallmoney,
       c_credit_lim        money,
       c_last              char(16),
       c_first             char(16),
       c_credit            char(2),
       c_balance           money,
```

```
        c_ytd_payment       money,
        c_payment_cnt       smallint,
        c_delivery_cnt      smallint,
        c_street_1          char(20),
        c_street_2          char(20),
        c_city              char(20),
        c_state             char(2),
        c_zip               char(9),
        c_phone             char(16),
        c_since             datetime,
        c_middle            char(2),
        c_data              text
) on MSSQL_cs_fg
textimage_on MSSQL_misc_fg
go

-- Use the following table option if using c_data varchar(max)
-- sp_tableoption 'customer','large value types out of row','1'
-- go

create table history
(
        h_c_id              int,
        h_c_d_id            tinyint,
        h_c_w_id            int,
        h_d_id              tinyint,
        h_w_id              int,
        h_date              datetime,
        h_amount            smallmoney,
        h_data              char(24)
) on MSSQL_misc_fg
go

create table new_order
(
        no_o_id             int,
        no_d_id             tinyint,
        no_w_id             int
) on MSSQL_ord_fg
go

create table orders
(
        o_id                int,
        o_d_id              tinyint,
        o_w_id              int,
        o_c_id              int,
        o_carrier_id        tinyint,
        o_ol_cnt            tinyint,
        o_all_local         tinyint,
        o_entry_d           datetime
) on MSSQL_ord_fg
go

create table order_line
(
        ol_o_id             int,
        ol_d_id             tinyint,
        ol_w_id             int,
        ol_number           tinyint,
        ol_i_id             int,
        ol_delivery_d       datetime,
        ol_amount           smallmoney,
        ol_supply_w_id      int,
        ol_quantity         smallint,
        ol_dist_info        char(24)
) on MSSQL_ord_fg
go

create table item
(
        i_id                int,
        i_name              char(24),
        i_price             smallmoney,
        i_data              char(50),
        i_im_id             int
) on MSSQL_misc_fg
go

create table stock
(
        s_i_id              int,
        s_w_id              int,
        s_quantity          smallint,
        s_ytd               int,
        s_order_cnt         smallint,
        s_remote_cnt        smallint,
        s_data              char(50),
        s_dist_01           char(24),
        s_dist_02           char(24),
        s_dist_03           char(24),
        s_dist_04           char(24),
        s_dist_05           char(24),
        s_dist_06           char(24),
        s_dist_07           char(24),
        s_dist_08           char(24),
        s_dist_09           char(24),
        s_dist_10           char(24)
) on MSSQL_cs_fg
Go
```

Stored Procedures

DELIVERY.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   DELIVERY.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates delivery stored procedure                   --
--                                                              --
--          Interface Level:    4.20.000                        --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
```

```
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_delivery' )
    DROP PROCEDURE tpcc_delivery
GO

CREATE PROC tpcc_delivery
                @w_id           int,

                @o_carrier_id   smallint

AS
DECLARE @d_id       tinyint,
        @o_id       int,
        @c_id       int,
        @total      money,
        @oid1       int,
        @oid2       int,
        @oid3       int,
        @oid4       int,
        @oid5       int,
        @oid6       int,
        @oid7       int,
        @oid8       int,
        @oid9       int,
        @oid10      int

SELECT  @d_id   = 0

BEGIN TRANSACTION d
    WHILE (@d_id < 10)
    BEGIN
        SELECT  @d_id   = @d_id + 1,
                @total  = 0,
                @o_id   = 0

        SELECT  TOP 1
                @o_id   = no_o_id
        FROM    new_order WITH  (serializable updlock)
        WHERE   no_w_id = @w_id AND
                no_d_id = @d_id
        ORDER   BY no_o_id ASC

        IF (@@rowcount <> 0)
        BEGIN
            --  claim the order for this district
            DELETE  new_order
            WHERE   no_w_id = @w_id AND
                    no_d_id = @d_id AND
                    no_o_id = @o_id

            --  set carrier_id on this order (and get customer id)
            UPDATE  orders
            SET     o_carrier_id    = @o_carrier_id,
                    @c_id           = o_c_id
            WHERE   o_w_id          = @w_id AND
                    o_d_id          = @d_id AND
                    o_id            = @o_id

            --  set date in all lineitems for this order (and sum amounts)
            UPDATE  order_line
            SET     ol_delivery_d   = GETDATE(),
                    @total          = @total + ol_amount
            WHERE   ol_w_id         = @w_id AND
                    ol_d_id         = @d_id AND
                    ol_o_id         = @o_id

            --  accummulate lineitem amounts for this order into customer
            UPDATE  customer
            SET     c_balance       = c_balance + @total,
                    c_delivery_cnt  = c_delivery_cnt + 1
            WHERE   c_w_id          = @w_id AND
                    c_d_id          = @d_id AND
                    c_id            = @c_id
        END

    SELECT  @oid1   = CASE @d_id WHEN   1   THEN @o_id ELSE @oid1   END,
            @oid2   = CASE @d_id WHEN   2   THEN @o_id ELSE @oid2   END,
            @oid3   = CASE @d_id WHEN   3   THEN @o_id ELSE @oid3   END,
            @oid4   = CASE @d_id WHEN   4   THEN @o_id ELSE @oid4   END,
            @oid5   = CASE @d_id WHEN   5   THEN @o_id ELSE @oid5   END,
            @oid6   = CASE @d_id WHEN   6   THEN @o_id ELSE @oid6   END,
            @oid7   = CASE @d_id WHEN   7   THEN @o_id ELSE @oid7   END,
            @oid8   = CASE @d_id WHEN   8   THEN @o_id ELSE @oid8   END,
            @oid9   = CASE @d_id WHEN   9   THEN @o_id ELSE @oid9   END,
            @oid10  = CASE @d_id WHEN  10   THEN @o_id ELSE @oid10  END
    END

COMMIT TRANSACTION d

-- return delivery data to client

SELECT  @oid1,
        @oid2,
        @oid3,
        @oid4,
        @oid5,
        @oid6,
        @oid7,
        @oid8,
        @oid9,
        @oid10
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

NEWORD.SQL

```
-------------------------------------------------------------------
--                                                               --
--  File:   NEWORD.SQL                                           --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62              --
--          Copyright Microsoft, 2005                            --
--                                                               --
--          Creates neworder stored procedure                    --
--                                                               --
--          Interface Level:    4.20.000                         --
--                                                               --
-------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_neworder' )
    DROP PROCEDURE tpcc_neworder
GO

CREATE PROCEDURE    tpcc_neworder
                        @w_id           int,
                        @d_id           tinyint,
                        @c_id           int,
                        @o_ol_cnt       tinyint,
                        @o_all_local    tinyint,
                        @i_id1  int = 0, @s_w_id1  int = 0, @ol_qty1
smallint = 0,
                        @i_id2  int = 0, @s_w_id2  int = 0, @ol_qty2
smallint = 0,
                        @i_id3  int = 0, @s_w_id3  int = 0, @ol_qty3
smallint = 0,
                        @i_id4  int = 0, @s_w_id4  int = 0, @ol_qty4
smallint = 0,
                        @i_id5  int = 0, @s_w_id5  int = 0, @ol_qty5
smallint = 0,
                        @i_id6  int = 0, @s_w_id6  int = 0, @ol_qty6
smallint = 0,
                        @i_id7  int = 0, @s_w_id7  int = 0, @ol_qty7
smallint = 0,
                        @i_id8  int = 0, @s_w_id8  int = 0, @ol_qty8
smallint = 0,
                        @i_id9  int = 0, @s_w_id9  int = 0, @ol_qty9
smallint = 0,
                        @i_id10 int = 0, @s_w_id10 int = 0, @ol_qty10
smallint = 0,
                        @i_id11 int = 0, @s_w_id11 int = 0, @ol_qty11
smallint = 0,
                        @i_id12 int = 0, @s_w_id12 int = 0, @ol_qty12
smallint = 0,
                        @i_id13 int = 0, @s_w_id13 int = 0, @ol_qty13
smallint = 0,
                        @i_id14 int = 0, @s_w_id14 int = 0, @ol_qty14
smallint = 0,
                        @i_id15 int = 0, @s_w_id15 int = 0, @ol_qty15
smallint = 0


AS
DECLARE @w_tax          smallmoney,
        @d_tax          smallmoney,
        @c_last         char(16),
        @c_credit       char(2),
        @c_discount     smallmoney,
        @i_price        smallmoney,
        @i_name         char(24),
        @i_data         char(50),
        @o_entry_d      datetime,
        @remote_flag    int,
        @s_quantity     smallint,
        @s_data         char(50),
        @s_dist         char(24),
        @li_no          int,
        @o_id           int,
        @commit_flag    tinyint,
        @li_id          int,
        @li_s_w_id      int,
        @li_qty         smallint,
        @ol_number      int,
        @c_id_local     int

BEGIN

BEGIN TRANSACTION n

-------------------------------------------------------------
--  get district tax and next availible order id and update
--  plus initialize local variables
-------------------------------------------------------------
    UPDATE  district
    SET     @d_tax          = d_tax,
            @o_id           = d_next_o_id,
            d_next_o_id     = d_next_o_id + 1,
            @o_entry_d      = GETDATE(),
            @li_no          = 0,
            @commit_flag    = 1
    WHERE   d_w_id          = @w_id AND
            d_id            = @d_id

----------------------
--  process orderlines
----------------------
    WHILE (@li_no < @o_ol_cnt)
    BEGIN
        SELECT  @li_no  = @li_no + 1

-----------------------------------------------
--  set i_id, s_w_id, and qty for this lineitem
-----------------------------------------------
        SELECT  @li_id = CASE @li_no
                                WHEN 1 THEN @i_id1
                                WHEN 2 THEN @i_id2
                                WHEN 3 THEN @i_id3
```

```
                        WHEN 4 THEN @i_id4
                        WHEN 5 THEN @i_id5
                        WHEN 6 THEN @i_id6
                        WHEN 7 THEN @i_id7
                        WHEN 8 THEN @i_id8
                        WHEN 9 THEN @i_id9
                        WHEN 10 THEN @i_id10
                        WHEN 11 THEN @i_id11
                        WHEN 12 THEN @i_id12
                        WHEN 13 THEN @i_id13
                        WHEN 14 THEN @i_id14
                        WHEN 15 THEN @i_id15
                END,

        @li_s_w_id = CASE @li_no
                        WHEN 1 THEN @s_w_id1
                        WHEN 2 THEN @s_w_id2
                        WHEN 3 THEN @s_w_id3
                        WHEN 4 THEN @s_w_id4
                        WHEN 5 THEN @s_w_id5
                        WHEN 6 THEN @s_w_id6
                        WHEN 7 THEN @s_w_id7
                        WHEN 8 THEN @s_w_id8
                        WHEN 9 THEN @s_w_id9
                        WHEN 10 THEN @s_w_id10
                        WHEN 11 THEN @s_w_id11
                        WHEN 12 THEN @s_w_id12
                        WHEN 13 THEN @s_w_id13
                        WHEN 14 THEN @s_w_id14
                        WHEN 15 THEN @s_w_id15
                    END,

        @li_qty = CASE  @li_no
                        WHEN 1 THEN @ol_qty1
                        WHEN 2 THEN @ol_qty2
                        WHEN 3 THEN @ol_qty3
                        WHEN 4 THEN @ol_qty4
                        WHEN 5 THEN @ol_qty5
                        WHEN 6 THEN @ol_qty6
                        WHEN 7 THEN @ol_qty7
                        WHEN 8 THEN @ol_qty8
                        WHEN 9 THEN @ol_qty9
                        WHEN 10 THEN @ol_qty10
                        WHEN 11 THEN @ol_qty11
                        WHEN 12 THEN @ol_qty12
                        WHEN 13 THEN @ol_qty13
                        WHEN 14 THEN @ol_qty14
                        WHEN 15 THEN @ol_qty15
                    END

--------------------------------------
--  get item data (no one updates item)
--------------------------------------
        SELECT  @i_price    = i_price,
                @i_name     = i_name,
                @i_data     = i_data
        FROM    item WITH (repeatableread)
        WHERE   i_id        = @li_id

----------------------
--  update stock values
----------------------
        UPDATE  stock
        SET     s_ytd           = s_ytd + @li_qty,
                @s_quantity     = s_quantity   = s_quantity - @li_qty +
                                    CASE WHEN (s_quantity - @li_qty < 10)
THEN 91 ELSE 0 END,
                s_order_cnt     = s_order_cnt + 1,
                s_remote_cnt    = s_remote_cnt +
                                    CASE WHEN (@li_s_w_id = @w_id) THEN 0
ELSE 1 END,
                @s_data         = s_data,
                @s_dist         = CASE @d_id
                                    WHEN 1  THEN s_dist_01
                                    WHEN 2  THEN s_dist_02
                                    WHEN 3  THEN s_dist_03
                                    WHEN 4  THEN s_dist_04
                                    WHEN 5  THEN s_dist_05
                                    WHEN 6  THEN s_dist_06
                                    WHEN 7  THEN s_dist_07
                                    WHEN 8  THEN s_dist_08
                                    WHEN 9  THEN s_dist_09
                                    WHEN 10 THEN s_dist_10
                                  END
        WHERE   s_i_id          = @li_id AND
                s_w_id          = @li_s_w_id

-------------------------------------------------------------------
--  if there actually is a stock (and item) with these ids, go to work
-------------------------------------------------------------------
        IF (@@rowcount > 0)
        BEGIN
-----------------------------------------------------------
--  insert order_line data (using data from item and stock)
-----------------------------------------------------------
            INSERT INTO order_line VALUES(  @o_id,
                                            @d_id,
                                            @w_id,
                                            @li_no,
                                            @li_id,
                                            'dec 31, 1899',
                                            @i_price * @li_qty,
                                            @li_s_w_id,
                                            @li_qty,
                                            @s_dist)

---------------------------------
--  send line-item data to client
---------------------------------
            SELECT  @i_name,
                    @s_quantity,
                    b_g = CASE  WHEN (   (patindex('%ORIGINAL%',@i_data) >
0) AND

(patindex('%ORIGINAL%',@s_data) > 0) )
                                                        THEN 'B' ELSE 'G' END,
                    @i_price,
                    @i_price * @li_qty
                END
                ELSE
                BEGIN
-----------------------------------------------------------
```

```
--  no item (or stock) found - triggers rollback condition

------------------------------------------------------------
            SELECT  '',0,'',0,0
            SELECT  @commit_flag    = 0
               END
        END
------------------------------------------------------------
--  get customer last name, discount, and credit rating
------------------------------------------------------------
    SELECT  @c_last     = c_last,
            @c_discount = c_discount,
            @c_credit   = c_credit,
            @c_id_local = c_id
    FROM    customer WITH (repeatableread)
    WHERE   c_id        = @c_id AND
            c_w_id      = @w_id AND
            c_d_id      = @d_id

--------------------------------------
--  insert fresh row into orders table
--------------------------------------
    INSERT INTO orders VALUES ( @o_id,
                                @d_id,
                                @w_id,
                                @c_id_local,
                                0,
                                @o_ol_cnt,
                                @o_all_local,
                                @o_entry_d)

------------------------------------------------
--  insert corresponding row into new-order table
------------------------------------------------
    INSERT INTO new_order VALUES (  @o_id,
                                    @d_id,
                                    @w_id)

------------------------
--  select warehouse tax
------------------------
    SELECT  @w_tax  = w_tax
    FROM    warehouse WITH (repeatableread)
    WHERE   w_id    = @w_id

    IF (@commit_flag = 1)
               COMMIT TRANSACTION n
    ELSE
------------------------------
--  all that work for nuthin!!!
------------------------------
        ROLLBACK TRANSACTION n

------------------------------
--  return order data to client
------------------------------
    SELECT  @w_tax,
            @d_tax,
            @o_id,
            @c_last,
            @c_discount,
            @c_credit,
            @o_entry_d,
            @commit_flag
END
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS OFF
GO
-- 8666: full showplan text info (to see if rowset sharing)
--dbcc traceon(8666)
--go
-- prevent sort over tvf
dbcc traceon(8710)
go

use tpcc
go
IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_neworder_new' )
drop procedure tpcc_neworder_new
go
-- neworder_new v2.5 6/23/05 PeterCa
-- 1q stock/order_line/client.  upd district & ins neworder.
--  cust/warehouse select together, ins order separate
--  uses rownumber to distinct w any transform
--  uses in-memory sort for distinct on iid,wid
--  uses charindex
-- will rollback if (@i_idX,@s_w_idX pairs not unique) OR (@i_idX not
unique).
create proc tpcc_neworder_new
       @w_id           int,
       @d_id           tinyint,
       @c_id           int,
       @o_ol_cnt       tinyint,
       @o_all_local    tinyint,
       @i_id1  int = 0, @s_w_id1  int = 0, @ol_qty1  smallint = 0,
       @i_id2  int = 0, @s_w_id2  int = 0, @ol_qty2  smallint = 0,
       @i_id3  int = 0, @s_w_id3  int = 0, @ol_qty3  smallint = 0,
       @i_id4  int = 0, @s_w_id4  int = 0, @ol_qty4  smallint = 0,
       @i_id5  int = 0, @s_w_id5  int = 0, @ol_qty5  smallint = 0,
       @i_id6  int = 0, @s_w_id6  int = 0, @ol_qty6  smallint = 0,
       @i_id7  int = 0, @s_w_id7  int = 0, @ol_qty7  smallint = 0,
       @i_id8  int = 0, @s_w_id8  int = 0, @ol_qty8  smallint = 0,
       @i_id9  int = 0, @s_w_id9  int = 0, @ol_qty9  smallint = 0,
       @i_id10 int = 0, @s_w_id10 int = 0, @ol_qty10 smallint = 0,
       @i_id11 int = 0, @s_w_id11 int = 0, @ol_qty11 smallint = 0,
       @i_id12 int = 0, @s_w_id12 int = 0, @ol_qty12 smallint = 0,
       @i_id13 int = 0, @s_w_id13 int = 0, @ol_qty13 smallint = 0,
       @i_id14 int = 0, @s_w_id14 int = 0, @ol_qty14 smallint = 0,
       @i_id15 int = 0, @s_w_id15 int = 0, @ol_qty15 smallint = 0


as
begin
declare @o_id          int,
```

```
        @d_tax          smallmoney,
        @o_entry_d      datetime,
        @commit_flag    tinyint



begin transaction n

--  get district tax and next availible order id and update
--  insert corresponding row into new-order table
--  plus initialize local variables

        update  district
        set     @d_tax       = d_tax,
                @o_id        = d_next_o_id,
                d_next_o_id  = d_next_o_id + 1,
                @o_entry_d   = getdate(),
                @commit_flag = 1
        output deleted.d_next_o_id,@d_id,@w_id into new_order
        where   d_w_id       = @w_id and
                d_id         = @d_id

-- update stock from stock join (item join (params))
-- output to orderline, output to client
-- NOTE: @@rowcount != @ol_o_cnt
--      if (@i_idX,@s_w_idX pairs not unique) OR (@i_idX not unique).
update stock
        set     s_ytd          = s_ytd + info.ol_qty,
                s_quantity     = s_quantity - info.ol_qty +
                        case when (s_quantity - info.ol_qty < 10) then 91
else 0 end,
                s_order_cnt    = s_order_cnt + 1,
                s_remote_cnt   = s_remote_cnt +
                        case when (info.w_id = @w_id) then 0 else 1 end

output @o_id,@d_id,@w_id,info.lino,
        info.i_id,"dec 31, 1899",
        info.ol_qty,info.i_price * info.ol_qty,
        info.w_id,
    case @d_id when 1  then inserted.s_dist_01
                when 2  then inserted.s_dist_02
                when 3  then inserted.s_dist_03
                when 4  then inserted.s_dist_04
                when 5  then inserted.s_dist_05
                when 6  then inserted.s_dist_06
                when 7  then inserted.s_dist_07
                when 8  then inserted.s_dist_08
                when 9  then inserted.s_dist_09
                when 10 then inserted.s_dist_10
   end
into order_line

output info.i_name,inserted.s_quantity,
               case when ((charindex("ORIGINAL",info.i_data) > 0) and
                               (charindex("ORIGINAL",inserted.s_data) > 0)
)
                       then "B" else "G" end,
        info.i_price,info.i_price*info.ol_qty

from
stock inner join

(select iid,wid,
        lino,ol_qty,
        i_price,
        i_name,
        i_data
from
        (select iid,wid,lino,qty,
                row_number() over (partition by iid,wid order by iid,wid)
from
                (select @i_id1,@s_w_id1,1,@ol_qty1 union all
                select @i_id2,@s_w_id2,2,@ol_qty2 union all
                select @i_id3,@s_w_id3,3,@ol_qty3 union all
                select @i_id4,@s_w_id4,4,@ol_qty4 union all
                select @i_id5,@s_w_id5,5,@ol_qty5 union all
                select @i_id6,@s_w_id6,6,@ol_qty6 union all
                select @i_id7,@s_w_id7,7,@ol_qty7 union all
                select @i_id8,@s_w_id8,8,@ol_qty8 union all
                select @i_id9,@s_w_id9,9,@ol_qty9 union all
                select @i_id10,@s_w_id10,10,@ol_qty10 union all
                select @i_id11,@s_w_id11,11,@ol_qty11 union all
                select @i_id12,@s_w_id12,12,@ol_qty12 union all
                select @i_id13,@s_w_id13,13,@ol_qty13 union all
                select @i_id14,@s_w_id14,14,@ol_qty14 union all
                select @i_id15,@s_w_id15,15,@ol_qty15) as
uo1(iid,wid,lino,qty)
        ) as o1(iid,wid,lino,ol_qty,rownum)
inner join
        item (repeatableread) on i_id = iid  -- filters out invalid items
        and rownum=1
) as info(i_id,w_id,lino,ol_qty,i_price,i_name,i_data)

on      s_i_id          = info.i_id and
        s_w_id          = info.w_id


if (@@rowcount <> @o_ol_cnt)  -- must have an invalid item
        select @commit_flag = 0  -- 2.4.2.3 requires rest to proceed

--  insert fresh row into orders table
        insert into orders values (   @o_id,
                                      @d_id,
                                      @w_id,
                                      @c_id,
                                      0,
                                      @o_ol_cnt,
                                      @o_all_local,
                                      @o_entry_d)

--  get customer last name, discount, and credit rating
--  get warehouse tax
-- return order_data to client

                select w_tax,@d_tax,@o_id,
                       c_last,c_discount,c_credit,
                       @o_entry_d,@commit_flag
                from
                warehouse(repeatableread),customer(repeatableread)
                where   w_id    = @w_id and
                        c_id            = @c_id and
                        c_w_id          = @w_id and
```

```
                    c_d_id         = @d_id

        -- @@rowcount checks that previous select found a valid customer
        if ((@commit_flag = 1) and (@@rowcount = 1))
                commit transaction n
        else    -- all that work for nothing.
                rollback transaction n

end
go
```

ORDSTAT.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   ORDSTAT.SQL                                         --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates order status stored procedure               --
--                                                              --
--          Interface Level:    4.20.000                        --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_orderstatus' )
    DROP PROCEDURE tpcc_orderstatus
GO

CREATE PROCEDURE    tpcc_orderstatus
                        @w_id       int,
                        @d_id       tinyint,

                        @c_id       int,
                        @c_last     char(16) = ''

AS
DECLARE @c_balance      money,
        @c_first        char(16),
        @c_middle       char(2),
        @o_id           int,
        @o_entry_d      datetime,
        @o_carrier_id   smallint,
        @cnt            smallint

BEGIN TRANSACTION o
    IF (@c_id = 0)
    BEGIN
        ------------------------------------------
        --  get customer id and info using last name
        ------------------------------------------
        SELECT  @cnt    = (count(*)+1)/2
        FROM    customer WITH (repeatableread)
        WHERE   c_last  = @c_last AND
                c_w_id  = @w_id AND
                c_d_id  = @d_id

        SET     rowcount @cnt

        SELECT  @c_id       = c_id,
                @c_balance  = c_balance,
                @c_first    = c_first,
                @c_last     = c_last,
                @c_middle   = c_middle
        FROM    customer WITH (repeatableread)
        WHERE   c_last      = @c_last AND
                c_w_id      = @w_id AND
                c_d_id      = @d_id
        ORDER   BY c_w_id, c_d_id, c_last, c_first

        SET rowcount 0
    END
    ELSE
    BEGIN
        ------------------------------
        --  get customer info if by id
        ------------------------------
        SELECT  @c_balance  = c_balance,
                @c_first    = c_first,
                @c_middle   = c_middle,
                @c_last     = c_last
        FROM    customer WITH (repeatableread)
        WHERE   c_id        = @c_id AND
                c_d_id      = @d_id AND
                c_w_id      = @w_id

        SELECT  @cnt   = @@rowcount
    END

    ------------------------
    --  if no such customer
    ------------------------
    IF (@cnt = 0)
    BEGIN
        RAISERROR('Customer not found',18,1)
        GOTO custnotfound
    END

    ------------------
    --  get order info
    ------------------
    SELECT  @o_id           = o_id,
            @o_entry_d      = o_entry_d,
            @o_carrier_id   = o_carrier_id
    FROM    orders WITH (serializable)
    WHERE   o_c_id          = @c_id AND
            o_d_id          = @d_id AND
            o_w_id          = @w_id
    ORDER   BY o_id ASC

    ------------------------------------------
```

```
    --  select order lines for the current order
    ----------------------------------------
    SELECT  ol_supply_w_id,
            ol_i_id,
            ol_quantity,
            ol_amount,
            ol_delivery_d
    FROM    order_line WITH (repeatableread)
    WHERE   ol_o_id = @o_id AND
            ol_d_id = @d_id AND
            ol_w_id = @w_id

    custnotfound:

    COMMIT TRANSACTION o

    ------------------------
    --  return data to client
    ------------------------
    SELECT  @c_id,
            @c_last,
            @c_first,
            @c_middle,
            @o_entry_d,
            @o_carrier_id,
            @c_balance,
            @o_id
GO
```

PAYMENT.SQL

```
-----------------------------------------------------------------
--                                                             --
--  File:   PAYMENT.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62            --
--          Copyright Microsoft, 2005                          --
--                                                             --
--          Creates payment stored procedure                   --
--                                                             --
--          Interface Level:    4.20.000                       --
--                                                             --
-----------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_payment' )
    DROP PROCEDURE tpcc_payment
GO

CREATE PROCEDURE    tpcc_payment
                        @w_id       int,
                        @c_w_id     int,
                        @h_amount   smallmoney,
                        @d_id       tinyint,
                        @c_d_id     tinyint,
                        @c_id       int,
                        @c_last     char(16) = ""
AS
DECLARE @w_street_1     char(20),
        @w_street_2     char(20),
        @w_city         char(20),
        @w_state        char(2),
        @w_zip          char(9),
        @w_name         char(10),
        @d_street_1     char(20),
        @d_street_2     char(20),
        @d_city         char(20),
        @d_state        char(2),
        @d_zip          char(9),
        @d_name         char(10),
        @c_first        char(16),
        @c_middle       char(2),
        @c_street_1     char(20),
        @c_street_2     char(20),
        @c_city         char(20),
        @c_state        char(2),
        @c_zip          char(9),
        @c_phone        char(16),
        @c_since        datetime,
        @c_credit       char(2),
        @c_credit_lim   money,
        @c_balance      money,
        @c_discount     smallmoney,
        @c_data         char(42),
        @datetime       datetime,
        @w_ytd          money,
        @d_ytd          money,
        @cnt            smallint,
        @val            smallint,
        @screen_data    char(200),
        @d_id_local     tinyint,
        @w_id_local     int,
        @c_id_local     int

SELECT  @screen_data    = ""

BEGIN TRANSACTION p
    --  get payment date
    SELECT  @datetime = GETDATE()

    IF (@c_id = 0)
    BEGIN
        --  get customer id and info using last name
        SELECT  @cnt    = COUNT(*)
        FROM    customer WITH (repeatableread)
        WHERE   c_last  = @c_last AND
                      c_w_id  = @c_w_id AND
                      c_d_id  = @c_d_id


        SELECT  @val    = (@cnt + 1) / 2
```

```
    SET     rowcount @val

    SELECT  @c_id   = c_id
    FROM    customer WITH (repeatableread)
    WHERE   c_last  = @c_last AND
                  c_w_id  = @c_w_id AND
                  c_d_id  = @c_d_id
    ORDER   BY c_last, c_first

    SET     rowcount 0
END

--  get customer info and update balances
UPDATE  customer
SET     @c_balance      = c_balance      = c_balance - @h_amount,
        c_payment_cnt   = c_payment_cnt + 1,
        c_ytd_payment   = c_ytd_payment + @h_amount,
        @c_first        = c_first,
        @c_middle       = c_middle,
        @c_last         = c_last,
        @c_street_1     = c_street_1,
        @c_street_2     = c_street_2,
        @c_city         = c_city,
        @c_state        = c_state,
        @c_zip          = c_zip,
        @c_phone        = c_phone,
        @c_credit       = c_credit,
        @c_credit_lim   = c_credit_lim,
        @c_discount     = c_discount,
        @c_since        = c_since,
        @c_id_local     = c_id
WHERE   c_id            = @c_id AND
        c_w_id          = @c_w_id AND
        c_d_id          = @c_d_id

--  if customer has bad credit get some more info
IF (@c_credit = "BC")
BEGIN
    --      compute new info
    SELECT  @c_data =   convert(char(5),@c_id) +
                        convert(char(4),@c_d_id) +
                        convert(char(5),@c_w_id) +
                        convert(char(4),@d_id) +
                        convert(char(5),@w_id) +
                        convert(char(19),@h_amount)

    --  update customer info
    UPDATE  customer
    SET     c_data          = @c_data + substring(c_data, 1, 458),
            @screen_data    = @c_data + substring(c_data, 1, 158)

    WHERE   c_id            = @c_id AND
            c_w_id          = @c_w_id AND
            c_d_id          = @c_d_id
END

--  get district data and update year-to-date
UPDATE  district
SET     d_ytd       = d_ytd + @h_amount,
        @d_street_1 = d_street_1,
        @d_street_2 = d_street_2,
        @d_city     = d_city,
        @d_state    = d_state,
        @d_zip      = d_zip,
        @d_name     = d_name,
        @d_id_local = d_id
WHERE   d_w_id      = @w_id AND
        d_id        = @d_id

--  get warehouse data and update year-to-date
UPDATE  warehouse
SET     w_ytd       = w_ytd + @h_amount,
        @w_street_1 = w_street_1,
        @w_street_2 = w_street_2,
        @w_city     = w_city,
        @w_state     = w_state,
        @w_zip      = w_zip,
        @w_name     = w_name,
        @w_id_local = w_id
WHERE   w_id        = @w_id

--  create history record
   INSERT INTO    history VALUES (@c_id_local,
                                  @c_d_id,
                                  @c_w_id,
                                  @d_id_local,
                                  @w_id_local,
                                  @datetime,
                                  @h_amount,
                                  @w_name + '    ' + @d_name)

COMMIT TRANSACTION p

--  return data to client
SELECT  @c_id,
        @c_last,
        @datetime,
        @w_street_1,
        @w_street_2,
        @w_city,
        @w_state,
        @w_zip,
        @d_street_1,
        @d_street_2,
        @d_city,
        @d_state,
        @d_zip,
        @c_first,
        @c_middle,
        @c_street_1,
        @c_street_2,
        @c_city,
        @c_state,
        @c_zip,
        @c_phone,
        @c_since,
        @c_credit,
        @c_credit_lim,
        @c_discount,
        @c_balance,
        @screen_data
GO
```

```
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

STOCKLEV.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   STOCKLEV.SQL                                        --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Creates stock level stored procedure                --
--                                                              --
--          Interface Level:    4.20.000                        --
--                                                              --
------------------------------------------------------------------
SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO

USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_stocklevel' )
    DROP PROCEDURE tpcc_stocklevel
GO

CREATE PROCEDURE    tpcc_stocklevel
                        @w_id           int,
                        @d_id           tinyint,
                        @threshhold     smallint

AS
DECLARE @o_id_low   int,
        @o_id_high  int

SELECT  @o_id_low   = (d_next_o_id - 20),
        @o_id_high  = (d_next_o_id - 1)
FROM    district
WHERE   d_w_id      = @w_id AND
        d_id        = @d_id

SELECT  COUNT(DISTINCT(s_i_id))
FROM    stock,
        order_line
WHERE   ol_w_id     = @w_id AND
        ol_d_id     = @d_id and
        ol_o_id     BETWEEN @o_id_low AND
                            @o_id_high AND
        s_w_id      = ol_w_id AND
        s_i_id      = ol_i_id AND
        s_quantity  < @threshhold
OPTION(ORDER GROUP)
GO

SET QUOTED_IDENTIFIER OFF
GO

SET ANSI_NULLS ON
GO
```

VERSION.SQL

```
------------------------------------------------------------------
--                                                              --
--  File:   VERSION.SQL                                         --
--          Microsoft TPC-C Benchmark Kit Ver. 4.62             --
--          Copyright Microsoft, 2005                           --
--                                                              --
--          Returns version level of TPC-C stored procs         --
--                                                              --
--          Always update the return value of this proc for     --
--          any interface changes or 'must have' bug fixes.     --
--                                                              --
--          The value returned by this SP defines the           --
--          'interface level', which must match between the     --
--          stored procs and the client code.  The              --
--          interface level may be down rev from the            --
--          current kit.  This indicates that the interface     --
--          hasn't changed since that version.                  --
--                                                              --
--          Interface Level:    4.20.000                        --
--                                                              --
------------------------------------------------------------------
USE tpcc
GO

IF EXISTS ( SELECT name FROM sysobjects WHERE name = 'tpcc_version' )
           DROP PROCEDURE tpcc_version
GO

CREATE PROCEDURE    tpcc_version
AS
DECLARE @version    char(8)

BEGIN
    SELECT  @version    = '4.20.000'

    SELECT  @version    AS 'Version'
END
GO
```

Loader Source

GETARGS.C

```
//      File:           GETARGS.C
//                              Microsoft TPC-C Kit Ver. 4.51
//                              Copyright Microsoft, 1996, 1997, 1998, 1999,
2000, 2001, 2002, 2003
//      Purpose:        Source file for command line processing


// Includes
#include "tpcc.h"

//===================================================================
//
// Function name: GetArgsLoader
//
//===================================================================

void GetArgsLoader(int argc, char **argv, TPCCLDR_ARGS *pargs)
{
    int         i;
    char        *ptr;

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

    /* init args struct with some useful values */
    pargs->server                   =  SERVER;
    pargs->user                     =  USER;
    pargs->password                 =  PASSWORD;
    pargs->database                 =  DATABASE;
    pargs->batch                    =  BATCH;
    pargs->num_warehouses           =  UNDEF;
        pargs->tables_all                   =  TRUE;
        pargs->table_item                   =  FALSE;
        pargs->table_warehouse      =  FALSE;
        pargs->table_customer       =  FALSE;
        pargs->table_orders                 =  FALSE;
        pargs->loader_res_file              =  LOADER_RES_FILE;
        pargs->log_path                         =  LOADER_LOG_PATH;
        pargs->pack_size                    =  DEFLDPACKSIZE;
        pargs->starting_warehouse   =  DEF_STARTING_WAREHOUSE;
        pargs->build_index                  =  BUILD_INDEX;
        pargs->index_order                  =  INDEX_ORDER;
        pargs->index_script_path    =  INDEX_SCRIPT_PATH;
        pargs->scale_down                   =  SCALE_DOWN;

    /* check for zero command line args */
    if ( argc == 1 )
                GetArgsLoaderUsage();

    for (i = 1; i < argc; ++i)
    {
                if (argv[i][0] != '-' && argv[i][0] != '/')
                {
                printf("\nUnrecognized command");
                GetArgsLoaderUsage();
                exit(1);
                }

                ptr = argv[i];

                switch (ptr[1])
                {
                case '?':       /* Fall throught */
                                GetArgsLoaderUsage();
                                break;

                case 'D':
                                pargs->database = ptr+2;
                                break;

                case 'P':
                                pargs->password = ptr+2;
                                break;

                case 'S':
                                pargs->server = ptr+2;
                                break;

                case 'U':
                                pargs->user = ptr+2;
                                break;

                case 'b':
                                pargs->batch = atol(ptr+2);
                                break;

                case 'W':
                                pargs->num_warehouses = atol(ptr+2);
                                break;

                case 's':
                                pargs->starting_warehouse = atol(ptr+2);
                                break;

                case 't':
                                {
                                        pargs->tables_all = FALSE;
                                        if (strcmp(ptr+2,"item") == 0)
                                                pargs->table_item = TRUE;
                                        else if (strcmp(ptr+2,"warehouse")

== 0)

                                                pargs->table_warehouse =

TRUE;

                                        else if (strcmp(ptr+2,"customer") ==

0)

                                                pargs->table_customer = TRUE;
                                        else if (strcmp(ptr+2,"orders") ==

0)

                                                pargs->table_orders = TRUE;
                                        else
                                        {
                                        printf("\nUnrecognized command");
                                        GetArgsLoaderUsage();
                                        exit(1);
                                        }
```

```
                                break;
                        }

                case 'f':
                        pargs->loader_res_file = ptr+2;
                        break;

                case 'L':
                        pargs->log_path = ptr+2;
                        break;

                case 'p':
                        pargs->pack_size = atol(ptr+2);
                        break;

                case 'i':
                        pargs->build_index = atol(ptr+2);
                        break;

                case 'o':
                        pargs->index_order = atol(ptr+2);
                        break;

                case 'c':
                        pargs->scale_down = atol(ptr+2);
                        break;

        case 'd':
                        pargs->index_script_path = ptr+2;
                        break;

                default:
                GetArgsLoaderUsage();
                exit(-1);
                break;
        }
    }

    /* check for required args */
    if (pargs->num_warehouses == UNDEF )
    {
        printf("Number of Warehouses is required\n");
        exit(-2);
    }

    return;
}


//=============================================================================
//
// Function name: GetArgsLoaderUsage
//
//=============================================================================

void GetArgsLoaderUsage()
{

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


    printf("TPCCLDR:\n\n");
       printf("Parameter
Default\n");
       printf("-------------------------------------------------------------
----\n");
    printf("-W Number of Warehouses to Load                          Required
\n");
    printf("-S Server                                                %s\n",
SERVER);
    printf("-U Username                                              %s\n",
USER);
    printf("-P Password                                              %s\n",
PASSWORD);
    printf("-D Database                                              %s\n",
DATABASE);
       printf("-b Batch Size
%ld\n", (long) BATCH);
       printf("-p TDS packet size
%ld\n", (long) DEFLDPACKSIZE);
       printf("-L Loader BCP Log Path
%s\n", LOADER_LOG_PATH);
       printf("-f Loader Results Output Filename
%s\n", LOADER_RES_FILE);
       printf("-s Starting Warehouse
%ld\n", (long) DEF_STARTING_WAREHOUSE);
       printf("-i Build Option (data = 0, data and index = 1)
%ld\n", (long) BUILD_INDEX);
       printf("-o Cluster Index Build Order (before = 1, after = 0)
%ld\n", (long) INDEX_ORDER);
       printf("-c Build Scaled Database (normal = 0, tiny = 1)
%ld\n", (long) SCALE_DOWN);
       printf("-d Index Script Path
%s\n", INDEX_SCRIPT_PATH);
       printf("-t Table to Load                                          all
tables \n");
    printf("   [item|warehouse|customer|orders]\n");
    printf("   Notes: \n");
    printf("     - the '-t' parameter may be included multiple times to
\n");
    printf("       specify multiple tables to be loaded \n");
    printf("     - 'item' loads ITEM table \n");
    printf("     - 'warehouse' loads WAREHOUSE, DISTRICT, and STOCK tables
\n");
    printf("     - 'customer' loads CUSTOMER and HISTORY tables \n");
    printf("     - 'orders' load NEW-ORDER, ORDERS, ORDER-LINE tables
\n");

       printf("\nNote:  Command line switches are case sensitive.\n");

    exit(0);
}
```

RANDOM.C

```
//      File:           RANDOM.C
//                              Microsoft TPC-C Kit Ver. 4.62
//                              Copyright Microsoft, 1996, 1997, 1998, 1999,
2000, 2001, 2002, 2005
//      Purpose:        Random number generation routines for database
loader


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

// Defines
#define A             16807
#define M        2147483647
#define Q            127773      /* M div A */
#define R              2836      /* M mod A */
#define Thread         __declspec(thread)

// Globals
long    Thread Seed = 0;        /* thread local seed */

/*********************************************************************
*****
*
*
* random -
*
*       Implements a GOOD pseudo random number generator.  This generator
*
*       will/should? run the complete period before repeating.
*
*
*
* Copied from:
*
*       Random Numbers Generators: Good Ones Are Hard to Find.
*
*       Communications of the ACM - October 1988 Volume 31 Number 10
*
*
*
* Machine Dependencies:
*
*       long must be 2 ^ 31 - 1 or greater.
*
*
*
*********************************************************************
****/

/*********************************************************************
*****
* seed - load the Seed value used in irand and drand.  Should be used
before  *
*       first call to irand or drand.
*
*********************************************************************
****/

void seed(long val)
{

#ifdef DEBUG
    printf("[%ld]DBG: Entering seed()...\n", (int) GetCurrentThreadId());
        printf("Old Seed %ld New Seed %ld\n",Seed, val);
#endif

    if ( val < 0 )
           val = abs(val);

    Seed = val;

}


/*********************************************************************
****
*
*
* irand - returns a 32 bit integer pseudo random number with a period of
*
*       1 to 2 ^ 32 - 1.
*
*
*
* parameters:
*
*       none.
*
*
*
* returns:
*
*       32 bit integer - defined as long ( see above ).
*
*
*
* side effects:
*
*       seed get recomputed.
*
*********************************************************************
***/

long irand()
{
    register long    s;      /* copy of seed */
    register long    test;   /* test flag */
    register long    hi;     /* tmp value for speed */
    register long    lo;     /* tmp value for speed */

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

    s = Seed;
    hi = s / Q;
```

```
    lo = s % Q;

    test = A * lo - R * hi;
    if ( test > 0 )
                Seed = test;
    else
                Seed = test + M;

    return( Seed );
}


/**************************************************************************
****
*
*
* drand - returns a double pseudo random number between 0.0 and 1.0.
*
*       See irand.
*
**************************************************************************
***/
double drand()
{

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

    return( (double)irand() / 2147483647.0);
}


//=========================================================================
// Function   : RandomNumber
//
// Description:
//=========================================================================
long RandomNumber(long lower, long upper)
{
    long rand_num;

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

        if ( upper == lower )  /* pgd 08-13-96 perf enhancement */
                return lower;

        upper++;

    if ( upper <= lower )
                rand_num = upper;
    else
                rand_num = lower + irand() % (upper - lower); /* pgd 08-13-
96 perf enhancement */


#ifdef DEBUG
    printf("[%ld]DBG: RandomNumber between %ld & %ld ==> %ld\n",
                                (int) GetCurrentThreadId(), lower, upper,
rand_num);
#endif


    return rand_num;
}


#if 0

//Orginal code pgd 08/13/96

long RandomNumber(long lower,
                                  long upper)
{
    long rand_num;

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

        upper++;

    if ((upper <= lower))
                rand_num = upper;
    else
                rand_num = lower + irand() % ((upper > lower) ? upper -
lower : upper);


#ifdef DEBUG
    printf("[%ld]DBG: RandomNumber between %ld & %ld ==> %ld\n",
                                (int) GetCurrentThreadId(), lower, upper,
rand_num);
#endif


    return rand_num;
}
#endif

//=========================================================================
// Function   : NURand
//
// Description:
//=========================================================================
long NURand(int iConst,
            long x,
            long y,
            long C)
{
    long rand_num;

#ifdef DEBUG
    printf("[%ld]DBG: Entering NURand()...\n", (int)
GetCurrentThreadId());
#endif
```

```
    rand_num = (((RandomNumber(0,iConst) | RandomNumber(x,y)) + C) % (y-
x+1))+x;

#ifdef DEBUG
    printf("[%ld]DBG: NURand: num = %d\n", (int) GetCurrentThreadId(),
rand_num);
#endif

    return rand_num;
}
```

STRINGS.C

```
//      File:           STRINGS.C
//                              Microsoft TPC-C Kit Ver. 4.51
//                              Copyright Microsoft, 1996, 1997, 1998, 1999,
2000, 2001, 2002, 2003
//      Purpose:        Source file for database loader string functions


// Includes
#include "tpcc.h"
#include <string.h>
#include <ctype.h>

//==============================================================================
//
// Function name: MakeAddress
//
//==============================================================================

void MakeAddress(char *street_1,
                                char *street_2,
                                char *city,
                                char *state,
                                char *zip)
{

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

    MakeAlphaString (10, 20, ADDRESS_LEN, street_1);
    MakeAlphaString (10, 20, ADDRESS_LEN, street_2);
    MakeAlphaString (10, 20, ADDRESS_LEN, city);
    MakeAlphaString ( 2,  2, STATE_LEN, state);
    MakeZipNumberString( 9,  9, ZIP_LEN, zip);

#ifdef DEBUG
    printf("[%ld]DBG: MakeAddress: street_1: %s, street_2: %s, city: %s,
state: %s, zip: %s\n",
                        (int) GetCurrentThreadId(), street_1, street_2,
city, state, zip);
#endif

    return;
}


//==============================================================================
//
// Function name: LastName
//
//==============================================================================

void LastName(int  num,
                        char *name)
{
    static char *n[] =
    {
                "BAR" , "OUGHT", "ABLE" , "PRI"  , "PRES",
                "ESE" , "ANTI" , "CALLY", "ATION", "EING"
    };

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

    if ((num >= 0) && (num < 1000))
    {
                strcpy(name, n[(num/100)%10]);
                strcat(name, n[(num/10)%10]);
                strcat(name, n[(num/1)%10]);

                if (strlen(name) < LAST_NAME_LEN)
                {
                        PaddString(LAST_NAME_LEN, name);
                }

    }
    else
    {
                printf("\nError in LastName()... num <%ld> out of range
(0,999)\n", num);
                exit(-1);
    }


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

    return;

}


//==============================================================================
//
// Function name: MakeAlphaString
//
//==============================================================================
```

```
//philipdu 08/13/96 Changed MakeAlphaString to use A-Z, a-z, and 0-9 in
//accordance with spec see below:
//The spec says:
//4.3.2.2      The notation random a-string [x .. y]
//(respectively, n-string [x .. y]) represents a string of random
alphanumeric
//(respectively, numeric) characters of a random length of minimum x,
maximum y,
//and mean (y+x)/2. Alphanumerics are A..Z, a..z, and 0..9.  The only
other
//requirement is that the character set used "must be able to represent a
minimum
//of 128 different characters".  We are using 8-bit chars, so this is a
non issue.
//It is completely unreasonable to stuff non-printing chars into the text
fields.
//-CLevine 08/13/96

int MakeAlphaString( int  x, int  y, int  z, char *str)
{
        int             len;
        int             i;
    char    cc = 'a';
        static  char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
        static  int     chArrayMax = 61;

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

        len= RandomNumber(x, y);

        for (i=0; i<len; i++)
                str[i] = chArray[RandomNumber(0,chArrayMax)];
        str[len] = 0;

    return len;
}

int MakeAlphaStringPadded( int  minLen, int  maxLen, int  padLen, char
*str)
{
        int             len;
        int             i;
    char    cc = 'a';
        static  char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
        static  int     chArrayMax = 61;

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

        len= RandomNumber(minLen, maxLen);

        for (i=0; i<len; i++)
                str[i] = chArray[RandomNumber(0,chArrayMax)];
        if (len < padLen)
                memset(str+len, ' ', padLen - len);
        str[padLen] = 0;
    return padLen;
}



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

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

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

    // verify prercentage is valid
    if ((percent < 0) || (percent > 100))
    {
                printf("MakeOrigianlAlphaString: Invalid percentage: %d\n",
percent);
                exit(-1);
    }

    // verify string is at least 8 chars in length
    if (x < 8)
    {
                printf("MakeOriginalAlphaString: string length must be >=
8\n");
                exit(-1);
    }

    // Make Alpha String
    len = MakeAlphaString(x,y, z, str);

    val = RandomNumber(1,100);
    if (val <= percent)
    {
                start = RandomNumber(0, len - 8);
                strncpy(str + start, "ORIGINAL", 8);
    }


#ifdef DEBUG
    printf("[%ld]DBG: MakeOriginalAlphaString: : %s\n",
                        (int) GetCurrentThreadId(), str);
#endif
```

```
    return len;
}


//========================================================================
//
// Function name: MakeNumberString
//
//========================================================================
int MakeNumberString(int  x, int  y, int  z, char *str)
{
        char tmp[16];

        //MakeNumberString is always called MakeZipNumberString(16, 16,
16, string)

        memset(str, '0', 16);
        itoa(RandomNumber(0, 99999999), tmp, 10);
        memcpy(str, tmp, strlen(tmp));

        itoa(RandomNumber(0, 99999999), tmp, 10);
        memcpy(str+8, tmp, strlen(tmp));

        str[16] = 0;

    return 16;
}


//========================================================================
//
// Function name: MakeZipNumberString
//
//========================================================================
int MakeZipNumberString(int  x, int  y, int  z, char *str)
{
        char tmp[16];

        //MakeZipNumberString is always called MakeZipNumberString(9, 9,
9, string)

        strcpy(str, "000011111");

        itoa(RandomNumber(0, 9999), tmp, 10);
        memcpy(str, tmp, strlen(tmp));

    return 9;
}


//========================================================================
//
// Function name: InitString
//
//========================================================================
void InitString(char *str, int len)
{
#ifdef DEBUG
    printf("[%ld]DBG: Entering InitString()\n", (int)
GetCurrentThreadId());
#endif

        memset(str, ' ', len);
    str[len] = 0;
}


//========================================================================
// Function name: InitAddress
//
// Description:
//
//========================================================================

void InitAddress(char *street_1, char *street_2, char *city, char *state,
char *zip)
{
        memset(street_1, ' ', ADDRESS_LEN+1);
        memset(street_2, ' ', ADDRESS_LEN+1);
        memset(city, ' ', ADDRESS_LEN+1);

    street_1[ADDRESS_LEN+1] = 0;
    street_2[ADDRESS_LEN+1] = 0;
    city[ADDRESS_LEN+1]     = 0;

        memset(state, ' ', STATE_LEN+1);
    state[STATE_LEN+1] = 0;

        memset(zip, ' ', ZIP_LEN+1);
    zip[ZIP_LEN+1] = 0;
}


//========================================================================
//
// Function name: PaddString
//
//========================================================================

void PaddString(int max, char *name)
{
        int             len;

        len = strlen(name);
        if ( len < max )
                memset(name+len, ' ', max - len);
        name[max] = 0;

        return;
}
```

TIME.C

```
//      File:           TIME.C
//                              Microsoft TPC-C Kit Ver. 4.62
//                              Copyright Microsoft, 1996, 1997, 1998, 1999,
2000, 2001, 2002, 2005
//      Purpose:        Source file for time functions
```

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

// Globals
static long start_sec;


//============================================================================
//
// Function name: TimeNow
//
//============================================================================

long TimeNow()
{
   long        time_now;
   struct      _timeb el_time;

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

   _ftime(&el_time);

   time_now = ((el_time.time - start_sec) * 1000) + el_time.millitm;

   return time_now;
}
```

TPCC.H

```
//      File:          TPCC.H
//                             Microsoft TPC-C Kit Ver. 4.51
//                             Copyright Microsoft, 1996, 1997, 1998, 1999,
2000, 2001, 2002, 2003, 2005
//      Purpose:       Header file for TPC-C database loader


// Build number of TPC Benchmark Kit
#define TPCKIT_VER     "4.51"

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

// ODBC headers
#include <sql.h>
#include <sqlext.h>
#include <odbcss.h>

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

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

// Default loader arguments
#define BATCH                                          10000
#define DEFLDPACKSIZE                        32768
#define LOADER_RES_FILE
       "C:\\MSTPCC.450\\SETUP\\LOGS\\load.out"
#define LOADER_LOG_PATH
       "C:\\MSTPCC.450\\SETUP\\LOGS\\"
#define LOADER_NURAND_C                                123
#define DEF_STARTING_WAREHOUSE               1
#define BUILD_INDEX                                    1       // build both
data and indexes
#define INDEX_ORDER                                    1       // build
indexes before load
#define SCALE_DOWN                                     0   // build a normal
scale database
#define INDEX_SCRIPT_PATH                    "scripts"

typedef struct
{
    char                            *server;
    char                            *database;
    char                            *user;
    char                            *password;
       BOOL                         tables_all;                    // set
if loading all tables
       BOOL                         table_item;                    // set
if loading ITEM table specifically
       BOOL                         table_warehouse;       // set if
loading WAREHOUSE, DISTRICT, and STOCK
       BOOL                         table_customer;                // set
if loading CUSTOMER and HISTORY
       BOOL                         table_orders;          // set if
loading NEW-ORDER, ORDERS, ORDER-LINE
    long                            num_warehouses;
    long                            batch;
    long                            verbose;
       long                         pack_size;
       char                         *loader_res_file;
       char                         *log_path;
       char                         *synch_servername;
       long                         case_sensitivity;
       long                         starting_warehouse;
       long                         build_index;
```

```
        long                            index_order;
        long                            scale_down;
        char                            *index_script_path;
} TPCCLDR_ARGS;

// String length constants
        #define SERVER_NAME_LEN            20
        #define DATABASE_NAME_LEN          20
        #define USER_NAME_LEN              20
        #define PASSWORD_LEN               20
        #define TABLE_NAME_LEN             20
        #define I_DATA_LEN                 50
        #define I_NAME_LEN                 24
        #define BRAND_LEN                   1
        #define LAST_NAME_LEN              16
        #define W_NAME_LEN                 10
        #define ADDRESS_LEN                20
        #define STATE_LEN                   2
        #define ZIP_LEN                     9
        #define S_DIST_LEN                 24
        #define S_DATA_LEN                 50
        #define D_NAME_LEN                 10
        #define FIRST_NAME_LEN             16
        #define MIDDLE_NAME_LEN             2
        #define PHONE_LEN                  16
        #define CREDIT_LEN                  2
        #define C_DATA_LEN                500
        #define H_DATA_LEN                 24
        #define DIST_INFO_LEN              24
        #define MAX_OL_NEW_ORDER_ITEMS     15
        #define MAX_OL_ORDER_STATUS_ITEMS  15
        #define STATUS_LEN                 25
        #define OL_DIST_INFO_LEN                  24
        #define C_SINCE_LEN                                23
        #define H_DATE_LEN                                 23
        #define OL_DELIVERY_D_LEN                 23
        #define O_ENTRY_D_LEN              23


// Functions in random.c
void    seed();
long    irand();
double  drand();
void    WUCreate();
short   WURand();
long    RandomNumber(long lower, long upper);

// Functions in getargs.c;
void    GetArgsLoader();
void    GetArgsLoaderUsage();

// Functions in time.c
long    TimeNow();

// Functions in strings.c
void    MakeAddress();
void    LastName();
int     MakeAlphaString();
int             MakeAlphaStringPadded();
int     MakeOriginalAlphaString();
int     MakeNumberString();
int     MakeZipNumberString();
void    InitString();
void    InitAddress();
void    PaddString();
```

TPCCLDR.C

```
//===============================================================================
//      File:           TPCCLDR.C
//                              Microsoft TPC-C Kit Ver. 4.51
//                              Copyright Microsoft, 1996, 1997, 1998, 1999,
//                              2000, 2001, 2002, 2003
//      Purpose:        Source file for TPC-C database loader
//===============================================================================
// Includes
#include "tpcc.h"
#include "search.h"

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

// Functions declarations
void HandleErrorDBC (SQLHDBC  hdbc1);
long NURand();
void LoadItem();
void LoadWarehouse();
void Stock();
void District();
void LoadCustomer();
void CustomerBufInit();
void CustomerBufLoad();
void LoadCustomerTable();
void LoadHistoryTable();
void LoadOrders();
void OrdersBufInit();
void OrdersBufLoad();
void LoadOrdersTable();
void LoadNewOrderTable();
void LoadOrderLineTable();
void GetPermutation();
void CheckForCommit();
void CheckForCommit_Big();
void OpenConnections();
void BuildIndex();
void FormatDate ();

// Shared memory structures
```

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

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

typedef struct
{
    long                                c_id;
    short                               c_d_id;
       long                            c_w_id;
       char                            c_first[FIRST_NAME_LEN+1];
    char                                c_middle[MIDDLE_NAME_LEN+1];
    char                                c_last[LAST_NAME_LEN+1];
    char                                c_street_1[ADDRESS_LEN+1];
    char                                c_street_2[ADDRESS_LEN+1];
    char                                c_city[ADDRESS_LEN+1];
    char                                c_state[STATE_LEN+1];
    char                                c_zip[ZIP_LEN+1];
    char                                c_phone[PHONE_LEN+1];
    char                                c_credit[CREDIT_LEN+1];
    double                              c_credit_lim;
    double                              c_discount;
       char                            c_balance[6];
    double                              c_ytd_payment;
       short                           c_payment_cnt;
       short                           c_delivery_cnt;
       char                            c_data[C_DATA_LEN+1];
       double                          h_amount;
    char                                h_data[H_DATA_LEN+1];
} CUSTOMER_STRUCT;

typedef struct
{
       char                            c_last[LAST_NAME_LEN+1];
       char                            c_first[FIRST_NAME_LEN+1];
    long                                c_id;
} CUSTOMER_SORT_STRUCT;

typedef struct
{
    long                time_start;
} LOADER_TIME_STRUCT;
```

```
// Global variables
char    szLastError[300];

HENV    henv;

HDBC    v_hdbc;                                         // for SQL Server
version verification
HDBC    i_hdbc1;                                        // for ITEM table
HDBC    w_hdbc1;                                        // for WAREHOUSE,
DISTRICT, STOCK
HDBC    c_hdbc1;                                        // for CUSTOMER
HDBC    c_hdbc2;                                        // for HISTORY
HDBC    o_hdbc1;                                        // for ORDERS
HDBC    o_hdbc2;                                        // for NEW-ORDER

HDBC    o_hdbc3;                                        // for ORDER-LINE

HSTMT   v_hstmt;                                        // for SQL Server
version verification
HSTMT   i_hstmt1;
HSTMT   w_hstmt1;
HSTMT   c_hstmt1, c_hstmt2;
HSTMT   o_hstmt1, o_hstmt2, o_hstmt3;

int             total_db_errors;

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

TPCCLDR_ARGS    *aptr, args;

//============================================================================
//
// Function name: main
//
//============================================================================
int main(int  argc, char **argv)
{

       DWORD           dwThreadID[MAX_MAIN_THREADS];
       HANDLE          hThread[MAX_MAIN_THREADS];
       FILE            *fLoader;
       char            buffer[255];
       int                             i;
```

```
        for (i=0; i<MAX_MAIN_THREADS; i++)
                hThread[i] = NULL;

    printf("\n*************************************************");
        printf("\n*                                               *");
        printf("\n*  Microsoft SQL Server                         *");
        printf("\n*                                               *");
        printf("\n*  TPC-C BENCHMARK KIT:  Database loader        *");
        printf("\n*  Version %s                                 *",
TPCKIT_VER);
        printf("\n*                                               *");
        printf("\n*************************************************\n\n"
);

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

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

        if (aptr->build_index == 0)
                printf("Data load only - no index creation.\n");
        else
                printf("Data load and index creation.\n");

        if (aptr->index_order == 0)
                printf("Clustered indexes will be created after bulk
load.\n");
        else
                printf("Clustered indexes will be created before bulk
load.\n");

        // set database scale values
        if (aptr->scale_down == 1)
        {
                printf("*** Scaled Down Database ***\n");
                max_items = MAXITEMS_SCALE_DOWN;
                customers_per_district = CUSTOMERS_SCALE_DOWN;
                orders_per_district = ORDERS_SCALE_DOWN;
                first_new_order = 0;
                last_new_order  = 30;
        }
        else
        {
                max_items = MAXITEMS;
                customers_per_district = CUSTOMERS_PER_DISTRICT;
                orders_per_district = ORDERS_PER_DISTRICT;
                first_new_order = 2100;
                last_new_order  = 3000;
        }

        // open connections to SQL Server
        OpenConnections();

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


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

    // start loading data
    sprintf(buffer,"TPC-C load started for %ld warehouses.\n",aptr-
>num_warehouses);
        if      (aptr->scale_down == 1)
        {
                sprintf(buffer,"SCALED DOWN DATABASE.\n");
        }

        printf("%s",buffer);
        fprintf(fLoader,"%s",buffer);

        main_time_start = (TimeNow() / MILLI);

        // start parallel load threads
        if (aptr->tables_all || aptr->table_item)
        {
                fprintf(fLoader, "\nStarting loader threads for: item\n");

                hThread[0] = CreateThread(NULL,
                                                                0,
(LPTHREAD_START_ROUTINE) LoadItem,
                                                                NULL,
                                                                0,
&dwThreadID[0]);

                if (hThread[0] == NULL)
                {
                        printf("Error, failed in creating creating thread =
0.\n");
                        exit(-1);
                }
        }

        if (aptr->tables_all || aptr->table_warehouse)
        {
                fprintf(fLoader, "Starting loader threads for:
warehouse\n");

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

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

```
        if (aptr->tables_all || aptr->table_customer)
        {
                fprintf(fLoader, "Starting loader threads for:
customer\n");

                hThread[2] = CreateThread(NULL,
                                                                0,

(LPTHREAD_START_ROUTINE) LoadCustomer,
                                                                NULL,
                                                                0,

&dwThreadID[2]);

                if (hThread[2] == NULL)
                {
                        printf("Error, failed in creating creating main
thread = 2.\n");
                        exit(-1);
                }
        }

        if (aptr->tables_all || aptr->table_orders)
        {
                fprintf(fLoader, "Starting loader threads for: orders\n");

                hThread[3] = CreateThread(NULL,
                                                                0,

(LPTHREAD_START_ROUTINE) LoadOrders,
                                                                NULL,
                                                                0,

&dwThreadID[3]);

                if (hThread[3] == NULL)
                {
                        printf("Error, failed in creating creating main
thread = 3.\n");
                        exit(-1);
                }
        }

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

        main_time_end = (TimeNow() / MILLI);

    sprintf(buffer,"\nTPC-C load completed successfully in %ld
minutes.\n",
                        (main_time_end - main_time_start)/60);

        printf("%s",buffer);

        fprintf(fLoader, "%s", buffer);

        fclose(fLoader);

        SQLFreeEnv(henv);

    exit(0);

        return 0;
}


//============================================================================
//
// Function name: LoadItem
//
//============================================================================
void LoadItem()
{
    int                 i;
        long            i_id;
        long            i_im_id;
    char                i_name[I_NAME_LEN+1];
    double              i_price;
    char                i_data[I_DATA_LEN+1];
        char            name[20];
        long            time_start;
        RETCODE         rc;
        DBINT           rcint;
        char            bcphint[128];
        char            err_log_path[256];

        // Seed with unique number
        seed(11);

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

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

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

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

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"item.err");
        rc = bcp_init(i_hdbc1, name, NULL, err_log_path , DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (i_id), ROWS_PER_BATCH =
100000");
                rc = bcp_control(i_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(i_hdbc1);
        }
```

```
        i = 0;
        rc = bcp_bind(i_hdbc1, (BYTE *) &i_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);
        rc = bcp_bind(i_hdbc1, (BYTE *) i_name, 0, I_NAME_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);
        rc = bcp_bind(i_hdbc1, (BYTE *) &i_price, 0, SQL_VARLEN_DATA,
NULL, 0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);
        rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0, SQL_VARLEN_DATA, "", 1,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);
        rc = bcp_bind(i_hdbc1, (BYTE *) &i_im_id, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);

        time_start = (TimeNow() / MILLI);

        item_rows_loaded = 0;

        for (i_id = 1; i_id <= max_items; i_id++)
        {
                i_im_id = RandomNumber(1L, 10000L);

                MakeAlphaStringPadded(14, 24, I_NAME_LEN, i_name);

                i_price = ((float) RandomNumber(100L, 10000L))/100.0;

                MakeOriginalAlphaString(26, 50, I_DATA_LEN, i_data, 10);

                rc = bcp_sendrow(i_hdbc1);
                if (rc != SUCCEED)
                        HandleErrorDBC(i_hdbc1);

                item_rows_loaded++;
                CheckForCommit(i_hdbc1, i_hstmt1, item_rows_loaded, "item",
&time_start);
        }

        rcint = bcp_done(i_hdbc1);
        if (rcint < 0)
                HandleErrorDBC(i_hdbc1);

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

        SQLFreeStmt(i_hstmt1, SQL_DROP);
        SQLDisconnect(i_hdbc1);
        SQLFreeConnect(i_hdbc1);

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

}
```

```
//==============================================================================
=====
//
// Function   : LoadWarehouse
//
// Loads WAREHOUSE table and loads Stock and District as Warehouses are
created
//
//==============================================================================
=====
void LoadWarehouse()
{
        int             i;
        long    w_id;
    char        w_name[W_NAME_LEN+1];
    char        w_street_1[ADDRESS_LEN+1];
    char        w_street_2[ADDRESS_LEN+1];
    char        w_city[ADDRESS_LEN+1];
    char        w_state[STATE_LEN+1];
    char        w_zip[ZIP_LEN+1];
    double      w_tax;
    double      w_ytd;
        char    name[20];
        long    time_start;
        RETCODE rc;
        DBINT   rcint;
        char    bcphint[128];
        char    err_log_path[256];

        // Seed with unique number
        seed(2);

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

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

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

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

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"whouse.err");
        rc = bcp_init(w_hdbc1, name, NULL, err_log_path, DB_IN);

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

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

        i = 0;
```

```
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_ytd, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &w_tax, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_name, 0, W_NAME_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_street_1, 0, ADDRESS_LEN, NULL,
0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_street_2, 0, ADDRESS_LEN, NULL,
0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_city, 0, ADDRESS_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_state, 0, STATE_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) w_zip, 0, ZIP_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        time_start = (TimeNow() / MILLI);

        warehouse_rows_loaded = 0;

        for (w_id = (long)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
        {
                MakeAlphaStringPadded(6,10, W_NAME_LEN, w_name);

                MakeAddress(w_street_1, w_street_2, w_city, w_state,
w_zip);

                w_tax = ((float) RandomNumber(0L,2000L))/10000.00;

                w_ytd = 300000.00;

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

                warehouse_rows_loaded++;
                CheckForCommit(w_hdbc1, i_hstmt1, warehouse_rows_loaded,
"warehouse", &time_start);
        }

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

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

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

        stock_rows_loaded = 0;
        district_rows_loaded = 0;

        District();
        Stock();
}

//============================================================================
//
// Function   : District
//
//============================================================================
void District()
{
    int         i;
        short   d_id;
        long    d_w_id;
    char        d_name[D_NAME_LEN+1];
    char        d_street_1[ADDRESS_LEN+1];
    char        d_street_2[ADDRESS_LEN+1];
    char        d_city[ADDRESS_LEN+1];
    char        d_state[STATE_LEN+1];
    char        d_zip[ZIP_LEN+1];
    double      d_tax;
    double      d_ytd;
        char    name[20];
    long        d_next_o_id;
        long    time_start;
        long    w_id;
        RETCODE rc;
        DBINT   rcint;
        char    bcphint[128];
        char    err_log_path[256];

        // Seed with unique number
        seed(4);

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

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

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

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"district.err");
        rc = bcp_init(w_hdbc1, name, NULL, err_log_path, DB_IN);
```

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

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

        i = 0;
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_ytd, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_next_o_id, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &d_tax, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_name, 0, D_NAME_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_street_1, 0, ADDRESS_LEN, NULL,
0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_street_2, 0, ADDRESS_LEN, NULL,
0, 0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_city, 0, ADDRESS_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_state, 0, STATE_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) d_zip, 0, ZIP_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        d_ytd  = 30000.0;

        d_next_o_id = orders_per_district+1;

        time_start = (TimeNow() / MILLI);

        for (w_id = aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
        {
                d_w_id = w_id;

                for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
                {
                        MakeAlphaStringPadded(6,10,D_NAME_LEN, d_name);

                        MakeAddress(d_street_1, d_street_2, d_city,
d_state, d_zip);

                        d_tax = ((float) RandomNumber(0L,2000L))/10000.00;

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

                        district_rows_loaded++;
                        CheckForCommit(w_hdbc1, w_hstmt1,
district_rows_loaded, "district", &time_start);
                }
    }

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

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

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

    return;
}

//============================================================================
//
// Function   : Stock
//
//============================================================================
void Stock()
{
        int             i;
        long    s_i_id;
        long    s_w_id;
    short       s_quantity;
    char        s_dist_01[S_DIST_LEN+1];
    char        s_dist_02[S_DIST_LEN+1];
    char        s_dist_03[S_DIST_LEN+1];
    char        s_dist_04[S_DIST_LEN+1];
    char        s_dist_05[S_DIST_LEN+1];
    char        s_dist_06[S_DIST_LEN+1];
    char        s_dist_07[S_DIST_LEN+1];
    char        s_dist_08[S_DIST_LEN+1];
    char        s_dist_09[S_DIST_LEN+1];
    char        s_dist_10[S_DIST_LEN+1];
```

```
    long        s_ytd;
    short       s_order_cnt;
    short       s_remote_cnt;
    char        s_data[S_DATA_LEN+1];
    short       len;
        char    name[20];
        long    time_start;
        RETCODE rc;
        DBINT   rcint;
        char    bcphint[128];
        char    err_log_path[256];

        // Seed with unique number
        seed(3);

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

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

        strcpy(err_log_path,aptr->log_path);
        strcat(err_log_path,"stock.err");
        rc = bcp_init(w_hdbc1, name, NULL, err_log_path, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (s_i_id, s_w_id),
ROWS_PER_BATCH = %u", (aptr->num_warehouses * 100000));
                rc = bcp_control(w_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(w_hdbc1);
        }

        i = 0;
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_i_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_quantity, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_ytd, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_order_cnt, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) &s_remote_cnt, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0, SQL_VARLEN_DATA, "", 1,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_01, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_02, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_03, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_04, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_05, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_06, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_07, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_08, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_09, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_10, 0, S_DIST_LEN, NULL, 0,
0, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);

        s_ytd = s_order_cnt = s_remote_cnt = 0;

        time_start = (TimeNow() / MILLI);

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

        for (s_i_id=1; s_i_id <= max_items; s_i_id++)
        {

                for (s_w_id = (long)aptr->starting_warehouse; s_w_id <=
aptr->num_warehouses; s_w_id++)
                {

                        s_quantity = (short)RandomNumber(10L,100L);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_01);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_02);
```

```
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_03);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_04);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_05);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_06);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_07);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_08);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_09);
                        len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_10);

                        len = MakeOriginalAlphaString(26,50, S_DATA_LEN,
s_data,10);

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

                        stock_rows_loaded++;
                        CheckForCommit_Big(w_hdbc1, w_hstmt1,
stock_rows_loaded, "stock", &time_start);
                }
        }

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

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

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

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

        return;
}

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

        // Seed with unique number
        seed(5);

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

        // if build index before load...
        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                BuildIndex("idxcuscl");
                 // check the number of processors on this system
                 // if 8 or more processors, then build index on History.
                 // if less than 8 processors, do not build the index
                num_procs = atoi(getenv( "NUMBER_OF_PROCESSORS" ));
                if ( num_procs >= 8 )
                        BuildIndex("idxhiscl");
        }

        // Initialize bulk copy
        sprintf(name, "%s..%s", aptr->database, "customer");

        strcpy(err_log_path_cust,aptr->log_path);
        strcat(err_log_path_cust,"customer.err");
        rc = bcp_init(c_hdbc1, name, NULL, err_log_path_cust, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);

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

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

        rc = bcp_init(c_hdbc2, name, NULL, "logs\\history.err", DB_IN);
        strcpy(err_log_path_hist,aptr->log_path);
        strcat(err_log_path_hist,"history.err");
        rc = bcp_init(c_hdbc2, name, NULL, err_log_path_hist, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);

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

        customer_rows_loaded    = 0;
        history_rows_loaded     = 0;

        CustomerBufInit();

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

        for (w_id = (long)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
        {
                for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
```

```
		{

			CustomerBufLoad(d_id, w_id);

			// Start parallel loading threads here...
			// Start customer table thread
			printf("...Loading customer table for: d_id = %d,
w_id = %d\n", d_id, w_id);

			hThread[0] = CreateThread(NULL,
                                                                0,

(LPTHREAD_START_ROUTINE) LoadCustomerTable,

&customer_time_start,
                                                                0,

&dwThreadID[0]);

			if (hThread[0] == NULL)
			{
				printf("Error, failed in creating creating
thread = 0.\n");
				exit(-1);
			}

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

			hThread[1] = CreateThread(NULL,
                                                                0,

(LPTHREAD_START_ROUTINE) LoadHistoryTable,

&history_time_start,
                                                                0,

&dwThreadID[1]);

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

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

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

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

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

	rcint = bcp_done(c_hdbc2);
	if (rcint < 0)
		HandleErrorDBC(c_hdbc2);

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

	// if build index after load...
	if ((aptr->build_index == 1) && (aptr->index_order == 0))
	{
		BuildIndex("idxcuscl");
		// check the number of processors on this system
		// if 8 or more processors, then build index on History.
		// if less than 8 processors, do not build the index
		num_procs = atoi(getenv( "NUMBER_OF_PROCESSORS" ));
		if (num_procs >= 8)
			BuildIndex("idxhiscl");
	}

	// build non-clustered index
	if (aptr->build_index == 1)
		BuildIndex("idxcusnc");

	// Output the NURAND used for the loader into C_FIRST for C_ID =
1,
	// C_W_ID = 1, and C_D_ID = 1
	sprintf(cmd, "osql -S%s -U%s -P%s -d%s -e -Q\"update customer set
c_first = 'C_LOAD = %d' where c_id = 1 and c_w_id = 1 and c_d_id = 1\" >
%snurand_load.log",
				aptr->server,
				aptr->user,
				aptr->password,
				aptr->database,
				LOADER_NURAND_C,
				aptr->log_path);

	system(cmd);

	SQLFreeStmt(c_hstmt1, SQL_DROP);
	SQLDisconnect(c_hdbc1);
	SQLFreeConnect(c_hdbc1);

	SQLFreeStmt(c_hstmt2, SQL_DROP);
	SQLDisconnect(c_hdbc2);
	SQLFreeConnect(c_hdbc2);

    return;
}
//============================================================================
//
// Function   : CustomerBufInit
//
//============================================================================
void CustomerBufInit()
```

```
{
        long     i;

        for (i=0;i<customers_per_district;i++)
        {
                customer_buf[i].c_id = 0;
                customer_buf[i].c_d_id = 0;
                customer_buf[i].c_w_id = 0;

                strcpy(customer_buf[i].c_first,"");
                strcpy(customer_buf[i].c_middle,"");
                strcpy(customer_buf[i].c_last,"");
                strcpy(customer_buf[i].c_street_1,"");
                strcpy(customer_buf[i].c_street_2,"");
                strcpy(customer_buf[i].c_city,"");
                strcpy(customer_buf[i].c_state,"");
                strcpy(customer_buf[i].c_zip,"");
                strcpy(customer_buf[i].c_phone,"");
                strcpy(customer_buf[i].c_credit,"");

                customer_buf[i].c_credit_lim = 0;
                customer_buf[i].c_discount = (float) 0;

                strcpy(customer_buf[i].c_balance,"");

                customer_buf[i].c_ytd_payment = 0;
                customer_buf[i].c_payment_cnt = 0;
                customer_buf[i].c_delivery_cnt = 0;

                strcpy(customer_buf[i].c_data,"");

                customer_buf[i].h_amount = 0;

                strcpy(customer_buf[i].h_data,"");
        }
}

//==============================================================================
//
// Function   : CustomerBufLoad
//
// Fills shared buffer for HISTORY and CUSTOMER
//==============================================================================
void CustomerBufLoad(int d_id, long w_id)
{
        long                                    i;
    CUSTOMER_SORT_STRUCT    c[CUSTOMERS_PER_DISTRICT];

        for (i=0;i<customers_per_district;i++)
        {
                if (i < 1000)
                        LastName(i, c[i].c_last);
                else
                        LastName(NURand(255,0,999,LOADER_NURAND_C),
c[i].c_last);

                MakeAlphaStringPadded(8,16,FIRST_NAME_LEN, c[i].c_first);

                c[i].c_id = i+1;
        }

        printf("...Loading customer buffer for: d_id = %d, w_id = %d\n",
                        d_id, w_id);

        for (i=0;i<customers_per_district;i++)
        {
                customer_buf[i].c_d_id = d_id;
                customer_buf[i].c_w_id = w_id;
                customer_buf[i].h_amount = 10.0;
                customer_buf[i].c_ytd_payment  = 10.0;
                customer_buf[i].c_payment_cnt  = 1;
                customer_buf[i].c_delivery_cnt = 0;
                customer_buf[i].c_id = c[i].c_id;
                strcpy(customer_buf[i].c_first, c[i].c_first);
                strcpy(customer_buf[i].c_last, c[i].c_last);
                customer_buf[i].c_middle[0] = 'O';
                customer_buf[i].c_middle[1] = 'E';
                MakeAddress(customer_buf[i].c_street_1,
                                customer_buf[i].c_street_2,
                                customer_buf[i].c_city,
                                customer_buf[i].c_state,
                                customer_buf[i].c_zip);
                MakeNumberString(16, 16, PHONE_LEN,
customer_buf[i].c_phone);

                if (RandomNumber(1L, 100L) > 10)
                        customer_buf[i].c_credit[0] = 'G';
                else
                        customer_buf[i].c_credit[0] = 'B';
                customer_buf[i].c_credit[1] = 'C';
                customer_buf[i].c_credit_lim = 50000.0;
                customer_buf[i].c_discount = ((float) RandomNumber(0L,
5000L)) / 10000.0;
                strcpy(customer_buf[i].c_balance,"-10.0");
                MakeAlphaStringPadded(300, 500, C_DATA_LEN,
customer_buf[i].c_data);

                // Generate HISTORY data
                MakeAlphaStringPadded(12, 24, H_DATA_LEN,
customer_buf[i].h_data);
        }
}
//==============================================================================
//
// Function   : LoadCustomerTable
//
//==============================================================================
void LoadCustomerTable(LOADER_TIME_STRUCT *customer_time_start)
{
        long            i;
    long        c_id;
    short       c_d_id;
        long            c_w_id;
    char        c_first[FIRST_NAME_LEN+1];
    char        c_middle[MIDDLE_NAME_LEN+1];
    char        c_last[LAST_NAME_LEN+1];
    char        c_street_1[ADDRESS_LEN+1];
    char        c_street_2[ADDRESS_LEN+1];
    char        c_city[ADDRESS_LEN+1];
    char        c_state[STATE_LEN+1];
    char        c_zip[ZIP_LEN+1];
    char        c_phone[PHONE_LEN+1];
```

```
    char        c_credit[CREDIT_LEN+1];
    double      c_credit_lim;
    double      c_discount;
       char           c_balance[6];
    double      c_ytd_payment;
    short       c_payment_cnt;
    short       c_delivery_cnt;
    char        c_data[C_DATA_LEN+1];
       char           c_since[C_SINCE_LEN+1];
       RETCODE        rc;

    i = 0;
       rc = bcp_bind(c_hdbc1, (BYTE *) &c_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
       rc = bcp_bind(c_hdbc1, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_discount, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_credit_lim, 0, SQL_VARLEN_DATA,
NULL, 0, SQLFLT8, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_last, 0, LAST_NAME_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
       rc = bcp_bind(c_hdbc1, (BYTE *) c_first, 0, FIRST_NAME_LEN, NULL,
0, 0, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_credit, 0, CREDIT_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5, NULL, 0,
SQLCHARACTER, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_ytd_payment, 0, SQL_VARLEN_DATA,
NULL, 0, SQLFLT8, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_payment_cnt, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) &c_delivery_cnt,0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_street_1, 0, ADDRESS_LEN, NULL, 0,
0, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_street_2, 0, ADDRESS_LEN, NULL,0,0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_city, 0, ADDRESS_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_state, 0, STATE_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_zip, 0, ZIP_LEN, NULL, 0, 0, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_phone, 0, PHONE_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
       rc = bcp_bind(c_hdbc1, (BYTE *) &c_since, 0, C_SINCE_LEN, NULL, 0,
SQLCHARACTER, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
       rc = bcp_bind(c_hdbc1, (BYTE *) c_middle, 0, MIDDLE_NAME_LEN,NULL,
0, 0, ++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);
    rc = bcp_bind(c_hdbc1, (BYTE *) c_data, 0, C_DATA_LEN, NULL, 0, 0,
++i);
       if (rc != SUCCEED)
              HandleErrorDBC(c_hdbc1);

    for (i = 0; i < customers_per_district; i++)
    {
              c_id = customer_buf[i].c_id;
              c_d_id = customer_buf[i].c_d_id;
              c_w_id = customer_buf[i].c_w_id;

              strcpy(c_first, customer_buf[i].c_first);
              strcpy(c_middle, customer_buf[i].c_middle);
              strcpy(c_last, customer_buf[i].c_last);
              strcpy(c_street_1, customer_buf[i].c_street_1);
              strcpy(c_street_2, customer_buf[i].c_street_2);
              strcpy(c_city, customer_buf[i].c_city);
              strcpy(c_state, customer_buf[i].c_state);
              strcpy(c_zip, customer_buf[i].c_zip);
              strcpy(c_phone, customer_buf[i].c_phone);
              strcpy(c_credit, customer_buf[i].c_credit);

              FormatDate(&c_since);

              c_credit_lim = customer_buf[i].c_credit_lim;
              c_discount = customer_buf[i].c_discount;
              strcpy(c_balance, customer_buf[i].c_balance);
              c_ytd_payment = customer_buf[i].c_ytd_payment;
              c_payment_cnt = customer_buf[i].c_payment_cnt;
              c_delivery_cnt = customer_buf[i].c_delivery_cnt;
```

```
                strcpy(c_data, customer_buf[i].c_data);

                // Send data to server
                rc = bcp_sendrow(c_hdbc1);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc1);

                customer_rows_loaded++;
                CheckForCommit(c_hdbc1, c_hstmt1, customer_rows_loaded,
"customer", &customer_time_start->time_start);
        }
}
//============================================================================
//
// Function   : LoadHistoryTable
//
//============================================================================
void LoadHistoryTable(LOADER_TIME_STRUCT *history_time_start)
{
        long            i;
    long        c_id;
    short       c_d_id;
        long            c_w_id;
        double          h_amount;
    char        h_data[H_DATA_LEN+1];
        char            h_date[H_DATE_LEN+1];
        RETCODE         rc;

        i = 0;
    rc = bcp_bind(c_hdbc2, (BYTE *) &c_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
    rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
    rc = bcp_bind(c_hdbc2, (BYTE *) &c_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
        rc = bcp_bind(c_hdbc2, (BYTE *) &h_date, 0, H_DATE_LEN, NULL, 0,
SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
    rc = bcp_bind(c_hdbc2, (BYTE *) &h_amount, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);
    rc = bcp_bind(c_hdbc2, (BYTE *) h_data, 0, H_DATA_LEN, NULL, 0, 0,
++i);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);

    for (i = 0; i < customers_per_district; i++)
    {
                c_id = customer_buf[i].c_id;
                c_d_id = customer_buf[i].c_d_id;
                c_w_id = customer_buf[i].c_w_id;
                h_amount = customer_buf[i].h_amount;
                strcpy(h_data, customer_buf[i].h_data);

                FormatDate(&h_date);

                // send to server
                rc = bcp_sendrow(c_hdbc2);
                if (rc != SUCCEED)
                        HandleErrorDBC(c_hdbc2);

                history_rows_loaded++;
                CheckForCommit(c_hdbc2, c_hstmt2, history_rows_loaded,
"history", &history_time_start->time_start);
    }
}
//============================================================-
===============
//
// Function   : LoadOrders
//
//============================================================================
====
void LoadOrders()
{
        LOADER_TIME_STRUCT      orders_time_start;
        LOADER_TIME_STRUCT      new_order_time_start;
        LOADER_TIME_STRUCT      order_line_time_start;
        long                            w_id;
    short                       d_id;
        DWORD                           dwThreadID[MAX_ORDER_THREADS];
        HANDLE                          hThread[MAX_ORDER_THREADS];
        char                            name[20];
        RETCODE                         rc;
        char                            bcphint[128];
        char                            err_log_path_ord[256];
        char                            err_log_path_nord[256];
        char                            err_log_path_ordl[256];

        // seed with unique number
        seed(6);

        printf("Loading orders...\n");

        // if build index before load...
        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                        BuildIndex("idxordcl");
                        BuildIndex("idxnodcl");
                        BuildIndex("idxodlcl");
        }

        // initialize bulk copy
        sprintf(name, "%s..%s", aptr->database, "orders");

        rc = bcp_init(o_hdbc1, name, NULL, "logs\\orders.err", DB_IN);
```

```
        strcpy(err_log_path_ord,aptr->log_path);
        strcat(err_log_path_ord,"orders.err");
        rc = bcp_init(o_hdbc1, name, NULL, err_log_path_ord, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (o_w_id, o_d_id, o_id),
ROWS_PER_BATCH = %u", (aptr->num_warehouses * 30000));
                rc = bcp_control(o_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc1);
        }

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

        rc = bcp_init(o_hdbc2, name, NULL, "logs\\neword.err", DB_IN);
        strcpy(err_log_path_nord,aptr->log_path);
        strcat(err_log_path_nord,"neword.err");
        rc = bcp_init(o_hdbc2, name, NULL, err_log_path_nord, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (no_w_id, no_d_id,
no_o_id), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 9000));
                rc = bcp_control(o_hdbc2, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
        }

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

        rc = bcp_init(o_hdbc3, name, NULL, "logs\\ordline.err", DB_IN);
        strcpy(err_log_path_ordl,aptr->log_path);
        strcat(err_log_path_ordl,"ordline.err");
        rc = bcp_init(o_hdbc3, name, NULL, err_log_path_ordl, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (ol_w_id, ol_d_id,
ol_o_id, ol_number), ROWS_PER_BATCH = %u", (aptr->num_warehouses *
300000));
                rc = bcp_control(o_hdbc3, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc3);
        }

        orders_rows_loaded      = 0;
        new_order_rows_loaded   = 0;
        order_line_rows_loaded  = 0;

        OrdersBufInit();

        orders_time_start.time_start = (TimeNow() / MILLI);
        new_order_time_start.time_start = (TimeNow() / MILLI);
        order_line_time_start.time_start = (TimeNow() / MILLI);

       for (w_id = (long)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
        {
                for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
                {

                        OrdersBufLoad(d_id, w_id);

                        // start parallel loading threads here...
                        // start Orders table thread
                        printf("...Loading Order Table for: d_id = %d, w_id
= %d\n", d_id, w_id);

                        hThread[0] = CreateThread(NULL,
                                                                        0,

(LPTHREAD_START_ROUTINE) LoadOrdersTable,

&orders_time_start,
                                                                        0,

&dwThreadID[0]);

                        if (hThread[0] == NULL)
                        {
                                printf("Error, failed in creating creating
thread = 0.\n");
                                exit(-1);
                        }

                        // start NewOrder table thread
                        printf("...Loading New-Order Table for: d_id = %d,
w_id = %d\n", d_id, w_id);

                        hThread[1] = CreateThread(NULL,
                                                                        0,

(LPTHREAD_START_ROUTINE) LoadNewOrderTable,

&new_order_time_start,
                                                                        0,

&dwThreadID[1]);

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

                        // start Order-Line table thread
                        printf("...Loading Order-Line Table for: d_id = %d,
w_id = %d\n", d_id, w_id);

                        hThread[2] = CreateThread(NULL,
                                                                        0,

(LPTHREAD_START_ROUTINE) LoadOrderLineTable,
```

```
&order_line_time_start,
                                                                    0,
&dwThreadID[2]);

                        if (hThread[2] == NULL)
                        {
                                printf("Error, failed in creating creating
thread = 2.\n");
                                exit(-1);
                        }

                        WaitForSingleObject( hThread[0], INFINITE );
                        WaitForSingleObject( hThread[1], INFINITE );
                        WaitForSingleObject( hThread[2], INFINITE );

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

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

                        if (CloseHandle(hThread[2]) == FALSE)
                        {
                                printf("Error, failed in closing OrderLine
thread handle with errno: %d\n", GetLastError());
                        }
                }
        }

        printf("Finished loading orders.\n");

    return;
}
//==============================================================================
//
// Function   : OrdersBufInit
//
// Clears shared buffer for ORDERS, NEWORDER, and ORDERLINE
//
//==============================================================================
void OrdersBufInit()
{
        int     i;
        int             j;

        for (i=0;i<orders_per_district;i++)
        {
                orders_buf[i].o_id = 0;
                orders_buf[i].o_d_id = 0;
                orders_buf[i].o_w_id = 0;
                orders_buf[i].o_c_id = 0;
                orders_buf[i].o_carrier_id = 0;
                orders_buf[i].o_ol_cnt = 0;
                orders_buf[i].o_all_local = 0;

                for (j=0;j<=14;j++)
                {
                        orders_buf[i].o_ol[j].ol = 0;
                        orders_buf[i].o_ol[j].ol_i_id = 0;
                        orders_buf[i].o_ol[j].ol_supply_w_id = 0;
                        orders_buf[i].o_ol[j].ol_quantity = 0;
                        orders_buf[i].o_ol[j].ol_amount = 0;
                        strcpy(orders_buf[i].o_ol[j].ol_dist_info,"");
                }
        }
}
//==============================================================================
//
// Function   : OrdersBufLoad
//
// Fills shared buffer for ORDERS, NEWORDER, and ORDERLINE
//
//==============================================================================
void OrdersBufLoad(short d_id, long w_id)
{

        int     cust[ORDERS_PER_DISTRICT+1];
        long    o_id;
        long    ol;

        printf("...Loading Order Buffer for: d_id = %d, w_id = %d\n",
                        d_id, w_id);

        GetPermutation(cust, orders_per_district);

        for (o_id=0;o_id<orders_per_district;o_id++)
        {
                // Generate ORDER and NEW-ORDER data
                orders_buf[o_id].o_d_id = d_id;
                orders_buf[o_id].o_w_id = w_id;
                orders_buf[o_id].o_id = o_id+1;
                orders_buf[o_id].o_c_id = cust[o_id+1];
                orders_buf[o_id].o_ol_cnt = (short)RandomNumber(5L, 15L);

                if (o_id < first_new_order)
                {
                        orders_buf[o_id].o_carrier_id =
(short)RandomNumber(1L, 10L);
                        orders_buf[o_id].o_all_local  = 1;
                }
                else
                {
                        orders_buf[o_id].o_carrier_id = 0;
                        orders_buf[o_id].o_all_local  = 1;
                }

                for (ol=0; ol<orders_buf[o_id].o_ol_cnt; ol++)
                {

                        orders_buf[o_id].o_ol[ol].ol = ol+1;
                        orders_buf[o_id].o_ol[ol].ol_i_id =
RandomNumber(1L, max_items);
                        orders_buf[o_id].o_ol[ol].ol_supply_w_id = w_id;
                        orders_buf[o_id].o_ol[ol].ol_quantity = 5;
```

```
                        MakeAlphaString(24, 24, OL_DIST_INFO_LEN,
&orders_buf[o_id].o_ol[ol].ol_dist_info);

                        // Generate ORDER-LINE data
                        if (o_id < first_new_order)
                        {
                                orders_buf[o_id].o_ol[ol].ol_amount = 0;
                                // Added to insure ol_delivery_d set
properly during load

        FormatDate(&orders_buf[o_id].o_ol[ol].ol_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
    i = 0;
        rc = bcp_bind(o_hdbc1, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
        rc = bcp_bind(o_hdbc1, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_c_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_carrier_id, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_ol_cnt, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
    rc = bcp_bind(o_hdbc1, (BYTE *) &o_all_local, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);
        rc = bcp_bind(o_hdbc1, (BYTE *) &o_entry_d, 0, O_ENTRY_D_LEN,
NULL, 0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

    for (i = 0; i < orders_per_district; i++)
    {
                o_id         = orders_buf[i].o_id;
                o_d_id       = orders_buf[i].o_d_id;
                o_w_id       = orders_buf[i].o_w_id;
                o_c_id       = orders_buf[i].o_c_id;
                o_carrier_id = orders_buf[i].o_carrier_id;
                o_ol_cnt     = orders_buf[i].o_ol_cnt;
                o_all_local  = orders_buf[i].o_all_local;

                FormatDate(&o_entry_d);

                // send data to server
                rc = bcp_sendrow(o_hdbc1);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc1);

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

        if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
        {
                rcint = bcp_done(o_hdbc1);
                if (rcint < 0)
                        HandleErrorDBC(o_hdbc1);

                SQLFreeStmt(o_hstmt1, SQL_DROP);
                SQLDisconnect(o_hdbc1);
                SQLFreeConnect(o_hdbc1);

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

                // build non-clustered index
                if (aptr->build_index == 1)
                        BuildIndex("idxordnc");
        }
```

```
}
//============================================================================
//
// Function   : LoadNewOrderTable
//
//============================================================================
void LoadNewOrderTable(LOADER_TIME_STRUCT *new_order_time_start)
{
        long            i;
    long        o_id;
    short       o_d_id;
        long            o_w_id;
        RETCODE         rc;
        DBINT           rcint;

        // Bind NEW-ORDER data
        i = 0;
    rc = bcp_bind(o_hdbc2, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);
    rc = bcp_bind(o_hdbc2, (BYTE *) &o_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);
        rc = bcp_bind(o_hdbc2, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        for (i = first_new_order; i < last_new_order; i++)
        {
                o_id    = orders_buf[i].o_id;
                o_d_id  = orders_buf[i].o_d_id;
                o_w_id  = orders_buf[i].o_w_id;

                rc = bcp_sendrow(o_hdbc2);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);

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

        if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
        {
                rcint = bcp_done(o_hdbc2);
                if (rcint < 0)
                        HandleErrorDBC(o_hdbc2);

                SQLFreeStmt(o_hstmt2, SQL_DROP);
                SQLDisconnect(o_hdbc2);
                SQLFreeConnect(o_hdbc2);

                // if build index after load...
                if ((aptr->build_index == 1) && (aptr->index_order == 0))
                        BuildIndex("idxnodcl");
        }
}
//============================================================================
//
// Function   : LoadOrderLineTable
//
//============================================================================
void LoadOrderLineTable(LOADER_TIME_STRUCT *order_line_time_start)
{
        long            i;
        long            j;
    long        o_id;
        short           o_d_id;
        long            o_w_id;
        double          ol;
        long            ol_i_id;
        long            ol_supply_w_id;
    short       ol_quantity;
    double      ol_amount;
    char        ol_dist_info[DIST_INFO_LEN+1];
        char            ol_delivery_d[OL_DELIVERY_D_LEN+1];
        RETCODE         rc;
        DBINT           rcint;

        // bind ORDER-LINE data
        i = 0;
    rc = bcp_bind(o_hdbc3, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
    rc = bcp_bind(o_hdbc3, (BYTE *) &o_d_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL,
0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol, 0, SQL_VARLEN_DATA, NULL, 0,
SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
    rc = bcp_bind(o_hdbc3, (BYTE *) &ol_i_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol_delivery_d, 0,
OL_DELIVERY_D_LEN, NULL, 0, SQLCHARACTER, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
    rc = bcp_bind(o_hdbc3, (BYTE *) &ol_amount, 0, SQL_VARLEN_DATA, NULL,
0, SQLFLT8, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
        rc = bcp_bind(o_hdbc3, (BYTE *) &ol_supply_w_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
    rc = bcp_bind(o_hdbc3, (BYTE *) &ol_quantity, 0, SQL_VARLEN_DATA,
NULL, 0, SQLINT2, ++i);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);
    rc = bcp_bind(o_hdbc3, (BYTE *) ol_dist_info, 0, DIST_INFO_LEN, NULL,
0, 0, ++i);
```

```
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);

        for (i = 0; i < orders_per_district; i++)
    {
                o_id    = orders_buf[i].o_id;
                o_d_id  = orders_buf[i].o_d_id;
                o_w_id  = orders_buf[i].o_w_id;

                for (j=0; j < orders_buf[i].o_ol_cnt; j++)
                {
                        ol              = orders_buf[i].o_ol[j].ol;
                        ol_i_id         = orders_buf[i].o_ol[j].ol_i_id;
                        ol_supply_w_id =
orders_buf[i].o_ol[j].ol_supply_w_id;
                        ol_quantity     = orders_buf[i].o_ol[j].ol_quantity;
                        ol_amount       = orders_buf[i].o_ol[j].ol_amount;


        strcpy(ol_delivery_d,orders_buf[i].o_ol[j].ol_delivery_d);


        strcpy(ol_dist_info,orders_buf[i].o_ol[j].ol_dist_info);

                        rc = bcp_sendrow(o_hdbc3);
                        if (rc != SUCCEED)
                                HandleErrorDBC(o_hdbc3);

                        order_line_rows_loaded++;

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

        if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
        {
                rcint = bcp_done(o_hdbc3);
                if (rcint < 0)
                        HandleErrorDBC(o_hdbc3);

                SQLFreeStmt(o_hstmt3, SQL_DROP);
                SQLDisconnect(o_hdbc3);
                SQLFreeConnect(o_hdbc3);

                // if build index after load...
                if ((aptr->build_index == 1) && (aptr->index_order == 0))
                        BuildIndex("idxodlcl");
        }
}
//==============================================================================
//
// Function   : GetPermutation
//
//==============================================================================
void GetPermutation(int perm[], int n)
{
        int i, r, t;

        for (i=1;i<=n;i++)
                perm[i] = i;

        for (i=1;i<=n;i++)
        {
                r = RandomNumber(i,n);
                t = perm[i];
                perm[i] = perm[r];
                perm[r] = t;
        }
}
//==============================================================================
//
// Function   : CheckForCommit
//
//==============================================================================
void CheckForCommit(HDBC hdbc,
                                        HSTMT hstmt,
                                        long rows_loaded,
                                        char *table_name,
                                long *time_start)
{

    long       time_end, time_diff;

    if ( !(rows_loaded % aptr->batch) )
    {
                time_end = (TimeNow() / MILLI);
                time_diff = time_end - *time_start;

                printf("-> Loaded %ld rows into %s in %ld sec - Total = %d
(%.2f rps)\n",
                        aptr->batch,
                        table_name,
                                time_diff,
                        rows_loaded,
                                (float) aptr->batch / (time_diff ? time_diff
: 1L));

                *time_start = time_end;
    }

    return;
}
//==============================================================================
//
// Function   : CheckForCommit_Big
//
//==============================================================================
void CheckForCommit_Big(HDBC hdbc,
                                        HSTMT hstmt,
                                        double rows_loaded,
                                        char *table_name,
                                long *time_start)
{

    long       time_end, time_diff;

    if ( !(fmod(rows_loaded,aptr->batch) ) )
    {
                time_end = (TimeNow() / MILLI);
                time_diff = time_end - *time_start;
```

```
                printf("-> Loaded %ld rows into %s in %ld sec - Total =
%.0f (%.2f rps)\n",
                        aptr->batch,
                        table_name,
                                time_diff,
                        rows_loaded,
                                (float) aptr->batch / (time_diff ? time_diff
: 1L));

                *time_start = time_end;
        }

        return;
}
//========================================================================
//
// Function   : OpenConnections
//
//========================================================================
void OpenConnections()
{

        RETCODE         rc;

        char                    szDriverString[300];
        char                    szDriverStringOut[1024];
        SQLSMALLINT             cbDriverStringOut;


        SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv );

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

        SQLAllocHandle(SQL_HANDLE_DBC, henv , &i_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &w_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &c_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &c_hdbc2);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc1);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc2);
        SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc3);

        SQLSetConnectAttr(i_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(w_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(c_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(c_hdbc2, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc2, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
        SQLSetConnectAttr(o_hdbc3, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );

        // Open connections to SQL Server
        // Connection 1
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                aptr->server,
                                                aptr->user,
                                                aptr->password,
                                                aptr->database );

        rc = SQLSetConnectOption (i_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(i_hdbc1);

        rc = SQLDriverConnect ( i_hdbc1,
                                                NULL,
                                                    (SQLCHAR*)&szDriverString[0]
,
                                                SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],
                                                sizeof(szDriverStringOut),
                                                &cbDriverStringOut,
                                                SQL_DRIVER_NOPROMPT );
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(i_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 2
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                aptr->server,
                                                aptr->user,
                                                aptr->password,
                                                aptr->database );

        rc = SQLSetConnectOption (w_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);

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

        rc = SQLDriverConnect ( w_hdbc1,
                                                                NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                                SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
                                                                &cbDriverStringOut,
                                                                SQL_DRIVER_NOPROMPT
);

        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(w_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
```

```
        }

        // Connection 3
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                aptr->server,
                                                aptr->user,
                                                aptr->password,
                                                aptr->database );

        rc = SQLSetConnectOption (c_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc1);

        rc = SQLDriverConnect ( c_hdbc1,
                                                        NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
                                                        &cbDriverStringOut,
                                                        SQL_DRIVER_NOPROMPT
);
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(c_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 4
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                aptr->server,
                                                aptr->user,
                                                aptr->password,
                                                aptr->database );

        rc = SQLSetConnectOption (c_hdbc2, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(c_hdbc2);

        rc = SQLDriverConnect ( c_hdbc2,
                                                        NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
                                                        &cbDriverStringOut,
                                                        SQL_DRIVER_NOPROMPT
);
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(c_hdbc2);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }
        // Connection 5
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                        aptr->server,
                                                        aptr->user,
                                                        aptr->password,
                                                        aptr->database );

        rc = SQLSetConnectOption (o_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

        rc = SQLDriverConnect ( o_hdbc1,
                                                                NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                                SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
                                                                &cbDriverStringOut,
                                                                SQL_DRIVER_NOPROMPT
);
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(o_hdbc1);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 6
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                        aptr->server,
                                                        aptr->user,
                                                        aptr->password,
                                                        aptr->database );

        rc = SQLSetConnectOption (o_hdbc2, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        rc = SQLDriverConnect ( o_hdbc2,
                                                                NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                                SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
```

```
                                                &cbDriverStringOut,
                                                SQL_DRIVER_NOPROMPT
);
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(o_hdbc2);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }

        // Connection 7
        sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
                                                aptr->server,
                                                aptr->user,
                                                aptr->password,
                                                aptr->database );

        rc = SQLSetConnectOption (o_hdbc3, SQL_PACKET_SIZE, aptr-
>pack_size);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);

        rc = SQLDriverConnect ( o_hdbc3,
                                                NULL,

        (SQLCHAR*)&szDriverString[0] ,
                                                SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),
                                                &cbDriverStringOut,
                                                SQL_DRIVER_NOPROMPT
);
        if ( (rc != SUCCEED) &&
                 (rc != SQL_SUCCESS_WITH_INFO) )
        {
                HandleErrorDBC(o_hdbc3);
                printf("TPC-C Loader aborted!\n");
                exit(9);
        }
}
//============================================================================
//
// Function name: BuildIndex
//
//============================================================================
void BuildIndex(char   *index_script)
{
        char    cmd[256];

        printf("Starting index creation:  %s\n",index_script);

        sprintf(cmd, "osql -S%s -U%s -P%s -e -i%s\\%s.sql > %s%s.log",
                                aptr->server,
                                aptr->user,
                                aptr->password,
                                aptr->index_script_path,
                                index_script,
                                aptr->log_path,
                                index_script);

        system(cmd);

        printf("Finished index creation:  %s\n",index_script);
}

//============================================================================
//
// Function name: HandleErrorDBC
//
//============================================================================
void HandleErrorDBC (SQLHDBC  hdbc1)
{

        SQLCHAR        SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
        SQLLEN         NativeError;
        SQLSMALLINT i, MsgLen;
        SQLRETURN   rc2;
        char           timebuf[128];
        char           datebuf[128];
        char           err_log_path[256];
        FILE           *fp1;

        i = 1;
        while (( rc2 = SQLGetDiagRec(SQL_HANDLE_DBC , hdbc1, i, SqlState ,
&NativeError,
                                     Msg, sizeof(Msg) , &MsgLen )) !=
SQL_NO_DATA )
        {
                sprintf( szLastError , "%s" ,  Msg );

                _strtime(timebuf);
                _strdate(datebuf);

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

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

                i++;
        }
}
//============================================================================
//
// Function   : HandleErrorSTMT
//
//============================================================================
void HandleErrorSTMT (HSTMT  hstmt1)
{
```

```
        SQLCHAR         SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
        SQLLEN          NativeError;
        SQLSMALLINT i, MsgLen;
        SQLRETURN   rc2;
        char            timebuf[128];
        char            datebuf[128];
        char            err_log_path[256];
        FILE            *fp1;

        i = 1;
        while (( rc2 = SQLGetDiagRec(SQL_HANDLE_STMT , hstmt1, i, SqlState
, &NativeError,
                                Msg, sizeof(Msg) , &MsgLen )) !=
SQL_NO_DATA )
        {
                if (total_db_errors >= MAX_SQL_ERRORS)
                {
                        printf(">>>>> Maximum SQL errors of %d exceeded.
Terminating TPCCLDR.<<<<<\n",total_db_errors);
                        exit(9);
                }
                total_db_errors++;

                sprintf( szLastError , "%s" ,  Msg );

                _strtime(timebuf);
                _strdate(datebuf);

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

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

                i++;
        }
}
//=========================================================================
//
// Function   : FormatDate
//
//=========================================================================
void FormatDate ( char* szTimeCOutput )
{
        struct tm when;
        time_t now;

        time( &now );
        when  = *localtime( &now );

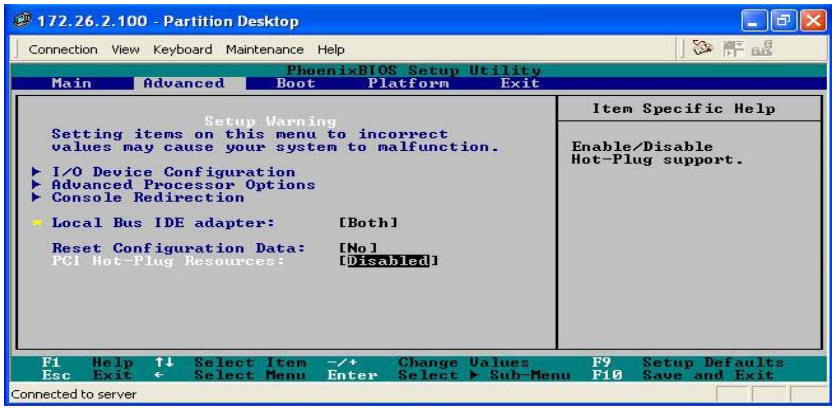
        mktime( &when );

        // odbc datetime format
        strftime( szTimeCOutput , 30 , "%Y-%m-%d %H:%M:%S.000", &when );

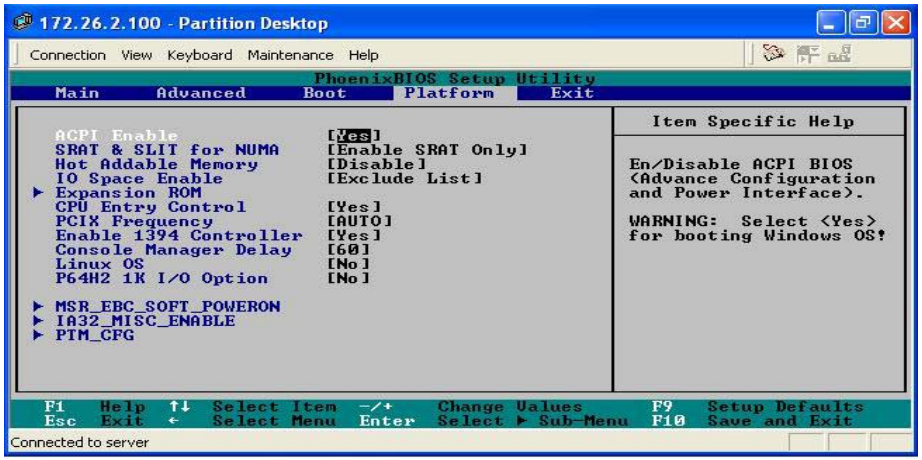
        return;
}
```

Appendix C - Tunable Parameters

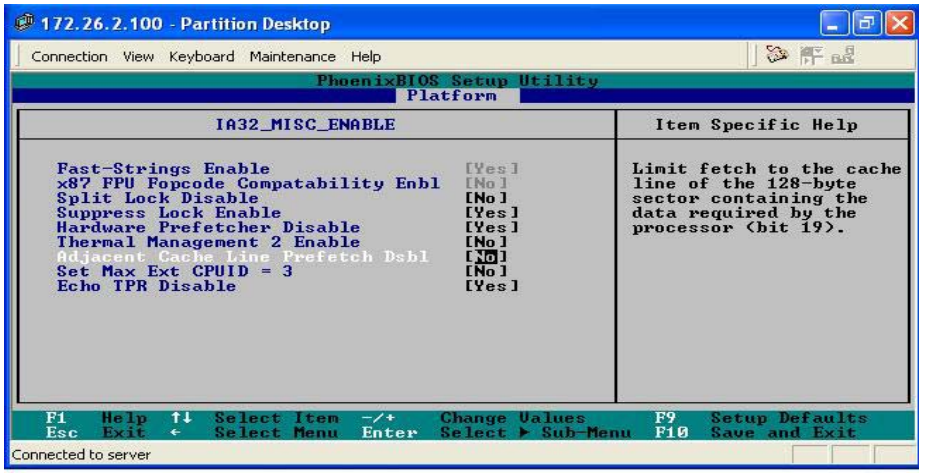
Hot-plug Support (BIOS)



Platform Information (BIOS ACPI)



Platform Information (BIOS Prefetch)



BOOT.INI

```
[boot loader]
timeout=10
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Windows Server 2003
Enterprise x64 Edition /EXTINTVEC" /noexecute=optout /fastdetect
/EXTINTVEC

/EXTINTVEC provides support for more than 255 interrupts in Microsoft
Windows Server 2003 with Service Pack 1 (SP1), Enterprise Edition,
operating system.
```

User Rights Assignment

The Group Policy Editor of the OS 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 2005 could use large amounts of physical memory.

Hyperthreading.txt

```
          OS Processor <-> Physical/Logical Mapping
          -----------------------------------------
OS Processor           Phys. Package          Logical Processor
       0                       0                       0
       1                       0                       1
       2                       1                       0
       3                       1                       1
       4                       2                       0
       5                       2                       1
       6                       3                       0
       7                       3                       1
       8                       4                       0
       9                       4                       1
       10                      5                       0
       11                      5                       1
       12                      6                       0
       13                      6                       1
       14                      7                       0
       15                      7                       1
          -----------------------------------------
```

Microsoft SQL Server Startup Parameters

```
SET MAXOUTSTANDINGWRITE=500
REM ********* NORMAL RUN ********
"C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\sqlservr.exe" -c
-x -T661 -T677 -T697 -T834 -T3502 -T8011 -T8012 -T8018 -T8019 -T8020 -
T8193 -T8744

where:
where:
-c Start SQL Server independent of the Service Control Manager
-x Disable the keeping of CPU timeand cache hit ratio statistice
-T661 - Disable the ghost record removal process
-T677 - Disable checks in Access Methods, flag not needed in RTM, disabled
by default.
-T697 - Disable schema latch super latch
-T834 - Use Large Pages
-T3502 - Display checkpoint information in errorlog
-T8011 - Disable ring buffer for resource monitor
-T8012 - Disable ring buffer for schedulers
-T8018 - Disable exception ring buffer
-T8019 - Disable stack collection for exception ring buffers
-T8020 - Disable working set trimming
-T8193 - Enable Large pages support
-T8744 - Disable pre-fetch
```

Microsoft SQL Server Configuration Parameters

Sydbtune.ver

```
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> ----------------------------------
-----------------------------------------
--
--
--  File:   VERSION.SQL
--
--          Microsoft TPC-C Benchmark Kit Ver. 4.62
--
--          Copyright Microsoft, 2005
--
--
--
--          - Extracts current version of SQL Server
--
--
--
-------------------------------------------------------------------------
----

USE master
1> 2> 3> 4> 5>
SELECT  CONVERT(char(20), SERVERPROPERTY('ProductVersion')),
        CONVERT(char(20), SERVERPROPERTY('ProductLevel')),
        CONVERT(char(29), SERVERPROPERTY('Edition'))

 -------------------- -------------------- ----------------------------
 9.00.1399.06         RTM                  Enterprise Edition (64-bit)

(1 row affected)
1> 2> 3>
SELECT  CONVERT(char(30), GETDATE(), 21)

 ------------------------------
 2005-10-20 13:44:47.373

(1 row affected)
1>
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11> 12> 13> 14>
-------------------------------------------------------------------------
----
--
--
--  File:   CONFIG.SQL
--
--          Microsoft TPC-C Benchmark Kit Ver. 4.62
--
--          Copyright Microsoft, 2005
--
--
--
--          - Collects SQL Server configuration parameters
--
```

```
--
--
-------------------------------------------------------------------------
----

PRINT   ' '
SELECT  CONVERT(char(30), GETDATE(), 21)
PRINT   ' '

 ------------------------------
 2005-10-20 13:44:47.547

(1 row affected)

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

sp_configure 'show advanced',1
1> 2> 3>
RECONFIGURE WITH OVERRIDE
1> 2> 3>
sp_configure
 name                                minimum     maximum     config_value
run_value
 ----------------------------------- ----------- ----------- ------------
-----------
 Ad Hoc Distributed Queries                    0           1            0
0
 affinity I/O mask                 -2147483648  2147483647            0
0
 affinity mask                     -2147483648  2147483647        65535
65535
 affinity64 I/O mask               -2147483648  2147483647            0
0
 affinity64 mask                   -2147483648  2147483647            0
0
 Agent XPs                                     0           1            0
0
 allow updates                                 0           1            0
0
 awe enabled                                   0           1            0
0
 blocked process threshold                     0       86400            0
0
 c2 audit mode                                 0           1            0
0
 clr enabled                                   0           1            0
0
 cost threshold for parallelism                0       32767            5
5
 cross db ownership chaining                   0           1            0
0
 cursor threshold                             -1  2147483647           -1
-1
 Database Mail XPs                             0           1            0
0
 default full-text language                    0  2147483647         1033
1033
 default language                              0        9999            0
0
 default trace enabled                         0           1            1
1
 disallow results from triggers                0           1            0
0
 fill factor (%)                               0         100            0
0
 ft crawl bandwidth (max)                      0       32767          100
100
 ft crawl bandwidth (min)                      0       32767            0
0
 ft notify bandwidth (max)                     0       32767          100
100
 ft notify bandwidth (min)                     0       32767            0
0
 in-doubt xact resolution                      0           2            0
0
 index create memory (KB)                    704  2147483647            0
0
 lightweight pooling                           0           1            1
1
 locks                                      5000  2147483647            0
0
 max degree of parallelism                     0          64            1
1
 max full-text crawl range                     0         256            4
4
 max server memory (MB)                       16  2147483647       254000
254000
 max text repl size (B)                        0  2147483647        65536
65536
 max worker threads                          128       32767          348
348
 media retention                               0         365            0
0
 min memory per query (KB)                   512  2147483647         1024
1024
 min server memory (MB)                        0  2147483647            0
0
 nested triggers                               0           1            1
1
 network packet size (B)                     512       32767         4096
4096
 Ole Automation Procedures                     0           1            0
0
 open objects                                  0  2147483647            0
0
 PH timeout (s)                                1        3600           60
60
 precompute rank                               0           1            0
0
 priority boost                                0           1            1
1
 query governor cost limit                     0  2147483647            0
0
 query wait (s)                               -1  2147483647           -1
-1
```

```
 recovery interval (min)                    0       32767        32767
32767
 remote access                              0           1            1
1
 remote admin connections                   0           1            0
0
 remote login timeout (s)                   0  2147483647           20
20
 remote proc trans                          0           1            0
0
 remote query timeout (s)                   0  2147483647          600
600
 Replication XPs                            0           1            0
0
 scan for startup procs                     0           1            0
0
 server trigger recursion                   0           1            1
1
 set working set size                       0           1            0
0
 show advanced options                      0           1            1
1
 SMO and DMO XPs                            0           1            1
1
 SQL Mail XPs                               0           1            0
0
 transform noise words                      0           1            0
0
 two digit year cutoff                   1753        9999         2049
2049
 user connections                           0       32767            0
0
 user options                               0       32767            0
0
 Web Assistant Procedures                   0           1            0
0
 xp_cmdshell                                0           1            0
0

1>
```

Storage Configuration Information

Log DPE-Cache Configuration

```
SP Read Cache State                Disabled
SP Write Cache State               Enabled
Cache Page size:                   16
Write Cache Mirrored:              YES
Low Watermark:                     20
High Watermark:                    80
SPA Cache pages:                   27253
SPB Cache pages:                   0
Unassigned Cache Pages:            0
Read Hit Ratio:                    N/A
Write Hit Ratio:                   0
Prct Dirty Cache Pages =           0
Prct Cache Pages Owned =           0
SPA Read Cache State               Disabled
SPB Read Cache State               Disabled
SPA Write Cache State              Enabled
SPB Write Cache State              Enabled
System Buffer (spA):               454 MB
System Buffer (spB):               454 MB
SPS Test Day:                      Saturday
SPS Test Time:                     18:00
SPA Physical Memory Size =         1022
SPB Physical Memory Size =         1022
Physical memory size of Front-End = Switch not supported
Physical memory size of Back-End =  Switch not supported
SPA Free Memory Size =             56
SPB Free Memory Size =             56
Free Memory Size of Front-End =    Switch not supported
Free Memory Size of Back-End =     Switch not supported
SPA Read Cache Size =              0
SPB Read Cache Size =              0
SPA Write Cache Size =             512
SPB Write Cache Size =             512
SPA Optimized Raid 3 Memory Size =  0
SPB Optimized Raid 3 Memory Size =  0
```

Log DPE LUN Configurations

Lun 0

```
Statistics logging is disabled.
 Certain fields are not printed if statistics
 logging is not enabled.
Prefetch size (blocks) =          0
Prefetch multiplier =             4
Segment size (blocks) =           0
Segment multiplier =              4
Maximum prefetch (blocks) =       4096
Prefetch Disable Size (blocks) = 4097
Prefetch idle count =             40

Variable length prefetching YES
Prefetched data retained    YES

Read cache configured according to
 specified parameters.

Total Hard Errors:          0
Total Soft Errors:          0
Total Queue Length:         0
Name                        LUN 0
Minimum latency reads N/A
```

```
RAID Type:                    RAID1/0
RAIDGroup ID:                 0
State:                        Bound
Stripe Crossing:              0
Element Size:                 256
Current owner:                SP A
Offset:                       0
Auto-trespass:                DISABLED
Auto-assign:                  DISABLED
Write cache:                  ENABLED
Read cache:                   DISABLED
Idle Threshold:               0
Idle Delay Time:              20
Write Aside Size:             1023
Default Owner:                SP A
Rebuild Priority:             ASAP
Verify Priority:              ASAP
Prct Reads Forced Flushed:  0
Prct Writes Forced Flushed: 0
Prct Rebuilt:                 100
Prct Bound:                   100
LUN Capacity(Megabytes):      782956
LUN Capacity(Blocks):         1603494912
UID:
60:06:01:60:83:40:0F:00:AC:18:95:E9:6D:3B:DA:11
Bus 0 Enclosure 0  Disk 11  Queue Length:              0
Bus 0 Enclosure 0  Disk 9  Queue Length:             0
Bus 0 Enclosure 0  Disk 7  Queue Length:             0
Bus 0 Enclosure 0  Disk 5  Queue Length:             0
Bus 0 Enclosure 0  Disk 3  Queue Length:             134
Bus 0 Enclosure 0  Disk 1  Queue Length:             168
Bus 0 Enclosure 0  Disk 10  Queue Length:            0
Bus 0 Enclosure 0  Disk 8  Queue Length:             0
Bus 0 Enclosure 0  Disk 6  Queue Length:             0
Bus 0 Enclosure 0  Disk 4  Queue Length:             134
Bus 0 Enclosure 0  Disk 2  Queue Length:             167
Bus 0 Enclosure 0  Disk 0  Queue Length:             178
Bus 0 Enclosure 0  Disk 11  Hard Read Errors:        0
Bus 0 Enclosure 0  Disk 9  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 7  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 5  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 3  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 1  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 10  Hard Read Errors:        0
Bus 0 Enclosure 0  Disk 8  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 6  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 4  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 2  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 0  Hard Read Errors:         0
Bus 0 Enclosure 0  Disk 11  Hard Write Errors:       0
Bus 0 Enclosure 0  Disk 9  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 7  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 5  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 3  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 1  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 10  Hard Write Errors:       0
Bus 0 Enclosure 0  Disk 8  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 6  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 4  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 2  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 0  Hard Write Errors:        0
Bus 0 Enclosure 0  Disk 11  Soft Read Errors:        0
Bus 0 Enclosure 0  Disk 9  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 7  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 5  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 3  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 1  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 10  Soft Read Errors:        0
Bus 0 Enclosure 0  Disk 8  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 6  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 4  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 2  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 0  Soft Read Errors:         0
Bus 0 Enclosure 0  Disk 11  Soft Write Errors:       0
Bus 0 Enclosure 0  Disk 9  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 7  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 5  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 3  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 1  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 10  Soft Write Errors:       0
Bus 0 Enclosure 0  Disk 8  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 6  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 4  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 2  Soft Write Errors:        0
Bus 0 Enclosure 0  Disk 0  Soft Write Errors:        0

Bus 0 Enclosure 0  Disk 11   Enabled

Bus 0 Enclosure 0  Disk 9   Enabled

Bus 0 Enclosure 0  Disk 7   Enabled

Bus 0 Enclosure 0  Disk 5   Enabled

Bus 0 Enclosure 0  Disk 3   Enabled

Bus 0 Enclosure 0  Disk 1   Enabled

Bus 0 Enclosure 0  Disk 10   Enabled

Bus 0 Enclosure 0  Disk 8   Enabled

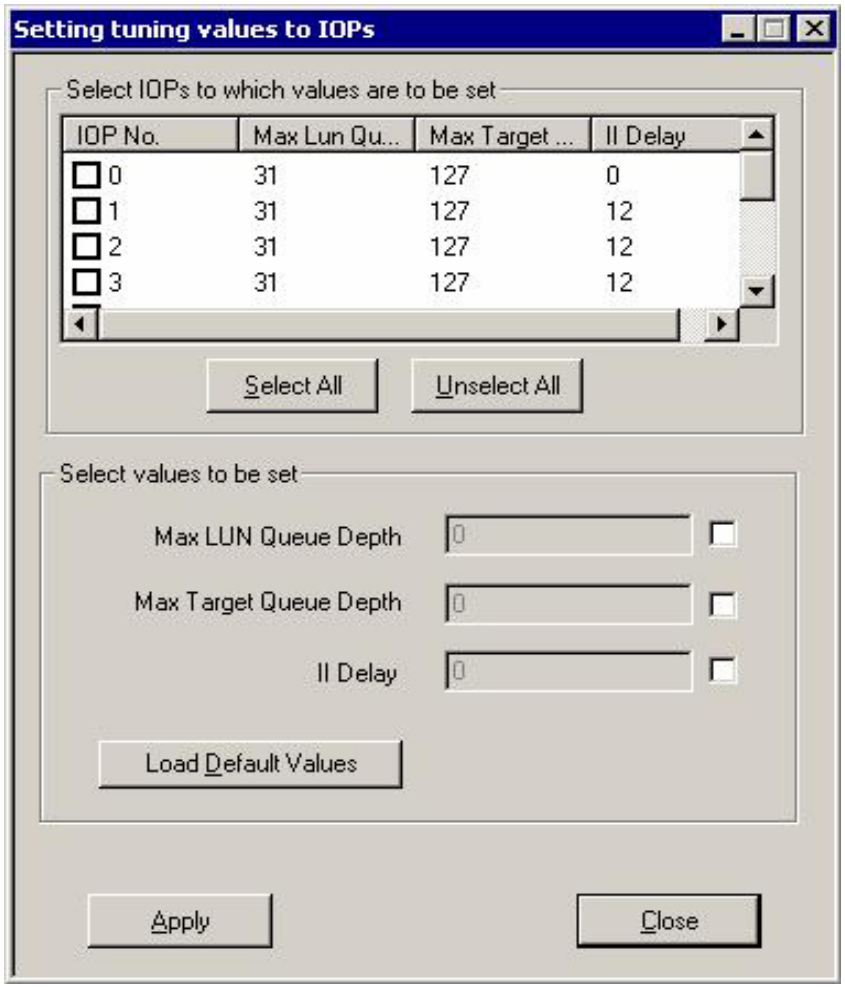
Bus 0 Enclosure 0  Disk 6   Enabled

Bus 0 Enclosure 0  Disk 4   Enabled

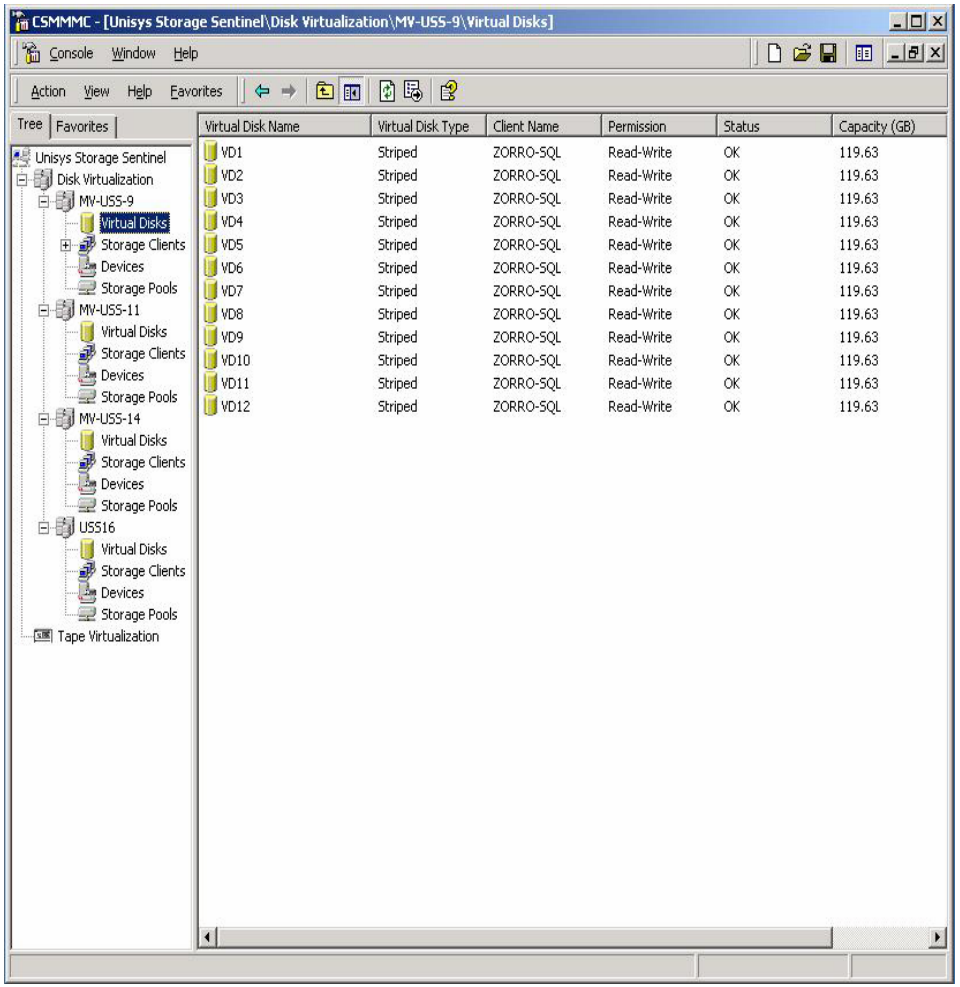
Bus 0 Enclosure 0  Disk 2   Enabled

Bus 0 Enclosure 0  Disk 0   Enabled
Is Private:                   NO
Snapshots List:               None
MirrorView Name if any:       Not Mirrored
```

Fibre Channel HBAUtility Settings



Database USS Configuration Info (common to USS 1-9)



Windows Enterprise Server Configuration Information

```
System Information report written at: 10/19/05 18:16:23
System Name: TPCC-ZORRO
[System Summary]

Item    Value
OS Name Microsoft(R) Windows(R) Server 2003 Enterprise x64 Edition
Version 5.2.3790 Service Pack 1 Build 3790
Other OS Description   Not Available
OS Manufacturer        Microsoft Corporation
System Name    TPCC-ZORRO
System Manufacturer    UNISYS
System Model   JOPLIN
System Type    x64-based PC
Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

Processor      EM64T Family 15 Model 4 Stepping 1 GenuineIntel ~3333 Mhz

BIOS Version/Date      Phoenix Technologies LTD BIOS Release 1.77.001,
7/21/2005
SMBIOS Version 2.31
Windows Directory      C:\WINDOWS
System Directory       C:\WINDOWS\system32
Boot Device    \Device\HarddiskVolume1
Locale  United States
Hardware Abstraction Layer    Version = "5.2.3790.1830
(srv03_sp1_rtm.050324-1447)"
User Name      TPCC-ZORRO\Administrator
Time Zone      Pacific Daylight Time
Total Physical Memory  262,013.48 MB
Available Physical Memory     615.12 MB
Total Virtual Memory   252.41 GB
Available Virtual Memory      1.86 GB
Page File Space        2.00 GB
Page File      C:\pagefile.sys

[Hardware Resources]



[Conflicts/Sharing]

Resource       Device
I/O Port 0x00000000-0x00001FFF        PCI bus
I/O Port 0x00000000-0x00001FFF        Direct memory access controller


I/O Port 0x00002000-0x00002FFF        PCI bus
I/O Port 0x00002000-0x00002FFF        Intel(R) P64H2 PCI to PCI Bridge -
1460
I/O Port 0x00002000-0x00002FFF        Adaptec ASC-48300 SAS/SATA Host
Adapter

IRQ 10  Intel(R) 82801DB/DBM SMBus Controller - 24C3
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462

Memory Address 0xE3F00000-0xE3FFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xE3F00000-0xE3FFFFFF  PCI standard PCI-to-PCI bridge


Memory Address 0xF0E00000-0xF0EFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xF0E00000-0xF0EFFFFF  PCI standard PCI-to-PCI bridge


I/O Port 0x00003000-0x00003FFF        PCI bus
I/O Port 0x00003000-0x00003FFF        Intel(R) P64H2 PCI to PCI Bridge -
1460
I/O Port 0x00003000-0x00003FFF        Intel(R) PRO/1000 MT Dual Port
Network Connection

Memory Address 0xE7E00000-0xE7EFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xE7E00000-0xE7EFFFFF  PCI standard PCI-to-PCI bridge


Memory Address 0xE5000000-0xE8FFFFFF  PCI bus
```

```
Memory Address 0xE5000000-0xE8FFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xE5000000-0xE8FFFFFF  PCI standard PCI-to-PCI bridge

Memory Address 0xE5000000-0xE8FFFFFF  Unisys Intelligent Fibre Channel
Fabric Bus Adapter

Memory Address 0xE1000000-0xE1FFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xE1000000-0xE1FFFFFF  PCI standard PCI-to-PCI bridge

Memory Address 0xE1000000-0xE1FFFFFF  Unisys Intelligent Fibre Channel
Fabric Bus Adapter

Memory Address 0xE9000000-0xEDFFFFFF  PCI bus
Memory Address 0xE9000000-0xEDFFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xE9000000-0xEDFFFFFF  PCI standard PCI-to-PCI bridge

Memory Address 0xE9000000-0xEDFFFFFF  Unisys Intelligent Fibre Channel
Fabric Bus Adapter

Memory Address 0xA0000-0xFFFFF        PCI bus
Memory Address 0xA0000-0xFFFFF        UNISYS Console Manager 3

I/O Port 0x00004000-0x0000FFFF        PCI bus
I/O Port 0x00004000-0x0000FFFF        Intel(R) P64H2 PCI to PCI Bridge -
1460

Memory Address 0xECE00000-0xECEFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xECE00000-0xECEFFFFF  PCI standard PCI-to-PCI bridge


Memory Address 0xEA000000-0xEAFFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xEA000000-0xEAFFFFFF  PCI standard PCI-to-PCI bridge

Memory Address 0xEA000000-0xEAFFFFFF  Unisys Intelligent Fibre Channel
Fabric Bus Adapter

Memory Address 0xECF00000-0xECFFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xECF00000-0xECFFFFFF  PCI standard PCI-to-PCI bridge


Memory Address 0xEE000000-0xF0FFFFFF  PCI bus
Memory Address 0xEE000000-0xF0FFFFFF  Intel(R) P64H2 PCI to PCI Bridge -
1460
Memory Address 0xEE000000-0xF0FFFFFF  PCI standard PCI-to-PCI bridge

Memory Address 0xEE000000-0xF0FFFFFF  Unisys Intelligent Fibre Channel
Fabric Bus Adapter


[DMA]

Resource       Device  Status
Channel 4      Direct memory access controller      OK
```

```
[Forced Hardware]

Device  PNP Device ID

[I/O]

Resource       Device  Status
0x00000000-0x00001FFF  PCI bus OK
0x00000000-0x00001FFF  Direct memory access controller      OK
0x00000800-0x0000081F  Intel(R) 82801DB/DBM USB Universal Host Controller
- 24C2  OK
0x00000820-0x0000083F  Intel(R) 82801DB/DBM USB Universal Host Controller
- 24C4  OK
0x00000840-0x0000085F  Intel(R) 82801DB/DBM USB Universal Host Controller
- 24C7  OK
0x00001F00-0x00001FFF  UNISYS Console Manager 3      OK
0x000003B0-0x000003BB  UNISYS Console Manager 3      OK
0x000003C0-0x000003DF  UNISYS Console Manager 3      OK
0x00001110-0x0000111F  PCI Device     OK
0x00001100-0x0000110F  PCI Device     OK
0x00000010-0x0000001F  Motherboard resources  OK
0x00000024-0x00000025  Motherboard resources  OK
0x00000028-0x00000029  Motherboard resources  OK
0x0000002C-0x0000002D  Motherboard resources  OK
0x00000030-0x00000031  Motherboard resources  OK
0x00000034-0x00000035  Motherboard resources  OK
0x00000038-0x00000039  Motherboard resources  OK
0x0000003C-0x0000003D  Motherboard resources  OK
0x00000050-0x00000053  Motherboard resources  OK
0x00000060-0x00000060  Motherboard resources  OK
0x00000064-0x00000064  Motherboard resources  OK
0x00000072-0x00000077  Motherboard resources  OK
0x00000080-0x00000080  Motherboard resources  OK
0x00000090-0x0000009F  Motherboard resources  OK
0x000000A4-0x000000A5  Motherboard resources  OK
0x000000A8-0x000000A9  Motherboard resources  OK
0x000000AC-0x000000AD  Motherboard resources  OK
0x000000B0-0x000000B5  Motherboard resources  OK
0x000000B8-0x000000B9  Motherboard resources  OK
0x000000BC-0x000000BD  Motherboard resources  OK
0x0000002E-0x0000002F  Motherboard resources  OK
0x000004D0-0x000004D1  Motherboard resources  OK
0x00000CF9-0x00000CF9  Motherboard resources  OK
0x00000D00-0x00000D7F  Motherboard resources  OK
0x00000E80-0x00000EBF  Motherboard resources  OK
0x00001092-0x00001092  Motherboard resources  OK
0x00001300-0x0000133F  Motherboard resources  OK
0x000013F8-0x000013FF  Motherboard resources  OK
0x00001454-0x00001454  Motherboard resources  OK
0x000014D4-0x000014D4  Motherboard resources  OK
0x00001500-0x0000157F  Motherboard resources  OK
0x000023F8-0x000023FF  Motherboard resources  OK
0x00000081-0x0000008F  Direct memory access controller      OK
0x000000C0-0x000000DF  Direct memory access controller      OK
0x000000F0-0x000000FE  Numeric data processor OK
0x00000020-0x00000021  Programmable interrupt controller    OK
0x000000A0-0x000000A1  Programmable interrupt controller    OK
0x00000070-0x00000071  System CMOS/real time clock   OK
```

```
0x00000061-0x00000061  System speaker OK
0x00000040-0x00000043  System timer   OK
0x000003F8-0x000003FF  Communications Port (COM1)    OK
0x00000880-0x0000088F  Intel(R) 82801DB Ultra ATA Storage Controller-24CB
       OK
0x000001F0-0x000001F7  Primary IDE Channel    OK
0x000003F6-0x000003F6  Primary IDE Channel    OK
0x00000170-0x00000177  Secondary IDE Channel  OK
0x00000376-0x00000376  Secondary IDE Channel  OK
0x00000860-0x0000087F  Intel(R) 82801DB/DBM SMBus Controller - 24C3 OK

0x00002000-0x00002FFF  PCI bus OK
0x00002000-0x00002FFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0x00002000-0x00002FFF  Adaptec ASC-48300 SAS/SATA Host Adapter      OK

0x00003000-0x00003FFF  PCI bus OK
0x00003000-0x00003FFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0x00003000-0x00003FFF  Intel(R) PRO/1000 MT Dual Port Network Connection
       OK
0x00003040-0x0000307F  Intel(R) PRO/1000 MT Dual Port Network Connection
#2     OK
0x00004000-0x0000FFFF  PCI bus OK
0x00004000-0x0000FFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK


[IRQs]

Resource       Device  Status
IRQ 9   Microsoft ACPI-Compliant System      OK
IRQ 16  Intel(R) 82801DB/DBM USB Universal Host Controller - 24C2   OK

IRQ 19  Intel(R) 82801DB/DBM USB Universal Host Controller - 24C4   OK

IRQ 18  Intel(R) 82801DB/DBM USB Universal Host Controller - 24C7   OK

IRQ 23  Intel(R) 82801DB/DBM USB 2.0 Enhanced Host Controller - 24CD
       OK
IRQ 22  Texas Instruments OHCI Compliant IEEE 1394 Host Controller  OK

IRQ 13  Numeric data processor OK
IRQ 8   System CMOS/real time clock   OK
IRQ 0   System timer   OK
IRQ 4   Communications Port (COM1)    OK
IRQ 14  Primary IDE Channel    OK
IRQ 15  Secondary IDE Channel  OK
IRQ 10  Intel(R) 82801DB/DBM SMBus Controller - 24C3 OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 10  Intel(R) P64H2 PCI Hot Plug Controller - 1462       OK
IRQ 48  Adaptec ASC-48300 SAS/SATA Host Adapter      OK
IRQ 72  Intel(R) PRO/1000 MT Dual Port Network Connection   OK
IRQ 73  Intel(R) PRO/1000 MT Dual Port Network Connection #2 OK
IRQ 120 Emulex LP 10000 - Unisys VI   OK
IRQ 121 Emulex LP 10000 - Unisys VI   OK
IRQ 144 Unisys Intelligent Fibre Channel Fabric Bus Adapter  OK
IRQ 168 Unisys Intelligent Fibre Channel Fabric Bus Adapter  OK
IRQ 192 Unisys Intelligent Fibre Channel Fabric Bus Adapter  OK
IRQ 504 Emulex LP 10000 - Unisys VI   OK
IRQ 505 Emulex LP 10000 - Unisys VI   OK
IRQ 528 Unisys Intelligent Fibre Channel Fabric Bus Adapter  OK
IRQ 552 Unisys Intelligent Fibre Channel Fabric Bus Adapter  OK

[Memory]

Resource       Device  Status
0xA0000-0xFFFFF        PCI bus OK
0xA0000-0xFFFFF        UNISYS Console Manager 3      OK
0xF5000000-0xF7FFFFFF  PCI bus OK
0xF7FFFC00-0xF7FFFFFF  Intel(R) 82801DB/DBM USB 2.0 Enhanced Host
Controller - 24CD      OK
0xF6000000-0xF6FFFFFF  UNISYS Console Manager 3      OK
0xF7EFF000-0xF7EFFFFF  UNISYS Console Manager 3      OK
0xF7EFE800-0xF7EFEFFF  Texas Instruments OHCI Compliant IEEE 1394 Host
Controller     OK
0xF7EF8000-0xF7EFBFFF  Texas Instruments OHCI Compliant IEEE 1394 Host
Controller     OK
0xF7EFC000-0xF7EFCFFF  PCI Device     OK
0xF7EFD000-0xF7EFDFFF  PCI Device     OK
0xC0000-0xFFFFF        Motherboard resources  OK
0xF7FFF800-0xF7FFFBFF  Intel(R) 82801DB Ultra ATA Storage Controller-24CB
       OK
0xF3000000-0xF4FFFFFF  PCI bus OK
0xF4F00000-0xF4FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF3F00000-0xF3FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF4FC0000-0xF4FFFFFF  Adaptec ASC-48300 SAS/SATA Host Adapter      OK

0xF3FE0000-0xF3FFFFFF  Adaptec ASC-48300 SAS/SATA Host Adapter      OK

0xF1000000-0xF2FFFFFF  PCI bus OK
0xF2F00000-0xF2FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF2FE0000-0xF2FFFFFF  Intel(R) PRO/1000 MT Dual Port Network Connection
       OK
0xF2FC0000-0xF2FDFFFF  Intel(R) PRO/1000 MT Dual Port Network Connection
#2     OK
0xF1F00000-0xF1FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF1FFFC00-0xF1FFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xEE000000-0xF0FFFFFF  PCI bus OK
0xEE000000-0xF0FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xEE000000-0xF0FFFFFF  PCI standard PCI-to-PCI bridge       OK
0xEE000000-0xF0FFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xF0F00000-0xF0FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK
```

```
0xEEF00000-0xEEFFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF0FFE000-0xF0FFEFFF  Emulex LP 10000 - Unisys VI   OK
0xF0FFFC00-0xF0FFFCFF  Emulex LP 10000 - Unisys VI   OK
0xF0FFD000-0xF0FFDFFF  Emulex LP 10000 - Unisys VI   OK
0xF0FFF800-0xF0FFF8FF  Emulex LP 10000 - Unisys VI   OK
0xEEFFFC00-0xEEFFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xF0E00000-0xF0EFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xF0E00000-0xF0EFFFFF  PCI standard PCI-to-PCI bridge       OK
0xF0EFF000-0xF0EFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xEEEFFC00-0xEEEFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xE9000000-0xEDFFFFFF  PCI bus OK
0xE9000000-0xEDFFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE9000000-0xEDFFFFFF  PCI standard PCI-to-PCI bridge       OK
0xE9000000-0xEDFFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xECF00000-0xECFFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xECF00000-0xECFFFFFF  PCI standard PCI-to-PCI bridge       OK
0xEA000000-0xEAFFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xEA000000-0xEAFFFFFF  PCI standard PCI-to-PCI bridge       OK
0xEA000000-0xEAFFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xECFFF000-0xECFFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xEAFFFC00-0xEAFFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xECE00000-0xECEFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xECE00000-0xECEFFFFF  PCI standard PCI-to-PCI bridge       OK
0xECEFF000-0xECEFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xE9FFFC00-0xE9FFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xE5000000-0xE8FFFFFF  PCI bus OK
0xE5000000-0xE8FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE5000000-0xE8FFFFFF  PCI standard PCI-to-PCI bridge       OK
0xE5000000-0xE8FFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xE7F00000-0xE7FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE5F00000-0xE5FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE7FFE000-0xE7FFEFFF  Emulex LP 10000 - Unisys VI   OK
0xE7FFFC00-0xE7FFFCFF  Emulex LP 10000 - Unisys VI   OK
0xE7FFD000-0xE7FFDFFF  Emulex LP 10000 - Unisys VI   OK
0xE7FFF800-0xE7FFF8FF  Emulex LP 10000 - Unisys VI   OK
0xE5FFFC00-0xE5FFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xE7E00000-0xE7EFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE7E00000-0xE7EFFFFF  PCI standard PCI-to-PCI bridge       OK
0xE7EFF000-0xE7EFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xE5EFFC00-0xE5EFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xE0000000-0xE4FFFFFF  PCI bus OK
0xE3F00000-0xE3FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE3F00000-0xE3FFFFFF  PCI standard PCI-to-PCI bridge       OK
0xE1000000-0xE1FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE1000000-0xE1FFFFFF  PCI standard PCI-to-PCI bridge       OK
0xE1000000-0xE1FFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xE3FFF000-0xE3FFFFFF  Unisys Intelligent Fibre Channel Fabric Bus Adapter
       OK
0xE1FFFC00-0xE1FFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK
0xE0F00000-0xE0FFFFFF  Intel(R) P64H2 PCI to PCI Bridge - 1460      OK

0xE0FFFC00-0xE0FFFCFF  Intel(R) P64H2 PCI Hot Plug Controller - 1462
       OK

[Components]



[Multimedia]



[Audio Codecs]

CODEC   Manufacturer   Description    Status  File    Version Size
       Creation Date
c:\windows\system32\msgsm32.acm      Microsoft Corporation         OK
       C:\WINDOWS\system32\MSGSM32.ACM      5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   34.50 KB (35,328 bytes)       3/25/2005
11:00 AM
c:\windows\system32\imaadp32.acm     Microsoft Corporation         OK
       C:\WINDOWS\system32\IMAADP32.ACM     5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   24.00 KB (24,576 bytes)       3/25/2005
11:00 AM
c:\windows\system32\msg711.acm       Microsoft Corporation         OK
       C:\WINDOWS\system32\MSG711.ACM       5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   13.50 KB (13,824 bytes)       3/25/2005
11:00 AM
c:\windows\system32\tssoft32.acm     DSP GROUP, INC.               OK
       C:\WINDOWS\system32\TSSOFT32.ACM     1.01    13.50 KB (13,824
bytes)  3/25/2005 11:00 AM
c:\windows\system32\msadp32.acm      Microsoft Corporation         OK
       C:\WINDOWS\system32\MSADP32.ACM      5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   23.50 KB (24,064 bytes)       3/25/2005
11:00 AM

[Video Codecs]

CODEC   Manufacturer   Description    Status  File    Version Size
       Creation Date
```

```
c:\windows\system32\msrle32.dll       Microsoft Corporation         OK
       C:\WINDOWS\system32\MSRLE32.DLL       5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   15.50 KB (15,872 bytes)       3/25/2005
11:00 AM
c:\windows\system32\msyuv.dll Microsoft Corporation         OK
       C:\WINDOWS\system32\MSYUV.DLL 5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   21.00 KB (21,504 bytes)       3/24/2005 9:21 AM
c:\windows\system32\iyuv_32.dll       Microsoft Corporation         OK
       C:\WINDOWS\system32\IYUV_32.DLL       5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   52.50 KB (53,760 bytes)       3/24/2005 9:19
AM
c:\windows\system32\msvidc32.dll      Microsoft Corporation         OK
       C:\WINDOWS\system32\MSVIDC32.DLL      5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   43.00 KB (44,032 bytes)       3/25/2005
11:00 AM
c:\windows\system32\tsbyuv.dll        Microsoft Corporation         OK
       C:\WINDOWS\system32\TSBYUV.DLL        5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   12.50 KB (12,800 bytes)       3/24/2005 9:34
AM

[CD-ROM]

Item    Value
Drive   D:
Description     CD-ROM Drive
Media Loaded    No
Media Type      CD-ROM
Name    TOSHIBA CD/DVDW SD-R6472
Manufacturer    (Standard CD-ROM drives)
Status  OK
Transfer Rate   Not Available
SCSI Target ID 0
PNP Device ID   IDE\CDROMTOSHIBA_CD/DVDW_SD-
R6472_________________TR50____\3534323430373434323520202020202020202020

Driver  c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 75.50 KB (77,312 bytes), 3/25/2005 11:00 AM)


[Sound Device]

Item    Value

[Display]

Item    Value
Name    UNISYS Console Manager 3
PNP Device ID
       PCI\VEN_1002&DEV_4C52&SUBSYS_C2201018&REV_64\4&29817089&0&08F0

Adapter Type    ATI MACH64, Unisys Corporation compatible
Adapter Description     UNISYS Console Manager 3
Adapter RAM     4.00 MB (4,194,304 bytes)
Installed Drivers       vga.dll,cm3disp.dll
Driver Version 8.0.0.25
INF File        oem1.inf (cm3 section)
Color Planes    1
Color Table Entries     65536
Resolution      1024 x 768 x 60 hertz
Bits/Pixel      16
Memory Address 0xF6000000-0xF6FFFFFF
I/O Port        0x00001F00-0x00001FFF
Memory Address 0xF7EFF000-0xF7EFFFFF
Memory Address 0xA0000-0xFFFFF
I/O Port        0x000003B0-0x000003BB
I/O Port        0x000003C0-0x000003DF
Driver  c:\windows\system32\drivers\cm3mini.sys (8.0.0.25, 13.50 KB
(13,824 bytes), 10/13/2005 7:47 AM)

[Infrared]

Item    Value

[Input]



[Keyboard]

Item    Value
Description     USB Human Interface Device
Name    Enhanced (101- or 102-key)
Layout  00000409
PNP Device ID   USB\VID_0557&PID_2221&MI_00\6&14CD2FAC&0&0000
Number of Function Keys         12
Driver  c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 11:00 AM)


[Pointing Device]

Item    Value
Hardware Type   USB Human Interface Device
Number of Buttons       5
Status  OK
PNP Device ID   USB\VID_0557&PID_2221&MI_01\6&14CD2FAC&0&0001
Power Management Supported      No
Double Click Threshold 6
Handedness      Right Handed Operation
Driver  c:\windows\system32\drivers\hidusb.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 18.50 KB (18,944 bytes), 3/25/2005 11:00 AM)


[Modem]

Item    Value

[Network]



[Adapter]

Item    Value
Name    [00000001] Intel(R) PRO/1000 MT Dual Port Network Connection

Adapter Type    Ethernet 802.3
Product Type    Intel(R) PRO/1000 MT Dual Port Network Connection
```

```
Installed      Yes
PNP Device ID
       PCI\VEN_8086&DEV_1079&SUBSYS_10798086&REV_03\4&226B0D81&0&08E8

Last Reset     10/19/2005 5:52 PM
Index  1
Service Name   E1000
IP Address     192.59.13.7
IP Subnet      255.255.255.0
Default IP Gateway     192.59.13.250
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    08:00:0B:1E:08:A0
Memory Address 0xF2FE0000-0xF2FFFFFF
I/O Port       0x00003000-0x00003FFF
IRQ Channel    IRQ 72
Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by:
WinDDK, 227.50 KB (232,960 bytes), 10/12/2005 9:48 AM)

Name    [00000002] Intel(R) PRO/1000 MT Dual Port Network Connection

Adapter Type   Ethernet 802.3
Product Type   Intel(R) PRO/1000 MT Dual Port Network Connection
Installed      Yes
PNP Device ID
       PCI\VEN_8086&DEV_1079&SUBSYS_10798086&REV_03\4&226B0D81&0&09E8

Last Reset     10/19/2005 5:52 PM
Index  2
Service Name   E1000
IP Address     192.168.91.207
IP Subnet      255.255.255.0
Default IP Gateway     Not Available
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    08:00:0B:1E:08:A1
Memory Address 0xF2FC0000-0xF2FDFFFF
I/O Port       0x00003040-0x0000307F
IRQ Channel    IRQ 73
Driver c:\windows\system32\drivers\e1g5132e.sys (8.1.8.0 built by:
WinDDK, 227.50 KB (232,960 bytes), 10/12/2005 9:48 AM)

Name    [00000003] 1394 Net Adapter
Adapter Type   Not Available
Product Type   1394 Net Adapter
Installed      Yes
PNP Device ID  V1394\NIC1394\CD00008000B00
Last Reset     10/19/2005 5:52 PM
Index  3
Service Name   NIC1394
IP Address     Not Available
IP Subnet      Not Available
Default IP Gateway     Not Available
DHCP Enabled   Yes
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    Not Available
Driver c:\windows\system32\drivers\nic1394.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 90.00 KB (92,160 bytes), 10/12/2005 9:48 AM)


Name    [00000004] RAS Async Adapter
Adapter Type   Not Available
Product Type   RAS Async Adapter
Installed      Yes
PNP Device ID  Not Available
Last Reset     10/19/2005 5:52 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 Type   Not Available
Product Type   WAN Miniport (L2TP)
Installed      Yes
PNP Device ID  ROOT\MS_L2TPMINIPORT\0000
Last Reset     10/19/2005 5:52 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

Name    [00000006] WAN Miniport (PPTP)
Adapter Type   Wide Area Network (WAN)
Product Type   WAN Miniport (PPTP)
Installed      Yes
PNP Device ID  ROOT\MS_PPTPMINIPORT\0000
Last Reset     10/19/2005 5:52 PM
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

Name    [00000007] WAN Miniport (PPPOE)
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Adapter Type   Wide Area Network (WAN)
Product Type   WAN Miniport (PPPOE)
Installed      Yes
PNP Device ID  ROOT\MS_PPPOEMINIPORT\0000
Last Reset     10/19/2005 5:52 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

Name    [00000008] Direct Parallel
Adapter Type   Not Available
Product Type   Direct Parallel
Installed      Yes
PNP Device ID  ROOT\MS_PTIMINIPORT\0000
Last Reset     10/19/2005 5:52 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

Name    [00000009] WAN Miniport (IP)
Adapter Type   Not Available
Product Type   WAN Miniport (IP)
Installed      Yes
PNP Device ID  ROOT\MS_NDISWANIP\0000
Last Reset     10/19/2005 5:52 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

[Protocol]

Item    Value
Name    MSAFD Tcpip [TCP/IP]
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   16 bytes
Maximum Message Size   0 bytes
Message Oriented       No
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data       No
Supports Encryption    No
Supports Expedited Data        Yes
Supports Graceful Closing      Yes
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD Tcpip [UDP/IP]
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   16 bytes
Maximum Message Size   63.93 KB (65,467 bytes)
Message Oriented       Yes
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data       No
Supports Encryption    No
Supports Expedited Data        No
Supports Graceful Closing      No
Supports Guaranteed Bandwidth No
Supports Multicasting  Yes

Name    RSVP UDP Service Provider
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   16 bytes
Maximum Message Size   63.93 KB (65,467 bytes)
Message Oriented       Yes
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data       No
Supports Encryption    Yes
Supports Expedited Data        No
Supports Graceful Closing      No
Supports Guaranteed Bandwidth No
Supports Multicasting  Yes

Name    RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   16 bytes
Maximum Message Size   0 bytes
Message Oriented       No
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
```

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Supports Disconnect Data      No
Supports Encryption    Yes
Supports Expedited Data       Yes
Supports Graceful Closing     Yes
Supports Guaranteed Bandwidth No
Supports Multicasting  No

[WinSock]

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

[Ports]



[Serial]

Item    Value
Name    Communications Port (COM1)
Status  OK
PNP Device ID  ACPI\PNP0501\15
Maximum Input Buffer Size     0
Maximum Output Buffer Size    No
Settable Baud Rate     Yes
Settable Data Bits     Yes
Settable Flow Control  Yes
Settable Parity        Yes
Settable Parity Check  Yes
Settable Stop Bits     Yes
Settable RLSD  Yes
Supports RLSD  Yes
Supports 16 Bit Mode   No
Supports Special Characters   No
Baud Rate      9600
Bits/Byte      8
Stop Bits      1
Parity  None
Busy    No
Abort Read/Write on Error     No
Binary Mode Enabled    Yes
Continue XMit on XOff  No
CTS Outflow Control    No
Discard NULL Bytes     No
DSR Outflow Control    0
DSR Sensitivity        0
DTR Flow Control Type  Enable
EOF Character  0
Error Replace Character       0
Error Replacement Enabled     No
Event Character        0
Parity Check Enabled   No
RTS Flow Control Type  Enable
XOff Character 19
XOffXMit Threshold     512
XOn Character  17
XOnXMit Threshold      2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control       0
I/O Port       0x000003F8-0x000003FF
IRQ Channel    IRQ 4
Driver  c:\windows\system32\drivers\serial.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 118.50 KB (121,344 bytes), 3/25/2005 11:00
AM)

[Parallel]

Item    Value

[Storage]



[Drives]

Item    Value
Drive   C:
Description    Local Fixed Disk
Compressed     No
File System    NTFS
Size    33.89 GB (36,388,605,952 bytes)
Free Space     24.49 GB (26,300,493,824 bytes)
Volume Name
Volume Serial Number   F066F689

Drive   D:
Description    CD-ROM Disc

[Disks]

Item    Value
Description    Disk drive
Manufacturer   (Standard disk drives)
Model   ADAPTEC RAID 1 SCSI Disk Device
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     1
SCSI Bus       7
SCSI Logical Unit      0
SCSI Port      3
SCSI Target ID 0
Sectors/Track  63
Size    33.90 GB (36,396,864,000 bytes)
Total Cylinders        4,425
Total Sectors  71,087,625
Total Tracks   1,128,375
Tracks/Cylinder        255
Partition      Disk #0, Partition #0
Partition Size 33.89 GB (36,388,606,464 bytes)
Partition Starting Offset     32,256 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   DGC     RAID 10         0206
Bytes/Sector   512
```

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Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     1
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 48
Sectors/Track  63
Size    764.60 GB (820,981,647,360 bytes)
Total Cylinders        99,812
Total Sectors  1,603,479,780
Total Tracks   25,452,060
Tracks/Cylinder        255
Partition      Disk #1, Partition #0
Partition Size 764.60 GB (820,981,615,104 bytes)
Partition Starting Offset     32,256 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 36
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #13, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #13, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #13, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #13, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 37
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #12, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #12, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #12, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #12, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 38
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #11, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #11, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #11, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #11, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 39
```

```
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #10, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #10, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #10, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #10, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 40
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #9, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #9, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #9, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #9, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 41
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #8, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #8, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #8, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #8, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 42
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #7, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #7, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #7, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #7, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
```

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SCSI Port      0
SCSI Target ID 43
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #6, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #6, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #6, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #6, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 44
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #5, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #5, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #5, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #5, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 45
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #4, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #4, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #4, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #4, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 46
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #3, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #3, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #3, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #3, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
```

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SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 47
Sectors/Track  63
Size   119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #2, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #2, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #2, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #2, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 24
Sectors/Track  63
Size   119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #25, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #25, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #25, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #25, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 25
Sectors/Track  63
Size   119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #24, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #24, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #24, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #24, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 26
Sectors/Track  63
Size   119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #23, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #23, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #23, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #23, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
```

```
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 27
Sectors/Track  63
Size    239.26 GB (256,900,170,240 bytes)
Total Cylinders        31,233
Total Sectors  501,758,145
Total Tracks   7,964,415
Tracks/Cylinder        255
Partition      Disk #22, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #22, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #22, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #22, Partition #3
Partition Size 200.15 GB (214,910,115,840 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 28
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #21, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #21, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #21, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #21, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 29
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #20, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #20, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #20, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #20, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 30
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #19, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #19, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #19, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #19, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
```

```
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 31
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #18, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #18, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #18, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #18, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 32
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #17, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #17, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #17, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #17, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 33
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #16, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #16, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #16, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #16, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 34
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #15, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #15, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #15, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #15, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
```

```
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 35
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #14, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #14, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #14, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #14, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 0
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #49, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #49, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #49, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #49, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 1
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #48, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #48, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #48, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #48, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 2
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #47, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #47, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #47, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #47, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes
```

```
Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 3
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #46, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #46, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #46, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #46, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 4
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #45, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #45, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #45, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #45, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 5
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #44, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #44, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #44, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #44, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 6
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #43, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #43, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #43, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #43, Partition #3
```

```
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 7
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #42, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #42, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #42, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #42, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 8
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #41, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #41, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #41, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #41, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 9
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #40, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #40, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #40, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #40, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 10
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #39, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #39, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #39, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
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Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #39, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 11
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #38, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #38, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #38, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #38, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 12
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #37, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #37, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #37, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #37, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 13
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #36, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #36, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #36, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #36, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 14
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #35, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #35, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
```

```
Partition      Disk #35, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #35, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 15
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #34, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #34, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #34, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #34, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 16
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #33, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #33, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #33, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #33, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 17
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #32, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #32, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #32, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #32, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 18
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #31, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #31, Partition #1
```

```
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #31, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #31, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 19
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #30, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #30, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #30, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #30, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 20
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #29, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #29, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #29, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #29, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 21
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #28, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #28, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #28, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #28, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 22
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #27, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
```

```
Partition Starting Offset     32,256 bytes
Partition      Disk #27, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #27, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #27, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

Description    Unisys Intelligent Fibre Channel Fabric Disk Driver
Manufacturer   Unisys Corporation
Model   UNISYS  VirtualStorage  01.0
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     4
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      0
SCSI Target ID 23
Sectors/Track  63
Size    119.62 GB (128,445,972,480 bytes)
Total Cylinders        15,616
Total Sectors  250,871,040
Total Tracks   3,982,080
Tracks/Cylinder        255
Partition      Disk #26, Partition #0
Partition Size 12.22 GB (13,119,289,344 bytes)
Partition Starting Offset     32,256 bytes
Partition      Disk #26, Partition #1
Partition Size 17.59 GB (18,885,242,880 bytes)
Partition Starting Offset     13,119,321,600 bytes
Partition      Disk #26, Partition #2
Partition Size 9.29 GB (9,977,264,640 bytes)
Partition Starting Offset     32,004,564,480 bytes
Partition      Disk #26, Partition #3
Partition Size 80.53 GB (86,464,143,360 bytes)
Partition Starting Offset     41,981,829,120 bytes

[SCSI]

Item    Value
Name    Adaptec ASC-48300 SAS/SATA Host Adapter
Manufacturer   Adaptec
Status  OK
PNP Device ID
       PCI\VEN_9005&DEV_0410&SUBSYS_04109005&REV_08\4&2AAD566B&0&08F8

Memory Address 0xF4FC0000-0xF4FFFFFF
Memory Address 0xF3FE0000-0xF3FFFFFF
I/O Port       0x00002000-0x00002FFF
IRQ Channel    IRQ 48
Driver  c:\windows\system32\drivers\adp94xx.sys (1.0.317.627 built by:
WinDDK, 463.50 KB (474,624 bytes), 10/12/2005 9:31 AM)

Name    Adaptec Processor Device (Pseudo)
Manufacturer   Adaptec
Status  OK
PNP Device ID
       SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\5&344567F4&0&77E0


Name    Unisys Intelligent Fibre Channel Fabric Bus Adapter
Manufacturer   Unisys Corporation
Status  OK
PNP Device ID
       PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&17F7F795&0&0008F8

Memory Address 0xEE000000-0xF0FFFFFF
Memory Address 0xF0EFF000-0xF0EFFFFF
IRQ Channel    IRQ 144
Driver  c:\windows\system32\drivers\ifxp.sys (02.058.00.018, 8.00 KB
(8,192 bytes), 10/13/2005 8:35 AM)

Name    Unisys Intelligent Fibre Channel Fabric Bus Adapter
Manufacturer   Unisys Corporation
Status  OK
PNP Device ID
       PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&63CB3C2&0&0008E8

Memory Address 0xEA000000-0xEAFFFFFF
Memory Address 0xECFFF000-0xECFFFFFF
IRQ Channel    IRQ 168
Driver  c:\windows\system32\drivers\ifxp.sys (02.058.00.018, 8.00 KB
(8,192 bytes), 10/13/2005 8:35 AM)

Name    Unisys Intelligent Fibre Channel Fabric Bus Adapter
Manufacturer   Unisys Corporation
Status  OK
PNP Device ID
       PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&34FD2864&0&0008F8

Memory Address 0xE9000000-0xEDFFFFFF
Memory Address 0xECEFF000-0xECEFFFFF
IRQ Channel    IRQ 192
Driver  c:\windows\system32\drivers\ifxp.sys (02.058.00.018, 8.00 KB
(8,192 bytes), 10/13/2005 8:35 AM)

Name    Unisys Intelligent Fibre Channel Fabric Bus Adapter
Manufacturer   Unisys Corporation
Status  OK
PNP Device ID
       PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&260AC241&0&0008F8

Memory Address 0xE5000000-0xE8FFFFFF
Memory Address 0xE7EFF000-0xE7EFFFFF
IRQ Channel    IRQ 528
Driver  c:\windows\system32\drivers\ifxp.sys (02.058.00.018, 8.00 KB
(8,192 bytes), 10/13/2005 8:35 AM)

Name    Unisys Intelligent Fibre Channel Fabric Bus Adapter
Manufacturer   Unisys Corporation
Status  OK
PNP Device ID
       PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&286E042C&0&0008E8
```

```
Memory Address 0xE1000000-0xE1FFFFFF
Memory Address 0xE3FFF000-0xE3FFFFFF
IRQ Channel    IRQ 552
Driver  c:\windows\system32\drivers\ifxp.sys (02.058.00.018, 8.00 KB
(8,192 bytes), 10/13/2005 8:35 AM)

[IDE]

Item    Value
Name    Intel(R) 82801DB Ultra ATA Storage Controller-24CB
Manufacturer   Intel
Status  OK
PNP Device ID
       PCI\VEN_8086&DEV_24CB&SUBSYS_24C28086&REV_02\3&267A616A&0&F9

I/O Port       0x00000880-0x0000088F
Memory Address 0xF7FFF800-0xF7FFFBFF
Driver  c:\windows\system32\drivers\intelide.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 9.00 KB (9,216 bytes), 10/12/2005 9:48 AM)


Name    Primary IDE Channel
Manufacturer   (Standard IDE ATA/ATAPI controllers)
Status  OK
PNP Device ID  PCIIDE\IDECHANNEL\4&291FD35B&0&0
I/O Port       0x000001F0-0x000001F7
I/O Port       0x000003F6-0x000003F6
IRQ Channel    IRQ 14
Driver  c:\windows\system32\drivers\atapi.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 145.00 KB (148,480 bytes), 3/25/2005 11:00
AM)

Name    Secondary IDE Channel
Manufacturer   (Standard IDE ATA/ATAPI controllers)
Status  OK
PNP Device ID  PCIIDE\IDECHANNEL\4&291FD35B&0&1
I/O Port       0x00000170-0x00000177
I/O Port       0x00000376-0x00000376
IRQ Channel    IRQ 15
Driver  c:\windows\system32\drivers\atapi.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 145.00 KB (148,480 bytes), 3/25/2005 11:00
AM)

[Printing]

Name    Driver  Port Name      Server Name

[Problem Devices]

Device  PNP Device ID  Error Code
Console Manager Network Connection    USB\VID_0432&PID_0012\5&2873F1A0&0&1
       The drivers for this device are not installed.
1394 Net Adapter      V1394\NIC1394\CD00008000B00   This device is
disabled.
PCI Device
       PCI\VEN_1018&DEV_C310&SUBSYS_C3101018&REV_00\4&29817089&0&18F0
       The drivers for this device are not installed.
Not Available  ACPI\UNO4500\0 The drivers for this device are not
installed.
Not Available  ACPI\UNO4501\0 The drivers for this device are not
installed.

[USB]

Device  PNP Device ID
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C2
       PCI\VEN_8086&DEV_24C2&SUBSYS_24C28086&REV_02\3&267A616A&0&E8

Intel(R) 82801DB/DBM USB Universal Host Controller - 24C4
       PCI\VEN_8086&DEV_24C4&SUBSYS_24C28086&REV_02\3&267A616A&0&E9

Intel(R) 82801DB/DBM USB Universal Host Controller - 24C7
       PCI\VEN_8086&DEV_24C7&SUBSYS_24C28086&REV_02\3&267A616A&0&EA

Intel(R) 82801DB/DBM USB 2.0 Enhanced Host Controller - 24CD
       PCI\VEN_8086&DEV_24CD&SUBSYS_24C08086&REV_02\3&267A616A&0&EF


[Software Environment]



[System Drivers]

Name    Description    File    Type    Started Start Mode     State   Status
       Error Control  Accept Pause   Accept Stop
abiosdsk       Abiosdsk       Not Available  Kernel Driver  No
       Disabled       Stopped OK      Ignore  No      No
acpi    Microsoft ACPI Driver  c:\windows\system32\drivers\acpi.sys  Kernel
Driver  Yes     Boot    Running OK      Normal  No      Yes
acpiec  ACPIEC  c:\windows\system32\drivers\acpiec.sys       Kernel Driver
       No      Disabled       Stopped OK      Normal  No      No
adp94xx adp94xx c:\windows\system32\drivers\adp94xx.sys      Kernel Driver
       Yes     Boot    Running OK      Normal  No      Yes
adpu160m       adpu160m       Not Available  Kernel Driver  No
       Disabled       Stopped OK      Normal  No      No
adpu320 adpu320 Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
afd     AFD     c:\windows\system32\drivers\afd.sys   Kernel Driver  Yes
       System  Running OK      Normal  No      Yes
aic78u2 aic78u2 Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
aic78xx aic78xx Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
aliide  AliIde  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
amdide  AmdIde  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
arc     arc     Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No      No
arp1394 1394 ARP Client Protocol
       c:\windows\system32\drivers\arp1394.sys      Kernel Driver  No
       Manual  Stopped OK      Normal  No      No
asyncmac       RAS Asynchronous Media Driver
       c:\windows\system32\drivers\asyncmac.sys     Kernel Driver  No
       Manual  Stopped OK      Normal  No      No
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```
atapi   Standard IDE/ESDI Hard Disk Controller
        c:\windows\system32\drivers\atapi.sys Kernel Driver  Yes     Boot
        Running OK      Normal  No      Yes
atdisk  Atdisk  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Ignore  No      No
atmarpc ATM ARP Client Protocol
        c:\windows\system32\drivers\atmarpc.sys      Kernel Driver  No
        Manual  Stopped OK      Normal  No      No
audstub Audio Stub Driver      c:\windows\system32\drivers\audstub.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

beep    Beep    c:\windows\system32\drivers\beep.sys  Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
cdac15ba        CdaC15BA        c:\windows\system32\drivers\cdac15ba.sys
        Kernel Driver  Yes     Auto    Running OK      Normal  No      Yes

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

cdfs    Cdfs    c:\windows\system32\drivers\cdfs.sys  File System Driver
        Yes     Disabled        Running OK      Normal  No      Yes
cdrom   CD-ROM Driver  c:\windows\system32\drivers\cdrom.sys Kernel Driver
        Yes     System  Running OK      Normal  No      Yes
changer Changer Not Available  Kernel Driver  No      System  Stopped OK
        Ignore  No      No
clusdisk        Cluster Disk Driver
        c:\windows\system32\drivers\clusdisk.sys     Kernel Driver  No
        Disabled        Stopped OK      Normal  No      No
cm3     cm3     c:\windows\system32\drivers\cm3mini.sys      Kernel Driver
        Yes     Manual  Running OK      Ignore  No      Yes
cmdide  CmdIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
cpqcissm        cpqcissm        Not Available  Kernel Driver  No
        Disabled        Stopped OK      Normal  No      No
crcdisk CRC Disk Filter Driver c:\windows\system32\drivers\crcdisk.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

dfsdriver       DfsDriver       c:\windows\system32\drivers\dfs.sys   File
System Driver  Yes     Boot    Running OK      Normal  No      Yes
disk    Disk Driver    c:\windows\system32\drivers\disk.sys  Kernel Driver
        Yes     Boot    Running OK      Normal  No      Yes
dmboot  dmboot  c:\windows\system32\drivers\dmboot.sys       Kernel Driver
        No      Disabled        Stopped OK      Normal  No      No
dmio    Logical Disk Manager Driver    c:\windows\system32\drivers\dmio.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

dmload  dmload  c:\windows\system32\drivers\dmload.sys       Kernel Driver
        Yes     Boot    Running OK      Normal  No      Yes
dpti2o  dpti2o  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
e1000   Intel(R) PRO/1000 Device Driver
        c:\windows\system32\drivers\e1g5132e.sys     Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
elxstor elxstor c:\windows\system32\drivers\elxstor.sys      Kernel Driver
        Yes     Boot    Running OK      Normal  No      Yes
em      em      \??\c:\windows\system32\drivers\em.sys       Kernel Driver
        No      Manual  Stopped OK      Normal  No      No
fastfat Fastfat c:\windows\system32\drivers\fastfat.sys      File System
Driver  No      Disabled        Stopped OK      Normal  No      No

fdc     Fdc     c:\windows\system32\drivers\fdc.sys   Kernel Driver  No
        System  Stopped OK      Ignore  No      No
fips    Fips    c:\windows\system32\drivers\fips.sys  Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
flpydisk        Flpydisk        c:\windows\system32\drivers\flpydisk.sys
        Kernel Driver  No      System  Stopped OK      Ignore  No      No

fltmgr  FltMgr  c:\windows\system32\drivers\fltmgr.sys       File System
Driver  Yes     Boot    Running OK      Normal  No      Yes
ftdisk  Volume Manager Driver  c:\windows\system32\drivers\ftdisk.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

gpc     Generic Packet Classifier
        c:\windows\system32\drivers\msgpc.sys Kernel Driver  Yes     Manual
        Running OK      Normal  No      Yes
hidusb  Microsoft HID Class Driver
        c:\windows\system32\drivers\hidusb.sys       Kernel Driver  Yes
        Manual  Running OK      Ignore  No      Yes
hpcisss hpcisss Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
http    HTTP    c:\windows\system32\drivers\http.sys  Kernel Driver  No
        Manual  Stopped OK      Normal  No      No
i2omgmt i2omgmt Not Available  Kernel Driver  No      System  Stopped OK
        Normal  No      No
ifba    Unisys Intelligent Fibre Channel Adapter SCSI Processor
        c:\windows\system32\drivers\ifba.sys  Kernel Driver  Yes     Manual
        Running OK      Normal  No      Yes
ifdisk  Unisys Intelligent Fibre Channel Fabric Disk Driver
        c:\windows\system32\drivers\ifdisk.sys       Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
ifip    Unisys Intelligent Fibre Channel Fabric Bus Enumerator
        c:\windows\system32\drivers\ifip.sys  Kernel Driver  Yes     Boot
        Running OK      Normal  No      Yes
ifxp    Unisys Intelligent Fibre Channel Fabric Bus Adapter
        c:\windows\system32\drivers\ifxp.sys  Kernel Driver  Yes     Boot
        Running OK      Normal  No      Yes
iirsp   iirsp   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
imapi   CD-Burning Filter Driver
        c:\windows\system32\drivers\imapi.sys Kernel Driver  Yes     System
        Running OK      Normal  No      Yes
intelide        IntelIde        c:\windows\system32\drivers\intelide.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

intelppm        Intel Processor Driver
        c:\windows\system32\drivers\intelppm.sys     Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
ip6fw   IPv6 Windows Firewall Driver
        c:\windows\system32\drivers\ip6fw.sys Kernel Driver  No      Manual
        Stopped OK      Normal  No      No
ipfilterdriver IP Traffic Filter Driver
        c:\windows\system32\drivers\ipfltdrv.sys     Kernel Driver  No
        Manual  Stopped OK      Normal  No      No
ipinip  IP in IP Tunnel Driver c:\windows\system32\drivers\ipinip.sys
        Kernel Driver  No      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
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ipsec   IPSEC driver   c:\windows\system32\drivers\ipsec.sys Kernel Driver
        Yes     System  Running OK      Normal  No      Yes
isapnp  PnP ISA/EISA Bus Driver
        c:\windows\system32\drivers\isapnp.sys       Kernel Driver  Yes
        Boot    Running OK      Critical        No      Yes
kbdclass        Keyboard Class Driver
        c:\windows\system32\drivers\kbdclass.sys     Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
kbdhid  Keyboard HID Driver    c:\windows\system32\drivers\kbdhid.sys
        Kernel Driver  Yes     System  Running OK      Ignore  No      Yes

ksecdd  KSecDD  c:\windows\system32\drivers\ksecdd.sys       Kernel Driver
        Yes     Boot    Running OK      Normal  No      Yes
ksthunk Kernel Streaming WOW64 Thunk Service
        c:\windows\system32\drivers\ksthunk.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
lp6nds35        lp6nds35        Not Available  Kernel Driver  No
        Disabled        Stopped OK      Normal  No      No
lpxkdrvr        lpxkdrvr        c:\windows\system32\drivers\lpxkdrvr.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

mnmdd   mnmdd   c:\windows\system32\drivers\mnmdd.sys Kernel Driver  Yes
        System  Running OK      Ignore  No      Yes
modem   Modem   c:\windows\system32\drivers\modem.sys Kernel Driver  No
        Manual  Stopped OK      Ignore  No      No
mouclass        Mouse Class Driver
        c:\windows\system32\drivers\mouclass.sys     Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
mouhid  Mouse HID Driver       c:\windows\system32\drivers\mouhid.sys
        Kernel Driver  Yes     Manual  Running OK      Ignore  No      Yes

mountmgr        Mount Point Manager
        c:\windows\system32\drivers\mountmgr.sys     Kernel Driver  Yes
        Boot    Running OK      Normal  No      Yes
mraid35x        mraid35x        Not Available  Kernel Driver  No
        Disabled        Stopped OK      Normal  No      No
mrxdav  WebDav Client Redirector
        c:\windows\system32\drivers\mrxdav.sys       File System Driver
        No      Manual  Stopped OK      Normal  No      No
mrxsmb  MRXSMB  c:\windows\system32\drivers\mrxsmb.sys       File System
Driver  Yes     System  Running OK      Normal  No      Yes
msfs    Msfs    c:\windows\system32\drivers\msfs.sys  File System Driver
        Yes     System  Running OK      Normal  No      Yes
mssmbios        Microsoft System Management BIOS Driver
        c:\windows\system32\drivers\mssmbios.sys     Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
mup     Mup     c:\windows\system32\drivers\mup.sys   File System Driver
        Yes     Boot    Running OK      Normal  No      Yes
ndis    NDIS System Driver     c:\windows\system32\drivers\ndis.sys  Kernel
Driver  Yes     Boot    Running OK      Normal  No      Yes
ndistapi        Remote Access NDIS TAPI Driver
        c:\windows\system32\drivers\ndistapi.sys     Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
ndisuio NDIS Usermode I/O Protocol
        c:\windows\system32\drivers\ndisuio.sys      Kernel Driver  No
        Manual  Stopped OK      Normal  No      No
ndiswan Remote Access NDIS WAN Driver
        c:\windows\system32\drivers\ndiswan.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes

ndproxy NDIS Proxy     c:\windows\system32\drivers\ndproxy.sys      Kernel
Driver  Yes     Manual  Running OK      Normal  No      Yes
netbios NetBIOS Interface      c:\windows\system32\drivers\netbios.sys
        File System Driver     Yes     System  Running OK      Normal  No
        Yes
netbt   NetBios over Tcpip     c:\windows\system32\drivers\netbt.sys Kernel
Driver  Yes     System  Running OK      Normal  No      Yes
nfrd960 nfrd960 Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
nic1394 1394 Net Driver        c:\windows\system32\drivers\nic1394.sys
        Kernel Driver  No      Manual  Stopped OK      Normal  No      No

npfs    Npfs    c:\windows\system32\drivers\npfs.sys  File System Driver
        Yes     System  Running OK      Normal  No      Yes
ntfs    Ntfs    c:\windows\system32\drivers\ntfs.sys  File System Driver
        Yes     Disabled        Running OK      Normal  No      Yes
null    Null    c:\windows\system32\drivers\null.sys  Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
ohci1394        Texas Instruments OHCI Compliant IEEE 1394 Host Controller
        c:\windows\system32\drivers\ohci1394.sys     Kernel Driver  Yes
        Boot    Running OK      Normal  No      Yes
parport Parport c:\windows\system32\drivers\parport.sys      Kernel Driver
        No      Manual  Stopped OK      Ignore  No      No
partmgr Partition Manager      c:\windows\system32\drivers\partmgr.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

pci     PCI Bus Driver c:\windows\system32\drivers\pci.sys   Kernel Driver
        Yes     Boot    Running OK      Critical        No      Yes
pciide  PCIIde  c:\windows\system32\drivers\pciide.sys       Kernel Driver
        Yes     Boot    Running OK      Normal  No      Yes
pcmcia  Pcmcia  c:\windows\system32\drivers\pcmcia.sys       Kernel Driver
        No      Disabled        Stopped OK      Normal  No      No
pdcomp  PDCOMP  Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdframe PDFRAME Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdreli  PDRELI  Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdrframe        PDRFRAME       Not Available  Kernel Driver  No      Manual
        Stopped OK      Ignore  No      No
pptpminiport    WAN Miniport (PPTP)
        c:\windows\system32\drivers\raspptp.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
ptilink Direct Parallel Link Driver
        c:\windows\system32\drivers\ptilink.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
ql2300  ql2300  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
rasacd  Remote Access Auto Connection Driver
        c:\windows\system32\drivers\rasacd.sys       Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
rasl2tp WAN Miniport (L2TP)    c:\windows\system32\drivers\rasl2tp.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

raspppoe        Remote Access PPPOE Driver
        c:\windows\system32\drivers\raspppoe.sys     Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
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raspti  Direct Parallel        c:\windows\system32\drivers\raspti.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

rdbss   Rdbss   c:\windows\system32\drivers\rdbss.sys File System Driver
        Yes     System  Running OK      Normal  No      Yes
rdpcdd  RDPCDD  c:\windows\system32\drivers\rdpcdd.sys       Kernel Driver
        Yes     System  Running OK      Ignore  No      Yes
rdpdr   Terminal Server Device Redirector Driver
        c:\windows\system32\drivers\rdpdr.sys Kernel Driver  Yes     Manual
        Running OK      Normal  No      Yes
rdpwd   RDPWD   c:\windows\system32\drivers\rdpwd.sys Kernel Driver  Yes
        Manual  Running OK      Ignore  No      Yes
redbook Digital CD Audio Playback Filter Driver
        c:\windows\system32\drivers\redbook.sys      Kernel Driver  Yes
        System  Running OK      Normal  No      Yes
secdrv  Security Driver        c:\windows\system32\drivers\secdrv.sys
        Kernel Driver  Yes     Auto    Running OK      Normal  No      Yes

serenum Serenum Filter Driver  c:\windows\system32\drivers\serenum.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

serial  Serial port driver     c:\windows\system32\drivers\serial.sys
        Kernel Driver  Yes     Manual  Running OK      Ignore  No      Yes

sfloppy Sfloppy c:\windows\system32\drivers\sfloppy.sys      Kernel Driver
        No      System  Stopped OK      Ignore  No      No
simbad  Simbad  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
srv     Srv     c:\windows\system32\drivers\srv.sys   File System Driver
        Yes     Manual  Running OK      Normal  No      Yes
swenum  Software Bus Driver    c:\windows\system32\drivers\swenum.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

symc8xx symc8xx Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
symmpi  symmpi  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
sym_hi  sym_hi  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
sym_u3  sym_u3  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
tbdriver        TbDriver       c:\windows\system32\drivers\tbdriver.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

tcpip   TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel
Driver  Yes     System  Running OK      Normal  No      Yes
tdpipe  TDPIPE  c:\windows\system32\drivers\tdpipe.sys       Kernel Driver
        No      Manual  Stopped OK      Ignore  No      No
tdtcp   TDTCP   c:\windows\system32\drivers\tdtcp.sys Kernel Driver  Yes
        Manual  Running OK      Ignore  No      Yes
termdd  Terminal Device Driver c:\windows\system32\drivers\termdd.sys
        Kernel Driver  Yes     System  Running OK      Normal  No      Yes

toside  TosIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
udfs    Udfs    c:\windows\system32\drivers\udfs.sys  File System Driver
        No      Disabled       Stopped OK      Normal  No      No
ultra   ultra   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No

update  Microcode Update Driver
        c:\windows\system32\drivers\update.sys       Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
usbccgp Microsoft USB Generic Parent Driver
        c:\windows\system32\drivers\usbccgp.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver
        c:\windows\system32\drivers\usbehci.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
usbhub  USB2 Enabled Hub       c:\windows\system32\drivers\usbhub.sys
        Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes

usbstor usbstor c:\windows\system32\drivers\usbstor.sys      Kernel Driver
        No      Manual  Stopped OK      Normal  No      No
usbuhci Microsoft USB Universal Host Controller Miniport Driver
        c:\windows\system32\drivers\usbuhci.sys      Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
vga     vga     c:\windows\system32\drivers\vgapnp.sys       Kernel Driver
        No      Manual  Stopped OK      Ignore  No      No
vgasave VGA Display Controller.        c:\windows\system32\drivers\vga.sys
        Kernel Driver  Yes     System  Running OK      Ignore  No      Yes

viaide  ViaIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No      No
volsnap Storage volumes        c:\windows\system32\drivers\volsnap.sys
        Kernel Driver  Yes     Boot    Running OK      Normal  No      Yes

wanarp  Remote Access IP ARP Driver
        c:\windows\system32\drivers\wanarp.sys       Kernel Driver  Yes
        Manual  Running OK      Normal  No      Yes
wdica   WDICA   Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
wlbs    Network Load Balancing c:\windows\system32\drivers\wlbs.sys  Kernel
Driver  No      Manual  Stopped OK      Normal  No      No

[Signed Drivers]

Device Name    Signed  Device Class   Driver Version Driver Date
        Manufacturer   INF Name       Driver Name    Device ID
Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
        2.58.0.7       7/26/2004      Unisys Corporation     oem5.inf
        Not Available
        SCSI\DISK&VEN_UNISYS__VIRTUALSTORAGE__01.0\1&2D12BED1&0&C33F008610
00001000000000000001000
Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
        2.58.0.7       7/26/2004      Unisys Corporation     oem5.inf
        Not Available
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        2.58.0.7       7/26/2004      Unisys Corporation     oem5.inf
        Not Available
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
        2.58.0.7       7/26/2004      Unisys Corporation     oem5.inf
        Not Available
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00001000000000000004000
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
       2.58.0.7       7/26/2004      Unisys Corporation     oem5.inf
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       Not Available
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
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Unisys Intelligent Fibre Channel Fabric Disk Driver  No      DISKDRIVE
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Unisys Intelligent Fibre Channel Fabric Bus Enumerator       No      SYSTEM
       2.58.0.52      7/26/2004      Unisys Corporation     oem6.inf
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Microsoft System Management BIOS Driver      No      SYSTEM  5.2.3790.1830
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Available      ROOT\SYSTEM\0002
Microcode Update Device       No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)     machine.inf    Not Available
       ROOT\SYSTEM\0001
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Plug and Play Software Device Enumerator     No      SYSTEM  5.2.3790.1830
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Terminal Server Mouse Driver  No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)     machine.inf    Not Available
       ROOT\RDP_MOU\0000
Terminal Server Keyboard Driver       No      SYSTEM  5.2.3790.1830
       10/1/2002      (Standard system devices)     machine.inf    Not
Available      ROOT\RDP_KBD\0000
Terminal Server Device Redirector     No      SYSTEM  5.2.3790.1830
       10/1/2002      (Standard system devices)     machine.inf    Not
Available      ROOT\RDPDR\0000
Direct Parallel       No      NET     5.2.3790.1830  10/1/2002
       Microsoft      netrasa.inf    Not Available
       ROOT\MS_PTIMINIPORT\0000
WAN Miniport (PPTP)   No      NET     5.2.3790.1830  10/1/2002
       Microsoft      netrasa.inf    Not Available
       ROOT\MS_PPTPMINIPORT\0000
WAN Miniport (PPPOE)  No      NET     5.2.3790.1830  10/1/2002
       Microsoft      netrasa.inf    Not Available
       ROOT\MS_PPPOEMINIPORT\0000
WAN Miniport (IP)     No      NET     5.2.3790.1830  10/1/2002
       Microsoft      netrasa.inf    Not Available
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WAN Miniport (L2TP)   No      NET     5.2.3790.1830  10/1/2002
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Video Codecs   No      MEDIA   5.2.3790.1830  10/1/2002      (Standard
system devices)       wave.inf       Not Available  ROOT\MEDIA\MS_MMVID

Legacy Video Capture Devices  No      MEDIA   5.2.3790.1830  10/1/2002
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Media Control Devices  No      MEDIA   5.2.3790.1830  10/1/2002
       (Standard system devices)     wave.inf       Not Available
       ROOT\MEDIA\MS_MMMCI
Legacy Audio Drivers   No      MEDIA   5.2.3790.1830  10/1/2002
       (Standard system devices)     wave.inf       Not Available
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Audio Codecs   No      MEDIA   5.2.3790.1830  10/1/2002      (Standard
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Remote Access IP ARP Driver   Not Available  LEGACYDRIVER   Not Available
       Not Available  Not Available  Not Available  Not Available
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volsnap Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_VOLSNAP\0000

VGA Display Controller.       Not Available  LEGACYDRIVER   Not Available
       Not Available  Not Available  Not Available  Not Available
       ROOT\LEGACY_VGASAVE\0000
TDTCP  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_TDTCP\0000
TCP/IP Protocol Driver Not Available  LEGACYDRIVER   Not Available  Not
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TbDriver       Not Available  LEGACYDRIVER   Not Available  Not Available
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Security Driver       Not Available  LEGACYDRIVER   Not Available  Not
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       ROOT\LEGACY_SECDRV\0000
RDPWD  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
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RDPCDD Not Available  LEGACYDRIVER   Not Available  Not Available  Not
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Remote Access Auto Connection Driver Not Available  LEGACYDRIVER   Not
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PCIIde Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_PCIIDE\0000

Partition Manager     Not Available  LEGACYDRIVER   Not Available  Not
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Null   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
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NetBios over Tcpip    Not Available  LEGACYDRIVER   Not Available  Not
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NDProxy Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_NDPROXY\0000

NDIS Usermode I/O Protocol    Not Available  LEGACYDRIVER   Not Available
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Remote Access NDIS TAPI Driver        Not Available  LEGACYDRIVER   Not
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NDIS System Driver    Not Available  LEGACYDRIVER   Not Available  Not
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       ROOT\LEGACY_MOUNTMGR\0000
mnmdd  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_MNMDD\0000
ksecdd Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_KSECDD\0000

IPSEC driver   Not Available  LEGACYDRIVER   Not Available  Not Available
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IP Network Address Translator Not Available  LEGACYDRIVER   Not Available
       Not Available  Not Available  Not Available  Not Available
       ROOT\LEGACY_IPNAT\0000
Generic Packet Classifier     Not Available  LEGACYDRIVER   Not Available
       Not Available  Not Available  Not Available  Not Available
       ROOT\LEGACY_GPC\0000
Fips   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_FIPS\0000
em     Not Available  LEGACYDRIVER   Not Available  Not Available  Not
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elxstor Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_ELXSTOR\0000
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Available      Not Available  Not Available  ROOT\LEGACY_DMBOOT\0000

CRC Disk Filter Driver Not Available  LEGACYDRIVER   Not Available  Not
Available      Not Available  Not Available  Not Available
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CdaD10BA       Not Available  LEGACYDRIVER   Not Available  Not Available
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       ROOT\LEGACY_CDAD10BA\0000
CdaC15BA       Not Available  LEGACYDRIVER   Not Available  Not Available
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       ROOT\LEGACY_CDAC15BA\0000
Beep    Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_BEEP\0000
1394 ARP Client Protocol      Not Available  LEGACYDRIVER   Not Available
       Not Available  Not Available  Not Available  Not Available
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AFD     Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not Available  Not Available  ROOT\LEGACY_AFD\0000
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       volume.inf     Not Available
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Volume Manager No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard
system devices)        machine.inf    Not Available  ROOT\FTDISK\0000

Logical Disk Manager   No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)     machine.inf    Not Available
       ROOT\DMIO\0000
ACPI Fixed Feature Button     No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)     machine.inf    Not Available
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\14
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
_EM64T_FAMILY_15_MODEL_4\10
Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
       Intel   cpu.inf Not Available  ACPI\GENUINEINTEL_-
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Intel Processor        No      PROCESSOR      5.2.3790.1830  10/1/2002
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Not Available  Not Available  Not Available  Not Available  Not Available
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Not Available  Not Available  Not Available  Not Available  Not Available
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Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
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       Not Available
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Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Unisys Intelligent Fibre Channel Adapter SCSI Processor      No      SYSTEM
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       Not Available
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PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
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devices)       machine.inf    Not Available  ACPI\PNP0A03\E
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Unisys Intelligent Fibre Channel Adapter SCSI Processor      No      SYSTEM
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       Not Available
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PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Emulex LP 10000 - Unisys VI   No      UNISYS_VI      Not Available  Not
Available      Emulex oem7.inf       Not Available
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Emulex LP 10000 - Unisys VI   No      UNISYS_VI      Not Available  Not
Available      Emulex oem7.inf       Not Available
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Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
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PCI bus No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard system
devices)       machine.inf    Not Available  ACPI\PNP0A03\D
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Unisys Intelligent Fibre Channel Adapter SCSI Processor     No      SYSTEM
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       Not Available
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PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Unisys Intelligent Fibre Channel Adapter SCSI Processor     No      SYSTEM
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Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
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devices)       machine.inf    Not Available  ACPI\PNP0A03\4
Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Unisys Intelligent Fibre Channel Adapter SCSI Processor     No      SYSTEM
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PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 PCI Hot Plug Controller - 1462        No      SYSTEM
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Emulex LP 10000 - Unisys VI   No      UNISYS_VI      Not Available  Not
Available      Emulex oem7.inf       Not Available
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Emulex LP 10000 - Unisys VI   No      UNISYS_VI      Not Available  Not
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
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PCI bus No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard system
devices)       machine.inf    Not Available  ACPI\PNP0A03\3
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       5.2.3790.1830  10/1/2002      Intel   machine.inf    Not Available
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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       Not Available
       PCI\VEN_8086&DEV_1461&SUBSYS_00000000&REV_04\3&1070020&0&F0
Intel(R) PRO/1000 MT Dual Port Network Connection    No      NET
       8.1.8.0 10/1/2002      Intel   nete1g3e.inf   Not Available
       PCI\VEN_8086&DEV_1079&SUBSYS_10798086&REV_03\4&226B0D81&0&09E8

Intel(R) PRO/1000 MT Dual Port Network Connection    No      NET
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Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
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       PCI\VEN_8086&DEV_1460&SUBSYS_00000000&REV_04\3&1070020&0&E8
Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
       No      SYSTEM  5.2.3790.1830  10/1/2002      Intel   machine.inf
       Not Available
       PCI\VEN_8086&DEV_1461&SUBSYS_00000000&REV_04\3&1070020&0&E0
PCI bus No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard system
devices)       machine.inf    Not Available  ACPI\PNP0A03\2
Adaptec Processor Device (Pseudo)     No      SCSIADAPTER    1.0.317.627
       4/28/2005      Adaptec oem0.inf       Not Available
       SCSI\PROCESSOR&VEN_ADAPTEC&PROD_HOSTRAID&REV_1.0\5&344567F4&0&77E0

Disk drive     No      DISKDRIVE      5.2.3790.1830  10/1/2002
       (Standard disk drives) disk.inf       Not Available
       SCSI\DISK&VEN_ADAPTEC&PROD_RAID_1&REV_1.0\5&344567F4&0&700
Adaptec ASC-48300 SAS/SATA Host Adapter      No      SCSIADAPTER
       1.0.317.627    4/28/2005      Adaptec oem0.inf       Not Available
       PCI\VEN_9005&DEV_0410&SUBSYS_04109005&REV_08\4&2AAD566B&0&08F8

Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
       10/1/2002      Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_1460&SUBSYS_00000000&REV_04\3&13C0B0C5&0&F8

Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
       No      SYSTEM  5.2.3790.1830  10/1/2002      Intel   machine.inf
       Not Available
       PCI\VEN_8086&DEV_1461&SUBSYS_00000000&REV_04\3&13C0B0C5&0&F0

Intel(R) P64H2 PCI to PCI Bridge - 1460      No      SYSTEM  5.2.3790.1830
       10/1/2002      Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_1460&SUBSYS_00000000&REV_04\3&13C0B0C5&0&E8

Intel(R) P64H2 I/O Advanced Programmable Interrupt Controller - 1461
       No      SYSTEM  5.2.3790.1830  10/1/2002      Intel   machine.inf
       Not Available
       PCI\VEN_8086&DEV_1461&SUBSYS_00000000&REV_04\3&13C0B0C5&0&E0

PCI bus No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard system
devices)       machine.inf    Not Available  ACPI\PNP0A03\1
Intel(R) 82801DB/DBM SMBus Controller - 24C3 No      SYSTEM  5.2.3790.1830
       10/1/2002      Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_24C3&SUBSYS_24C28086&REV_02\3&267A616A&0&FB

Secondary IDE Channel  No      HDC     5.2.3790.1830  10/1/2002
       (Standard IDE ATA/ATAPI controllers)  mshdc.inf      Not Available
       PCIIDE\IDECHANNEL\4&291FD35B&0&1
CD-ROM Drive   No      CDROM   5.2.3790.1830  10/1/2002      (Standard CD-
ROM drives)    cdrom.inf      Not Available  IDE\CDROMTOSHIBA_CD/DVDW_SD-
R6472_____________TR50____\3534323430373434323520202020202020202020

Primary IDE Channel    No      HDC     5.2.3790.1830  10/1/2002
       (Standard IDE ATA/ATAPI controllers)  mshdc.inf      Not Available
       PCIIDE\IDECHANNEL\4&291FD35B&0&0
Intel(R) 82801DB Ultra ATA Storage Controller-24CB   No      HDC
       5.2.3790.1830  10/1/2002      Intel   mshdc.inf      Not Available
       PCI\VEN_8086&DEV_24CB&SUBSYS_24C28086&REV_02\3&267A616A&0&F9

Communications Port    No      PORTS   5.2.3790.1830  10/1/2002
       (Standard port types)  msports.inf    Not Available
       ACPI\PNP0501\15
Generic Bus    No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard
system devices)        machine.inf    Not Available  ACPI\PNP0A05\2
System timer   No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard
system devices)        machine.inf    Not Available  ACPI\PNP0100\14

System speaker No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard
system devices)        machine.inf    Not Available  ACPI\PNP0800\14
```

```
System CMOS/real time clock   No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)      machine.inf    Not Available
       ACPI\PNP0B00\14
Programmable interrupt controller     No      SYSTEM  5.2.3790.1830
       10/1/2002      (Standard system devices)      machine.inf    Not
Available      ACPI\PNP0000\14
Numeric data processor No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)      machine.inf    Not Available
       ACPI\PNP0C04\14
Direct memory access controller       No      SYSTEM  5.2.3790.1830
       10/1/2002      (Standard system devices)      machine.inf    Not
Available      ACPI\PNP0200\1E
Motherboard resources  No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system devices)      machine.inf    Not Available
       ACPI\PNP0C02\0
Intel(R) 82801DB LPC Interface Controller - 24C0      No      SYSTEM
       5.2.3790.1830  10/1/2002      Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_24C0&SUBSYS_00000000&REV_02\3&267A616A&0&F8

PCI Device     Not Available  UNKNOWN Not Available  Not Available  Not
Available      Not Available  Not Available
       PCI\VEN_1018&DEV_C310&SUBSYS_C3101018&REV_00\4&29817089&0&18F0

1394 Net Adapter       No      NET     5.2.3790.1830  10/1/2002
       Microsoft      net1394.inf    Not Available
       V1394\NIC1394\CD00008000B00
Texas Instruments OHCI Compliant IEEE 1394 Host Controller  No      1394
       5.2.3790.1830  10/1/2002      Texas Instruments      1394.inf
       Not Available
       PCI\VEN_104C&DEV_8023&SUBSYS_8023104C&REV_00\4&29817089&0&10F0

Default Monitor        No      MONITOR 5.2.3790.1830  10/1/2002
       (Standard monitor types)       monitor.inf    Not Available
       DISPLAY\DEFAULT_MONITOR\5&39915350&0&22446688&01&01
UNISYS Console Manager 3       No      DISPLAY 8.0.0.25       6/28/2005
       Unisys Corporation     oem1.inf       Not Available
       PCI\VEN_1002&DEV_4C52&SUBSYS_C2201018&REV_64\4&29817089&0&08F0

Intel(R) 82801 PCI Bridge - 244E      No      SYSTEM  5.2.3790.1830
       10/1/2002      Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_82\3&267A616A&0&F0

USB Root Hub   No      USB     5.2.3790.1830  10/1/2002      (Standard USB
Host Controller)       usbport.inf    Not Available
       USB\ROOT_HUB20\4&1EC5C38A&0
Intel(R) 82801DB/DBM USB 2.0 Enhanced Host Controller - 24CD        No
       USB     5.2.3790.1830  10/1/2002      Intel   usbport.inf    Not
Available
       PCI\VEN_8086&DEV_24CD&SUBSYS_24C08086&REV_02\3&267A616A&0&EF

HID-compliant mouse    No      MOUSE   5.2.3790.1830  10/1/2002
       Microsoft      msmouse.inf    Not Available
       HID\VID_0557&PID_2221&MI_01\7&1236125D&0&0000
USB Human Interface Device     No      HIDCLASS        5.2.3790.1830
       10/1/2002      (Standard system devices)      input.inf      Not
Available      USB\VID_0557&PID_2221&MI_01\6&14CD2FAC&0&0001
HID Keyboard Device    No      KEYBOARD        5.2.3790.1830  10/1/2002
       (Standard keyboards)   keyboard.inf   Not Available
       HID\VID_0557&PID_2221&MI_00\7&360D501F&0&0000
USB Human Interface Device     No      HIDCLASS        5.2.3790.1830
       10/1/2002      (Standard system devices)      input.inf      Not
Available      USB\VID_0557&PID_2221&MI_00\6&14CD2FAC&0&0000
USB Composite Device   No      USB     5.2.3790.1830  10/1/2002
       (Standard USB Host Controller)        usb.inf Not Available
       USB\VID_0557&PID_2221\5&DE732DA&0&1
USB Root Hub   No      USB     5.2.3790.1830  10/1/2002      (Standard USB
Host Controller)       usbport.inf    Not Available
       USB\ROOT_HUB\4&354A38F3&0
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C7   No      USB
       5.2.3790.1830  10/1/2002      Intel   usbport.inf    Not Available
       PCI\VEN_8086&DEV_24C7&SUBSYS_24C28086&REV_02\3&267A616A&0&EA

Console Manager Network Connection    Not Available  NET     Not Available
       Not Available  Not Available  Not Available  Not Available
       USB\VID_0432&PID_0012\5&2873F1A0&0&1
USB Root Hub   No      USB     5.2.3790.1830  10/1/2002      (Standard USB
Host Controller)       usbport.inf    Not Available
       USB\ROOT_HUB\4&2498C13B&0
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C4   No      USB
       5.2.3790.1830  10/1/2002      Intel   usbport.inf    Not Available
       PCI\VEN_8086&DEV_24C4&SUBSYS_24C28086&REV_02\3&267A616A&0&E9

USB Root Hub   No      USB     5.2.3790.1830  10/1/2002      (Standard USB
Host Controller)       usbport.inf    Not Available
       USB\ROOT_HUB\4&2699692C&0
Intel(R) 82801DB/DBM USB Universal Host Controller - 24C2   No      USB
       5.2.3790.1830  10/1/2002      Intel   usbport.inf    Not Available
       PCI\VEN_8086&DEV_24C2&SUBSYS_24C28086&REV_02\3&267A616A&0&E8

PCI bus No      SYSTEM  5.2.3790.1830  10/1/2002      (Standard system
devices)       machine.inf    Not Available  ACPI\PNP0A03\0
Microsoft ACPI-Compliant System       No      SYSTEM  5.2.3790.1830
       10/1/2002      Microsoft      acpi.inf       Not Available
       ACPI_HAL\PNP0C08\0
ACPI Multiprocessor x64-based PC      No      COMPUTER        5.2.3790.1830
       10/1/2002      (Standard computers)   hal.inf Not Available
       ROOT\ACPI_HAL\0000
Not Available  Not Available  Not Available  Not Available  Not Available
       Not Available  Not Available  Not Available  HTREE\ROOT\0

[Environment Variables]

Variable       Value   User Name
ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>
Path
       %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;C:\P
rogram Files (x86)\Microsoft SQL Server\80\Tools\Binn\;C:\Program
Files\Microsoft SQL Server\90\Tools\binn\;C:\Program Files (x86)\Microsoft
SQL Server\90\Tools\binn\;C:\Program Files (x86)\Microsoft SQL
Server\90\DTS\Binn\;C:\Program Files (x86)\Microsoft SQL
Server\90\Tools\Binn\VSShell\Common7\IDE\    <SYSTEM>
windir %SystemRoot%    <SYSTEM>
FP_NO_HOST_CHECK       NO      <SYSTEM>
OS     Windows_NT      <SYSTEM>
PROCESSOR_ARCHITECTURE AMD64   <SYSTEM>
PROCESSOR_LEVEL        15      <SYSTEM>
PROCESSOR_IDENTIFIER   EM64T Family 15 Model 4 Stepping 1, GenuineIntel
       <SYSTEM>
```

```
PROCESSOR_REVISION     0401    <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    %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\SYSTEM
TMP     %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\SYSTEM
TEMP    %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\LOCAL SERVICE

TMP     %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\LOCAL SERVICE

TEMP    %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\NETWORK SERVICE

TMP     %USERPROFILE%\Local Settings\Temp     NT AUTHORITY\NETWORK SERVICE

TEMP    %USERPROFILE%\Local Settings\Temp     TPCC-ZORRO\Administrator

TMP     %USERPROFILE%\Local Settings\Temp     TPCC-ZORRO\Administrator


[Print Jobs]

Document       Size    Owner   Notify  Status  Time Submitted Start Time
       Until Time     Elapsed Time   Pages Printed  Job ID  Priority
       Parameters     Driver  Print Processor        Host Print Queue
       Data Type      Name

[Network Connections]

Local Name     Remote Name    Type    Status  User Name

[Running Tasks]

Name    Path    Process ID     Priority       Min Working Set        Max
Working Set    Start Time     Version Size    File Date
system idle process    Not Available  0       0       Not Available  Not
Available      Not Available  Not Available  Not Available  Not Available

system  Not Available  4       8       0       1413120 Not Available  Not
Available      Not Available  Not Available
smss.exe       Not Available  680     11      204800  1413120 10/19/2005
5:56 PM Not Available  Not Available  Not Available
csrss.exe      Not Available  792     13      Not Available  Not Available
       10/19/2005 5:56 PM     Not Available  Not Available  Not Available

winlogon.exe   c:\windows\system32\winlogon.exe      832     13      204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   901.00 KB (922,624 bytes)      3/25/2005 11:00 AM
services.exe   c:\windows\system32\services.exe      892     9       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   216.50 KB (221,696 bytes)      3/25/2005 11:00 AM
lsass.exe      c:\windows\system32\lsass.exe 904     9       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   14.00 KB (14,336 bytes)        3/25/2005 11:00 AM
svchost.exe    c:\windows\system32\svchost.exe       384     8       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   24.50 KB (25,088 bytes)        3/25/2005 11:00 AM
svchost.exe    Not Available  528     8       Not Available  Not Available
       10/19/2005 5:56 PM     Not Available  Not Available  Not Available

svchost.exe    c:\windows\system32\svchost.exe       584     8       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   24.50 KB (25,088 bytes)        3/25/2005 11:00 AM
mnmsrvc.exe    c:\windows\syswow64\mnmsrvc.exe       1104    8       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830  32.00 KB (32,768
bytes)  10/12/2005 4:54 PM
rundll32.exe   c:\windows\system32\rundll32.exe      1556    8       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   36.50 KB (37,376 bytes)        3/25/2005 11:00 AM
svchost.exe    Not Available  1560    8       Not Available  Not Available
       10/19/2005 5:56 PM     Not Available  Not Available  Not Available

svchost.exe    c:\windows\system32\svchost.exe       1624    8       204800
       1413120 10/19/2005 5:56 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   24.50 KB (25,088 bytes)        3/25/2005 11:00 AM
wmiprvse.exe   Not Available  1876    8       Not Available  Not Available
       10/19/2005 5:57 PM     Not Available  Not Available  Not Available

explorer.exe   c:\windows\explorer.exe       2036    8       204800
       1413120 10/19/2005 5:57 PM     6.00.3790.1830
(srv03_sp1_rtm.050324-1447)   1.30 MB (1,364,480 bytes)     3/25/2005
11:00 AM
cmd.exe c:\windows\system32\cmd.exe   1964    8       204800  1413120
       10/19/2005 5:59 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
       538.50 KB (551,424 bytes)      3/25/2005 11:00 AM
sqlservr.exe   c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlservr.exe       1976    13      204800
       1413120 10/19/2005 5:59 PM     2005.090.1399.00 built by bkhessib
from BADRIDDINEDEV5_e_m6_b3_badr5     49.44 MB (51,840,512 bytes)
       10/19/2005 4:52 PM
mmc.exe c:\windows\system32\mmc.exe   1300    8       204800  1413120
       10/19/2005 6:04 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)
       1.83 MB (1,920,512 bytes)      3/25/2005 11:00 AM
csrss.exe      Not Available  1552    13      Not Available  Not Available
       10/19/2005 6:10 PM     Not Available  Not Available  Not Available

winlogon.exe   c:\windows\system32\winlogon.exe      1544    13      204800
       1413120 10/19/2005 6:10 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   901.00 KB (922,624 bytes)      3/25/2005 11:00 AM
rdpclip.exe    c:\windows\system32\rdpclip.exe       608     8       204800
       1413120 10/19/2005 6:11 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   99.00 KB (101,376 bytes)       10/12/2005 4:51 PM
explorer.exe   c:\windows\explorer.exe       232     8       204800
       1413120 10/19/2005 6:11 PM     6.00.3790.1830
(srv03_sp1_rtm.050324-1447)   1.30 MB (1,364,480 bytes)     3/25/2005
11:00 AM
helpctr.exe    c:\windows\pchealth\helpctr\binaries\helpctr.exe     2632
       8       204800  1413120 10/19/2005 6:11 PM     5.2.3790.1830
(srv03_sp1_rtm.050324-1447)   1.30 MB (1,363,456 bytes)     10/12/2005
4:53 PM
wmiprvse.exe   Not Available  2816    8       Not Available  Not Available
       10/19/2005 6:11 PM     Not Available  Not Available  Not Available

helpsvc.exe    c:\windows\pchealth\helpctr\binaries\helpsvc.exe     2824
       8       204800  1413120 10/19/2005 6:11 PM     5.2.3790.1830
```

```
(srv03_sp1_rtm.050324-1447)   1.52 MB (1,591,296 bytes)     10/12/2005
4:53 PM

[Loaded Modules]

Name    Version Size    File Date      Manufacturer   Path
winlogon       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    901.00 KB
(922,624 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winlogon.exe
ntdll   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.20 MB (1,257,472
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ntdll.dll
kernel32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.43 MB
(1,500,160 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\kernel32.dll
advapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.00 MB
(1,051,136 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\advapi32.dll
rpcrt4  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.63 MB (1,714,176
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rpcrt4.dll
crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  1.36 MB (1,428,992
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\crypt32.dll
msasn1  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    152.50 KB (156,160
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msasn1.dll
msvcrt  7.0.3790.1830 (srv03_sp1_rtm.050324-1447)    508.00 KB (520,192
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msvcrt.dll
user32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.04 MB (1,085,952
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\user32.dll
gdi32   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    592.00 KB (606,208
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\gdi32.dll
nddeapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    25.00 KB (25,600
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\nddeapi.dll
profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.00 KB (36,864
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\profmap.dll
netapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    589.00 KB
(603,136 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netapi32.dll
userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.02 MB (1,069,056
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\userenv.dll
psapi   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    29.00 KB (29,696
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\psapi.dll
regapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    108.50 KB (111,104
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\regapi.dll
secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    120.00 KB (122,880
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\secur32.dll
setupapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.45 MB
(1,523,200 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\setupapi.dll
version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    28.00 KB (28,672
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\version.dll
winsta  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    89.00 KB (91,136
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winsta.dll
ws2_32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    176.50 KB (180,736
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ws2_32.dll
ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    30.50 KB (31,232
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ws2help.dll
msgina  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.14 MB (1,193,472
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msgina.dll
shsvcs  6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   193.50 KB (198,144
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\shsvcs.dll
shlwapi 6.00.3790.2523 (srv03_sp1_gdr.050902-1400)   607.00 KB (621,568
bytes)  10/5/2005 3:19 PM      Microsoft Corporation
       c:\windows\system32\shlwapi.dll
sfc     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    6.00 KB (6,144 bytes)
       3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\sfc.dll
sfc_os  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    183.50 KB (187,904
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\sfc_os.dll
wintrust       5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  297.50 KB
(304,640 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wintrust.dll
imagehlp       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    57.50 KB
(58,880 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\imagehlp.dll
ole32   5.2.3790.2492 (srv03_sp1_gdr.050720-1524)    2.43 MB (2,543,104
bytes)  8/26/2005 4:43 PM      Microsoft Corporation
       c:\windows\system32\ole32.dll
comctl32       6.0 (srv03_sp1_rtm.050324-1447)       1.51 MB (1,584,128
bytes)  10/12/2005 9:37 AM     Microsoft Corporation
       c:\windows\winsxs\amd64_microsoft.windows.common-
controls_6595b64144ccf1df_6.0.3790.1830_x-ww_aced72af\comctl32.dll
winscard       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    230.00 KB
(235,520 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winscard.dll
wtsapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    29.00 KB
(29,696 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wtsapi32.dll
winmm   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    303.50 KB (310,784
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winmm.dll
sxs     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.91 MB (2,003,968
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\sxs.dll
shell32 6.00.3790.2534 (srv03_sp1_gdr.050922-2352)   10.01 MB (10,491,392
bytes)  9/27/2005 5:28 PM      Microsoft Corporation
       c:\windows\system32\shell32.dll
```

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rsaenh  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    241.96 KB (247,768
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rsaenh.dll
wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    390.00 KB (399,360
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wldap32.dll
cscdll  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    151.50 KB (155,136
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\cscdll.dll
dimsntfy       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    28.00 KB
(28,672 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\dimsntfy.dll
wlnotify       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    148.00 KB
(151,552 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wlnotify.dll
mpr     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    115.00 KB (117,760
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mpr.dll
oleaut32       5.2.3790.1830  1.06 MB (1,116,160 bytes)     3/25/2005
11:00 AM       Microsoft Corporation  c:\windows\system32\oleaut32.dll

winspool       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    247.00 KB
(252,928 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winspool.drv
comctl32       5.82 (srv03_sp1_rtm.050324-1447)      934.50 KB (956,928
bytes)  10/12/2005 9:37 AM     Microsoft Corporation
       c:\windows\winsxs\amd64_microsoft.windows.common-
controls_6595b64144ccf1df_5.82.3790.1830_x-ww_4d792d2a\comctl32.dll
uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   494.50 KB (506,368
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\uxtheme.dll
samlib  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    69.00 KB (70,656
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\samlib.dll
clbcatq 2001.12.4720.2492 (srv03_sp1_gdr.050720-1524)        859.50 KB
(880,128 bytes)        8/26/2005 4:43 PM      Microsoft Corporation
       c:\windows\system32\clbcatq.dll
comres  2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)        779.50 KB
(798,208 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\comres.dll
xpsp2res       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.77 MB
(2,899,456 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\xpsp2res.dll
cscui   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    441.00 KB (451,584
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\cscui.dll
ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    222.50 KB (227,840
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ntmarta.dll
services       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    216.50 KB
(221,696 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\services.exe
ncobjapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    80.00 KB
(81,920 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ncobjapi.dll
msvcp60 7.0.3790.1830 (srv03_sp1_rtm.050324-1447)    919.50 KB (941,568
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msvcp60.dll
scesrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    594.50 KB (608,768
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\scesrv.dll
authz   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    167.00 KB (171,008
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\authz.dll
umpnpmgr       5.2.3790.2477 (srv03_sp1_gdr.050629-1534)    205.00 KB
(209,920 bytes)        6/30/2005 10:06 AM     Microsoft Corporation
       c:\windows\system32\umpnpmgr.dll
eventlog       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    127.00 KB
(130,048 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\eventlog.dll
lsass   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\lsass.exe
lsasrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.50 MB (1,568,256
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\lsasrv.dll
ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    127.50 KB (130,560
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ntdsapi.dll
dnsapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    297.50 KB (304,640
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\dnsapi.dll
samsrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.01 MB (1,059,328
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\samsrv.dll
cryptdll       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    47.00 KB
(48,128 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\cryptdll.dll
msprivs 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    47.50 KB (48,640
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msprivs.dll
kerberos       5.2.3790.2464 (srv03_sp1_gdr.050613-1636)    701.00 KB
(717,824 bytes)        6/30/2005 4:00 PM      Microsoft Corporation
       c:\windows\system32\kerberos.dll
msv1_0  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    253.00 KB (259,072
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msv1_0.dll
iphlpapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    177.00 KB
(181,248 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\iphlpapi.dll
netlogon       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    666.00 KB
(681,984 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netlogon.dll
w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    400.50 KB (410,112
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\w32time.dll
schannel       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    248.00 KB
(253,952 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\schannel.dll
wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    130.50 KB (133,632
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wdigest.dll
rassfm  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.00 KB (36,864
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rassfm.dll
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kdcsvc 5.2.3790.2464 (srv03_sp1_gdr.050613-1636)    410.50 KB (420,352
bytes) 6/30/2005 4:00 PM     Microsoft Corporation
       c:\windows\system32\kdcsvc.dll
ntdsa  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.81 MB (2,948,096
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\ntdsa.dll
esent  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.26 MB (2,366,976
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\esent.dll
ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   51.00 KB (52,224
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\ntdsatq.dll
mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   478.00 KB (489,472
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\mswsock.dll
scecli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    308.00 KB (315,392
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\scecli.dll
ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   794.00 KB (813,056
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\ws03res.dll
hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   561.00 KB (574,464
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\hnetcfg.dll
wshtcpip       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    29.00 KB
(29,696 bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\wshtcpip.dll
pstorsvc       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.00 KB
(36,864 bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\pstorsvc.dll
psbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    124.00 KB (126,976
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\psbase.dll
dssenh 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    226.96 KB (232,408
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\dssenh.dll
cryptnet       5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  108.50 KB
(111,104 bytes)       3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\cryptnet.dll
sensapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   10.50 KB (10,752
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\sensapi.dll
svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   24.50 KB (25,088
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\svchost.exe
rpcss  5.2.3790.2492 (srv03_sp1_gdr.050720-1524)    675.00 KB (691,200
bytes) 8/26/2005 4:43 PM     Microsoft Corporation
       c:\windows\system32\rpcss.dll
wkssvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    221.00 KB (226,304
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\wkssvc.dll
dmserver       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.50 KB
(37,376 bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\dmserver.dll
es     2001.12.4720.2492 (srv03_sp1_gdr.050720-1524)       357.00 KB
(365,568 bytes)       8/26/2005 4:43 PM     Microsoft Corporation
       c:\windows\system32\es.dll
srvsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    156.50 KB (160,256
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\srvsvc.dll
ntlsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   11.00 KB (11,264
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\ntlsapi.dll
seclogon       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    27.50 KB
(28,160 bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\seclogon.dll
wmisvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    227.00 KB (232,448
bytes) 10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wmisvc.dll
vssapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.26 MB (1,320,960
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\vssapi.dll
atl    3.05.2284      96.50 KB (98,816 bytes)       3/25/2005 11:00 AM
       Microsoft Corporation c:\windows\system32\atl.dll
comsvcs 2001.12.4720.2517 (srv03_sp1_gdr.050825-1636)       2.06 MB
(2,156,544 bytes)     8/26/2005 4:43 PM     Microsoft Corporation
       c:\windows\system32\comsvcs.dll
sens   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    63.50 KB (65,024
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\sens.dll
wiarpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    57.00 KB (58,368
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\wiarpc.dll
wbemcore       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.24 MB
(1,299,968 bytes)     10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wbemcore.dll
esscli 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    626.50 KB (641,536
bytes) 10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\esscli.dll
wbemcomn       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    524.00 KB
(536,576 bytes)       3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\wbem\wbemcomn.dll
fastprox       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    866.50 KB
(887,296 bytes)       10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\fastprox.dll
wbemsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   58.00 KB (59,392
bytes) 10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wbemsvc.dll
wmiutils       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    171.00 KB
(175,104 bytes)       10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wmiutils.dll
repdrvfs       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    353.50 KB
(361,984 bytes)       10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\repdrvfs.dll
wmiprvsd       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    743.00 KB
(760,832 bytes)       10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wmiprvsd.dll
wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)   532.50 KB (545,280
bytes) 10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\wbemess.dll
ncprov 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    73.00 KB (74,752
bytes) 10/12/2005 4:51 PM    Microsoft Corporation
       c:\windows\system32\wbem\ncprov.dll
netman 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    457.00 KB (467,968
bytes) 3/25/2005 11:00 AM    Microsoft Corporation
       c:\windows\system32\netman.dll
```

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mprapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    154.50 KB (158,208
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mprapi.dll
activeds       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    348.50 KB
(356,864 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\activeds.dll
adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    240.50 KB (246,272
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\adsldpc.dll
credui  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    202.00 KB (206,848
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\credui.dll
rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    66.00 KB (67,584
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rtutils.dll
netshell       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.32 MB
(2,437,120 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netshell.dll
clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    127.00 KB (130,048
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\clusapi.dll
rasapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    410.00 KB
(419,840 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rasapi32.dll
rasman  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    95.50 KB (97,792
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rasman.dll
tapi32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    332.50 KB (340,480
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\tapi32.dll
wininet 6.00.3790.2509 (srv03_sp1_gdr.050815-1517)   1.13 MB (1,186,304
bytes)  10/5/2005 3:19 PM      Microsoft Corporation
       c:\windows\system32\wininet.dll
wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    49.00 KB (50,176
bytes)  3/24/2005 9:35 AM      Microsoft Corporation
       c:\windows\system32\wzcsapi.dll
wzcsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    492.00 KB (503,808
bytes)  3/24/2005 9:35 AM      Microsoft Corporation
       c:\windows\system32\wzcsvc.dll
wmi     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    5.50 KB (5,632 bytes)
       3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wmi.dll
dhcpcsvc       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    219.00 KB
(224,256 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\dhcpcsvc.dll
rasdlg  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    859.50 KB (880,128
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rasdlg.dll
rasadhlp       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    12.00 KB
(12,288 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rasadhlp.dll
actxprxy       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   220.50 KB
(225,792 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\actxprxy.dll
netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.29 MB (1,354,240
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netcfgx.dll
winipsec       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    52.50 KB
(53,760 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winipsec.dll
pchsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    76.00 KB (77,824
bytes)  10/12/2005 4:53 PM     Microsoft Corporation
       c:\windows\pchealth\helpctr\binaries\pchsvc.dll
wbemcons       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    65.50 KB
(67,072 bytes) 10/12/2005 4:51 PM     Microsoft Corporation
       c:\windows\system32\wbem\wbemcons.dll
mnmsrvc 5.2.3790.1830  32.00 KB (32,768 bytes)       10/12/2005 4:54 PM
       Microsoft Corporation  c:\windows\syswow64\mnmsrvc.exe
wow64   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    245.00 KB (250,880
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wow64.dll
wow64win       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    280.00 KB
(286,720 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wow64win.dll
wow64cpu       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    18.50 KB
(18,944 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wow64cpu.dll
rundll32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.50 KB
(37,376 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\rundll32.exe
termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    354.50 KB (363,008
bytes)  10/12/2005 4:51 PM     Microsoft Corporation
       c:\windows\system32\termsrv.dll
icaapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    27.50 KB (28,160
bytes)  10/12/2005 4:51 PM     Microsoft Corporation
       c:\windows\system32\icaapi.dll
mstlsapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    187.00 KB
(191,488 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mstlsapi.dll
rdpwsx  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    170.13 KB (174,216
bytes)  10/12/2005 4:51 PM     Microsoft Corporation
       c:\windows\system32\rdpwsx.dll
explorer       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.30 MB
(1,364,480 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\explorer.exe
browseui       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.53 MB
(1,601,536 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\browseui.dll
shdocvw 6.00.3790.2523 (srv03_sp1_gdr.050902-1400)   2.31 MB (2,418,176
bytes)  10/5/2005 3:19 PM      Microsoft Corporation
       c:\windows\system32\shdocvw.dll
cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  705.50 KB (722,432
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\cryptui.dll
apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    241.00 KB (246,784
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\apphelp.dll
themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   530.50 KB (543,232
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\themeui.dll
msimg32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    6.50 KB (6,656 bytes)
       3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\msimg32.dll
linkinfo       5.2.3790.2521 (srv03_sp1_gdr.050831-1530)    31.00 KB
(31,744 bytes) 9/27/2005 5:28 PM      Microsoft Corporation
       c:\windows\system32\linkinfo.dll
```

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ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   184.00 KB (188,416
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ntshrui.dll
webcheck       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   439.00 KB
(449,536 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\webcheck.dll
wsock32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    24.50 KB (25,088
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\wsock32.dll
stobject       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    142.50 KB
(145,920 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\stobject.dll
batmeter       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   41.50 KB
(42,496 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\batmeter.dll
powrprof       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   32.50 KB
(33,280 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\powrprof.dll
drprov  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    24.00 KB (24,576
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\drprov.dll
ntlanman       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    71.50 KB
(73,216 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\ntlanman.dll
netui0  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    130.00 KB (133,120
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netui0.dll
netui1  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    338.50 KB (346,624
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\netui1.dll
davclnt 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    38.00 KB (38,912
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\davclnt.dll
urlmon  6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.02 MB (1,074,176
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\urlmon.dll
cmd     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    538.50 KB (551,424
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\cmd.exe
sqlservr       2005.090.1399.00 built by bkhessib from
BADRIDDINEDEV5_e_m6_b3_badr5  49.44 MB (51,840,512 bytes)   10/19/2005
4:52 PM Microsoft Corporation  c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlservr.exe
msvcr80 8.00.50727.26  803.50 KB (822,784 bytes)     8/30/2005 8:50 PM
       Microsoft Corporation
       c:\windows\winsxs\amd64_microsoft.vc80.crt_1fc8b3b9a1e18e3b_8.0.50
727.26_x-ww_3fe85033\msvcr80.dll
msvcp80 8.00.50727.26  1.05 MB (1,097,728 bytes)     8/30/2005 8:53 PM
       Microsoft Corporation
       c:\windows\winsxs\amd64_microsoft.vc80.crt_1fc8b3b9a1e18e3b_8.0.50
727.26_x-ww_3fe85033\msvcp80.dll
opends60       2005.090.1314.00       22.21 KB (22,744 bytes)
       9/3/2005 12:07 PM      Microsoft Corporation  c:\program
files\microsoft sql server\mssql.1\mssql\binn\opends60.dll
instapi 2005.090.1314.00       40.71 KB (41,688 bytes)       9/3/2005 12:03
PM      Microsoft Corporation  c:\program files\microsoft sql
server\90\shared\instapi.dll
sqlevn70       2005.090.1314.00       1.57 MB (1,641,688 bytes)
       9/3/2005 12:09 PM      Microsoft Corporation  c:\program
files\microsoft sql server\mssql.1\mssql\binn\resources\1033\sqlevn70.rll

sqlos   2005.090.1314.00       15.71 KB (16,088 bytes)       9/3/2005 12:10
PM      Microsoft Corporation  c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlos.dll
mscoree 2.0.50727.26 (RTM.050727-2600)       441.00 KB (451,584 bytes)
       8/30/2005 9:01 PM      Microsoft Corporation
       c:\windows\system32\mscoree.dll
xolehlp 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)       10.50 KB
(10,752 bytes) 10/12/2005 4:51 PM     Microsoft Corporation
       c:\windows\system32\xolehlp.dll
msdtcprx       2001.12.4720.2492 (srv03_sp1_gdr.050720-1524)       805.00
KB (824,320 bytes)     8/26/2005 4:43 PM      Microsoft Corporation
       c:\windows\system32\msdtcprx.dll
mtxclu  2001.12.4720.2492 (srv03_sp1_gdr.050720-1524)       141.50 KB
(144,896 bytes)        8/26/2005 4:43 PM      Microsoft Corporation
       c:\windows\system32\mtxclu.dll
resutils       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    98.50 KB
(100,864 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\resutils.dll
winrnr  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    30.00 KB (30,720
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\winrnr.dll
security       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    6.00 KB (6,144
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\security.dll
uvipl   1, 0, 0, 1     51.50 KB (52,736 bytes)       10/13/2005 10:51 AM
       Unisys Corporation     c:\windows\system32\uvipl.dll
mmc     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.83 MB (1,920,512
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mmc.exe
mfc42u  6.50.9146.0    1.39 MB (1,462,272 bytes)     3/25/2005 11:00 AM
       Microsoft Corporation  c:\windows\system32\mfc42u.dll
mmcbase 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    106.50 KB (109,056
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mmcbase.dll
comdlg32       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   446.50 KB
(457,216 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\comdlg32.dll
oleacc  4.2.5406.0 (srv03_sp1_rtm.050324-1447)       374.50 KB (383,488
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\oleacc.dll
mmcndmgr       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.23 MB
(2,336,256 bytes)      3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\mmcndmgr.dll
msxml3  8.70.1104.0    2.04 MB (2,141,184 bytes)     3/25/2005 11:00 AM
       Microsoft Corporation  c:\windows\system32\msxml3.dll
smlogcfg       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    711.50 KB
(728,576 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\smlogcfg.dll
odbc32  3.526.1830.0 (srv03_sp1_rtm.050324-1447)     408.00 KB (417,792
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\odbc32.dll
pdh     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    563.00 KB (576,512
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\pdh.dll
odbcbcp 2000.086.1830.00 (srv03_sp1_rtm.050324-1447) 32.00 KB (32,768
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
       c:\windows\system32\odbcbcp.dll
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odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447)     96.00 KB (98,304
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\odbcint.dll
mlang   6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   686.00 KB (702,464
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\mlang.dll
sysmon  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    392.50 KB (401,920
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\sysmon.ocx
perfdisk        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.50 KB
(35,328 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\perfdisk.dll
perfos  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    30.50 KB (31,232
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\perfos.dll
rdpsnd  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    25.00 KB (25,600
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\rdpsnd.dll
scredir 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    38.50 KB (39,424
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\scredir.dll
msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    31.00 KB (31,744
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msacm32.drv
msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    112.00 KB (114,688
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msacm32.dll
imaadp32        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    24.00 KB
(24,576 bytes) 3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\imaadp32.acm
msadp32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    23.50 KB (24,064
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msadp32.acm
msg711  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    13.50 KB (13,824
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msg711.acm
msgsm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.50 KB (35,328
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msgsm32.acm
tssoft32        1.01    13.50 KB (13,824 bytes)       3/25/2005 11:00 AM
        DSP GROUP, INC.        c:\windows\system32\tssoft32.acm
tsd32   1.03    24.50 KB (25,088 bytes)       3/25/2005 11:00 AM     DSP
GROUP, INC.     c:\windows\system32\tsd32.dll
rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    99.00 KB (101,376
bytes)  10/12/2005 4:51 PM     Microsoft Corporation
        c:\windows\system32\rdpclip.exe
helpctr 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.30 MB (1,363,456
bytes)  10/12/2005 4:53 PM     Microsoft Corporation
        c:\windows\pchealth\helpctr\binaries\helpctr.exe
hcappres        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    7.50 KB (7,680
bytes)  10/12/2005 4:53 PM     Microsoft Corporation
        c:\windows\pchealth\helpctr\binaries\hcappres.dll
itss    5.2.3790.2435 (srv03_sp1_gdr.050501-0904)    208.50 KB (213,504
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\itss.dll
pchshell        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    155.00 KB
(158,720 bytes)        10/12/2005 4:53 PM     Microsoft Corporation
        c:\windows\pchealth\helpctr\binaries\pchshell.dll
mshtml  6.00.3790.2541 (srv03_sp1_gdr.051004-1419)   5.66 MB (5,933,568
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\mshtml.dll
msls31  3.10.349.0     357.00 KB (365,568 bytes)     3/25/2005 11:00 AM
        Microsoft Corporation  c:\windows\system32\msls31.dll
msimtf  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    380.50 KB (389,632
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msimtf.dll
msctf   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    617.50 KB (632,320
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\msctf.dll
shdoclc 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   589.50 KB (603,648
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\shdoclc.dll
jscript 5.6.0.8827     974.50 KB (997,888 bytes)     3/25/2005 11:00 AM
        Microsoft Corporation  c:\windows\system32\jscript.dll
imm32   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    208.00 KB (212,992
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\imm32.dll
mshtmled        6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   905.50 KB
(927,232 bytes)        3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\mshtmled.dll
vbscript        5.6.0.8827     646.50 KB (662,016 bytes)     3/25/2005
11:00 AM       Microsoft Corporation  c:\windows\system32\vbscript.dll

msinfo  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    636.00 KB (651,264
bytes)  10/12/2005 4:53 PM     Microsoft Corporation
        c:\windows\pchealth\helpctr\binaries\msinfo.dll
riched32        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    7.00 KB (7,168
bytes)  3/25/2005 11:00 AM     Microsoft Corporation
        c:\windows\system32\riched32.dll
riched20        5.31.23.1224   1.10 MB (1,157,120 bytes)     3/25/2005
11:00 AM       Microsoft Corporation  c:\windows\system32\riched20.dll

wbemprox        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    38.00 KB
(38,912 bytes) 10/12/2005 4:51 PM     Microsoft Corporation
        c:\windows\system32\wbem\wbemprox.dll
helpsvc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.52 MB (1,591,296
bytes)  10/12/2005 4:53 PM     Microsoft Corporation
        c:\windows\pchealth\helpctr\binaries\helpsvc.exe

[Services]

Display Name    Name    State   Start Mode      Service Type    Path    Error
Control Start Name      Tag ID
Application Experience Lookup Service AeLookupSvc     Stopped Manual  Share
Process c:\windows\system32\svchost.exe -k netsvcs    Normal  LocalSystem
        0
Alerter Alerter Stopped Disabled        Share Process
        c:\windows\system32\svchost.exe -k localservice       Normal  NT
AUTHORITY\LocalService 0
Application Layer Gateway Service     ALG     Stopped Manual  Own Process
        c:\windows\system32\alg.exe    Normal  NT AUTHORITY\LocalService
        0
Application Management AppMgmt Stopped Manual  Share Process
        c:\windows\system32\svchost.exe -k netsvcs    Normal  LocalSystem
        0
```

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ASP.NET State Service  aspnet_state   Stopped Manual  Own Process
       c:\windows\microsoft.net\framework64\v2.0.50727\aspnet_state.exe
       Normal  NT AUTHORITY\NetworkService   0
Windows Audio  AudioSrv       Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Background Intelligent Transfer Service      BITS    Stopped Manual  Share
Process c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Computer Browser       Browser Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Indexing Service       CiSvc   Stopped Disabled       Share Process
       c:\windows\system32\cisvc.exe Normal  LocalSystem    0
ClipBook       ClipSrv Stopped Disabled       Own Process
       c:\windows\system32\clipsrv.exe       Normal  LocalSystem    0

.NET Runtime Optimization Service v2.0.50727_X86
       clr_optimization_v2.0.50727_32        Stopped Manual  Own Process
       c:\windows\microsoft.net\framework\v2.0.50727\mscorsvw.exe  Ignore
       LocalSystem    0
.NET Runtime Optimization Service v2.0.50727_x64
       clr_optimization_v2.0.50727_64        Stopped Manual  Own Process
       c:\windows\microsoft.net\framework64\v2.0.50727\mscorsvw.exe
       Ignore  LocalSystem    0
COM+ System Application       COMSysApp      Stopped Manual  Own Process
       c:\windows\system32\dllhost.exe /processid:{02d4b3f1-fd88-11d1-
960d-00805fc79235}     Normal  LocalSystem    0
Cryptographic Services CryptSvc       Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
DCOM Server Process Launcher  DcomLaunch     Running Auto    Share Process
       c:\windows\system32\svchost.exe -k dcomlaunch       Normal
       LocalSystem    0
Distributed File System       Dfs     Stopped Manual  Own Process
       c:\windows\system32\dfssvc.exe        Normal  LocalSystem    0

DHCP Client    Dhcp    Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k networkservice    Normal  NT
AUTHORITY\NetworkService      0
Logical Disk Manager Administrative Service  dmadmin Stopped Manual  Share
Process c:\windows\system32\dmadmin.exe /com  Normal  LocalSystem    0

Logical Disk Manager   dmserver       Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
DNS Client     Dnscache       Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k networkservice    Normal  NT
AUTHORITY\NetworkService      0
Error Reporting Service       ERSvc   Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k winerr    Ignore  LocalSystem
       0
Event Log      Eventlog       Running Auto    Share Process
       c:\windows\system32\services.exe     Normal  LocalSystem    0

COM+ Event System      EventSystem    Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
```

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Help and Support       helpsvc Running Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Human Interface Device Access HidServ Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
HTTP SSL       HTTPFilter     Stopped Manual  Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
IAS Jet Database Access       IASJet  Stopped Manual  Share Process
       c:\windows\syswow64\svchost.exe -k iasjet    Normal  LocalSystem
       0
IMAPI CD-Burning COM Service  ImapiService   Stopped Disabled       Own
Process c:\windows\system32\imapi.exe Normal  LocalSystem    0
Intersite Messaging    IsmServ Stopped Disabled       Own Process
       c:\windows\system32\ismserv.exe       Normal  LocalSystem    0

Kerberos Key Distribution Center      kdc     Stopped Disabled       Share
Process c:\windows\system32\lsass.exe Normal  LocalSystem    0
Server  lanmanserver   Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Workstation    lanmanworkstation      Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
License Logging        LicenseService Stopped Disabled       Own Process
       c:\windows\system32\llssrv.exe        Normal  NT
AUTHORITY\NetworkService      0
TCP/IP NetBIOS Helper  LmHosts Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k localservice      Normal  NT
AUTHORITY\LocalService 0
Messenger      Messenger      Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
NetMeeting Remote Desktop Sharing     mnmsrvc Running Auto    Own Process
       c:\windows\system32\mnmsrvc.exe       Normal  LocalSystem    0

Distributed Transaction Coordinator   MSDTC   Stopped Manual  Own Process
       c:\windows\system32\msdtc.exe Normal  NT AUTHORITY\NetworkService
       0
Windows Installer      MSIServer      Stopped Manual  Share Process
       c:\windows\system32\msiexec.exe /v    Normal  LocalSystem    0

SQL Server (MSSQLSERVER)      MSSQLSERVER    Stopped Manual  Own Process
       "c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlservr.exe" -smssqlserver       Normal
       LocalSystem    0
SQL Server Active Directory Helper    MSSQLServerADHelper    Stopped
       Disabled       Own Process    "c:\program files\microsoft sql
server\90\shared\sqladhlp90.exe"      Normal  NT AUTHORITY\NetworkService
       0
Network DDE    NetDDE  Stopped Disabled       Share Process
       c:\windows\system32\netdde.exe        Normal  LocalSystem    0

Network DDE DSDM       NetDDEdsdm     Stopped Disabled       Share Process
       c:\windows\system32\netdde.exe        Normal  LocalSystem    0

Net Logon      Netlogon       Stopped Manual  Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
```

```
Network Connections    Netman  Running Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Network Location Awareness (NLA)      Nla     Running Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
File Replication       NtFrs   Stopped Manual  Own Process
       c:\windows\system32\ntfrs.exe Ignore  LocalSystem    0
NT LM Security Support Provider       NtLmSsp Stopped Manual  Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
Removable Storage      NtmsSvc Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Office Source Engine   ose     Stopped Manual  Own Process    "c:\program
files (x86)\common files\microsoft shared\source engine\ose.exe"    Normal
       LocalSystem    0
Plug and Play  PlugPlay       Running Auto    Share Process
       c:\windows\system32\services.exe      Normal  LocalSystem    0

IPSEC Services PolicyAgent    Stopped Manual  Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
Protected Storage      ProtectedStorage       Running Auto    Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
Remote Access Auto Connection Manager RasAuto Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Remote Access Connection Manager      RasMan  Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Remote Desktop Help Session Manager   RDSessMgr      Stopped Manual  Own
Process c:\windows\system32\sessmgr.exe       Normal  LocalSystem    0

Routing and Remote Access     RemoteAccess    Stopped Disabled       Share
Process c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Remote Registry        RemoteRegistry Running Auto    Share Process
       c:\windows\system32\svchost.exe -k regsvc    Normal  NT
AUTHORITY\LocalService 0
Remote Procedure Call (RPC) Locator   RpcLocator     Stopped Manual  Own
Process c:\windows\system32\locator.exe       Normal  NT
AUTHORITY\NetworkService       0
Remote Procedure Call (RPC)    RpcSs   Running Auto    Share Process
       c:\windows\system32\svchost.exe -k rpcss     Normal  NT
AUTHORITY\NetworkService       0
Resultant Set of Policy Provider      RSoPProv        Stopped Manual  Share
Process c:\windows\system32\rsopprov.exe      Normal  LocalSystem    0

Special Administration Console Helper sacsvr  Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Security Accounts Manager     SamSs   Running Auto    Share Process
       c:\windows\system32\lsass.exe Normal  LocalSystem    0
Smart Card     SCardSvr       Stopped Manual  Share Process
       c:\windows\system32\scardsvr.exe      Ignore  NT
AUTHORITY\LocalService 0
Task Scheduler Schedule       Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Secondary Logon        seclogon       Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Ignore  LocalSystem
       0
System Event Notification     SENS    Running Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Windows Firewall/Internet Connection Sharing (ICS)   SharedAccess
       Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Shell Hardware Detection      ShellHWDetection       Running Auto    Share
Process c:\windows\system32\svchost.exe -k netsvcs   Ignore  LocalSystem
       0
Print Spooler  Spooler Stopped Manual  Own Process
       c:\windows\system32\spoolsv.exe       Normal  LocalSystem    0

SQL Server Browser     SQLBrowser     Stopped Disabled       Own Process
       "c:\program files (x86)\microsoft sql
server\90\shared\sqlbrowser.exe"      Normal  LocalSystem    0
SQL Server Agent (MSSQLSERVER)        SQLSERVERAGENT Stopped Manual  Own
Process "c:\program files\microsoft sql
server\mssql.1\mssql\binn\sqlagent90.exe" -i mssqlserver    Normal
       LocalSystem    0
SQL Server VSS Writer  SQLWriter      Stopped Manual  Own Process
       "c:\program files\microsoft sql server\90\shared\sqlwriter.exe"
       Normal  LocalSystem    0
Windows Image Acquisition (WIA)       stisvc  Stopped Disabled       Share
Process c:\windows\system32\svchost.exe -k imgsvc    Normal  NT
AUTHORITY\LocalService 0
Microsoft Software Shadow Copy Provider       swprv   Stopped Manual  Own
Process c:\windows\system32\svchost.exe -k swprv     Normal  LocalSystem
       0
Performance Logs and Alerts   SysmonLog       Stopped Auto    Own Process
       c:\windows\system32\smlogsvc.exe      Normal  NT
Authority\NetworkService       0
Telephony      TapiSrv Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k tapisrv   Normal  LocalSystem
       0
Terminal Services      TermService    Running Manual  Share Process
       c:\windows\system32\svchost.exe -k termsvcs  Normal  LocalSystem
       0
Themes  Themes  Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Telnet  TlntSvr Stopped Disabled       Own Process
       c:\windows\system32\tlntsvr.exe       Normal  NT
AUTHORITY\LocalService 0
Distributed Link Tracking Server      TrkSvr  Stopped Disabled       Share
Process c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Distributed Link Tracking Client      TrkWks  Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Terminal Services Session Directory   Tssdis  Stopped Disabled       Own
Process c:\windows\system32\tssdis.exe        Normal  LocalSystem    0

Windows User Mode Driver Framework    UMWdf   Stopped Manual  Own Process
       c:\windows\system32\wdfmgr.exe        Normal  NT
AUTHORITY\LocalService 0
```

```
Uninterruptible Power Supply  UPS     Stopped Manual  Own Process
       c:\windows\system32\ups.exe   Normal  NT AUTHORITY\LocalService
       0
Virtual Disk Service   vds     Stopped Manual  Own Process
       c:\windows\system32\vds.exe   Normal  LocalSystem    0
Volume Shadow Copy     VSS     Stopped Manual  Own Process
       c:\windows\system32\vssvc.exe Normal  LocalSystem    0
Windows Time    W32Time Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k localservice     Normal  NT
AUTHORITY\LocalService 0
WebClient      WebClient      Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k localservice     Normal  NT
AUTHORITY\LocalService 0
WinHTTP Web Proxy Auto-Discovery Service     WinHttpAutoProxySvc
       Stopped Manual  Share Process  c:\windows\system32\svchost.exe -k
localservice   Normal  NT AUTHORITY\LocalService     0
Windows Management Instrumentation    winmgmt Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Ignore  LocalSystem
       0
Portable Media Serial Number Service  WmdmPmSN       Stopped Manual  Share
Process c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Windows Management Instrumentation Driver Extensions Wmi     Stopped Manual
       Share Process  c:\windows\system32\svchost.exe -k netsvcs   Normal
       LocalSystem    0
WMI Performance Adapter       WmiApSrv       Stopped Manual  Own Process
       c:\windows\system32\wbem\wmiapsrv.exe Normal  LocalSystem    0

Automatic Updates      wuauserv       Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Wireless Configuration WZCSVC  Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0
Network Provisioning Service  xmlprov Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem
       0

[Program Groups]

Group Name     Name    User Name
Accessories    Default User:Accessories      Default User
Accessories\Accessibility     Default User:Accessories\Accessibility
       Default User
Accessories\Entertainment     Default User:Accessories\Entertainment
       Default User
Startup Default User:Startup   Default User
Accessories    All Users:Accessories  All Users
Accessories\Accessibility     All Users:Accessories\Accessibility   All
Users
Accessories\Communications    All Users:Accessories\Communications  All
Users
Accessories\Entertainment     All Users:Accessories\Entertainment   All
Users
Accessories\System Tools      All Users:Accessories\System Tools    All
Users
Administrative Tools   All Users:Administrative Tools        All Users
Microsoft SQL Server 2005 CTP All Users:Microsoft SQL Server 2005 CTP
       All Users
Microsoft SQL Server 2005 CTP\Analysis Services      All Users:Microsoft
SQL Server 2005 CTP\Analysis Services All Users
Microsoft SQL Server 2005 CTP\Configuration Tools    All Users:Microsoft
SQL Server 2005 CTP\Configuration Tools      All Users
Microsoft SQL Server 2005 CTP\Documentation and Tutorials   All
Users:Microsoft SQL Server 2005 CTP\Documentation and Tutorials     All
Users
Microsoft SQL Server 2005 CTP\Documentation and Tutorials\Tutorials All
Users:Microsoft SQL Server 2005 CTP\Documentation and Tutorials\Tutorials
       All Users
Microsoft SQL Server 2005 CTP\Performance Tools      All Users:Microsoft
SQL Server 2005 CTP\Performance Tools All Users
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    TPCC-ZORRO\Administrator:Accessories  TPCC-
ZORRO\Administrator
Accessories\Accessibility     TPCC-
ZORRO\Administrator:Accessories\Accessibility       TPCC-
ZORRO\Administrator
Accessories\Entertainment     TPCC-
ZORRO\Administrator:Accessories\Entertainment       TPCC-
ZORRO\Administrator
Administrative Tools   TPCC-ZORRO\Administrator:Administrative Tools
       TPCC-ZORRO\Administrator
Startup TPCC-ZORRO\Administrator:Startup      TPCC-ZORRO\Administrator


[Startup Programs]

Program Command User Name      Location
desktop desktop.ini    NT AUTHORITY\SYSTEM    Startup
desktop desktop.ini    TPCC-ZORRO\Administrator      Startup
desktop desktop.ini    .DEFAULT       Startup
desktop desktop.ini    All Users      Common Startup

[OLE Registration]

Object  Local Server
Sound (OLE2)   sndrec32.exe
Media Clip     mplay32.exe
Video Clip     mplay32.exe /avi
MIDI Sequence  mplay32.exe /mid
Sound   Not Available
Media Clip     Not Available
WordPad Document      "%programfiles%\windows nt\accessories\wordpad.exe"

Bitmap Image   mspaint.exe

[Windows Error Reporting]

Time    Type    Details
```

```
[Internet Settings]



[Internet Explorer]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Version 6.0.3790.1830
Build   63790.1830
Application Path        C:\Program Files\Internet Explorer
Language        English (United States)
Active Printer Not Available

Cipher Strength         128-bit
Content Advisor         Disabled
IEAK Install    No

[File Versions]

File    Version Size    Date    Path    Company
actxprxy.dll    6.0.3790.1830   221 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
advpack.dll     6.0.3790.1830   146 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
asctrls.ocx     6.0.3790.1830   147 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
browselc.dll    6.0.3790.1830   63 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
browseui.dll    6.0.3790.1830   1,564 KB        3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
cdfview.dll     6.0.3790.1830   216 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
comctl32.dll    5.82.3790.1830  935 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
dxtrans.dll     6.3.3790.2523   324 KB  10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
dxtmsft.dll     6.3.3790.1830   549 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
iecont.dll      <File Missing>  Not Available   Not Available   Not Available
        Not Available
iecontlc.dll    <File Missing>  Not Available   Not Available   Not Available
        Not Available
iedkcs32.dll    16.0.3790.1830  417 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
iepeers.dll     6.0.3790.2523   361 KB  10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
iesetup.dll     6.0.3790.1830   71 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
ieuinit.inf     Not Available   24 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Not Available
iexplore.exe    6.0.3790.1830   94 KB   3/25/2005 12:00:00 PM   C:\Program
Files\Internet Explorer         Microsoft Corporation
imgutil.dll     6.0.3790.1830   61 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
inetcpl.cpl     6.0.3790.1830   428 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
inetcplc.dll    6.0.3790.1830   110 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
inseng.dll      6.0.3790.1830   147 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
mlang.dll       6.0.3790.1830   686 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
msencode.dll    <File Missing>  Not Available   Not Available   Not Available
        Not Available
mshta.exe       6.0.3790.1830   38 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
mshtml.dll      6.0.3790.2541   5,795 KB        10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
mshtml.tlb      6.0.3790.1830   1,320 KB        3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
mshtmled.dll    6.0.3790.1830   906 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
mshtmler.dll    6.0.3790.1830   56 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
msident.dll     6.0.3790.1830   69 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
msidntld.dll    6.0.3790.1830   16 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
msieftp.dll     6.0.3790.1830   369 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
msrating.dll    6.0.3790.1830   240 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
mstime.dll      6.0.3790.2529   878 KB  10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
occache.dll     6.0.3790.1830   126 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
proctexe.ocx    <File Missing>  Not Available   Not Available   Not Available
        Not Available
sendmail.dll    6.0.3790.1830   64 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
shdoclc.dll     6.0.3790.1830   590 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
shdocvw.dll     6.0.3790.2523   2,362 KB        10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
shfolder.dll    6.0.3790.1830   34 KB   3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
shlwapi.dll     6.0.3790.2523   607 KB  10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation
tdc.ocx 1.3.0.3130      91 KB   3/25/2005 12:00:00 PM   C:\WINDOWS\system32
        Microsoft Corporation
url.dll 6.0.3790.1830   40 KB   3/25/2005 12:00:00 PM   C:\WINDOWS\system32
        Microsoft Corporation
urlmon.dll      6.0.3790.1830   1,049 KB        3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
webcheck.dll    6.0.3790.1830   439 KB  3/25/2005 12:00:00 PM
        C:\WINDOWS\system32     Microsoft Corporation
wininet.dll     6.0.3790.2509   1,159 KB        10/5/2005 3:19:16 PM
        C:\WINDOWS\system32     Microsoft Corporation

[Connectivity]

Item    Value
Connection Preference  Never dial
```

```
LAN Settings

AutoConfigProxy        wininet.dll
AutoProxyDetectMode    Disabled
AutoConfigURL
Proxy   Disabled
ProxyServer
ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Page Refresh Type      Automatic
Temporary Internet Files Folder       C:\Documents and
Settings\Administrator\Local Settings\Temporary Internet Files
Total Disk Space       Not Available
Available Disk Space   Not Available
Maximum Cache Size     Not Available
Available Cache Size   Not Available

[List of Objects]

Program File    Status  CodeBase
No cached object information available

[Content]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Content Advisor        Disabled

[Personal Certificates]

Issued To      Issued By      Validity       Signature Algorithm
No personal certificate information available


[Other People Certificates]

Issued To      Issued By      Validity       Signature Algorithm
No other people certificate information available


[Publishers]

Name
No publisher information available

[Security]

Zone    Security Level
My Computer    Custom
Local intranet Custom
Trusted sites  Low
Internet       Custom
Restricted sites       Custom
```

Windows Enterprise Server Registry Information

Software_Microsoft_MicrosoftSQLServer

```
Key Name:           HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             SsrpActiveServer
  Type:             REG_SZ
  Data:

Value 1
  Name:             InstalledInstances
  Type:             REG_MULTI_SZ
  Data:             MSSQLSERVER


Key Name:           HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:16 PM
Value 0
  Name:             SharedCode
  Type:             REG_SZ
  Data:             C:\Program Files\Microsoft SQL Server\90\Shared\

Value 1
  Name:             VerSpecificRootDir
  Type:             REG_SZ
  Data:             C:\Program Files\Microsoft SQL Server\90\

Value 2
  Name:             EnableErrorReporting
  Type:             REG_DWORD
  Data:             0

Value 3
  Name:             ErrorReportingDir
  Type:             REG_SZ
  Data:             C:\Program Files\Microsoft SQL
Server\90\Shared\ErrorDumps\

Value 4
  Name:             CustomerFeedback
  Type:             REG_DWORD
  Data:             0
```

```
Value 5
  Name:            TimeOfReporting
  Type:            REG_DWORD
  Data:            0xf0

Value 6
  Name:            CollectorParameters
  Type:            REG_SZ
  Data:


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Bootstrap
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            BootstrapDir
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Bootstrap\MSIRefCount
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Uninstall
  Type:            REG_SZ
  Data:            {11111111-1111-1111-1111-111111111111},{79F1B65E-8FC0-
4D03-954D-F9E71C85AEC7},{73D8B59D-0BFF-4B5B-A031-FAB3AC629E56}


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Bootstrap\Setup
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            PatchLevel
  Type:            REG_SZ
  Data:            9.00.1314.06


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Cost
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM
Value 0
  Name:            SQLSetup
  Type:            REG_SZ
  Data:            8388608

Value 1
  Name:            ToolsSetup
  Type:            REG_SZ
  Data:            26214400

Value 2
  Name:            MSXML6
  Type:            REG_SZ
  Data:            15728640

Value 3
  Name:            bol
  Type:            REG_SZ
  Data:            178257920


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Machines
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM
Value 0
  Name:            OriginalMachineName
  Type:            REG_SZ
  Data:            TPCC-ZORRO


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\NodeConfiguration
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:16 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\NodeConfiguration\Node0
Class Name:        <NO CLASS>
Last Write Time:   10/18/2005 - 9:57 PM
Value 0
  Name:            CPUMask
  Type:            REG_DWORD
  Data:            0xf


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\NodeConfiguration\Node1
Class Name:        <NO CLASS>
Last Write Time:   10/18/2005 - 9:57 PM
Value 0
  Name:            CPUMask
  Type:            REG_DWORD
  Data:            0xf0


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\NodeConfiguration\Node2
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:16 PM
Value 0
  Name:            CPUMask
  Type:            REG_DWORD
  Data:            0xf00


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\NodeConfiguration\Node3
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:16 PM
Value 0
```

```
  Name:            CPUMask
  Type:            REG_DWORD
  Data:            0xf000


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\ClientSetup
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM
Value 0
  Name:            SQLBinRoot
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\90\Shared\

Value 1
  Name:            SQLPath
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\90\Tools

Value 2
  Name:            Path
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\90\Tools\binn\

Value 3
  Name:            checksum
  Type:            REG_BINARY
  Data:
00000000   39 31 33 66 66 66 30 65 - 62 38 32 62 30 34 37 62
913fff0eb82b047b
00000010   31 30 35 31 36 38 32 31 - 30 30 63 66 30 32 66 61
1051682100cf02fa
00000020   33 61 66 30 61 38 32 66 - 63 38 65 63 62 61 66 38
3af0a82fc8ecbaf8
00000030   35 34 39 31 30 38 34 34 - 31 65 38 34 35 32 38 35
549108441e845285
00000040   66 33 35 31 37 65 65 65 - 64 30 38 34 62 61 66 36
f3517eeed084baf6
00000050   32 62 35 32 39 33 30 61 - 63 37 35 61 61 39 35 63
2b52930ac75aa95c
00000060   34 64 31 32 34 32 61 38 - 63 36 35 32 62 64 38 30
4d1242a8c652bd80
00000070   39 39 38 34 62 35 35 36 - 61 32 62 30 63 62 62 31
9984b556a2b0cbb1
00000080   62 38 34 39 34 32 39 30 - 33 36 37 61 31 64 65 63
b8494290367a1dec
00000090   36 38 33 39 33 33 34 64 - 66 39 36 33 32 64 63 32
6839334df9632dc2
000000a0   65 34 65 38 37 30 35 37 - 32 33 31 32 34 64 39 62
e4e8705723124d9b
35 36 65 63 32 66 63 36 - 00                      56ec2fc6.
```

```
Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\ClientSetup\CurrentVersion
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Language
  Type:            REG_DWORD
  Data:            0x409

Value 1
  Name:            CurrentVersion
  Type:            REG_SZ
  Data:            9.00.1314.06


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\Service Manager
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Services
  Type:            REG_MULTI_SZ
  Data:            ;


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\Setup
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM
Value 0
  Name:            Version
  Type:            REG_SZ
  Data:            9.00.1314.06

Value 1
  Name:            Language
  Type:            REG_DWORD
  Data:            0x409

Value 2
  Name:            ProductCode
  Type:            REG_SZ
  Data:            {73D8B59D-0BFF-4B5B-A031-FAB3AC629E56}

Value 3
  Name:            FeatureList
  Type:            REG_SZ
  Data:            Client_Components=3 SQL_Documentation=3 Connectivity=3
SQL_Tools90=3 SQL_BooksOnline=3

Value 4
  Name:            PatchLevel
  Type:            REG_SZ
  Data:            9.00.1314.06

Value 5
  Name:            SQLPath
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\90\Tools\
```

```
Value 6
  Name:            checksum
  Type:            REG_BINARY
  Data:
00000000   39 31 33 66 66 66 30 65 - 62 38 32 62 30 34 37 62
913fff0eb82b047b
00000010   31 30 35 31 36 38 32 31 - 30 30 63 66 30 32 66 61
1051682100cf02fa
00000020   33 61 66 36 30 35 66 36 - 63 36 61 33 36 36 64 66
3af605f6c6a366df
00000030   30 38 35 66 35 64 31 36 - 65 63 62 38 63 62 65 35
085f5d16ecb8cbe5
00000040   63 64 62 65 63 32 38 64 - 32 66 39 35 34 66 32 31
cdbec28d2f954f21
00000050   34 33 32 31 64 39 36 62 - 38 36 66 63 33 31 31 63
4321d96b86fc311c
00000060   39 35 65 65 62 33 65 35 - 35 32 30 37 32 30 32 35
95eeb3e552072025
00000070   30 31 61 38 61 32 35 36 - 32 36 61 36 37 61 33 39
01a8a25626a67a39
00000080   66 35 31 36 63 31 32 35 - 63 34 39 32 61 64 34 61
f516c125c492ad4a
00000090   32 61 64 65 35 31 31 36 - 38 32 30 39 35 61 61 39
2ade511682095aa9
000000a0   32 38 64 65 63 30 35 37 - 31 34 37 61 34 31 30 34
28dec057147a4104
39 30 38 37 33 38 37 66 - 00                      9087387f.

Value 7
  Name:            Edition
  Type:            REG_SZ
  Data:            Enterprise Edition (64-bit)


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\Shortcut
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Tools\Shortcut\SQL Server Error and Usage Reporting
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            1033
  Type:            REG_SZ
  Data:


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Uninstall Info
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Uninstall Info\{73D8B59D-0BFF-4B5B-A031-FAB3AC629E56}
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:12 PM
```

```
Value 0
  Name:            Product
  Type:            REG_SZ
  Data:            Client_Components

Value 1
  Name:            SetupHive
  Type:            REG_SZ
  Data:            90\Tools

Value 2
  Name:            RemoveList
  Type:            REG_SZ
  Data:
Client_Components,Connectivity,SQL_Tools90,SQL_WarehouseDevWorkbench,SDK,S
QLXML,Tools_Legacy,TOOLS_BC_DEP,SQL_Documentation,SQL_BooksOnline,SQL_Data
baseSamples,SQL_AdventureWorksSamples,SQL_AdventureWorksDWSamples,SQL_Adve
ntureWorksASSamples,SQL_Samples

Value 3
  Name:            ModifyPath
  Type:            REG_SZ
  Data:            "C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\setup.exe" /resumesetup /productcode {73D8B59D-0BFF-4B5B-A031-
FAB3AC629E56} /I {73D8B59D-0BFF-4B5B-A031-FAB3AC629E56}

Value 4
  Name:            UninstallPath
  Type:            REG_SZ
  Data:            "C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\setup.exe" /resumesetup /productcode {73D8B59D-0BFF-4B5B-A031-
FAB3AC629E56} /X {73D8B59D-0BFF-4B5B-A031-FAB3AC629E56}

Value 5
  Name:            Status
  Type:            REG_DWORD
  Data:            0


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\90\Uninstall Info\{79F1B65E-8FC0-4D03-954D-F9E71C85AEC7}
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Product
  Type:            REG_SZ
  Data:            SQL_Engine

Value 1
  Name:            SetupHive
  Type:            REG_SZ
  Data:            MSSQL.1

Value 2
  Name:            RemoveList
  Type:            REG_SZ
  Data:
SQL_Engine,SQL_Data_Files,SQL_Replication,SQL_FullText,SQL_SharedTools,SQL
_BC_DEP
```

```
Value 3
  Name:            ModifyPath
  Type:            REG_SZ
  Data:            "C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\setup.exe" /resumesetup /productcode {79F1B65E-8FC0-4D03-954D-
F9E71C85AEC7} /I {79F1B65E-8FC0-4D03-954D-F9E71C85AEC7}

Value 4
  Name:            UninstallPath
  Type:            REG_SZ
  Data:            "C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\setup.exe" /resumesetup /productcode {79F1B65E-8FC0-4D03-954D-
F9E71C85AEC7} /X {79F1B65E-8FC0-4D03-954D-F9E71C85AEC7}

Value 5
  Name:            Status
  Type:            REG_DWORD
  Data:            0


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\BC
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:06 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\BC\CurrentVersion
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:06 PM
Value 0
  Name:            Version
  Type:            REG_SZ
  Data:            8.05.1041


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\BC\MSIRefCount
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:06 PM
Value 0
  Name:            Uninstall
  Type:            REG_SZ
  Data:            {11111111-1111-1111-1111-111111111111},{79F1B65E-8FC0-
4D03-954D-F9E71C85AEC7}


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\ExceptionMessageBox
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            ShowFeedbackButton
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Instance Names
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Instance Names\SQL
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            MSSQLSERVER
  Type:            REG_SZ
  Data:            MSSQL.1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            <NO NAME>
  Type:            REG_SZ
  Data:            MSSQLSERVER


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\CPE
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            ErrorDumpDir
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\LOG\

Value 1
  Name:            EnableErrorReporting
  Type:            REG_DWORD
  Data:            0

Value 2
  Name:            CustomerFeedback
  Type:            REG_DWORD
  Data:            0

Value 3
  Name:            TimeOfReporting
  Type:            REG_DWORD
  Data:            0x3c

Value 4
  Name:            CollectorParameters
  Type:            REG_SZ
  Data:            SQL MSSQL.1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 11:05 PM
Value 0
```

```
  Name:            AuditLevel
  Type:            REG_DWORD
  Data:            0x2

Value 1
  Name:            DebugClassID
  Type:            REG_SZ
  Data:            {6D1A529A-CA45-4336-B7EA-4AF99288603D}

Value 2
  Name:            DefaultLogin
  Type:            REG_SZ
  Data:            guest

Value 3
  Name:            LoginMode
  Type:            REG_DWORD
  Data:            0x2

Value 4
  Name:            Map_
  Type:            REG_SZ
  Data:            \

Value 5
  Name:            Map#
  Type:            REG_SZ
  Data:            -

Value 6
  Name:            Map$
  Type:            REG_SZ
  Data:

Value 7
  Name:            SetHostName
  Type:            REG_DWORD
  Data:            0

Value 8
  Name:            Tapeloadwaittime
  Type:            REG_DWORD
  Data:            0xffffffff

Value 9
  Name:            BackupDirectory
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\Backup

Value 10
  Name:            SysDb
  Type:            REG_DWORD
  Data:            0x1

Value 11
  Name:            uptime_pid
  Type:            REG_DWORD
  Data:            0x154

Value 12
  Name:            uptime_time_utc
  Type:            REG_BINARY
  Data:
28 68 a1 6c 05 d6 c5 01 -                          (h¡l.ÖÅ.


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\CurrentVersion
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Language
  Type:            REG_DWORD
  Data:            0x409

Value 1
  Name:            CurrentVersion
  Type:            REG_SZ
  Data:            9.00.1314.06

Value 2
  Name:            RegisteredOwner
  Type:            REG_SZ
  Data:

Value 3
  Name:            SerialNumber
  Type:            REG_SZ
  Data:


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\Parameters
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            SQLArg0
  Type:            REG_SZ
  Data:            -dC:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\DATA\master.mdf

Value 1
  Name:            SQLArg1
  Type:            REG_SZ
  Data:            -eC:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\LOG\ERRORLOG

Value 2
  Name:            SQLArg2
  Type:            REG_SZ
  Data:            -lC:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\DATA\mastlog.ldf


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib
Class Name:        <NO CLASS>
```

```
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            ForceEncryption
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            HideInstance
  Type:            REG_DWORD
  Data:            0

Value 2
  Name:            Certificate
  Type:            REG_SZ
  Data:

Value 3
  Name:            DisplayName
  Type:            REG_SZ
  Data:            SQL Server Network Configuration


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\AdminConnection
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Dedicated Administrative Connection


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\AdminConnection\Tcp
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            TcpDynamicPorts
  Type:            REG_SZ
  Data:            1434

Value 1
  Name:            DisplayName
  Type:            REG_SZ
  Data:            TCP/IP


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Np
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            PipeName
  Type:            REG_SZ
  Data:            \\.\pipe\sql\query

Value 2
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Named Pipes


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Sm
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0x1

Value 1
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Shared Memory


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:37 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0x1

Value 1
  Name:            ListenOnAllIPs
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            NoDelay
  Type:            REG_DWORD
  Data:            0

Value 3
  Name:            KeepAlive
  Type:            REG_DWORD
  Data:            0x7530

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            TCP/IP


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP1
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Enabled
```

```
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            Active
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            TcpPort
  Type:            REG_SZ
  Data:            1433

Value 3
  Name:            TcpDynamicPorts
  Type:            REG_SZ
  Data:

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Specific IP Address

Value 5
  Name:            IpAddress
  Type:            REG_SZ
  Data:            192.59.13.7


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP2
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            Active
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            TcpPort
  Type:            REG_SZ
  Data:            1433

Value 3
  Name:            TcpDynamicPorts
  Type:            REG_SZ
  Data:

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Specific IP Address

Value 5
  Name:            IpAddress
  Type:            REG_SZ
  Data:            192.168.91.207


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IP3
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            Active
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            TcpPort
  Type:            REG_SZ
  Data:            1433

Value 3
  Name:            TcpDynamicPorts
  Type:            REG_SZ
  Data:

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Specific IP Address

Value 5
  Name:            IpAddress
  Type:            REG_SZ
  Data:            127.0.0.1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Tcp\IPAll
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            TcpPort
  Type:            REG_SZ
  Data:            1433

Value 1
  Name:            TcpDynamicPorts
  Type:            REG_SZ
  Data:

Value 2
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Any IP Address
```

```
Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\MSSQLServer\SuperSocketNetLib\Via
Class Name:        <NO CLASS>
Last Write Time:   10/18/2005 - 8:26 PM
Value 0
  Name:            Enabled
  Type:            REG_DWORD
  Data:            0x1

Value 1
  Name:            DefaultServerPort
  Type:            REG_SZ
  Data:            0:1401[0x1],1:1402[0x2],2:1403[0x4],3:1404[0x8]

Value 2
  Name:            ListenInfo
  Type:            REG_SZ
  Data:            0:1401[0x1],1:1402[0x2],2:1403[0x4],3:1404[0x8]

Value 3
  Name:            DisplayName
  Type:            REG_SZ
  Data:            VIA

Value 4
  Name:            VendorDLL
  Type:            REG_SZ
  Data:            Uvipl.dll


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\ADSDSOObject
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\DB2OLEDB
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\Microsoft.Jet.OLEDB.4.0
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\MSDAORA
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\MSDASQL
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\MSIDXS
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\MSQLImpProv
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\MSSEARCHSQL
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
```

```
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Providers\SQLNCLI
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AllowInProcess
  Type:            REG_DWORD
  Data:            0x1

Value 1
  Name:            DisallowAdhocAccess
  Type:            REG_DWORD
  Data:            0


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Security
Class Name:        <NO CLASS>
Last Write Time:   10/19/2005 - 11:53 AM
Value 0
  Name:            Entropy
  Type:            REG_BINARY
  Data:
00000000   0a 51 3d 15 a1 87 a9 60 - 61 6b 8f df 46 c8 1f 76
.Q=.¡.©`ak.ßFÈ.v
00000010   1e 58 fa 87 5c fc 75 92 - c4 1e 51 27 06 69 77 82
.Xú.\üu.Ä.Q'.iw.
00000020   f3 d9 ec b2 6e 66 e9 20 - 6a 1f 2c 47 3e d0 4a a7  óÙì²nfé
j.,G>ÐJ§
00000030   f9 6d 4b 64 69 f1 44 99 - ef 39 be e6 b6 c3 01 30
ùmKdiñD.ï9¾æ¶Ã.0
00000040   60 a6 19 27 d0 1e 7b 1c - 4d 93 97 72 d1 d4 6c 41
`¦.'Ð.{.M..rÑÔlA
00000050   0f 86 ec 0f 61 1a 37 96 - 0b bc 58 74 8c 6c a0 f5
..ì.a.7..¼Xt.l õ
00000060   05 bb 2c 86 88 02 83 0e - eb ba 93 3c 36 b1 a6 65
.»,.....ë°.<6±¦e
00000070   a2 e6 08 23 09 d1 07 0f - 37 2b a1 7b fa 2c 62 1d  ¢æ.#
        Ñ..7+¡{ú,b.
00000080   35 33 ea 32 13 28 bf 6d - fe 56 5e e5 52 dd db 0e
53ê2.(¿mþV^åRÝÛ.
00000090   0c b5 86 1a 9c 4a 59 9c - a7 c9 f9 ea 94 ac 46 23
.µ...JY.§Éùê.¬F#
000000a0   e3 28 32 21 02 e0 0a fd - a2 8f ff 82 e4 d0 a1 98
ã(2!.à.ý¢.ÿ.äÐ¡.
000000b0   86 9a a5 ed 81 49 09 61 - a8 21 1c d4 48 6e e9 42  ..¥í.I
        a¨!.ÔHnéB
000000c0   47 03 5b 9d e3 44 52 35 - dd 0b 03 54 d7 e5 dc 76
G.[.ãDR5Ý..T×åÜv
000000d0   f3 ce ce d9 d3 6f 4c 68 - 34 ee 0b a4 4e 31 40 41
óÎÎÙÓoLh4î.¤N1@A
000000e0   12 bd 63 66 47 6d ec 46 - 90 f3 0b 63 c1 b2 4b c9
.½cfGmìF.ó.cÁ²KÉ
000000f0   25 01 49 e9 d0 34 93 fa - ec 29 29 3e ea 22 b0 c9
%.IéÐ4.úì))>ê"°É


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\Setup
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            AGTGroup
  Type:            REG_SZ
  Data:            S-1-5-21-2686233184-195144574-3616718390-1005

Value 1
  Name:            SQLGroup
  Type:            REG_SZ
  Data:            S-1-5-21-2686233184-195144574-3616718390-1006

Value 2
  Name:            FTSGroup
  Type:            REG_SZ
  Data:            S-1-5-21-2686233184-195144574-3616718390-1007

Value 3
  Name:            Version
  Type:            REG_SZ
  Data:            9.00.1314.06

Value 4
  Name:            Language
  Type:            REG_DWORD
  Data:            0x409

Value 5
  Name:            Resume
  Type:            REG_DWORD
  Data:            0

Value 6
  Name:            ProductCode
  Type:            REG_SZ
  Data:            {79F1B65E-8FC0-4D03-954D-F9E71C85AEC7}

Value 7
  Name:            SqlProgramDir
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\

Value 8
  Name:            checksum
  Type:            REG_BINARY
  Data:
00000000   39 31 33 66 66 66 30 65 - 62 38 32 62 30 34 37 62
913fff0eb82b047b
00000010   31 30 35 31 36 38 32 31 - 30 30 63 63 36 61 31 32
1051682100cc6a12
00000020   32 37 37 65 39 34 64 66 - 33 61 35 30 37 35 31 32
277e94df3a507512
00000030   66 36 34 62 66 66 66 35 - 31 39 38 39 30 61 61 33
f64bfff519890aa3
```

```
00000040   61 64 38 30 33 38 64 30 - 66 31 62 66 66 39 65 36
ad8038d0f1bff9e6
00000050   64 64 65 34 65 39 34 66 - 32 65 62 32 37 63 39 66
dde4e94f2eb27c9f
00000060   31 31 64 63 61 34 38 65 - 38 65 38 33 38 35 37 64
11dca48e8e83857d
00000070   64 62 39 33 65 32 37 64 - 37 30 61 38 33 34 61 33
db93e27d70a834a3
00000080   64 61 35 37 62 30 64 38 - 62 62 64 65 62 63 30 39
da57b0d8bbdebc09
00000090   39 65 33 35 36 61 39 63 - 37 39 37 34 39 61 36 63
9e356a9c79749a6c
000000a0   33 66 39 64 37 66 66 39 - 61 31 31 36 34 62 32 33
3f9d7ff9a1164b23
61 36 33 64 33 63 62 64 - 00                       a63d3cbd.

Value 9
  Name:            Edition
  Type:            REG_SZ
  Data:            Enterprise Edition (64-bit)

Value 10
  Name:            SqlCluster
  Type:            REG_DWORD
  Data:            0

Value 11
  Name:            FeatureList
  Type:            REG_SZ
  Data:            SQL_Engine=3 SQL_Data_Files=3 SQL_SharedTools=3
SQL_BC_DEP=3

Value 12
  Name:            PatchLevel
  Type:            REG_SZ
  Data:            9.00.1314.06

Value 13
  Name:            Collation
  Type:            REG_SZ
  Data:            Latin1_General_BIN

Value 14
  Name:            FirstStart
  Type:            REG_DWORD
  Data:            0

Value 15
  Name:            SQLDataRoot
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL

Value 16
  Name:            SQLPath
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL

Value 17
  Name:            SQLBinRoot
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\Binn


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\SQLServerAgent
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            JobHistoryMaxRowsPerJob
  Type:            REG_DWORD
  Data:            0x64

Value 1
  Name:            SysAdminOnly
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            DownloadedMaxRows
  Type:            REG_DWORD
  Data:            0x64

Value 3
  Name:            ErrorLogFile
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\LOG\SQLAGENT.OUT

Value 4
  Name:            ErrorLoggingLevel
  Type:            REG_DWORD
  Data:            0x3

Value 5
  Name:            JobHistoryMaxRows
  Type:            REG_DWORD
  Data:            0x3e8

Value 6
  Name:            MSXServerName
  Type:            REG_SZ
  Data:

Value 7
  Name:            NonAlertableErrors
  Type:            REG_SZ
  Data:            1204,4002

Value 8
  Name:            RestartServer
  Type:            REG_DWORD
  Data:            0x1

Value 9
  Name:            ServerHost
  Type:            REG_SZ
  Data:
```

```
Value 10
  Name:            WorkingDirectory
  Type:            REG_SZ
  Data:            C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\JOBS\


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\MSSQL.1\SQLServerSCP
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\Analysis Server
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            MSSQLServerOLAPService

Value 1
  Name:            LName
  Type:            REG_SZ
  Data:            MSOLAP$

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x5


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\Full Text
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            LName
  Type:            REG_SZ
  Data:            msftesql$

Value 1
  Name:            Name
  Type:            REG_SZ
  Data:            msftesql

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x3


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\Notification Services
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            LName
  Type:            REG_SZ
  Data:            NS$

Value 1
  Name:            Name
  Type:            REG_SZ
  Data:            NsService

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x8


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\Report Server
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            ReportServer

Value 1
  Name:            LName
  Type:            REG_SZ
  Data:            ReportServer$

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x6

Value 3
  Name:            GroupPrefix
  Type:            REG_SZ
  Data:            SQLServer2005ReportServerUser$TPCC-ZORRO$


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\ReportServer
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            LName
  Type:            REG_SZ
  Data:            ReportServer$

Value 1
  Name:            Name
  Type:            REG_SZ
  Data:            ReportServer
```

```
Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x6


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\SQL Agent
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            SQLSERVERAGENT

Value 1
  Name:            LName
  Type:            REG_SZ
  Data:            SQLAgent$

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x2


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\SQL Browser
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            LName
  Type:            REG_SZ
  Data:

Value 1
  Name:            Name
  Type:            REG_SZ
  Data:            SQLBrowser

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x7


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\SQL Server
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            MSSQLServer

Value 1
  Name:            LName
  Type:            REG_SZ
  Data:            MSSQL$

Value 2
  Name:            Type
  Type:            REG_DWORD
  Data:            0x1


Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\Services\SSIS Server
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            GroupPrefix
  Type:            REG_SZ
  Data:            SQLServer2005DTSUser$TPCC-ZORRO

Value 1
  Name:            LName
  Type:            REG_SZ
  Data:

Value 2
  Name:            Name
  Type:            REG_SZ
  Data:            MsDtsServer

Value 3
  Name:            Type
  Type:            REG_DWORD
  Data:            0x4
```

Software_Microsoft_MSSQLServer

```
Key Name:          HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            ProtocolsSupported
  Type:            REG_MULTI_SZ
  Data:            sm
                   tcp
                   np
                   via

Value 1
```

```
  Name:             ProtocolOrder
  Type:             REG_MULTI_SZ
  Data:             sm
                    tcp
                    np


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\GeneralFla
gs
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             NumberOfFlags
  Type:             REG_DWORD
  Data:             0x2


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\GeneralFla
gs\Flag1
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             Label
  Type:             REG_SZ
  Data:             Force protocol encryption

Value 1
  Name:             Value
  Type:             REG_DWORD
  Data:             0


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\GeneralFla
gs\Flag2
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             Label
  Type:             REG_SZ
  Data:             Trust Server Certificate

Value 1
  Name:             Value
  Type:             REG_DWORD
  Data:             0


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\LastConnec
t
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\np
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             DLLname
  Type:             REG_SZ
  Data:             SQLNCLI

Value 1
  Name:             NumberOfFlags
  Type:             REG_DWORD
  Data:             0

Value 2
  Name:             NumberOfProperties
  Type:             REG_DWORD
  Data:             0x1

Value 3
  Name:             ProtocolName
  Type:             REG_SZ
  Data:             Named Pipes


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\np\Propert
y1
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             Name
  Type:             REG_SZ
  Data:             Default Pipe

Value 1
  Name:             Value
  Type:             REG_SZ
  Data:             sql\query


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\sm
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             DLLname
  Type:             REG_SZ
  Data:             SQLNCLI

Value 1
  Name:             NumberOfFlags
  Type:             REG_DWORD
  Data:             0

Value 2
  Name:             NumberOfProperties
  Type:             REG_DWORD
  Data:             0

Value 3
  Name:             ProtocolName
```

```
  Type:            REG_SZ
  Data:            Shared Memory


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\tcp
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            DLLname
  Type:            REG_SZ
  Data:            SQLNCLI

Value 1
  Name:            NumberOfFlags
  Type:            REG_DWORD
  Data:            0

Value 2
  Name:            NumberOfProperties
  Type:            REG_DWORD
  Data:            0x3

Value 3
  Name:            ProtocolName
  Type:            REG_SZ
  Data:            TCP/IP


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\tcp\Proper
ty1
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            Default Port

Value 1
  Name:            Value
  Type:            REG_DWORD
  Data:            0x599


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\tcp\Proper
ty2
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            KEEPALIVE (in milliseconds)

Value 1
  Name:            Value
  Type:            REG_DWORD
  Data:            0x7530


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\tcp\Proper
ty3
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            KEEPALIVEINTERVAL (in milliseconds)

Value 1
  Name:            Value
  Type:            REG_DWORD
  Data:            0x3e8


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\VIA
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            DLLname
  Type:            REG_SZ
  Data:            SQLNCLI

Value 1
  Name:            NumberOfFlags
  Type:            REG_DWORD
  Data:            0

Value 2
  Name:            NumberOfProperties
  Type:            REG_DWORD
  Data:            0x2

Value 3
  Name:            ProtocolName
  Type:            REG_SZ
  Data:            VIA


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\VIA\Proper
ty1
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Name
  Type:            REG_SZ
  Data:            Default Server Port

Value 1
  Name:            Value
  Type:            REG_SZ
  Data:            0:1433
```

```
Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SNI9.0\VIA\Proper
ty2
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             Name
  Type:             REG_SZ
  Data:             Default Client NIC

Value 1
  Name:             Value
  Type:             REG_SZ
  Data:             0


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\CurrentVersi
on
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             CurrentVersion
  Type:             REG_SZ
  Data:             9.00.1314.06


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketN
etLib
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:35 PM
Value 0
  Name:             ProtocolList
  Type:             REG_MULTI_SZ
  Data:             tcp
                    np


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketN
etLib\Np
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:35 PM
Value 0
  Name:             PipeName
  Type:             REG_SZ
  Data:             \\.\pipe\sql\query


Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketN
etLib\Tcp
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             TcpPort
  Type:             REG_SZ
  Data:             1433


Key Name:           HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Setup
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             SQLPath
  Type:             REG_SZ
  Data:             C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL
```

Software_Unisys_IntelligentFibre

```
Key Name:           HKEY_LOCAL_MACHINE\SOFTWARE\UNISYS\Intelligent Fibre
Utility
Class Name:         <NO CLASS>
Last Write Time:    7/28/2005 - 2:54 PM
Value 0
  Name:             AccessTuning
  Type:             REG_DWORD
  Data:             0x1
```

CurrentControlSet\ Control\Session Manager\I/O System

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\I/O
System
Class Name:         <NO CLASS>
Last Write Time:    8/16/2005 - 4:46 PM
Value 0
  Name:             CountOperations
  Type:             REG_DWORD
  Data:             0
```

CurrentControlSet\Services\Ifba

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifba
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:53 PM
Value 0
  Name:             Type
  Type:             REG_DWORD
  Data:             0x1
```

```
Value 1
  Name:             Start
  Type:             REG_DWORD
  Data:             0x3

Value 2
  Name:             ErrorControl
  Type:             REG_DWORD
  Data:             0x1

Value 3
  Name:             Tag
  Type:             REG_DWORD
  Data:             0x4

Value 4
  Name:             ImagePath
  Type:             REG_EXPAND_SZ
  Data:             system32\DRIVERS\ifba.sys

Value 5
  Name:             DisplayName
  Type:             REG_SZ
  Data:             Unisys Intelligent Fibre Channel Adapter SCSI Processor

Value 6
  Name:             Group
  Type:             REG_SZ
  Data:             SCSI Class


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifba\Security
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 8:37 AM
Value 0
  Name:             Security
  Type:             REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
 ...............
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................



Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifba\Enum
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:53 PM
Value 0
  Name:             0
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&2c288843&0&0C0A560B00080010

Value 1
  Name:             Count
  Type:             REG_DWORD
  Data:             0xa

Value 2
  Name:             NextInstance
  Type:             REG_DWORD
  Data:             0xa

Value 3
  Name:             1
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&2c288843&0&0D0A560B00080010

Value 4
  Name:             2
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&dce4a85&0&E804560B00080010

Value 5
  Name:             3
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&dce4a85&0&E904560B00080010

Value 6
  Name:             4
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&3b08969c&0&EC04560B00080010

Value 7
  Name:             5
  Type:             REG_SZ
  Data:             SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&3b08969c&0&ED04560B00080010
```

```
Value 8
  Name:            6
  Type:            REG_SZ
  Data:            SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&32f92ba6&0&B004560B00080010

Value 9
  Name:            7
  Type:            REG_SZ
  Data:            SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&32f92ba6&0&B104560B00080010

Value 10
  Name:            8
  Type:            REG_SZ
  Data:            SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&a179509&0&7433560B00080010

Value 11
  Name:            9
  Type:            REG_SZ
  Data:            SCSI\ProcessorUNISYS__FC76222-
P64_____v2__\6&a179509&0&7533560B00080010
```

CurrentControlSet\Services\Ifdisk

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:53 PM
Value 0
  Name:            Type
  Type:            REG_DWORD
  Data:            0x1

Value 1
  Name:            Start
  Type:            REG_DWORD
  Data:            0x1

Value 2
  Name:            ErrorControl
  Type:            REG_DWORD
  Data:            0x1

Value 3
  Name:            ImagePath
  Type:            REG_EXPAND_SZ
  Data:            system32\DRIVERS\ifdisk.sys

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Unisys Intelligent Fibre Channel Fabric Disk Driver
```

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk\Security
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 8:53 AM
Value 0
  Name:            Security
  Type:            REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
................
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................
```

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk\Enum
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:53 PM
Value 0
  Name:            0
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_DGC_____RAID_10_________0206\1&2d12bed1&0&B81121106001065000
000000000000000

Value 1
  Name:            Count
  Type:            REG_DWORD
  Data:            0x31

Value 2
  Name:            NextInstance
  Type:            REG_DWORD
  Data:            0x31
```

```
Value 3
  Name:            1
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000C000

Value 4
  Name:            2
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000B000

Value 5
  Name:            3
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000A000

Value 6
  Name:            4
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000009000

Value 7
  Name:            5
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000008000

Value 8
  Name:            6
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000007000

Value 9
  Name:            7
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000006000

Value 10
  Name:            8
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000005000

Value 11
  Name:            9
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000004000

Value 12
  Name:            10
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000003000

Value 13
  Name:            11
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000002000

Value 14
  Name:            12
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000001000

Value 15
  Name:            13
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000C000

Value 16
  Name:            14
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000B000

Value 17
  Name:            15
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000A000

Value 18
  Name:            16
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000009000

Value 19
  Name:            17
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000008000
```

```
Value 20
  Name:            18
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000007000

Value 21
  Name:            19
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000006000

Value 22
  Name:            20
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000005000

Value 23
  Name:            21
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000004000

Value 24
  Name:            22
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000003000

Value 25
  Name:            23
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000002000

Value 26
  Name:            24
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000001000

Value 27
  Name:            25
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000C000

Value 28
  Name:            26
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000B000

Value 29
  Name:            27
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000A000

Value 30
  Name:            28
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000009000

Value 31
  Name:            29
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000008000

Value 32
  Name:            30
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000007000

Value 33
  Name:            31
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000006000

Value 34
  Name:            32
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000005000

Value 35
  Name:            33
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000004000

Value 36
  Name:            34
  Type:            REG_SZ
```

```
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000003000

Value 37
  Name:            35
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000002000

Value 38
  Name:            36
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000001000

Value 39
  Name:            37
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000C000

Value 40
  Name:            38
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000B000

Value 41
  Name:            39
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000A000

Value 42
  Name:            40
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000009000

Value 43
  Name:            41
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000008000

Value 44
  Name:            42
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000007000

Value 45
  Name:            43
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000006000

Value 46
  Name:            44
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000005000

Value 47
  Name:            45
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000004000

Value 48
  Name:            46
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000003000

Value 49
  Name:            47
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000002000

Value 50
  Name:            48
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000001000
```

CurrentControlSet\Services\IfIp

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\IfIp
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:52 PM
Value 0
  Name:            Type
  Type:            REG_DWORD
  Data:            0x1

Value 1
```

```
  Name:             Start
  Type:             REG_DWORD
  Data:             0

Value 2
  Name:             ErrorControl
  Type:             REG_DWORD
  Data:             0x1

Value 3
  Name:             Tag
  Type:             REG_DWORD
  Data:             0x7

Value 4
  Name:             ImagePath
  Type:             REG_EXPAND_SZ
  Data:             system32\DRIVERS\IfIp.sys

Value 5
  Name:             DisplayName
  Type:             REG_SZ
  Data:             Unisys Intelligent Fibre Channel Fabric Bus Enumerator

Value 6
  Name:             Group
  Type:             REG_SZ
  Data:             Boot Bus Extender


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\IfIp\Security
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 8:39 AM
Value 0
  Name:             Security
  Type:             REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
 ...............
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................



Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\IfIp\Enum
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:52 PM
Value 0
  Name:             0
  Type:             REG_SZ
  Data:             Root\SYSTEM\0003

Value 1
  Name:             Count
  Type:             REG_DWORD
  Data:             0x1

Value 2
  Name:             NextInstance
  Type:             REG_DWORD
  Data:             0x1
```

CurrentControlSet\Services\ifxp

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:52 PM
Value 0
  Name:             Type
  Type:             REG_DWORD
  Data:             0x1

Value 1
  Name:             Start
  Type:             REG_DWORD
  Data:             0

Value 2
  Name:             ErrorControl
  Type:             REG_DWORD
  Data:             0x1

Value 3
  Name:             Tag
  Type:             REG_DWORD
  Data:             0x21

Value 4
  Name:             ImagePath
```

```
  Type:            REG_EXPAND_SZ
  Data:            system32\DRIVERS\ifxp.sys

Value 5
  Name:            DisplayName
  Type:            REG_SZ
  Data:            Unisys Intelligent Fibre Channel Fabric Bus Adapter

Value 6
  Name:            Group
  Type:            REG_SZ
  Data:            SCSI Miniport


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Parameters
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 8:36 AM

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Parameters\PnpIn
terface
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 8:36 AM
Value 0
  Name:            5
  Type:            REG_DWORD
  Data:            0x1


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Security
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 8:36 AM
Value 0
  Name:            Security
  Type:            REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
 ...............
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Enum
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:52 PM
Value 0
  Name:            0
  Type:            REG_SZ
  Data:
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&17f7f795&0&0008F8

Value 1
  Name:            Count
  Type:            REG_DWORD
  Data:            0x5

Value 2
  Name:            NextInstance
  Type:            REG_DWORD
  Data:            0x5

Value 3
  Name:            1
  Type:            REG_SZ
  Data:
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&63cb3c2&0&0008E8

Value 4
  Name:            2
  Type:            REG_SZ
  Data:
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&34fd2864&0&0008F8

Value 5
  Name:            3
  Type:            REG_SZ
  Data:
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&260ac241&0&0008F8

Value 6
  Name:            4
  Type:            REG_SZ
  Data:
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\5&286e042c&0&0008E8
```

CurrentControlSet\Services\lpxkdrvr

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:52 PM
Value 0
  Name:             Type
  Type:             REG_DWORD
  Data:             0x1

Value 1
  Name:             Start
  Type:             REG_DWORD
  Data:             0x3

Value 2
  Name:             ErrorControl
  Type:             REG_DWORD
  Data:             0x1

Value 3
  Name:             ImagePath
  Type:             REG_EXPAND_SZ
  Data:             system32\DRIVERS\lpxkdrvr.sys

Value 4
  Name:             DisplayName
  Type:             REG_SZ
  Data:             lpxkdrvr

Value 5
  Name:             Description
  Type:             REG_SZ
  Data:             LPXKSLI2 driver.


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr\Affinity
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 10:51 AM
Value 0
  Name:             0
  Type:             REG_DWORD
  Data:             0xffffffff

Value 1
  Name:             1
  Type:             REG_DWORD
  Data:             0xffffffff

Value 2
  Name:             2
  Type:             REG_DWORD
  Data:             0xffffffff

Value 3
  Name:             3
  Type:             REG_DWORD
  Data:             0xffffffff

Value 4
  Name:             4
  Type:             REG_DWORD
  Data:             0xffffffff

Value 5
  Name:             5
  Type:             REG_DWORD
  Data:             0xffffffff

Value 6
  Name:             6
  Type:             REG_DWORD
  Data:             0xffffffff

Value 7
  Name:             7
  Type:             REG_DWORD
  Data:             0xffffffff


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr\Coalesce
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:20 PM
Value 0
  Name:             0
  Type:             REG_DWORD
  Data:             0xc5140000

Value 1
  Name:             1
  Type:             REG_DWORD
  Data:             0xc5140000

Value 2
  Name:             2
  Type:             REG_DWORD
  Data:             0xc5140000

Value 3
  Name:             3
  Type:             REG_DWORD
  Data:             0xc5140000

Value 4
  Name:             4
  Type:             REG_DWORD
  Data:             0xc5140000

Value 5
  Name:             5
  Type:             REG_DWORD
  Data:             0xc5140000
```

```
Value 6
  Name:            6
  Type:            REG_DWORD
  Data:            0xc5140000

Value 7
  Name:            7
  Type:            REG_DWORD
  Data:            0xc5140000


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr\Security
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 10:51 AM
Value 0
  Name:            Security
  Type:            REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
..............
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................



Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr\TgtIntCnt
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 10:51 AM
Value 0
  Name:            0
  Type:            REG_DWORD
  Data:            0

Value 1
  Name:            1
  Type:            REG_DWORD
  Data:            0

Value 2
  Name:            2
  Type:            REG_DWORD
  Data:            0

Value 3
  Name:            3
  Type:            REG_DWORD
  Data:            0

Value 4
  Name:            4
  Type:            REG_DWORD
  Data:            0

Value 5
  Name:            5
  Type:            REG_DWORD
  Data:            0

Value 6
  Name:            6
  Type:            REG_DWORD
  Data:            0

Value 7
  Name:            7
  Type:            REG_DWORD
  Data:            0


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lpxkdrvr\Enum
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:52 PM
Value 0
  Name:            0
  Type:            REG_SZ
  Data:
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\4&1ef5336&0&08E8

Value 1
  Name:            Count
  Type:            REG_DWORD
  Data:            0x4

Value 2
  Name:            NextInstance
  Type:            REG_DWORD
  Data:            0x4

Value 3
  Name:            1
  Type:            REG_SZ
  Data:
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\4&1ef5336&0&09E8
```

```
Value 4
  Name:            2
  Type:            REG_SZ
  Data:
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\4&1e703ca3&0&08E8

Value 5
  Name:            3
  Type:            REG_SZ
  Data:
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\4&1e703ca3&0&09E8
```

CurrentControlSet\Services\MSSQLSERVER

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER
Class Name:        <NO CLASS>
Last Write Time:   10/20/2005 - 8:52 PM
Value 0
  Name:            Type
  Type:            REG_DWORD
  Data:            0x10

Value 1
  Name:            Start
  Type:            REG_DWORD
  Data:            0x3

Value 2
  Name:            ErrorControl
  Type:            REG_DWORD
  Data:            0x1

Value 3
  Name:            ImagePath
  Type:            REG_EXPAND_SZ
  Data:            "C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\Binn\sqlservr.exe" -sMSSQLSERVER

Value 4
  Name:            DisplayName
  Type:            REG_SZ
  Data:            SQL Server (MSSQLSERVER)

Value 5
  Name:            ObjectName
  Type:            REG_SZ
  Data:            LocalSystem

Value 6
  Name:            Description
  Type:            REG_SZ
  Data:            Provides storage, processing and controlled access of
data and rapid transaction processing.
```

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Linkage
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:09 PM
Value 0
  Name:            Export
  Type:            REG_MULTI_SZ
  Data:            MSSQLSERVER


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Performan
ce
Class Name:        <NO CLASS>
Last Write Time:   10/13/2005 - 1:14 PM
Value 0
  Name:            Library
  Type:            REG_SZ
  Data:            sqlctr90.dll

Value 1
  Name:            Open
  Type:            REG_SZ
  Data:            OpenSQLPerformanceData1

Value 2
  Name:            Collect
  Type:            REG_SZ
  Data:            CollectSQLPerformanceData1

Value 3
  Name:            Close
  Type:            REG_SZ
  Data:            CloseSQLPerformanceData1

Value 4
  Name:            PerfIniFile
  Type:            REG_SZ
  Data:            perf-MSSQLSERVERsqlctr.ini

Value 5
  Name:            Last Counter
  Type:            REG_DWORD
  Data:            0x1048

Value 6
  Name:            Last Help
  Type:            REG_DWORD
  Data:            0x1049

Value 7
  Name:            First Counter
  Type:            REG_DWORD
  Data:            0xdd4

Value 8
  Name:            First Help
  Type:            REG_DWORD
```

```
  Data:             0xdd5

Value 9
  Name:             Library Validation Code
  Type:             REG_BINARY
  Data:
00000000   00 54 b1 3a bb b0 c5 01 - d8 34 01 00 00 00 00 00
.T±:»°Å.Ø4......


Value 10
  Name:             WbemAdapFileSignature
  Type:             REG_BINARY
  Data:
00000000   b3 51 9f d0 11 74 3a 47 - e7 39 c3 29 00 f2 66 68
³Q.Ð.t:Gç9Ã).òfh


Value 11
  Name:             WbemAdapFileTime
  Type:             REG_BINARY
  Data:
00 54 b1 3a bb b0 c5 01 -                          .T±:»°Å.

Value 12
  Name:             WbemAdapFileSize
  Type:             REG_DWORD
  Data:             0x134d8

Value 13
  Name:             WbemAdapStatus
  Type:             REG_DWORD
  Data:             0


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Security
Class Name:         <NO CLASS>
Last Write Time:    10/13/2005 - 1:09 PM
Value 0
  Name:             Security
  Type:             REG_BINARY
  Data:
00000000   01 00 14 80 b8 00 00 00 - c4 00 00 00 14 00 00 00
....¸...Ä.......
00000010   30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0...............
00000020   ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ...............
00000030   02 00 88 00 06 00 00 00 - 00 00 14 00 fd 01 02 00
............ý...
00000040   01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
................
00000050   ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ...........
...
00000060   20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
................
00000070   00 00 00 05 04 00 00 00 - 00 00 14 00 8d 01 02 00
................
00000080   01 01 00 00 00 00 00 05 - 06 00 00 00 00 00 14 00
................
00000090   00 01 00 00 01 01 00 00 - 00 00 00 05 0b 00 00 00
................
000000a0   00 00 18 00 fd 01 02 00 - 01 02 00 00 00 00 00 05
....ý...........
000000b0   20 00 00 00 23 02 00 00 - 01 01 00 00 00 00 00 05
...#............
000000c0   12 00 00 00 01 01 00 00 - 00 00 00 05 12 00 00 00
................



Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Enum
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:52 PM
Value 0
  Name:             0
  Type:             REG_SZ
  Data:             Root\LEGACY_MSSQLSERVER\0000

Value 1
  Name:             Count
  Type:             REG_DWORD
  Data:             0x1

Value 2
  Name:             NextInstance
  Type:             REG_DWORD
  Data:             0x1
```

CurrentControlSet\Services\PartMgr

```
Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\PartMgr
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:52 PM
Value 0
  Name:             DisplayName
  Type:             REG_SZ
  Data:             Partition Manager

Value 1
  Name:             ErrorControl
  Type:             REG_DWORD
  Data:             0x1

Value 2
  Name:             Group
  Type:             REG_SZ
  Data:             System Bus Extender

Value 3
  Name:             Start
  Type:             REG_DWORD
```

```
  Data:             0

Value 4
  Name:             Tag
  Type:             REG_DWORD
  Data:             0x5

Value 5
  Name:             Type
  Type:             REG_DWORD
  Data:             0x1


Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\PartMgr\Enum
Class Name:         <NO CLASS>
Last Write Time:    10/20/2005 - 8:53 PM
Value 0
  Name:             0
  Type:             REG_SZ
  Data:             Root\LEGACY_PARTMGR\0000

Value 1
  Name:             Count
  Type:             REG_DWORD
  Data:             0x33

Value 2
  Name:             NextInstance
  Type:             REG_DWORD
  Data:             0x33

Value 3
  Name:             1
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_ADAPTEC&Prod_RAID_1&Rev_1.0\5&344567f4&0&700

Value 4
  Name:             2
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_DGC_____RAID_10__________0206\1&2d12bed1&0&B81121106001065000
000000000000000

Value 5
  Name:             3
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000C000

Value 6
  Name:             4
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000B000

Value 7
  Name:             5
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
00000000000A000

Value 8
  Name:             6
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000009000

Value 9
  Name:             7
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000008000

Value 10
  Name:             8
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000007000

Value 11
  Name:             9
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000006000

Value 12
  Name:             10
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000005000

Value 13
  Name:             11
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000004000

Value 14
  Name:             12
  Type:             REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000003000

Value 15
  Name:             13
  Type:             REG_SZ
```

```
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000002000

Value 16
  Name:            14
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&094000861000001000
000000000001000

Value 17
  Name:            15
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000C000

Value 18
  Name:            16
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000B000

Value 19
  Name:            17
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
00000000000A000

Value 20
  Name:            18
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000009000

Value 21
  Name:            19
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000008000

Value 22
  Name:            20
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000007000

Value 23
  Name:            21
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000006000

Value 24
  Name:            22
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000005000

Value 25
  Name:            23
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000004000

Value 26
  Name:            24
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000003000

Value 27
  Name:            25
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000002000

Value 28
  Name:            26
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&9B3F00861000001000
000000000001000

Value 29
  Name:            27
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000C000

Value 30
  Name:            28
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000B000

Value 31
  Name:            29
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
00000000000A000

Value 32
  Name:            30
```

```
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000009000

Value 33
  Name:            31
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000008000

Value 34
  Name:            32
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000007000

Value 35
  Name:            33
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000006000

Value 36
  Name:            34
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000005000

Value 37
  Name:            35
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000004000

Value 38
  Name:            36
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000003000

Value 39
  Name:            37
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000002000

Value 40
  Name:            38
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&DB3F00861000001000
000000000001000

Value 41
  Name:            39
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000C000

Value 42
  Name:            40
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000B000

Value 43
  Name:            41
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
00000000000A000

Value 44
  Name:            42
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000009000

Value 45
  Name:            43
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000008000

Value 46
  Name:            44
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000007000

Value 47
  Name:            45
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000006000

Value 48
  Name:            46
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000005000
```

```
Value 49
  Name:            47
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000004000

Value 50
  Name:            48
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000003000

Value 51
  Name:            49
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000002000

Value 52
  Name:            50
  Type:            REG_SZ
  Data:
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&2d12bed1&0&C33F00861000001000
000000000001000
```

Windows 2003 Server Client Configuration Information

(Common to 4 clients except for System Name, IP Address & MAC Address)

Hwconfig.ver

```
System Information report written at: 09/26/05 21:26:55
System Name: CLIENT1
[System Summary]

Item    Value
OS Name Microsoft(R) Windows(R) Server 2003, Standard Edition
Version 5.2.3790 Service Pack 1 Build 3790
Other OS Description   Not Available
OS Manufacturer        Microsoft Corporation
System Name    CLIENT1
System Manufacturer    Unisys System
System Model   ES3120L
System Type    X86-based PC
Processor      x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3391 Mhz

Processor      x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3391 Mhz

Processor      x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3391 Mhz

Processor      x86 Family 15 Model 3 Stepping 4 GenuineIntel ~3391 Mhz

BIOS Version/Date      Unisys System A01, 9/2/2004
SMBIOS Version 2.3
Windows Directory      C:\WINDOWS
System Directory       C:\WINDOWS\system32
Boot Device    \Device\HarddiskVolume1
Locale  United States
Hardware Abstraction Layer    Version = "5.2.3790.1830
(srv03_sp1_rtm.050324-1447)"
User Name      CLIENT1\Administrator
Time Zone      Pacific Daylight Time
Total Physical Memory  2,047.27 MB
Available Physical Memory     1.75 GB
Total Virtual Memory   3.85 GB
Available Virtual Memory      3.75 GB
Page File Space        2.00 GB
Page File      C:\pagefile.sys

[Hardware Resources]



[Conflicts/Sharing]

Resource       Device
I/O Port 0x00000000-0x00000CF7        PCI bus
I/O Port 0x00000000-0x00000CF7        Direct memory access controller


Memory Address 0xD8000000-0xD8FFFFFF  Intel(R) E7525/E7520/E7320 PCI
Express Root Port A0 - 3595
Memory Address 0xD8000000-0xD8FFFFFF  PCI standard PCI-to-PCI bridge


I/O Port 0x0000E000-0x0000EFFF        Intel(R) E7525/E7520/E7320 PCI
Express Root Port A0 - 3595
I/O Port 0x0000E000-0x0000EFFF        PCI standard PCI-to-PCI bridge


I/O Port 0x0000B000-0x0000BFFF        Intel(R) E7520 PCI Express Root Port
C0 - 3599
I/O Port 0x0000B000-0x0000BFFF        Intel(R) 6700PXH PCI Express-to-PCI
Bridge B - 032A

IRQ 16  Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595
IRQ 16  Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597
IRQ 16  Intel(R) E7520 PCI Express Root Port B1 - 3598
IRQ 16  Intel(R) E7520 PCI Express Root Port C0 - 3599
IRQ 16  Standard Universal PCI to USB Host Controller

IRQ 18  Standard Universal PCI to USB Host Controller
IRQ 18  RADEON 7000 RADEON VE Family (Microsoft Corporation)

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

```
I/O Port 0x0000C000-0x0000DFFF       Intel(R) E7520 PCI Express Root Port
B1 - 3598
I/O Port 0x0000C000-0x0000DFFF       Intel(R) 6700PXH PCI Express-to-PCI
Bridge B - 032A


[DMA]

Resource       Device  Status
Channel 4      Direct memory access controller      OK
Channel 2      Standard floppy disk controller      OK

[Forced Hardware]

Device  PNP Device ID

[I/O]

Resource       Device  Status
0x00000000-0x00000CF7  PCI bus OK
0x00000000-0x00000CF7  Direct memory access controller      OK
0x00000D00-0x0000FFFF  PCI bus OK
0x0000E000-0x0000EFFF  Intel(R) E7525/E7520/E7320 PCI Express Root Port A0
- 3595  OK
0x0000E000-0x0000EFFF  PCI standard PCI-to-PCI bridge       OK
0x0000EC00-0x0000ECFF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0x0000E800-0x0000E8FF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0x0000C000-0x0000DFFF  Intel(R) E7520 PCI Express Root Port B1 - 3598
       OK
0x0000C000-0x0000DFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
       OK
0x0000D000-0x0000DFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
       OK
0x0000DCC0-0x0000DCFF  Intel(R) PRO/1000 MT Network Connection      OK

0x0000CCC0-0x0000CCFF  Intel(R) PRO/1000 MT Network Connection #2   OK

0x0000B000-0x0000BFFF  Intel(R) E7520 PCI Express Root Port C0 - 3599
       OK
0x0000B000-0x0000BFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
       OK
0x0000BC00-0x0000BCFF  Emulex LP 10000 - Unisys VI   OK
0x0000B800-0x0000B8FF  Emulex LP 10000 - Unisys VI   OK
0x00009CE0-0x00009CFF  Standard Universal PCI to USB Host Controller
       OK
0x00009CC0-0x00009CDF  Standard Universal PCI to USB Host Controller
       OK
0x00009CA0-0x00009CBF  Standard Universal PCI to USB Host Controller
       OK
0x0000AC00-0x0000ACFF  RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0x000003B0-0x000003BB  RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0x000003C0-0x000003DF  RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0x00000A79-0x00000A79  ISAPNP Read Data Port  OK
0x00000279-0x00000279  ISAPNP Read Data Port  OK
0x00000274-0x00000277  ISAPNP Read Data Port  OK
0x00000080-0x0000009F  Direct memory access controller      OK
0x000000C0-0x000000DF  Direct memory access controller      OK
0x000000F0-0x000000FF  Numeric data processor OK
0x00000020-0x0000003F  Programmable interrupt controller    OK
0x000000A0-0x000000BF  Programmable interrupt controller    OK
0x000004D0-0x000004D1  Programmable interrupt controller    OK
0x00000061-0x00000061  System speaker OK
0x00000070-0x0000007F  System CMOS/real time clock   OK
0x00000040-0x0000005F  System timer   OK
0x000003F0-0x000003F5  Standard floppy disk controller      OK
0x000003F7-0x000003F7  Standard floppy disk controller      OK
0x00000060-0x00000060  Standard 101/102-Key or Microsoft Natural PS/2
Keyboard       OK
0x00000064-0x00000064  Standard 101/102-Key or Microsoft Natural PS/2
Keyboard       OK
0x000003F8-0x000003FF  Communications Port (COM1)    OK
0x00000800-0x0000087F  System board   OK
0x00000880-0x000008BF  System board   OK
0x000008C0-0x000008DF  System board   OK
0x00000C00-0x00000C0F  System board   OK
0x00000C10-0x00000C1F  System board   OK
0x00000CA0-0x00000CAF  System board   OK
0x00000C20-0x00000C3F  System board   OK
0x000000E0-0x000000E7  System board   OK
0x0000FC00-0x0000FC0F  Intel(R) 82801EB Ultra ATA Storage Controllers -
24DB    OK
0x000001F0-0x000001F7  Primary IDE Channel    OK
0x000003F6-0x000003F6  Primary IDE Channel    OK
0x00000170-0x00000177  Secondary IDE Channel  OK
0x00000376-0x00000376  Secondary IDE Channel  OK

[IRQs]

Resource       Device  Status
IRQ 9   Microsoft ACPI-Compliant System      OK
IRQ 16  Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595  OK

IRQ 16  Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 OK
IRQ 16  Intel(R) E7520 PCI Express Root Port B1 - 3598       OK
IRQ 16  Intel(R) E7520 PCI Express Root Port C0 - 3599       OK
IRQ 16  Standard Universal PCI to USB Host Controller       OK
IRQ 34  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK
IRQ 33  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK
IRQ 64  Intel(R) PRO/1000 MT Network Connection      OK
IRQ 65  Intel(R) PRO/1000 MT Network Connection #2   OK
IRQ 101 Emulex LP 10000 - Unisys VI   OK
IRQ 102 Emulex LP 10000 - Unisys VI   OK
IRQ 19  Standard Universal PCI to USB Host Controller       OK
IRQ 18  Standard Universal PCI to USB Host Controller       OK
IRQ 18  RADEON 7000 RADEON VE Family (Microsoft Corporation) OK
IRQ 23  Standard Enhanced PCI to USB Host Controller OK
IRQ 13  Numeric data processor OK
IRQ 8   System CMOS/real time clock   OK
IRQ 0   System timer   OK
IRQ 6   Standard floppy disk controller      OK
IRQ 1   Standard 101/102-Key or Microsoft Natural PS/2 Keyboard     OK

IRQ 12  PS/2 Compatible Mouse  OK
```

```
IRQ 4   Communications Port (COM1)    OK
IRQ 14  Primary IDE Channel    OK
IRQ 15  Secondary IDE Channel  OK

[Memory]

Resource       Device  Status
0xA0000-0xBFFFF        PCI bus OK
0xA0000-0xBFFFF        RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0x80000000-0xFEBFFFFF  PCI bus OK
0xDFC00000-0xDFEFFFFF  Intel(R) E7525/E7520/E7320 PCI Express Root Port A0
- 3595  OK
0xD8000000-0xD8FFFFFF  Intel(R) E7525/E7520/E7320 PCI Express Root Port A0
- 3595  OK
0xD8000000-0xD8FFFFFF  PCI standard PCI-to-PCI bridge       OK
0xDFD00000-0xDFEFFFFF  PCI standard PCI-to-PCI bridge       OK
0xDFDF0000-0xDFDFFFFF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0xDFDE0000-0xDFDEFFFF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0xDFDD0000-0xDFDDFFFF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0xDFDC0000-0xDFDCFFFF  LSI Logic PCI-X Ultra320 SCSI Host Adapter   OK

0xDF700000-0xDFBFFFFF  Intel(R) E7520 PCI Express Root Port B1 - 3598
       OK
0xDFA00000-0xDFBFFFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329
       OK
0xDFAE0000-0xDFAFFFFF  Intel(R) PRO/1000 MT Network Connection      OK

0xDF800000-0xDF9FFFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
       OK
0xDF8E0000-0xDF8FFFFF  Intel(R) PRO/1000 MT Network Connection #2   OK

0xDF400000-0xDF6FFFFF  Intel(R) E7520 PCI Express Root Port C0 - 3599
       OK
0xDF500000-0xDF6FFFFF  Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A
       OK
0xDF5FF000-0xDF5FFFFF  Emulex LP 10000 - Unisys VI   OK
0xDF5FEC00-0xDF5FECFF  Emulex LP 10000 - Unisys VI   OK
0xDF5FD000-0xDF5FDFFF  Emulex LP 10000 - Unisys VI   OK
0xDF5FE800-0xDF5FE8FF  Emulex LP 10000 - Unisys VI   OK
0xDFF00000-0xDFF003FF  Standard Enhanced PCI to USB Host Controller OK

0xD0000000-0xD7FFFFFF  RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0xDF2F0000-0xDF2FFFFF  RADEON 7000 RADEON VE Family (Microsoft
Corporation)   OK
0xFEBFFC00-0xFEBFFFFF  Intel(R) 82801EB Ultra ATA Storage Controllers -
24DB    OK
0xE0000000-0xEFFFFFFF  Motherboard resources  OK
0xFED00000-0xFED003FF  High precision event timer    OK

[Components]


[Multimedia]

[Audio Codecs]

CODEC   Manufacturer   Description    Status  File    Version Size
       Creation Date
c:\windows\system32\msaud32.acm       Microsoft Corporation  Windows Media
Audio Codec    OK

C:\WINDOWS\system32\MSAUD32.ACM       8.00.00.4487   288.00 KB (294,912
bytes)  3/25/2003 11:00 AM
c:\windows\system32\msgsm32.acm       Microsoft Corporation         OK


C:\WINDOWS\system32\MSGSM32.ACM       5.2.3790.0 (srv03_rtm.030324-2048)
       20.50 KB (20,992 bytes)

3/25/2003 11:00 AM
c:\windows\system32\msg723.acm        Microsoft Corporation         OK


C:\WINDOWS\system32\MSG723.ACM        5.2.3790.1830  120.00 KB (122,880
bytes)  7/22/2005 1:04 PM
c:\windows\system32\l3codeca.acm      Fraunhofer Institut Integrierte
Schaltungen IIS        Fraunhofer

IIS MPEG Layer-3 Codec OK      C:\WINDOWS\system32\L3CODECA.ACM      1, 9,
0, 0305 284.00 KB

(290,816 bytes)        3/25/2003 11:00 AM
c:\windows\system32\imaadp32.acm      Microsoft Corporation         OK


C:\WINDOWS\system32\IMAADP32.ACM      5.2.3790.0 (srv03_rtm.030324-2048)
       15.50 KB (15,872

bytes)  3/25/2003 11:00 AM
c:\windows\system32\sl_anet.acm       Sipro Lab Telecom Inc. Sipro Lab
Telecom Audio Codec    OK

C:\WINDOWS\system32\SL_ANET.ACM       3.02    84.00 KB (86,016 bytes)
       3/25/2003 11:00 AM
c:\windows\system32\msg711.acm        Microsoft Corporation         OK


C:\WINDOWS\system32\MSG711.ACM        5.2.3790.0 (srv03_rtm.030324-2048)
       10.00 KB (10,240 bytes)

3/25/2003 11:00 AM
c:\windows\system32\tssoft32.acm      DSP GROUP, INC.               OK


C:\WINDOWS\system32\TSSOFT32.ACM      1.01    9.50 KB (9,728 bytes)
       3/25/2003 11:00 AM
c:\windows\system32\msadp32.acm       Microsoft Corporation         OK
```

```
C:\WINDOWS\system32\MSADP32.ACM       5.2.3790.0 (srv03_rtm.030324-2048)
        14.50 KB (14,848 bytes)

3/25/2003 11:00 AM

[Video Codecs]

CODEC   Manufacturer   Description    Status  File    Version Size
        Creation Date
c:\windows\system32\msvidc32.dll      Microsoft Corporation         OK


C:\WINDOWS\system32\MSVIDC32.DLL      5.2.3790.0 (srv03_rtm.030324-2048)
        26.50 KB (27,136

bytes)  3/25/2003 11:00 AM
c:\windows\system32\tsbyuv.dll        Microsoft Corporation         OK


C:\WINDOWS\system32\TSBYUV.DLL        5.2.3790.0 (srv03_rtm.030324-2048)
        8.00 KB (8,192 bytes)

3/24/2003 5:50 PM
c:\windows\system32\msrle32.dll       Microsoft Corporation         OK


C:\WINDOWS\system32\MSRLE32.DLL       5.2.3790.0 (srv03_rtm.030324-2048)
        10.50 KB (10,752 bytes)

3/25/2003 11:00 AM
c:\windows\system32\msyuv.dll Microsoft Corporation         OK

C:\WINDOWS\system32\MSYUV.DLL 5.2.3790.0 (srv03_rtm.030324-2048)    16.50
KB (16,896 bytes)

3/24/2003 5:49 PM
c:\windows\system32\iyuv_32.dll       Microsoft Corporation         OK


C:\WINDOWS\system32\IYUV_32.DLL       5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   46.50 KB (47,616

bytes)  7/22/2005 1:04 PM
c:\windows\system32\msh261.drv        Microsoft Corporation         OK


C:\WINDOWS\system32\MSH261.DRV        5.2.3790.1830  184.00 KB (188,416
bytes)  7/22/2005 1:04 PM
c:\windows\system32\msh263.drv        Microsoft Corporation         OK


C:\WINDOWS\system32\MSH263.DRV        5.2.3790.1830  288.00 KB (294,912
bytes)  7/22/2005 1:04 PM

[CD-ROM]

Item    Value
Drive   D:
Description    CD-ROM Drive
Media Loaded   No
Media Type     CD-ROM
Name    TEAC CD-224E
Manufacturer   (Standard CD-ROM drives)
Status  OK
Transfer Rate  Not Available
SCSI Target ID 0
PNP Device ID  IDE\CDROMTEAC_CD-
224E_____________________________K.9A____\5&122E1C04&0&0.0.0
Driver  c:\windows\system32\drivers\cdrom.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 51.00 KB

(52,224 bytes), 3/25/2003 11:00 AM)

[Sound Device]

Item    Value

[Display]

Item    Value
Name    RADEON 7000 RADEON VE Family (Microsoft Corporation)
PNP Device ID
        PCI\VEN_1002&DEV_5159&SUBSYS_016D1028&REV_00\4&1F7DBC9F&0&68F0

Adapter Type   Radeon 7000 (QY), ATI Technologies Inc. compatible
Adapter Description    RADEON 7000 RADEON VE Family (Microsoft
Corporation)
Adapter RAM    16.00 MB (16,777,216 bytes)
Installed Drivers      ati2dvag.dll
Driver Version 5.1.2600.0
INF File       atiixpag.inf (ati2mtag_RV100 section)
Color Planes   1
Color Table Entries    4294967296
Resolution     800 x 600 x 60 hertz
Bits/Pixel     32
Memory Address 0xD0000000-0xD7FFFFFF
I/O Port       0x0000AC00-0x0000ACFF
Memory Address 0xDF2F0000-0xDF2FFFFF
IRQ Channel    IRQ 18
I/O Port       0x000003B0-0x000003BB
I/O Port       0x000003C0-0x000003DF
Memory Address 0xA0000-0xBFFFF
Driver  c:\windows\system32\drivers\ati2mtag.sys (6.13.10.6153, 439.63 KB
(450,176 bytes),

10/19/2004 12:30 PM)

[Infrared]

Item    Value

[Input]



[Keyboard]

Item    Value
```

```
Description    Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Name    Enhanced (101- or 102-key)
Layout  00000409
PNP Device ID  ACPI\PNP0303\4&26DD0F47&0
Number of Function Keys       12
I/O Port       0x00000060-0x00000060
I/O Port       0x00000064-0x00000064
IRQ Channel    IRQ 1
Driver  c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 54.50

KB (55,808 bytes), 3/25/2003 11:00 AM)

[Pointing Device]

Item    Value
Hardware Type  PS/2 Compatible Mouse
Number of Buttons      5
Status  OK
PNP Device ID  ACPI\PNP0F13\4&26DD0F47&0
Power Management Supported    No
Double Click Threshold 6
Handedness     Right Handed Operation
IRQ Channel    IRQ 12
Driver  c:\windows\system32\drivers\i8042prt.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 54.50

KB (55,808 bytes), 3/25/2003 11:00 AM)

[Modem]

Item    Value

[Network]



[Adapter]

Item    Value
Name    [00000001] RAS Async Adapter
Adapter Type   Not Available
Product Type   RAS Async Adapter
Installed      Yes
PNP Device ID  Not Available
Last Reset     9/26/2005 6:11 PM
Index  1
Service Name   AsyncMac
IP Address     Not Available
IP Subnet      Not Available
Default IP Gateway     Not Available
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    Not Available

Name    [00000002] WAN Miniport (L2TP)
Adapter Type   Not Available
Product Type   WAN Miniport (L2TP)
Installed      Yes
PNP Device ID  ROOT\MS_L2TPMINIPORT\0000
Last Reset     9/26/2005 6:11 PM
Index  2
Service Name   Rasl2tp
IP Address     Not Available
IP Subnet      Not Available
Default IP Gateway     Not Available
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    Not Available
Driver  c:\windows\system32\drivers\rasl2tp.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 66.00 KB

(67,584 bytes), 3/25/2003 11:00 AM)

Name    [00000003] WAN Miniport (PPTP)
Adapter Type   Wide Area Network (WAN)
Product Type   WAN Miniport (PPTP)
Installed      Yes
PNP Device ID  ROOT\MS_PPTPMINIPORT\0000
Last Reset     9/26/2005 6:11 PM
Index  3
Service Name   PptpMiniport
IP Address     Not Available
IP Subnet      Not Available
Default IP Gateway     Not Available
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    50:50:54:50:30:30
Driver  c:\windows\system32\drivers\raspptp.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 61.00 KB

(62,464 bytes), 3/25/2003 11:00 AM)

Name    [00000004] WAN Miniport (PPPOE)
Adapter Type   Wide Area Network (WAN)
Product Type   WAN Miniport (PPPOE)
Installed      Yes
PNP Device ID  ROOT\MS_PPPOEMINIPORT\0000
Last Reset     9/26/2005 6:11 PM
Index  4
Service Name   RasPppoe
IP Address     Not Available
IP Subnet      Not Available
Default IP Gateway     Not Available
DHCP Enabled   No
DHCP Server    Not Available
DHCP Lease Expires     Not Available
DHCP Lease Obtained    Not Available
MAC Address    33:50:6F:45:30:30
```

```
Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 40.00

KB (40,960 bytes), 3/25/2003 11:00 AM)

Name    [00000005] Direct Parallel
Adapter Type    Not Available
Product Type    Direct Parallel
Installed       Yes
PNP Device ID   ROOT\MS_PTIMINIPORT\0000
Last Reset      9/26/2005 6:11 PM
Index   5
Service Name    Raspti
IP Address      Not Available
IP Subnet       Not Available
Default IP Gateway      Not Available
DHCP Enabled    No
DHCP Server     Not Available
DHCP Lease Expires      Not Available
DHCP Lease Obtained     Not Available
MAC Address     Not Available
Driver c:\windows\system32\drivers\raspti.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 19.50 KB

(19,968 bytes), 3/25/2003 11:00 AM)

Name    [00000006] WAN Miniport (IP)
Adapter Type    Not Available
Product Type    WAN Miniport (IP)
Installed       Yes
PNP Device ID   ROOT\MS_NDISWANIP\0000
Last Reset      9/26/2005 6:11 PM
Index   6
Service Name    NdisWan
IP Address      Not Available
IP Subnet       Not Available
Default IP Gateway      Not Available
DHCP Enabled    No
DHCP Server     Not Available
DHCP Lease Expires      Not Available
DHCP Lease Obtained     Not Available
MAC Address     Not Available
Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 91.00 KB

(93,184 bytes), 3/25/2003 11:00 AM)

Name    [00000007] Intel(R) PRO/1000 MT Network Connection
Adapter Type    Ethernet 802.3
Product Type    Intel(R) PRO/1000 MT Network Connection
Installed       Yes
PNP Device ID
        PCI\VEN_8086&DEV_1076&SUBSYS_016D1028&REV_05\5&803901B&0&380028

Last Reset      9/26/2005 6:11 PM
Index   7
Service Name    E1000
IP Address      192.158.2.9, 192.168.91.1, 192.168.123.2
IP Subnet       255.255.255.0, 255.255.255.0, 255.255.255.0
Default IP Gateway      Not Available
DHCP Enabled    No
DHCP Server     Not Available
DHCP Lease Expires      Not Available
DHCP Lease Obtained     Not Available
MAC Address     00:11:43:35:4D:E1
Memory Address  0xDFAE0000-0xDFAFFFFF
I/O Port        0x0000DCC0-0x0000DCFF
IRQ Channel     IRQ 64
Driver c:\windows\system32\drivers\e1000325.sys (7.2.19.1 built by:
WinDDK, 123.00 KB (125,952

bytes), 10/20/2004 11:10 AM)

Name    [00000008] Intel(R) PRO/1000 MT Network Connection
Adapter Type    Ethernet 802.3
Product Type    Intel(R) PRO/1000 MT Network Connection
Installed       Yes
PNP Device ID
        PCI\VEN_8086&DEV_1076&SUBSYS_016D1028&REV_05\5&C8E9BA0&0&400228

Last Reset      9/26/2005 6:11 PM
Index   8
Service Name    E1000
IP Address      192.9.1.1, 192.1.10.1
IP Subnet       255.255.255.0, 255.255.255.0
Default IP Gateway      Not Available
DHCP Enabled    No
DHCP Server     Not Available
DHCP Lease Expires      Not Available
DHCP Lease Obtained     Not Available
MAC Address     00:11:43:35:4D:E2
Memory Address  0xDF8E0000-0xDF8FFFFF
I/O Port        0x0000CCC0-0x0000CCFF
IRQ Channel     IRQ 65
Driver c:\windows\system32\drivers\e1000325.sys (7.2.19.1 built by:
WinDDK, 123.00 KB (125,952

bytes), 10/20/2004 11:10 AM)

[Protocol]

Item    Value
Name    MSAFD Tcpip [TCP/IP]
Connectionless Service  No
Guarantees Delivery     Yes
Guarantees Sequencing   Yes
Maximum Address Size    16 bytes
Maximum Message Size    0 bytes
Message Oriented        No
Minimum Address Size    16 bytes
Pseudo Stream Oriented  No
Supports Broadcasting   No
Supports Connect Data   No
Supports Disconnect Data        No
Supports Encryption     No
Supports Expedited Data         Yes
Supports Graceful Closing       Yes
Supports Guaranteed Bandwidth   No
```

```
Supports Multicasting  No

Name    MSAFD Tcpip [UDP/IP]
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   16 bytes
Maximum Message Size   63.93 KB (65,467 bytes)
Message Oriented       Yes
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  Yes

Name    RSVP UDP Service Provider
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   16 bytes
Maximum Message Size   63.93 KB (65,467 bytes)
Message Oriented       Yes
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    Yes
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  Yes

Name    RSVP TCP Service Provider
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   16 bytes
Maximum Message Size   0 bytes
Message Oriented       No
Minimum Address Size   16 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    Yes
Supports Expedited Data       Yes
Supports Graceful Closing     Yes
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{8D10888B-172C-42DA-9119-
F690C6569F08}] SEQPACKET 3
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{8D10888B-172C-42DA-9119-
F690C6569F08}] DATAGRAM 3
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{35D335E3-7BFB-4A25-803D-
7C9A89A68C20}] SEQPACKET 0
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{35D335E3-7BFB-4A25-803D-
7C9A89A68C20}] DATAGRAM 0
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
```

```
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{2D13871F-65E0-4488-975A-
87F4820F3CA7}] SEQPACKET 1
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{2D13871F-65E0-4488-975A-
87F4820F3CA7}] DATAGRAM 1
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{C66855BE-E13A-4E93-B9E8-
4AEAB2144A65}] SEQPACKET 2
Connectionless Service No
Guarantees Delivery    Yes
Guarantees Sequencing  Yes
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  No
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

Name    MSAFD NetBIOS [\Device\NetBT_Tcpip_{C66855BE-E13A-4E93-B9E8-
4AEAB2144A65}] DATAGRAM 2
Connectionless Service Yes
Guarantees Delivery    No
Guarantees Sequencing  No
Maximum Address Size   20 bytes
Maximum Message Size   62.50 KB (64,000 bytes)
Message Oriented       Yes
Minimum Address Size   20 bytes
Pseudo Stream Oriented No
Supports Broadcasting  Yes
Supports Connect Data  No
Supports Disconnect Data      No
Supports Encryption    No
Supports Expedited Data       No
Supports Graceful Closing     No
Supports Guaranteed Bandwidth No
Supports Multicasting  No

[WinSock]

Item    Value
File    c:\windows\system32\winsock.dll
Size    2.80 KB (2,864 bytes)
Version 3.10

File    c:\windows\system32\wsock32.dll
Size    22.00 KB (22,528 bytes)
Version 5.2.3790.0 (srv03_rtm.030324-2048)

[Ports]



[Serial]

Item    Value
Name    Communications Port (COM1)
Status  OK
PNP Device ID  ACPI\PNP0501\1
Maximum Input Buffer Size     0
Maximum Output Buffer Size    No
Settable Baud Rate     Yes
Settable Data Bits     Yes
Settable Flow Control  Yes
Settable Parity        Yes
Settable Parity Check  Yes
```

```
Settable Stop Bits     Yes
Settable RLSD  Yes
Supports RLSD  Yes
Supports 16 Bit Mode   No
Supports Special Characters    No
Baud Rate      9600
Bits/Byte      8
Stop Bits      1
Parity  None
Busy    No
Abort Read/Write on Error      No
Binary Mode Enabled    Yes
Continue XMit on XOff  No
CTS Outflow Control    No
Discard NULL Bytes     No
DSR Outflow Control    0
DSR Sensitivity        0
DTR Flow Control Type  Enable
EOF Character  0
Error Replace Character        0
Error Replacement Enabled      No
Event Character        0
Parity Check Enabled   No
RTS Flow Control Type  Enable
XOff Character 19
XOffXMit Threshold     512
XOn Character  17
XOnXMit Threshold      2048
XOnXOff InFlow Control 0
XOnXOff OutFlow Control        0
I/O Port       0x000003F8-0x000003FF
IRQ Channel    IRQ 4
Driver  c:\windows\system32\drivers\serial.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 64.00 KB

(65,536 bytes), 3/25/2003 11:00 AM)

[Parallel]

Item    Value

[Storage]



[Drives]

Item    Value
Drive   C:
Description    Local Fixed Disk
Compressed     No
File System    NTFS
Size    33.91 GB (36,413,280,256 bytes)
Free Space     13.47 GB (14,468,472,832 bytes)
Volume Name
Volume Serial Number   949181F8

Drive   D:
Description    CD-ROM Disc


[Disks]

Item    Value
Description    Disk drive
Manufacturer   (Standard disk drives)
Model   SEAGATE ST336753LC SCSI Disk Device
Bytes/Sector   512
Media Loaded   Yes
Media Type     Fixed hard disk
Partitions     1
SCSI Bus       0
SCSI Logical Unit      0
SCSI Port      2
SCSI Target ID 0
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 #0, Partition #0
Partition Size 33.91 GB (36,413,282,304 bytes)
Partition Starting Offset      32,256 bytes

[SCSI]

Item    Value
Name    LSI Logic PCI-X Ultra320 SCSI Host Adapter
Manufacturer   LSI Logic Inc.
Status  OK
PNP Device ID
       PCI\VEN_1000&DEV_0030&SUBSYS_016D1028&REV_08\5&39562480&0&280010

I/O Port       0x0000EC00-0x0000ECFF
Memory Address 0xDFDF0000-0xDFDFFFFF
Memory Address 0xDFDE0000-0xDFDEFFFF
IRQ Channel    IRQ 34
Driver  c:\windows\system32\drivers\symmpi.sys (1.10.05.00 (NT.041118-
1101), 48.50 KB (49,664

bytes), 3/25/2003 11:00 AM)

Name    LSI Logic PCI-X Ultra320 SCSI Host Adapter
Manufacturer   LSI Logic Inc.
Status  OK
PNP Device ID
       PCI\VEN_1000&DEV_0030&SUBSYS_016D1028&REV_08\5&39562480&0&290010

I/O Port       0x0000E800-0x0000E8FF
Memory Address 0xDFDD0000-0xDFDDFFFF
Memory Address 0xDFDC0000-0xDFDCFFFF
IRQ Channel    IRQ 33
Driver  c:\windows\system32\drivers\symmpi.sys (1.10.05.00 (NT.041118-
1101), 48.50 KB (49,664

bytes), 3/25/2003 11:00 AM)

[IDE]
```

```
Item    Value
Name    Intel(R) 82801EB Ultra ATA Storage Controllers - 24DB
Manufacturer    Intel
Status  OK
PNP Device ID
        PCI\VEN_8086&DEV_24DB&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&F9

I/O Port        0x0000FC00-0x0000FC0F
Memory Address 0xFEBFFC00-0xFEBFFFFF
Driver  c:\windows\system32\drivers\intelide.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 7.50 KB

(7,680 bytes), 10/19/2004 12:30 PM)

Name    Primary IDE Channel
Manufacturer    (Standard IDE ATA/ATAPI controllers)
Status  OK
PNP Device ID   PCIIDE\IDECHANNEL\4&1E0969C8&0&0
I/O Port        0x000001F0-0x000001F7
I/O Port        0x000003F6-0x000003F6
IRQ Channel     IRQ 14
Driver  c:\windows\system32\drivers\atapi.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 93.50 KB

(95,744 bytes), 3/25/2003 11:00 AM)

Name    Secondary IDE Channel
Manufacturer    (Standard IDE ATA/ATAPI controllers)
Status  OK
PNP Device ID   PCIIDE\IDECHANNEL\4&1E0969C8&0&1
I/O Port        0x00000170-0x00000177
I/O Port        0x00000376-0x00000376
IRQ Channel     IRQ 15
Driver  c:\windows\system32\drivers\atapi.sys (5.2.3790.1830
(srv03_sp1_rtm.050324-1447), 93.50 KB

(95,744 bytes), 3/25/2003 11:00 AM)

[Printing]

Name    Driver  Port Name       Server Name

[Problem Devices]

Device  PNP Device ID   Error Code

[USB]

Device  PNP Device ID
Standard Universal PCI to USB Host Controller

PCI\VEN_8086&DEV_24D2&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&E8
Standard Universal PCI to USB Host Controller

PCI\VEN_8086&DEV_24D4&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&E9
Standard Universal PCI to USB Host Controller

PCI\VEN_8086&DEV_24D7&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&EA
Standard Enhanced PCI to USB Host Controller

PCI\VEN_8086&DEV_24DD&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&EF

[Software Environment]



[System Drivers]

Name    Description     File    Type    Started Start Mode      State   Status
        Error Control

Accept Pause    Accept Stop
abiosdsk        Abiosdsk        Not Available   Kernel Driver   No
        Disabled        Stopped OK

Ignore  No      No
acpi    Microsoft ACPI Driver   c:\windows\system32\drivers\acpi.sys  Kernel
Driver  Yes     Boot

Running OK      Normal  No      Yes
acpiec  ACPIEC  c:\windows\system32\drivers\acpiec.sys       Kernel Driver
        No      Disabled

Stopped OK      Normal  No      No
adpu160m        adpu160m        Not Available   Kernel Driver   No
        Disabled        Stopped OK

Normal  No      No
adpu320 adpu320 Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
afcnt   afcnt   Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
afd     AFD Networking Support Environment
        c:\windows\system32\drivers\afd.sys   Kernel

Driver  Yes     System  Running OK      Normal  No      Yes
aha154x Aha154x Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
aic78u2 aic78u2 Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
aic78xx aic78xx Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
aliide  AliIde  Not Available   Kernel Driver   No      Disabled
        Stopped OK      Normal  No

No
```

```
asyncmac        RAS Asynchronous Media Driver
        c:\windows\system32\drivers\asyncmac.sys

Kernel Driver  No      Manual  Stopped OK      Normal  No      No
atapi   Standard IDE/ESDI Hard Disk Controller
        c:\windows\system32\drivers\atapi.sys Kernel

Driver  Yes     Boot    Running OK      Normal  No      Yes
atdisk  Atdisk  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Ignore  No

No
ati2mtag        ati2mtag        c:\windows\system32\drivers\ati2mtag.sys
        Kernel Driver  Yes

Manual  Running OK      Ignore  No      Yes
atmarpc ATM ARP Client Protocol
        c:\windows\system32\drivers\atmarpc.sys      Kernel Driver  No


Manual  Stopped OK      Normal  No      No
audstub Audio Stub Driver      c:\windows\system32\drivers\audstub.sys
        Kernel Driver  Yes

Manual  Running OK      Normal  No      Yes
beep    Beep    c:\windows\system32\drivers\beep.sys  Kernel Driver  Yes
        System  Running OK

Normal  No      Yes
cbidf2k cbidf2k c:\windows\system32\drivers\cbidf2k.sys      Kernel Driver
        No      Disabled

Stopped OK      Normal  No      No
cd20xrnt        cd20xrnt        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
cdfs    Cdfs    c:\windows\system32\drivers\cdfs.sys  File System Driver
        Yes     Disabled

Running OK      Normal  No      Yes
cdrom   CD-ROM Driver  c:\windows\system32\drivers\cdrom.sys Kernel Driver
        Yes     System

Running OK      Normal  No      Yes
changer Changer Not Available  Kernel Driver  No      System  Stopped OK
        Ignore  No      No
clusdisk        Cluster Disk Driver
        c:\windows\system32\drivers\clusdisk.sys     Kernel

Driver  No      Disabled        Stopped OK      Normal  No      No
cmdide  CmdIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
cpqarray        Cpqarray        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
```

```
cpqarry2        cpqarry2        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
cpqcissm        cpqcissm        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
cpqfcalm        cpqfcalm        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
crcdisk CRC Disk Filter Driver c:\windows\system32\drivers\crcdisk.sys
        Kernel Driver  Yes     Boot

Running OK      Normal  No      Yes
dac960nt        dac960nt        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
dellcerc        dellcerc        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
dfsdriver       DfsDriver       c:\windows\system32\drivers\dfs.sys   File
System Driver  Yes

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

Running OK      Normal  No      Yes
dmboot  dmboot  c:\windows\system32\drivers\dmboot.sys       Kernel Driver
        No      Disabled

Stopped OK      Normal  No      No
dmio    Logical Disk Manager Driver   c:\windows\system32\drivers\dmio.sys
        Kernel Driver  Yes

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

Normal  No      Yes
dpti2o  dpti2o  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
e1000   Intel(R) PRO/1000 Adapter Driver
        c:\windows\system32\drivers\e1000325.sys

Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes
fastfat Fastfat c:\windows\system32\drivers\fastfat.sys      File System
Driver  No      Disabled

Stopped OK      Normal  No      No
fdc     Floppy Disk Controller Driver c:\windows\system32\drivers\fdc.sys
        Kernel Driver  Yes
```

```
Manual  Running OK      Normal  No      Yes
fips    Fips    c:\windows\system32\drivers\fips.sys  Kernel Driver  Yes
        System  Running OK

Normal  No      Yes
flpydisk        Flpydisk        c:\windows\system32\drivers\flpydisk.sys
        Kernel Driver  No

System  Stopped OK      Ignore  No      No
fltmgr  FltMgr  c:\windows\system32\drivers\fltmgr.sys        File System
Driver  Yes     Boot

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

Running OK      Normal  No      Yes
gpc     Generic Packet Classifier
        c:\windows\system32\drivers\msgpc.sys Kernel Driver  Yes

Manual  Running OK      Normal  No      Yes
hpn     hpn     Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
hpt3xx  hpt3xx  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
http    HTTP    c:\windows\system32\drivers\http.sys  Kernel Driver  No
        Manual  Stopped OK

Normal  No      No
i2omgmt i2omgmt Not Available  Kernel Driver  No      System  Stopped OK
        Normal  No      No
i2omp   i2omp   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
i8042prt        i8042 Keyboard and PS/2 Mouse Port Driver

c:\windows\system32\drivers\i8042prt.sys     Kernel Driver  Yes     System
        Running OK

Normal  No      Yes
iirsp   iirsp   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
imapi   CD-Burning Filter Driver
        c:\windows\system32\drivers\imapi.sys Kernel Driver  No

System  Stopped OK      Normal  No      No
intelide        IntelIde        c:\windows\system32\drivers\intelide.sys
        Kernel Driver  Yes

Boot    Running OK      Normal  No      Yes
```

```
intelppm        Intel Processor Driver
        c:\windows\system32\drivers\intelppm.sys     Kernel

Driver  Yes     Manual  Running OK      Normal  No      Yes
ip6fw   IPv6 Windows Firewall Driver
        c:\windows\system32\drivers\ip6fw.sys Kernel Driver  No

Manual  Stopped OK      Normal  No      No
ipfilterdriver IP Traffic Filter Driver
        c:\windows\system32\drivers\ipfltdrv.sys

Kernel Driver  No      Manual  Stopped OK      Normal  No      No
ipinip  IP in IP Tunnel Driver c:\windows\system32\drivers\ipinip.sys
        Kernel Driver  No

Manual  Stopped OK      Normal  No      No
ipnat   IP Network Address Translator
        c:\windows\system32\drivers\ipnat.sys Kernel Driver  No

Manual  Stopped OK      Normal  No      No
ipsec   IPSEC driver    c:\windows\system32\drivers\ipsec.sys Kernel Driver
        Yes     System

Running OK      Normal  No      Yes
ipsraidn        ipsraidn        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
irenum  IR Enumerator Service  c:\windows\system32\drivers\irenum.sys
        Kernel Driver  No

Manual  Stopped OK      Normal  No      No
isapnp  PnP ISA/EISA Bus Driver
        c:\windows\system32\drivers\isapnp.sys       Kernel Driver  Yes
        Boot

Running OK      Critical        No      Yes
kbdclass        Keyboard Class Driver
        c:\windows\system32\drivers\kbdclass.sys     Kernel

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

Normal  No      Yes
lp6nds35        lp6nds35        c:\windows\system32\drivers\lp6nds35.sys
        Kernel Driver  Yes

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

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

Ignore  No      Yes
```

```
modem   Modem   c:\windows\system32\drivers\modem.sys Kernel Driver  No
        Manual  Stopped OK

Ignore  No      No
mouclass        Mouse Class Driver
        c:\windows\system32\drivers\mouclass.sys     Kernel

Driver  Yes     System  Running OK      Normal  No      Yes
mountmgr        Mount Point Manager
        c:\windows\system32\drivers\mountmgr.sys     Kernel

Driver  Yes     Boot    Running OK      Normal  No      Yes
mraid35x        mraid35x        Not Available  Kernel Driver  No
        Disabled        Stopped OK

Normal  No      No
mrxdav  WebDav Client Redirector
        c:\windows\system32\drivers\mrxdav.sys       File System Driver


No      Manual  Stopped OK      Normal  No      No
mrxsmb  MRXSMB  c:\windows\system32\drivers\mrxsmb.sys       File System
Driver  Yes     System

Running OK      Normal  No      Yes
msfs    Msfs    c:\windows\system32\drivers\msfs.sys  File System Driver
        Yes     System

Running OK      Normal  No      Yes
mssmbios        Microsoft System Management BIOS Driver
        c:\windows\system32\drivers\mssmbios.sys

Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes
mup     Mup     c:\windows\system32\drivers\mup.sys   File System Driver
        Yes     Boot

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

Running OK      Normal  No      Yes
ndistapi        Remote Access NDIS TAPI Driver
        c:\windows\system32\drivers\ndistapi.sys

Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes
ndisuio NDIS Usermode I/O Protocol
        c:\windows\system32\drivers\ndisuio.sys      Kernel Driver  No


Manual  Stopped OK      Normal  No      No
ndiswan Remote Access NDIS WAN Driver
        c:\windows\system32\drivers\ndiswan.sys      Kernel Driver  Yes


Manual  Running OK      Normal  No      Yes
ndproxy NDIS Proxy      c:\windows\system32\drivers\ndproxy.sys      Kernel
Driver  Yes     Manual

Running OK      Normal  No      Yes

netbios NetBIOS Interface      c:\windows\system32\drivers\netbios.sys
        File System Driver     Yes

System  Running OK      Normal  No      Yes
netbt   NetBios over Tcpip     c:\windows\system32\drivers\netbt.sys Kernel
Driver  Yes

System  Running OK      Normal  No      Yes
nfrd960 nfrd960 Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
npfs    Npfs    c:\windows\system32\drivers\npfs.sys  File System Driver
        Yes     System

Running OK      Normal  No      Yes
ntfs    Ntfs    c:\windows\system32\drivers\ntfs.sys  File System Driver
        Yes     Disabled

Running OK      Normal  No      Yes
null    Null    c:\windows\system32\drivers\null.sys  Kernel Driver  Yes
        System  Running OK

Normal  No      Yes
parport Parport c:\windows\system32\drivers\parport.sys      Kernel Driver
        No      Manual  Stopped OK

Ignore  No      No
partmgr Partition Manager      c:\windows\system32\drivers\partmgr.sys
        Kernel Driver  Yes     Boot

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

Running OK      Critical        No      Yes
pciide  PCIIde  c:\windows\system32\drivers\pciide.sys       Kernel Driver
        Yes     Boot    Running OK

Normal  No      Yes
pcmcia  Pcmcia  c:\windows\system32\drivers\pcmcia.sys       Kernel Driver
        No      Disabled

Stopped OK      Normal  No      No
pdcomp  PDCOMP  Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdframe PDFRAME Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdreli  PDRELI  Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
pdrframe        PDRFRAME        Not Available  Kernel Driver  No      Manual
        Stopped OK

Ignore  No      No
perc2   perc2   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
```

```
perc2hib       perc2hib       Not Available  Kernel Driver  No
       Disabled       Stopped OK

Normal  No      No
pptpminiport   WAN Miniport (PPTP)
       c:\windows\system32\drivers\raspptp.sys      Kernel Driver  Yes


Manual  Running OK      Normal  No      Yes
processor      Processor Driver
       c:\windows\system32\drivers\processr.sys     Kernel

Driver  No      Manual  Stopped OK      Normal  No      No
ptilink Direct  Parallel Link Driver
       c:\windows\system32\drivers\ptilink.sys      Kernel Driver  Yes


Manual  Running OK      Normal  No      Yes
ql1080  ql1080  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql10wnt Ql10wnt Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql12160 ql12160 Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql1240  ql1240  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql1280  ql1280  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql2100  ql2100  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql2200  ql2200  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
ql2300  ql2300  c:\windows\system32\drivers\ql2300.sys       Kernel Driver
       No      Disabled

Stopped OK      Normal  No      No
rasacd  Remote Access Auto Connection Driver
       c:\windows\system32\drivers\rasacd.sys       Kernel

Driver  Yes     System  Running OK      Normal  No      Yes
rasl2tp WAN Miniport (L2TP)    c:\windows\system32\drivers\rasl2tp.sys
       Kernel Driver  Yes

Manual  Running OK      Normal  No      Yes
```

```
raspppoe       Remote Access PPPOE Driver
       c:\windows\system32\drivers\raspppoe.sys

Kernel Driver  Yes     Manual  Running OK      Normal  No      Yes
raspti  Direct Parallel        c:\windows\system32\drivers\raspti.sys
       Kernel Driver  Yes     Manual

Running OK      Normal  No      Yes
rdbss   Rdbss   c:\windows\system32\drivers\rdbss.sys File System Driver
       Yes     System

Running OK      Normal  No      Yes
rdpcdd  RDPCDD  c:\windows\system32\drivers\rdpcdd.sys       Kernel Driver
       Yes     System  Running OK

Ignore  No      Yes
rdpdr   Terminal Server Device Redirector Driver
       c:\windows\system32\drivers\rdpdr.sys

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

Ignore  No      Yes
redbook Digital CD Audio Playback Filter Driver
       c:\windows\system32\drivers\redbook.sys      Kernel

Driver  Yes     System  Running OK      Normal  No      Yes
secdrv  Secdrv  c:\windows\system32\drivers\secdrv.sys       Kernel Driver
       No      Manual  Stopped OK

Normal  No      No
serenum Serenum Filter Driver  c:\windows\system32\drivers\serenum.sys
       Kernel Driver  Yes

Manual  Running OK      Normal  No      Yes
serial  Serial port driver     c:\windows\system32\drivers\serial.sys
       Kernel Driver  Yes

System  Running OK      Ignore  No      Yes
sfloppy Sfloppy c:\windows\system32\drivers\sfloppy.sys      Kernel Driver
       No      System  Stopped OK

Ignore  No      No
simbad  Simbad  Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
sparrow Sparrow Not Available  Kernel Driver  No      Disabled
       Stopped OK      Normal  No

No
srv     Srv     c:\windows\system32\drivers\srv.sys   File System Driver
       Yes     Manual

Running OK      Normal  No      Yes
swenum  Software Bus Driver    c:\windows\system32\drivers\swenum.sys
       Kernel Driver  Yes
```

```
Manual  Running OK      Normal  No      Yes
symc810 symc810 Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
symc8xx symc8xx Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

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

Normal  No      Yes
sym_hi  sym_hi  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
sym_u3  sym_u3  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
tbdriver        TbDriver        c:\windows\system32\drivers\tbdriver.sys
        Kernel Driver  Yes

Boot    Running OK      Normal  No      Yes
tcpip   TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel
Driver  Yes

System  Running OK      Normal  No      Yes
tdpipe  TDPIPE  c:\windows\system32\drivers\tdpipe.sys       Kernel Driver
        No      Manual  Stopped OK

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

Ignore  No      Yes
termdd  Terminal Device Driver c:\windows\system32\drivers\termdd.sys
        Kernel Driver  Yes

System  Running OK      Normal  No      Yes
toside  TosIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
udfs    Udfs    c:\windows\system32\drivers\udfs.sys  File System Driver
        No      Disabled

Stopped OK      Normal  No      No
ultra   ultra   Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
update  Microcode Update Driver
        c:\windows\system32\drivers\update.sys       Kernel Driver  Yes


Manual  Running OK      Normal  No      Yes
usbehci Microsoft USB 2.0 Enhanced Host Controller Miniport Driver

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

Yes
usbhub  USB2 Enabled Hub       c:\windows\system32\drivers\usbhub.sys
        Kernel Driver  Yes

Manual  Running OK      Normal  No      Yes
usbstor USB Mass Storage Driver
        c:\windows\system32\drivers\usbstor.sys      Kernel Driver  No


Manual  Stopped OK      Normal  No      No
usbuhci Microsoft USB Universal Host Controller Miniport Driver

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

Yes
vgasave VGA Display Controller.       c:\windows\system32\drivers\vga.sys
        Kernel Driver  Yes

System  Running OK      Ignore  No      Yes
viaide  ViaIde  Not Available  Kernel Driver  No      Disabled
        Stopped OK      Normal  No

No
volsnap Storage volumes        c:\windows\system32\drivers\volsnap.sys
        Kernel Driver  Yes     Boot

Running OK      Normal  No      Yes
wanarp  Remote Access IP ARP Driver
        c:\windows\system32\drivers\wanarp.sys       Kernel Driver  Yes


Manual  Running OK      Normal  No      Yes
wdica   WDICA   Not Available  Kernel Driver  No      Manual  Stopped OK
        Ignore  No      No
wlbs    Network Load Balancing c:\windows\system32\drivers\wlbs.sys  Kernel
Driver  No

Manual  Stopped OK      Normal  No      No

[Signed Drivers]

Device Name     Signed  Device Class   Driver Version Driver Date
        Manufacturer   INF Name

Driver Name     Device ID
Microsoft System Management BIOS Driver      No      SYSTEM  5.2.3790.1830
        10/1/2002      (Standard

system devices)        machine.inf     Not Available  ROOT\SYSTEM\0002

Microcode Update Device        No      SYSTEM  5.2.3790.0      10/1/2002
        (Standard system devices)
```

```
machine.inf    Not Available  ROOT\SYSTEM\0001
Plug and Play Software Device Enumerator     No      SYSTEM  5.2.3790.0
       10/1/2002

(Standard system devices)     machine.inf    Not Available
       ROOT\SYSTEM\0000
Terminal Server Mouse Driver  No      SYSTEM  5.2.3790.0     10/1/2002
       (Standard system

devices)       machine.inf    Not Available  ROOT\RDP_MOU\0000
Terminal Server Keyboard Driver      No      SYSTEM  5.2.3790.0
       10/1/2002      (Standard system

devices)       machine.inf    Not Available  ROOT\RDP_KBD\0000
Terminal Server Device Redirector    No      SYSTEM  5.2.3790.0
       10/1/2002      (Standard

system devices)        machine.inf    Not Available  ROOT\RDPDR\0000

Direct Parallel        No      NET     5.2.3790.0     10/1/2002
       Microsoft      netrasa.inf    Not

Available      ROOT\MS_PTIMINIPORT\0000
WAN Miniport (PPTP)    No      NET     5.2.3790.0     10/1/2002
       Microsoft      netrasa.inf

Not Available  ROOT\MS_PPTPMINIPORT\0000
WAN Miniport (PPPOE)   No      NET     5.2.3790.0     10/1/2002
       Microsoft      netrasa.inf

Not Available  ROOT\MS_PPPOEMINIPORT\0000
WAN Miniport (IP)      No      NET     5.2.3790.0     10/1/2002
       Microsoft      netrasa.inf

Not Available  ROOT\MS_NDISWANIP\0000
WAN Miniport (L2TP)    No      NET     5.2.3790.0     10/1/2002
       Microsoft      netrasa.inf

Not Available  ROOT\MS_L2TPMINIPORT\0000
Video Codecs   No      MEDIA   5.2.3790.0     10/1/2002      (Standard
system devices)

wave.inf       Not Available  ROOT\MEDIA\MS_MMVID
Legacy Video Capture Devices  No      MEDIA   5.2.3790.0     10/1/2002
       (Standard system

devices)       wave.inf       Not Available  ROOT\MEDIA\MS_MMVCD
Media Control Devices No      MEDIA   5.2.3790.0     10/1/2002
       (Standard system devices)

wave.inf       Not Available  ROOT\MEDIA\MS_MMMCI
Legacy Audio Drivers  No      MEDIA   5.2.3790.0     10/1/2002
       (Standard system devices)

wave.inf       Not Available  ROOT\MEDIA\MS_MMDRV
Audio Codecs   No      MEDIA   5.2.3790.0     10/1/2002      (Standard
system devices)

wave.inf       Not Available  ROOT\MEDIA\MS_MMACM

Remote Access IP ARP Driver   Not Available  LEGACYDRIVER   Not Available
       Not Available  Not

Available      Not Available  Not Available  ROOT\LEGACY_WANARP\0000

volsnap Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_VOLSNAP\0000
VGA Display Controller.       Not Available  LEGACYDRIVER   Not Available
       Not Available  Not

Available      Not Available  Not Available  ROOT\LEGACY_VGASAVE\0000

TDTCP  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_TDTCP\0000
TCP/IP Protocol Driver Not Available  LEGACYDRIVER   Not Available  Not
Available      Not

Available      Not Available  Not Available  ROOT\LEGACY_TCPIP\0000
TbDriver       Not Available  LEGACYDRIVER   Not Available  Not Available
       Not Available  Not

Available      Not Available  ROOT\LEGACY_TBDRIVER\0000
RDPWD  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_RDPWD\0000
RDPCDD Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_RDPCDD\0000
Remote Access Auto Connection Driver Not Available  LEGACYDRIVER   Not
Available      Not

Available      Not Available  Not Available  Not Available
       ROOT\LEGACY_RASACD\0000
PCIIde Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_PCIIDE\0000
Partition Manager     Not Available  LEGACYDRIVER   Not Available  Not
Available      Not

Available      Not Available  Not Available  ROOT\LEGACY_PARTMGR\0000

Null   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_NULL\0000
NetBios over Tcpip    Not Available  LEGACYDRIVER   Not Available  Not
Available      Not

Available      Not Available  Not Available  ROOT\LEGACY_NETBT\0000
NDProxy Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not
```

```
Available      Not Available  ROOT\LEGACY_NDPROXY\0000
NDIS Usermode I/O Protocol    Not Available  LEGACYDRIVER   Not Available
       Not Available  Not

Available      Not Available  Not Available  ROOT\LEGACY_NDISUIO\0000

Remote Access NDIS TAPI Driver       Not Available  LEGACYDRIVER   Not
Available      Not Available  Not

Available      Not Available  Not Available  ROOT\LEGACY_NDISTAPI\0000

NDIS System Driver     Not Available  LEGACYDRIVER   Not Available  Not
Available      Not

Available      Not Available  Not Available  ROOT\LEGACY_NDIS\0000
mountmgr       Not Available  LEGACYDRIVER   Not Available  Not Available
       Not Available  Not

Available      Not Available  ROOT\LEGACY_MOUNTMGR\0000
mnmdd  Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_MNMDD\0000
lp6nds35       Not Available  LEGACYDRIVER   Not Available  Not Available
       Not Available  Not

Available      Not Available  ROOT\LEGACY_LP6NDS35\0000
ksecdd Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_KSECDD\0000
IPSEC driver   Not Available  LEGACYDRIVER   Not Available  Not Available
       Not Available  Not

Available      Not Available  ROOT\LEGACY_IPSEC\0000
HTTP   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_HTTP\0000
Generic Packet Classifier     Not Available  LEGACYDRIVER   Not Available
       Not Available  Not

Available      Not Available  Not Available  ROOT\LEGACY_GPC\0000
Fips   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_FIPS\0000
dmload Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_DMLOAD\0000
dmboot Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_DMBOOT\0000
CRC Disk Filter Driver Not Available  LEGACYDRIVER   Not Available  Not
Available      Not

Available      Not Available  Not Available  ROOT\LEGACY_CRCDISK\0000

Beep   Not Available  LEGACYDRIVER   Not Available  Not Available  Not
Available      Not

Available      Not Available  ROOT\LEGACY_BEEP\0000
AFD Networking Support Environment    Not Available  LEGACYDRIVER   Not
Available      Not

Available      Not Available  Not Available  Not Available
       ROOT\LEGACY_AFD\0000
Generic volume No      VOLUME  5.2.3790.0     10/1/2002      Microsoft
       volume.inf     Not

Available
       STORAGE\VOLUME\1&30A96598&0&SIGNATURE137C137BOFFSET7E00LENGTH87A66
9800
Volume Manager No      SYSTEM  5.2.3790.0     10/1/2002      (Standard
system devices)

machine.inf    Not Available  ROOT\FTDISK\0000
Logical Disk Manager   No      SYSTEM  5.2.3790.0     10/1/2002
       (Standard system devices)

machine.inf    Not Available  ROOT\DMIO\0000
ACPI Fixed Feature Button     No      SYSTEM  5.2.3790.0     10/1/2002
       (Standard system

devices)       machine.inf    Not Available  ACPI\FIXEDBUTTON\2&DABA3FF&0

High precision event timer    No      SYSTEM  5.2.3790.1830  10/1/2002
       (Standard system

devices)       machine.inf    Not Available  ACPI\PNP0103\0
Motherboard resources  No      SYSTEM  5.2.3790.0     10/1/2002
       (Standard system devices)

machine.inf    Not Available  ACPI\PNP0C02\0
Secondary IDE Channel  No      HDC     5.2.3790.0     10/1/2002
       (Standard IDE ATA/ATAPI

controllers)   mshdc.inf      Not Available
       PCIIDE\IDECHANNEL\4&1E0969C8&0&1
CD-ROM Drive   No      CDROM   5.2.3790.0     10/1/2002      (Standard CD-
ROM drives)

cdrom.inf      Not Available

IDE\CDROMTEAC_CD-
224E_____________________________K.9A____\5&122E1C04&0&0.0.0
Primary IDE Channel    No      HDC     5.2.3790.0     10/1/2002
       (Standard IDE ATA/ATAPI

controllers)   mshdc.inf      Not Available
       PCIIDE\IDECHANNEL\4&1E0969C8&0&0
Intel(R) 82801EB Ultra ATA Storage Controllers - 24DB       No      HDC
       5.2.3790.1830  10/1/2002
```

```
Intel   mshdc.inf      Not Available
        PCI\VEN_8086&DEV_24DB&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&F9

System board   No      SYSTEM  5.2.3790.0      10/1/2002       (Standard
system devices)

machine.inf    Not Available  ACPI\PNP0C01\4&26DD0F47&0
Communications Port    No      PORTS   5.2.3790.0      10/1/2002
        (Standard port types)

msports.inf    Not Available  ACPI\PNP0501\1
PS/2 Compatible Mouse  No      MOUSE   5.2.3790.0      10/1/2002
        Microsoft      msmouse.inf

Not Available  ACPI\PNP0F13\4&26DD0F47&0
Standard 101/102-Key or Microsoft Natural PS/2 Keyboard     No
        KEYBOARD       5.2.3790.0

10/1/2002      (Standard keyboards)   keyboard.inf    Not Available
        ACPI\PNP0303\4&26DD0F47&0
Standard floppy disk controller       No      FDC     5.2.3790.0
        10/1/2002      (Standard floppy

disk controllers)      fdc.inf Not Available  ACPI\PNP0700\4&26DD0F47&0

System timer   No      SYSTEM  5.2.3790.0      10/1/2002       (Standard
system devices)

machine.inf    Not Available  ACPI\PNP0100\4&26DD0F47&0
System CMOS/real time clock   No      SYSTEM  5.2.3790.0      10/1/2002
        (Standard system

devices)       machine.inf    Not Available  ACPI\PNP0B00\4&26DD0F47&0

System speaker No      SYSTEM  5.2.3790.0      10/1/2002       (Standard
system devices)

machine.inf    Not Available  ACPI\PNP0800\4&26DD0F47&0
Programmable interrupt controller     No      SYSTEM  5.2.3790.0
        10/1/2002      (Standard

system devices)        machine.inf    Not Available
        ACPI\PNP0000\4&26DD0F47&0
Numeric data processor No      SYSTEM  5.2.3790.0      10/1/2002
        (Standard system devices)

machine.inf    Not Available  ACPI\PNP0C04\4&26DD0F47&0
Direct memory access controller       No      SYSTEM  5.2.3790.0
        10/1/2002      (Standard system

devices)       machine.inf    Not Available  ACPI\PNP0200\4&26DD0F47&0

ISAPNP Read Data Port  No      SYSTEM  5.2.3790.0      10/1/2002
        (Standard system devices)

machine.inf    Not Available  ISAPNP\READDATAPORT\0
Intel(R) 82801EB LPC Interface Controller - 24D0     No      SYSTEM
        5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available
        PCI\VEN_8086&DEV_24D0&SUBSYS_00000000&REV_02\3&13C0B0C5&0&F8

Plug and Play Monitor  No      MONITOR 5.1.2001.0      6/6/2001
        (Standard monitor types)

monitor.inf    Not Available  DISPLAY\DEL3580\5&1427D6AE&0&10000080&0B&0D

RADEON 7000 RADEON VE Family (Microsoft Corporation) No      DISPLAY
        6.13.10.6153   8/8/2002

ATI Technologies Inc.  atiixpag.inf   Not Available

PCI\VEN_1002&DEV_5159&SUBSYS_016D1028&REV_00\4&1F7DBC9F&0&68F0
Intel(R) 82801 PCI Bridge - 244E      No      SYSTEM  5.2.3790.1830
        10/1/2002      Intel

machine.inf    Not Available
        PCI\VEN_8086&DEV_244E&SUBSYS_00000000&REV_C2\3&13C0B0C5&0&F0

Generic USB Hub        No      USB     5.2.3790.0      10/1/2002
        (Generic USB Hub)      usb.inf Not

Available      USB\VID_413C&PID_A001\5&384A50E3&0&3
USB Root Hub   No      USB     5.2.3790.0      10/1/2002       (Standard USB
Host Controller)

usbport.inf    Not Available  USB\ROOT_HUB20\4&2F4BE1E7&0
Standard Enhanced PCI to USB Host Controller No      USB     5.2.3790.0
        10/1/2002

(Standard USB Host Controller)        usbport.inf    Not Available

PCI\VEN_8086&DEV_24DD&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&EF
USB Root Hub   No      USB     5.2.3790.0      10/1/2002       (Standard USB
Host Controller)

usbport.inf    Not Available  USB\ROOT_HUB\4&4C5D87F&0
Standard Universal PCI to USB Host Controller        No      USB
        5.2.3790.0     10/1/2002

(Standard USB Host Controller)        usbport.inf    Not Available

PCI\VEN_8086&DEV_24D7&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&EA
USB Root Hub   No      USB     5.2.3790.0      10/1/2002       (Standard USB
Host Controller)

usbport.inf    Not Available  USB\ROOT_HUB\4&198257A8&0
Standard Universal PCI to USB Host Controller        No      USB
        5.2.3790.0     10/1/2002

(Standard USB Host Controller)        usbport.inf    Not Available

PCI\VEN_8086&DEV_24D4&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&E9
USB Root Hub   No      USB     5.2.3790.0      10/1/2002       (Standard USB
Host Controller)

usbport.inf    Not Available  USB\ROOT_HUB\4&31AFD2BF&0
```

```
Standard Universal PCI to USB Host Controller        No      USB
       5.2.3790.0     10/1/2002

(Standard USB Host Controller)        usbport.inf    Not Available

PCI\VEN_8086&DEV_24D2&SUBSYS_016D1028&REV_02\3&13C0B0C5&0&E8
Emulex LP 10000 - Unisys VI    No      UNISYS_VI      Not Available  Not
Available      Emulex

oem1.inf       Not Available
       PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\5&1B4F3478&0&190230

Emulex LP 10000 - Unisys VI    No      UNISYS_VI      Not Available  Not
Available      Emulex

oem1.inf       Not Available
       PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\5&1B4F3478&0&180230

Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A  No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available

PCI\VEN_8086&DEV_032A&SUBSYS_00000000&REV_09\4&AA5CD76&0&0230
Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329  No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available

PCI\VEN_8086&DEV_0329&SUBSYS_00000000&REV_09\4&AA5CD76&0&0030
Intel(R) E7520 PCI Express Root Port C0 - 3599       No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_3599&SUBSYS_00000000&REV_09\3&13C0B0C5&0&30

Intel(R) PRO/1000 MT Network Connection      No      NET     7.2.19.1
       3/15/2004      Intel

oem0.inf       Not Available
       PCI\VEN_8086&DEV_1076&SUBSYS_016D1028&REV_05\5&C8E9BA0&0&400228

Intel(R) 6700PXH PCI Express-to-PCI Bridge B - 032A  No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available

PCI\VEN_8086&DEV_032A&SUBSYS_00000000&REV_09\4&13C5C3DD&0&0228
Intel(R) PRO/1000 MT Network Connection      No      NET     7.2.19.1
       3/15/2004      Intel

oem0.inf       Not Available
       PCI\VEN_8086&DEV_1076&SUBSYS_016D1028&REV_05\5&803901B&0&380028

Intel(R) 6700PXH PCI Express-to-PCI Bridge A - 0329  No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available

PCI\VEN_8086&DEV_0329&SUBSYS_00000000&REV_09\4&13C5C3DD&0&0028
Intel(R) E7520 PCI Express Root Port B1 - 3598       No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_3598&SUBSYS_00000000&REV_09\3&13C0B0C5&0&28

Intel(R) E7525/E7520 PCI Express Root Port B0 - 3597 No      SYSTEM
       5.2.3790.1830  10/1/2002

Intel   machine.inf    Not Available
       PCI\VEN_8086&DEV_3597&SUBSYS_00000000&REV_09\3&13C0B0C5&0&20

PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.0
       10/1/2002      (Standard system

devices)       machine.inf    Not Available

PCI\VEN_8086&DEV_0332&SUBSYS_00000000&REV_06\4&3007CA40&0&0210
LSI Logic PCI-X Ultra320 SCSI Host Adapter   No      SCSIADAPTER
       5.2.3790.0     10/1/2002

LSI Logic Inc. pnpscsi.inf    Not Available

PCI\VEN_1000&DEV_0030&SUBSYS_016D1028&REV_08\5&39562480&0&290010
PE 1x6 Backplane       No      SYSTEM  5.2.3790.0     10/1/2002      Dell
       scsidev.inf    Not

Available
       SCSI\PROCESSOR&VEN_PE/PV&PROD_1X6_SCSI_BP&REV_1.0\6&35B122AC&0&060

Disk drive     No      DISKDRIVE      5.2.3790.0     10/1/2002
       (Standard disk drives)

disk.inf       Not Available
       SCSI\DISK&VEN_SEAGATE&PROD_ST336753LC&REV_DX10\6&35B122AC&0&000

LSI Logic PCI-X Ultra320 SCSI Host Adapter   No      SCSIADAPTER
       5.2.3790.0     10/1/2002

LSI Logic Inc. pnpscsi.inf    Not Available

PCI\VEN_1000&DEV_0030&SUBSYS_016D1028&REV_08\5&39562480&0&280010
PCI standard PCI-to-PCI bridge       No      SYSTEM  5.2.3790.0
       10/1/2002      (Standard system

devices)       machine.inf    Not Available

PCI\VEN_8086&DEV_0330&SUBSYS_00000000&REV_06\4&3007CA40&0&0010
Intel(R) E7525/E7520/E7320 PCI Express Root Port A0 - 3595  No      SYSTEM
       5.2.3790.1830

10/1/2002      Intel   machine.inf    Not Available

PCI\VEN_8086&DEV_3595&SUBSYS_00000000&REV_09\3&13C0B0C5&0&10
Intel(R) E7520 Memory Controller Hub - 3590  No      SYSTEM  5.2.3790.1830
       10/1/2002
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```
Intel   machine.inf    Not Available
        PCI\VEN_8086&DEV_3590&SUBSYS_00000000&REV_09\3&13C0B0C5&0&00

PCI bus No      SYSTEM  5.2.3790.0      10/1/2002       (Standard system
devices)        machine.inf

Not Available  ACPI\PNP0A03\1
Intel Processor         No      PROCESSOR       5.2.3790.1830   10/1/2002
        Intel   cpu.inf Not

Available       ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3\_3
Intel Processor         No      PROCESSOR       5.2.3790.1830   10/1/2002
        Intel   cpu.inf Not

Available       ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3\_2
Intel Processor         No      PROCESSOR       5.2.3790.1830   10/1/2002
        Intel   cpu.inf Not

Available       ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3\_1
Intel Processor         No      PROCESSOR       5.2.3790.1830   10/1/2002
        Intel   cpu.inf Not

Available       ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_3\_0
Microsoft ACPI-Compliant System         No      SYSTEM  5.2.3790.0
        10/1/2002       Microsoft

acpi.inf        Not Available  ACPI_HAL\PNP0C08\0
ACPI Multiprocessor PC No       COMPUTER        5.2.3790.0      10/1/2002
        (Standard computers)

hal.inf Not Available  ROOT\ACPI_HAL\0000
Not Available  Not Available  Not Available  Not Available  Not Available
        Not Available  Not

Available       Not Available  HTREE\ROOT\0

[Environment Variables]

Variable        Value   User Name
ClusterLog      C:\WINDOWS\Cluster\cluster.log         <SYSTEM>
ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>
NUMBER_OF_PROCESSORS    4       <SYSTEM>
OS      Windows_NT      <SYSTEM>
Path    C:\Program Files\Microsoft SQL Server\90\Tools\binn\;C:\Program
Files\Microsoft SQL

Server\90\DTS\Binn\;C:\Program Files\Microsoft SQL

Server\90\Tools\Binn\VSShell\Common7\IDE\%SystemRoot%\system32;%SystemRoot
%;%SystemRoot%\System32\Wb

em;     <SYSTEM>
PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH     <SYSTEM>

PROCESSOR_ARCHITECTURE x86      <SYSTEM>
PROCESSOR_IDENTIFIER    x86 Family 15 Model 3 Stepping 4, GenuineIntel
        <SYSTEM>
PROCESSOR_LEVEL         15      <SYSTEM>
PROCESSOR_REVISION      0304    <SYSTEM>
TEMP    %SystemRoot%\TEMP       <SYSTEM>
TMP     %SystemRoot%\TEMP       <SYSTEM>
windir  %SystemRoot%    <SYSTEM>
FP_NO_HOST_CHECK        NO      <SYSTEM>
TEMP    %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\SYSTEM
TMP     %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\SYSTEM
TEMP    %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\LOCAL SERVICE

TMP     %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\LOCAL SERVICE

TEMP    %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\NETWORK SERVICE

TMP     %USERPROFILE%\Local Settings\Temp       NT AUTHORITY\NETWORK SERVICE

LOCAL

(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=192.158.1.199)(PORT=7525))(CONNE
CT_DATA=(SID=TPCC)))

CLIENT1\Administrator
TEMP    %USERPROFILE%\Local Settings\Temp       CLIENT1\Administrator
TMP     %USERPROFILE%\Local Settings\Temp       CLIENT1\Administrator

[Print Jobs]

Document        Size    Owner   Notify  Status  Time Submitted Start Time
        Until Time

Elapsed Time    Pages Printed   Job ID  Priority        Parameters      Driver
        Print Processor         Host

Print Queue     Data Type       Name

[Network Connections]

Local Name      Remote Name     Type    Status  User Name

[Running Tasks]

Name    Path    Process ID      Priority        Min Working Set         Max
Working Set     Start Time

Version Size    File Date
system idle process     Not Available   0       0       Not Available   Not
Available       Not

Available       Not Available   Not Available   Not Available
system  Not Available   4       8       0       1413120 Not Available   Not
Available       Not

Available       Not Available
smss.exe        Not Available   556     11      204800  1413120 9/26/2005 6:11
PM      Not

Available       Not Available   Not Available
csrss.exe       Not Available   676     13      Not Available   Not Available
        9/26/2005 6:11 PM

Not Available   Not Available   Not Available
```

```
winlogon.exe   c:\windows\system32\winlogon.exe      772     13      204800
       1413120 9/26/2005

6:11 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    497.00 KB (508,928
bytes)  7/22/2005

1:04 PM
services.exe   c:\windows\system32\services.exe      840     9       204800
       1413120 9/26/2005

6:11 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    107.50 KB (110,080
bytes)  3/25/2003

11:00 AM
lsass.exe      c:\windows\system32\lsass.exe 876     9       204800
       1413120 9/26/2005 6:11 PM

5.2.3790.0 (srv03_rtm.030324-2048)    13.00 KB (13,312 bytes)
       3/25/2003 11:00 AM
svchost.exe    c:\windows\system32\svchost.exe       1088    8       204800
       1413120 9/26/2005 6:11 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336 bytes)
       7/22/2005 1:04 PM
svchost.exe    Not Available  1224    8       Not Available  Not Available
       9/26/2005 6:11 PM

Not Available  Not Available  Not Available
svchost.exe    c:\windows\system32\svchost.exe       1280    8       204800
       1413120 9/26/2005 6:11 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336 bytes)
       7/22/2005 1:04 PM
msdtc.exe      Not Available  1640    8       Not Available  Not Available
       9/26/2005 6:11 PM

Not Available  Not Available  Not Available
mnmsrvc.exe    c:\windows\system32\mnmsrvc.exe       1868    8       204800
       1413120 9/26/2005 6:11 PM

5.2.3790.1830  32.00 KB (32,768 bytes)       7/22/2005 1:04 PM
svchost.exe    Not Available  1932    8       Not Available  Not Available
       9/26/2005 6:11 PM

Not Available  Not Available  Not Available
rundll32.exe   c:\windows\system32\rundll32.exe      1944    8       204800
       1413120 9/26/2005

6:11 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.00 KB (34,816
bytes)  7/22/2005 1:04 PM
explorer.exe   c:\windows\explorer.exe       584     8       204800
       1413120 9/26/2005 6:11 PM

6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.00 MB (1,050,624 bytes)
       7/22/2005 1:04 PM
svchost.exe    c:\windows\system32\svchost.exe       708     8       204800
       1413120 9/26/2005 6:12 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336 bytes)
       7/22/2005 1:04 PM
rhostsvr.exe   c:\rhost\rhostsvr.exe 132     8       204800  1413120
       9/26/2005 6:12 PM      Not

Available      54.50 KB (55,808 bytes)       10/20/2004 12:35 PM
svchost.exe    c:\windows\system32\svchost.exe       464     8       204800
       1413120 9/26/2005 6:12 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336 bytes)
       7/22/2005 1:04 PM
wmiprvse.exe   Not Available  1204    8       Not Available  Not Available
       9/26/2005 6:13 PM

Not Available  Not Available  Not Available
csrss.exe      Not Available  1904    13      Not Available  Not Available
       9/26/2005 9:10 PM

Not Available  Not Available  Not Available
winlogon.exe   c:\windows\system32\winlogon.exe      824     13      204800
       1413120 9/26/2005

9:10 PM 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    497.00 KB (508,928
bytes)  7/22/2005

1:04 PM
rdpclip.exe    c:\windows\system32\rdpclip.exe       1400    8       204800
       1413120 9/26/2005 9:10 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    68.00 KB (69,632 bytes)
       7/22/2005 1:04 PM
explorer.exe   c:\windows\explorer.exe       1928    8       204800
       1413120 9/26/2005 9:10 PM

6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.00 MB (1,050,624 bytes)
       7/22/2005 1:04 PM
cmd.exe c:\windows\system32\cmd.exe   1740    8       204800  1413120
       9/26/2005 9:26 PM

5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    379.00 KB (388,096 bytes)
       3/25/2003 11:00 AM
msinfo32.exe   c:\program files\common files\microsoft
shared\msinfo\msinfo32.exe    236     8

204800  1413120 9/26/2005 9:26 PM     5.2.3790.1830 (srv03_sp1_rtm.050324-
1447)   42.00 KB

(43,008 bytes) 7/22/2005 1:05 PM
wmiprvse.exe   Not Available  1364    8       Not Available  Not Available
       9/26/2005 9:26 PM

Not Available  Not Available  Not Available

[Loaded Modules]

Name    Version Size    File Date      Manufacturer   Path
winlogon       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    497.00 KB
(508,928 bytes)
```

```
7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\winlogon.exe
ntdll   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    748.50 KB (766,464
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\ntdll.dll
kernel32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1,014.00 KB
(1,038,336 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\kernel32.dll
advapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    605.50 KB
(620,032 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\advapi32.dll
rpcrt4  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    627.00 KB (642,048
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rpcrt4.dll
crypt32 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  582.00 KB (595,968
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\crypt32.dll
msasn1  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    56.50 KB (57,856
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\msasn1.dll
msvcrt  7.0.3790.1830 (srv03_sp1_rtm.050324-1447)    340.50 KB (348,672
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\msvcrt.dll
user32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    574.50 KB (588,288
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\user32.dll
gdi32   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    273.00 KB (279,552
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\gdi32.dll
nddeapi 5.2.3790.0 (srv03_rtm.030324-2048)    16.00 KB (16,384 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\nddeapi.dll
profmap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    22.50 KB (23,040
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\profmap.dll
netapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    341.50 KB
(349,696 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\netapi32.dll
userenv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    771.00 KB (789,504
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\userenv.dll

psapi   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    20.00 KB (20,480
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\psapi.dll
regapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    55.00 KB (56,320
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\regapi.dll
secur32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    64.00 KB (65,536
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\secur32.dll
setupapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.03 MB
(1,079,808 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\setupapi.dll
version 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    18.00 KB (18,432
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\version.dll
winsta  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    54.50 KB (55,808
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\winsta.dll
ws2_32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    82.00 KB (83,968
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ws2_32.dll
ws2help 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    19.50 KB (19,968
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ws2help.dll
msgina  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.16 MB (1,211,904
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\msgina.dll
shsvcs  6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   131.50 KB (134,656
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\shsvcs.dll
shlwapi 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   313.50 KB (321,024
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\shlwapi.dll
sfc     5.2.3790.0 (srv03_rtm.030324-2048)    4.50 KB (4,608 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\sfc.dll
sfc_os  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    138.00 KB (141,312
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\sfc_os.dll
wintrust       5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  162.00 KB
(165,888 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\wintrust.dll
```

```
imagehlp       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    145.50 KB
(148,992 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\imagehlp.dll
ole32   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.19 MB (1,245,184
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ole32.dll
comctl32       6.0 (srv03_sp1_rtm.050324-1447)      1.00 MB (1,051,136
bytes)  3/24/2005 8:41 PM

Microsoft Corporation

c:\windows\winsxs\x86_microsoft.windows.common-
controls_6595b64144ccf1df_6.0.3790.1830_x-ww_7ae38ccf

\comctl32.dll
winscard       5.2.3790.0 (srv03_rtm.030324-2048)    98.50 KB (100,864
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\winscard.dll

wtsapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    19.00 KB
(19,456 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\wtsapi32.dll
winmm   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    172.50 KB (176,640
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\winmm.dll
sxs     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    743.50 KB (761,344
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\sxs.dll
shell32 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   7.99 MB (8,379,392
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\shell32.dll
wldap32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    174.50 KB (178,688
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\wldap32.dll
cscdll  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    100.00 KB (102,400
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\cscdll.dll
dimsntfy       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    19.00 KB
(19,456 bytes) 7/22/2005

1:07 PM Microsoft Corporation  c:\windows\system32\dimsntfy.dll
rsaenh  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    183.98 KB (188,392
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rsaenh.dll
wlnotify       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    94.50 KB
(96,768 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\wlnotify.dll

mpr     5.2.3790.0 (srv03_rtm.030324-2048)    56.00 KB (57,344 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\mpr.dll
oleaut32       5.2.3790.1830  543.00 KB (556,032 bytes)     3/25/2003
11:00 AM       Microsoft

Corporation    c:\windows\system32\oleaut32.dll
winspool       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    147.00 KB
(150,528 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\winspool.drv
comctl32       5.82 (srv03_sp1_rtm.050324-1447)      585.00 KB (599,040
bytes)  3/24/2005

8:41 PM Microsoft Corporation

c:\windows\winsxs\x86_microsoft.windows.common-
controls_6595b64144ccf1df_5.82.3790.1830_x-ww_1b6f474

a\comctl32.dll
uxtheme 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   202.00 KB (206,848
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\uxtheme.dll
samlib  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    46.50 KB (47,616
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\samlib.dll
cscui   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    319.50 KB (327,168
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\cscui.dll
clbcatq 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)        502.50 KB
(514,560 bytes)        7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\clbcatq.dll
comres  2001.12.4720.0 (srv03_rtm.030324-2048)       778.00 KB (796,672
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\comres.dll
ntmarta 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    120.50 KB (123,392
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ntmarta.dll
xpsp2res       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    2.76 MB
(2,897,920 bytes)

7/22/2005 1:07 PM      Microsoft Corporation
       c:\windows\system32\xpsp2res.dll
wbemprox       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    20.50 KB
(20,992 bytes) 7/22/2005

1:05 PM Microsoft Corporation  c:\windows\system32\wbem\wbemprox.dll
wbemcomn       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    221.00 KB
(226,304 bytes)
```

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7/22/2005 1:05 PM      Microsoft Corporation
       c:\windows\system32\wbem\wbemcomn.dll
wbemsvc 5.2.3790.0 (srv03_rtm.030324-2048)    42.50 KB (43,520 bytes)
       10/19/2004 7:46 PM

Microsoft Corporation  c:\windows\system32\wbem\wbemsvc.dll
fastprox       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    471.00 KB
(482,304 bytes)

7/22/2005 1:05 PM      Microsoft Corporation
       c:\windows\system32\wbem\fastprox.dll
msvcp60 6.05.2144.0    388.00 KB (397,312 bytes)     3/25/2003 11:00 AM
       Microsoft

Corporation    c:\windows\system32\msvcp60.dll
ntdsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    71.00 KB (72,704
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ntdsapi.dll
dnsapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    153.50 KB (157,184
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\dnsapi.dll
services       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    107.50 KB
(110,080 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\services.exe
ncobjapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.00 KB
(36,864 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ncobjapi.dll
scesrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    327.00 KB (334,848
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\scesrv.dll
authz   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    66.50 KB (68,096
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\authz.dll
umpnpmgr       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    126.50 KB
(129,536 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\umpnpmgr.dll
eventlog       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    67.50 KB
(69,120 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\eventlog.dll
lsass   5.2.3790.0 (srv03_rtm.030324-2048)    13.00 KB (13,312 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\lsass.exe
lsasrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    803.00 KB (822,272
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\lsasrv.dll

samsrv  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    450.50 KB (461,312
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\samsrv.dll

cryptdll       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    32.00 KB
(32,768 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\cryptdll.dll
msprivs 5.2.3790.0 (srv03_rtm.030324-2048)    46.50 KB (47,616 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\msprivs.dll
kerberos       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    340.50 KB
(348,672 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\kerberos.dll
msv1_0  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    141.00 KB (144,384
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\msv1_0.dll
iphlpapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    92.50 KB
(94,720 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\iphlpapi.dll
netlogon       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    409.50 KB
(419,328 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\netlogon.dll
w32time 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    222.00 KB (227,328
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\w32time.dll
schannel       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    141.00 KB
(144,384 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\schannel.dll
wdigest 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    74.00 KB (75,776
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\wdigest.dll
rassfm  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    23.00 KB (23,552
bytes)  7/22/2005 1:05 PM

Microsoft Corporation  c:\windows\system32\rassfm.dll
kdcsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    213.50 KB (218,624
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\kdcsvc.dll
ntdsa   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.45 MB (1,516,032
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ntdsa.dll
esent   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1,022.50 KB
(1,047,040 bytes)      7/22/2005
```

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1:04 PM Microsoft Corporation  c:\windows\system32\esent.dll
ntdsatq 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    29.50 KB (30,208
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ntdsatq.dll
mswsock 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    250.50 KB (256,512
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\mswsock.dll
scecli  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    186.50 KB (190,976
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\scecli.dll
ws03res 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    793.50 KB (812,544
bytes)  7/22/2005

1:07 PM Microsoft Corporation  c:\windows\system32\ws03res.dll
pstorsvc        5.2.3790.0 (srv03_rtm.030324-2048)    24.00 KB (24,576
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\pstorsvc.dll
psbase  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    84.00 KB (86,016
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\psbase.dll
dssenh  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    139.98 KB (143,336
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\dssenh.dll
cryptnet        5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  61.00 KB
(62,464 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\cryptnet.dll
sensapi 5.2.3790.0 (srv03_rtm.030324-2048)    6.00 KB (6,144 bytes)
        3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\sensapi.dll
hnetcfg 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    343.50 KB (351,744
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\hnetcfg.dll
wshtcpip        5.2.3790.0 (srv03_rtm.030324-2048)    18.00 KB (18,432
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\wshtcpip.dll
svchost 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\svchost.exe
rpcss   5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    406.00 KB (415,744
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rpcss.dll
wkssvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    130.00 KB (133,120
bytes)  3/25/2003

11:00 AM        Microsoft Corporation  c:\windows\system32\wkssvc.dll
wiarpc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    32.50 KB (33,280
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\wiarpc.dll
aelupsvc        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    26.00 KB
(26,624 bytes) 7/22/2005

1:07 PM Microsoft Corporation  c:\windows\system32\aelupsvc.dll
apphelp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    146.50 KB (150,016
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\apphelp.dll
dmserver        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    25.50 KB
(26,112 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\dmserver.dll
es      2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)        233.00 KB
(238,592 bytes)         7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\es.dll
pchsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    39.00 KB (39,936
bytes)  7/22/2005 1:05 PM

Microsoft Corporation  c:\windows\pchealth\helpctr\binaries\pchsvc.dll

srvsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    93.50 KB (95,744
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\srvsvc.dll
seclogon        5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    18.50 KB
(18,944 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\seclogon.dll
sens    5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.50 KB (37,376
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\sens.dll
wmisvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    140.00 KB (143,360
bytes)  7/22/2005

1:05 PM Microsoft Corporation  c:\windows\system32\wbem\wmisvc.dll
vssapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    548.00 KB (561,152
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\vssapi.dll
atl     3.05.2283       83.00 KB (84,992 bytes)       3/25/2003 11:00 AM
        Microsoft Corporation

c:\windows\system32\atl.dll
comsvcs 2001.12.4720.1830 (srv03_sp1_rtm.050324-1447)        1.19 MB
(1,248,256 bytes)       7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\comsvcs.dll
netman  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    258.50 KB (264,704
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\netman.dll
```

```
mprapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    89.00 KB (91,136
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\mprapi.dll
activeds       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    194.00 KB
(198,656 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\activeds.dll
adsldpc 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    146.00 KB (149,504
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\adsldpc.dll
credui  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    162.00 KB (165,888
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\credui.dll
rtutils 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.50 KB (35,328
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\rtutils.dll
netshell       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    1.73 MB
(1,812,992 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\netshell.dll
clusapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    60.00 KB (61,440
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\clusapi.dll
rasapi32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    239.50 KB
(245,248 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\rasapi32.dll
rasman  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    61.50 KB (62,976
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\rasman.dll
tapi32  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    179.50 KB (183,808
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\tapi32.dll
wininet 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   646.00 KB (661,504
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\wininet.dll
wzcsapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    41.00 KB (41,984
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\wzcsapi.dll
wzcsvc  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    364.50 KB (373,248
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\wzcsvc.dll
wmi     5.2.3790.0 (srv03_rtm.030324-2048)    6.50 KB (6,656 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\wmi.dll
dhcpcsvc       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    113.50 KB
(116,224 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\dhcpcsvc.dll
netcfgx 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    763.00 KB (781,312
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\netcfgx.dll
winipsec       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    35.50 KB
(36,352 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\winipsec.dll
wbemcore       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    497.50 KB
(509,440 bytes)

7/22/2005 1:05 PM      Microsoft Corporation
       c:\windows\system32\wbem\wbemcore.dll
esscli  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    250.00 KB (256,000
bytes)  7/22/2005

1:05 PM Microsoft Corporation  c:\windows\system32\wbem\esscli.dll
wmiutils       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    93.50 KB
(95,744 bytes) 7/22/2005

1:05 PM Microsoft Corporation  c:\windows\system32\wbem\wmiutils.dll
repdrvfs       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    172.50 KB
(176,640 bytes)

7/22/2005 1:05 PM      Microsoft Corporation
       c:\windows\system32\wbem\repdrvfs.dll
wmiprvsd       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    404.00 KB
(413,696 bytes)

7/22/2005 1:05 PM      Microsoft Corporation
       c:\windows\system32\wbem\wmiprvsd.dll
wbemess 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    271.50 KB (278,016
bytes)  7/22/2005

1:05 PM Microsoft Corporation  c:\windows\system32\wbem\wbemess.dll
rasmans 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    176.00 KB (180,224
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rasmans.dll
rastapi 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    62.00 KB (63,488
bytes)  3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\rastapi.dll
rasppp  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    205.00 KB (209,920
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rasppp.dll
ntlsapi 5.2.3790.0 (srv03_rtm.030324-2048)    8.00 KB (8,192 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\ntlsapi.dll
raschap 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    119.50 KB (122,368
bytes)  7/22/2005
```

```
1:04 PM Microsoft Corporation  c:\windows\system32\raschap.dll
rastls  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    180.00 KB (184,320
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rastls.dll
cryptui 5.131.3790.1830 (srv03_sp1_rtm.050324-1447)  496.50 KB (508,416
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\cryptui.dll
ipbootp 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    36.00 KB (36,864
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ipbootp.dll
rasdlg  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    663.00 KB (678,912
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\rasdlg.dll

rasadhlp       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    7.50 KB (7,680
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rasadhlp.dll
ncprov  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    46.50 KB (47,616
bytes)  7/22/2005 1:05 PM

Microsoft Corporation  c:\windows\system32\wbem\ncprov.dll
actxprxy       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   96.50 KB
(98,816 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\actxprxy.dll
mnmsrvc 5.2.3790.1830  32.00 KB (32,768 bytes)       7/22/2005 1:04 PM
       Microsoft Corporation

c:\windows\system32\mnmsrvc.exe
nmcom   5.2.3790.1830  76.00 KB (77,824 bytes)       7/22/2005 1:05 PM
       Microsoft Corporation

c:\program files\netmeeting\nmcom.dll
wsock32 5.2.3790.0 (srv03_rtm.030324-2048)    22.00 KB (22,528 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\wsock32.dll
mst120  5.2.3790.1830  268.00 KB (274,432 bytes)     7/22/2005 1:05 PM
       Microsoft

Corporation    c:\program files\netmeeting\mst120.dll
nmas    5.2.3790.1830  224.00 KB (229,376 bytes)     7/22/2005 1:05 PM
       Microsoft

Corporation    c:\program files\netmeeting\nmas.dll
nmasnt  5.2.3790.1830  28.00 KB (28,672 bytes)       7/22/2005 1:05 PM
       Microsoft Corporation

c:\program files\netmeeting\nmasnt.dll
h323cc  5.2.3790.1830  56.00 KB (57,344 bytes)       7/22/2005 1:05 PM
       Microsoft Corporation

c:\program files\netmeeting\h323cc.dll

callcont       5.2.3790.1830  376.00 KB (385,024 bytes)     7/22/2005 1:05
PM     Microsoft

Corporation    c:\program files\netmeeting\callcont.dll
nac     5.2.3790.1830  216.00 KB (221,184 bytes)     7/22/2005 1:05 PM
       Microsoft

Corporation    c:\program files\netmeeting\nac.dll
msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    69.50 KB (71,168
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\msacm32.dll
msvfw32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    117.00 KB (119,808
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\msvfw32.dll
dcap32  5.2.3790.1830  40.00 KB (40,960 bytes)       7/22/2005 1:05 PM
       Microsoft Corporation

c:\program files\netmeeting\dcap32.dll
winrnr  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    17.00 KB (17,408
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\winrnr.dll
rundll32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.00 KB
(34,816 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rundll32.exe
msconf  5.2.3790.1830  72.00 KB (73,728 bytes)       7/22/2005 1:04 PM
       Microsoft Corporation

c:\windows\system32\msconf.dll
explorer       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.00 MB
(1,050,624 bytes)

7/22/2005 1:04 PM     Microsoft Corporation  c:\windows\explorer.exe

browseui       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1,009.00 KB
(1,033,216 bytes)

7/22/2005 1:04 PM     Microsoft Corporation
       c:\windows\system32\browseui.dll
shdocvw 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   1.43 MB (1,502,720
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\shdocvw.dll
themeui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   377.50 KB (386,560
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\themeui.dll
msimg32 5.2.3790.0 (srv03_rtm.030324-2048)    4.50 KB (4,608 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\msimg32.dll
urlmon  6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   673.00 KB (689,152
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\urlmon.dll
```

```
linkinfo       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    19.00 KB
(19,456 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\linkinfo.dll
ntshrui 6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   140.00 KB (143,360
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ntshrui.dll
webcheck       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   272.50 KB
(279,040 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\webcheck.dll
stobject       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    120.50 KB
(123,392 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\stobject.dll
batmeter       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   31.50 KB
(32,256 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\batmeter.dll
powrprof       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   16.50 KB
(16,896 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\powrprof.dll
drprov  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    14.00 KB (14,336
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\drprov.dll
ntlanman       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    43.50 KB
(44,544 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\ntlanman.dll
netui0  5.2.3790.0 (srv03_rtm.030324-2048)    75.50 KB (77,312 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\netui0.dll
netui1  5.2.3790.0 (srv03_rtm.030324-2048)    184.00 KB (188,416 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\netui1.dll
davclnt 5.2.3790.0 (srv03_rtm.030324-2048)    23.50 KB (24,064 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\davclnt.dll
termsrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    239.00 KB (244,736
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\termsrv.dll
icaapi  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    12.50 KB (12,800
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\icaapi.dll
mstlsapi       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    116.00 KB
(118,784 bytes)

7/22/2005 1:04 PM      Microsoft Corporation
       c:\windows\system32\mstlsapi.dll
rdpwsx  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    101.63 KB (104,072
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\rdpwsx.dll
rhostsvr       Not Available  54.50 KB (55,808 bytes)       10/20/2004
12:35 PM       Not Available

c:\rhost\rhostsvr.exe
tapisrv 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    248.50 KB (254,464
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\tapisrv.dll
unimdm  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    203.00 KB (207,872
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\unimdm.tsp
uniplat 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    13.00 KB (13,312
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\uniplat.dll
kmddsp  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    34.50 KB (35,328
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\kmddsp.tsp
ndptsp  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    47.00 KB (48,128
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\ndptsp.tsp
ipconf  5.2.3790.0 (srv03_rtm.030324-2048)    16.50 KB (16,896 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\ipconf.tsp
h323    5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    259.50 KB (265,728
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\h323.tsp
hidphone       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    29.50 KB
(30,208 bytes) 7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\hidphone.tsp
hid     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    18.50 KB (18,944
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\hid.dll
rdpsnd  5.2.3790.0 (srv03_rtm.030324-2048)    18.00 KB (18,432 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\rdpsnd.dll
scredir 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    28.00 KB (28,672
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\scredir.dll
msacm32 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    22.00 KB (22,528
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\msacm32.drv
imaadp32       5.2.3790.0 (srv03_rtm.030324-2048)    15.50 KB (15,872
bytes)  3/25/2003 11:00 AM
```

```
Microsoft Corporation  c:\windows\system32\imaadp32.acm
msadp32 5.2.3790.0 (srv03_rtm.030324-2048)    14.50 KB (14,848 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\msadp32.acm
msg711  5.2.3790.0 (srv03_rtm.030324-2048)    10.00 KB (10,240 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\msg711.acm
msgsm32 5.2.3790.0 (srv03_rtm.030324-2048)    20.50 KB (20,992 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\msgsm32.acm
tssoft32       1.01    9.50 KB (9,728 bytes)  3/25/2003 11:00 AM     DSP
GROUP, INC.

c:\windows\system32\tssoft32.acm
tsd32   1.03    16.50 KB (16,896 bytes)       3/25/2003 11:00 AM     DSP
GROUP, INC.

c:\windows\system32\tsd32.dll
msg723  5.2.3790.1830  120.00 KB (122,880 bytes)     7/22/2005 1:04 PM
       Microsoft

Corporation    c:\windows\system32\msg723.acm
msaud32 8.00.00.4487   288.00 KB (294,912 bytes)     3/25/2003 11:00 AM
       Microsoft

Corporation    c:\windows\system32\msaud32.acm
sl_anet 3.02    84.00 KB (86,016 bytes)       3/25/2003 11:00 AM     Sipro
Lab Telecom Inc.

c:\windows\system32\sl_anet.acm
l3codeca       1, 9, 0, 0305  284.00 KB (290,816 bytes)     3/25/2003
11:00 AM       Fraunhofer

Institut Integrierte Schaltungen IIS  c:\windows\system32\l3codeca.acm

rdpclip 5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    68.00 KB (69,632
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\rdpclip.exe
cmd     5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    379.00 KB (388,096
bytes)  3/25/2003

11:00 AM       Microsoft Corporation  c:\windows\system32\cmd.exe
msinfo32       5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    42.00 KB
(43,008 bytes) 7/22/2005

1:05 PM Microsoft Corporation  c:\program files\common files\microsoft
shared\msinfo\msinfo32.exe
mfc42u  6.06.8063.0    1.11 MB (1,163,776 bytes)     7/22/2005 1:04 PM
       Microsoft

Corporation    c:\windows\system32\mfc42u.dll
odbc32  3.526.1830.0 (srv03_sp1_rtm.050324-1447)     240.00 KB (245,760
bytes)  7/22/2005

1:04 PM Microsoft Corporation  c:\windows\system32\odbc32.dll

comdlg32       6.00.3790.1830 (srv03_sp1_rtm.050324-1447)   274.50 KB
(281,088 bytes)

3/25/2003 11:00 AM     Microsoft Corporation
       c:\windows\system32\comdlg32.dll
odbcint 3.526.1830.0 (srv03_sp1_rtm.050324-1447)     92.00 KB (94,208
bytes)  7/22/2005 1:04 PM

Microsoft Corporation  c:\windows\system32\odbcint.dll
msinfo  5.2.3790.1830 (srv03_sp1_rtm.050324-1447)    376.00 KB (385,024
bytes)  7/22/2005

1:05 PM Microsoft Corporation
       c:\windows\pchealth\helpctr\binaries\msinfo.dll
riched32       5.2.3790.0 (srv03_rtm.030324-2048)    3.50 KB (3,584 bytes)
       3/25/2003 11:00 AM

Microsoft Corporation  c:\windows\system32\riched32.dll
riched20       5.31.23.1224   439.00 KB (449,536 bytes)     7/22/2005 1:04
PM      Microsoft

Corporation    c:\windows\system32\riched20.dll

[Services]

Display Name   Name    State   Start Mode     Service Type   Path    Error
Control Start Name

Tag ID
Application Experience Lookup Service AeLookupSvc    Running Auto    Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Alerter Alerter Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k

localservice   Normal  NT AUTHORITY\LocalService     0
Application Layer Gateway Service     ALG     Stopped Manual  Own Process


c:\windows\system32\alg.exe   Normal  NT AUTHORITY\LocalService     0

Application Management AppMgmt Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
ASP.NET State Service  aspnet_state   Stopped Manual  Own Process

c:\windows\microsoft.net\framework\v2.0.50727\aspnet_state.exe      Normal
       NT AUTHORITY\NetworkService

0
Windows Audio  AudioSrv       Stopped Disabled       Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0
```

```
Background Intelligent Transfer Service      BITS    Stopped Manual  Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Computer Browser       Browser Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Indexing Service       CiSvc   Stopped Disabled       Share Process

c:\windows\system32\cisvc.exe Normal  LocalSystem    0
ClipBook       ClipSrv Stopped Disabled       Own Process
       c:\windows\system32\clipsrv.exe

Normal  LocalSystem    0
.NET Runtime Optimization Service v2.0.50727_X86
       clr_optimization_v2.0.50727_32        Stopped

Manual  Own Process
       c:\windows\microsoft.net\framework\v2.0.50727\mscorsvw.exe  Ignore


LocalSystem    0
COM+ System Application       COMSysApp      Stopped Manual  Own Process


c:\windows\system32\dllhost.exe /processid:{02d4b3f1-fd88-11d1-960d-
00805fc79235}  Normal

LocalSystem    0
Cryptographic Services CryptSvc       Stopped Manual  Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

DCOM Server Process Launcher  DcomLaunch     Running Auto    Share Process


c:\windows\system32\svchost.exe -k dcomlaunch        Normal  LocalSystem
       0
Distributed File System       Dfs     Stopped Disabled       Own Process


c:\windows\system32\dfssvc.exe        Normal  LocalSystem    0
DHCP Client    Dhcp    Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k

networkservice Normal  NT AUTHORITY\NetworkService   0
Logical Disk Manager Administrative Service  dmadmin Stopped Manual  Share
Process

c:\windows\system32\dmadmin.exe /com  Normal  LocalSystem    0
Logical Disk Manager   dmserver       Running Auto    Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

DNS Client     Dnscache       Stopped Disabled       Share Process


c:\windows\system32\svchost.exe -k networkservice    Normal  NT
AUTHORITY\NetworkService      0
Error Reporting Service       ERSvc   Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

winerr  Ignore  LocalSystem    0
Event Log      Eventlog       Running Auto    Share Process
       c:\windows\system32\services.exe

Normal  LocalSystem    0
COM+ Event System      EventSystem    Running Auto    Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Help and Support       helpsvc Running Auto    Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Human Interface Device Access HidServ Stopped Disabled       Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

HTTP SSL       HTTPFilter     Stopped Manual  Share Process
       c:\windows\system32\lsass.exe

Normal  LocalSystem    0
IIS Admin Service      IISADMIN       Stopped Manual  Share Process

c:\windows\system32\inetsrv\inetinfo.exe     Normal  LocalSystem    0

IMAPI CD-Burning COM Service  ImapiService   Stopped Disabled       Own
Process

c:\windows\system32\imapi.exe Normal  LocalSystem    0
Intersite Messaging    IsmServ Stopped Disabled       Own Process

c:\windows\system32\ismserv.exe       Normal  LocalSystem    0
Kerberos Key Distribution Center      kdc     Stopped Disabled       Share
Process

c:\windows\system32\lsass.exe Normal  LocalSystem    0
Server  lanmanserver   Running Auto    Share Process
       c:\windows\system32\svchost.exe -k netsvcs

Normal  LocalSystem    0
Workstation    lanmanworkstation      Running Auto    Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

License Logging        LicenseService Stopped Disabled       Own Process


c:\windows\system32\llssrv.exe        Normal  NT AUTHORITY\NetworkService
       0
TCP/IP NetBIOS Helper  LmHosts Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

localservice   Normal  NT AUTHORITY\LocalService     0
```

```
Messenger      Messenger      Stopped Disabled       Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

NetMeeting Remote Desktop Sharing     mnmsrvc Running Auto    Own Process


c:\windows\system32\mnmsrvc.exe       Normal  LocalSystem    0
Distributed Transaction Coordinator   MSDTC   Running Auto    Own Process


c:\windows\system32\msdtc.exe Normal  NT AUTHORITY\NetworkService   0

Windows Installer      MSIServer      Stopped Manual  Share Process

c:\windows\system32\msiexec.exe /v    Normal  LocalSystem    0
Network DDE    NetDDE  Stopped Disabled       Share Process
       c:\windows\system32\netdde.exe

Normal  LocalSystem    0
Network DDE DSDM       NetDDEdsdm     Stopped Disabled       Share Process


c:\windows\system32\netdde.exe        Normal  LocalSystem    0
Net Logon      Netlogon       Stopped Manual  Share Process
       c:\windows\system32\lsass.exe

Normal  LocalSystem    0
Network Connections    Netman  Running Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Network Location Awareness (NLA)      Nla     Running Manual  Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

File Replication       NtFrs   Stopped Manual  Own Process
       c:\windows\system32\ntfrs.exe

Ignore  LocalSystem    0
NT LM Security Support Provider       NtLmSsp Stopped Manual  Share Process


c:\windows\system32\lsass.exe Normal  LocalSystem    0
Removable Storage      NtmsSvc Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Plug and Play  PlugPlay       Running Auto    Share Process
       c:\windows\system32\services.exe

Normal  LocalSystem    0
IPSEC Services PolicyAgent    Stopped Manual  Share Process
       c:\windows\system32\lsass.exe

Normal  LocalSystem    0
```

```
Protected Storage      ProtectedStorage       Running Auto    Share Process


c:\windows\system32\lsass.exe Normal  LocalSystem    0
Remote Access Auto Connection Manager RasAuto Stopped Manual  Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Remote Access Connection Manager      RasMan  Running Manual  Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Remote Desktop Help Session Manager   RDSessMgr      Stopped Manual  Own
Process

c:\windows\system32\sessmgr.exe       Normal  LocalSystem    0
Routing and Remote Access     RemoteAccess   Stopped Disabled       Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Remote Registry        RemoteRegistry Running Auto    Share Process
       c:\windows\system32\svchost.exe -k

regsvc  Normal  NT AUTHORITY\LocalService     0
Remote Procedure Call (RPC) Locator   RpcLocator     Stopped Manual  Own
Process

c:\windows\system32\locator.exe       Normal  NT AUTHORITY\NetworkService
       0
Remote Procedure Call (RPC)   RpcSs   Running Auto    Share Process

c:\windows\system32\svchost.exe -k rpcss     Normal  NT
Authority\NetworkService      0
Resultant Set of Policy Provider      RSoPProv       Stopped Manual  Share
Process

c:\windows\system32\rsopprov.exe      Normal  LocalSystem    0
Special Administration Console Helper sacsvr  Stopped Manual  Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Security Accounts Manager     SamSs   Running Auto    Share Process

c:\windows\system32\lsass.exe Normal  LocalSystem    0
Smart Card     SCardSvr       Stopped Manual  Share Process
       c:\windows\system32\scardsvr.exe

Ignore  NT AUTHORITY\LocalService     0
Task Scheduler Schedule       Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Secondary Logon        seclogon       Running Auto    Share Process
       c:\windows\system32\svchost.exe -k
```

```
netsvcs Ignore  LocalSystem    0
System Event Notification      SENS    Running Auto    Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Windows Firewall/Internet Connection Sharing (ICS)   SharedAccess
       Stopped Disabled

Share Process  c:\windows\system32\svchost.exe -k netsvcs   Normal
       LocalSystem    0
Shell Hardware Detection       ShellHWDetection       Running Auto    Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Ignore  LocalSystem    0

Print Spooler  Spooler Stopped Manual  Own Process
       c:\windows\system32\spoolsv.exe       Normal

LocalSystem    0
Windows Image Acquisition (WIA)       stisvc  Stopped Disabled       Share
Process

c:\windows\system32\svchost.exe -k imgsvc    Normal  NT
AUTHORITY\LocalService 0
Microsoft Software Shadow Copy Provider       swprv   Stopped Manual  Own
Process

c:\windows\system32\svchost.exe -k swprv     Normal  LocalSystem    0

Performance Logs and Alerts   SysmonLog      Stopped Manual  Own Process


c:\windows\system32\smlogsvc.exe      Normal  NT Authority\NetworkService
       0
Telephony      TapiSrv Running Manual  Share Process
       c:\windows\system32\svchost.exe -k tapisrv

Normal  LocalSystem    0
Terminal Services      TermService    Running Manual  Share Process

c:\windows\system32\svchost.exe -k termsvcs  Normal  LocalSystem    0

Themes  Themes  Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k netsvcs

Normal  LocalSystem    0
Telnet  TlntSvr Stopped Disabled       Own Process
       c:\windows\system32\tlntsvr.exe       Normal  NT

AUTHORITY\LocalService 0
Distributed Link Tracking Server      TrkSvr  Stopped Disabled       Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Distributed Link Tracking Client      TrkWks  Stopped Disabled       Share
Process
```

```
c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Terminal Services Session Directory   Tssdis  Stopped Disabled       Own
Process

c:\windows\system32\tssdis.exe        Normal  LocalSystem    0
Windows User Mode Driver Framework    UMWdf   Stopped Manual  Own Process


c:\windows\system32\wdfmgr.exe        Normal  NT AUTHORITY\LocalService
       0
Upload Manager uploadmgr      Stopped Manual  Share Process
       c:\windows\system32\svchost.exe -k

netsvcs Normal  LocalSystem    0
Uninterruptible Power Supply  UPS     Stopped Manual  Own Process
       c:\windows\system32\ups.exe

Normal  LocalSystem    0
Virtual Disk Service   vds     Stopped Manual  Own Process
       c:\windows\system32\vds.exe

Normal  LocalSystem    0
Volume Shadow Copy     VSS     Stopped Manual  Own Process
       c:\windows\system32\vssvc.exe

Normal  LocalSystem    0
Windows Time    W32Time Stopped Disabled       Share Process
       c:\windows\system32\svchost.exe -k

localservice   Normal  NT AUTHORITY\LocalService     0
World Wide Web Publishing Service     W3SVC   Stopped Manual  Share Process


c:\windows\system32\svchost.exe -k iissvcs   Normal  LocalSystem    0

WebClient      WebClient      Stopped Disabled       Share Process

c:\windows\system32\svchost.exe -k localservice      Normal  NT
AUTHORITY\LocalService 0
WinHTTP Web Proxy Auto-Discovery Service     WinHttpAutoProxySvc
       Stopped Manual  Share

Process c:\windows\system32\svchost.exe -k localservice      Normal  NT
AUTHORITY\LocalService 0
Windows Management Instrumentation    winmgmt Running Auto    Share Process


c:\windows\system32\svchost.exe -k netsvcs   Ignore  LocalSystem    0

Portable Media Serial Number Service  WmdmPmSN       Stopped Manual  Share
Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Windows Management Instrumentation Driver Extensions Wmi     Stopped Manual
       Share Process
```

```
c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

WMI Performance Adapter       WmiApSrv       Stopped Manual  Own Process


c:\windows\system32\wbem\wmiapsrv.exe Normal  LocalSystem    0
Automatic Updates      wuauserv       Stopped Disabled       Share Process


c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Wireless Configuration WZCSVC  Stopped Disabled       Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0

Network Provisioning Service  xmlprov Stopped Manual  Share Process

c:\windows\system32\svchost.exe -k netsvcs   Normal  LocalSystem    0


[Program Groups]

Group Name     Name    User Name
Accessories    Default User:Accessories      Default User
Accessories\Accessibility     Default User:Accessories\Accessibility
       Default User
Accessories\Entertainment     Default User:Accessories\Entertainment
       Default User
Startup Default User:Startup   Default User
Accessories    All Users:Accessories  All Users
Accessories\Accessibility     All Users:Accessories\Accessibility   All
Users
Accessories\Communications    All Users:Accessories\Communications  All
Users
Accessories\Entertainment     All Users:Accessories\Entertainment   All
Users
Accessories\System Tools      All Users:Accessories\System Tools    All
Users
Administrative Tools   All Users:Administrative Tools        All Users

Microsoft SQL Server 2005 CTP All Users:Microsoft SQL Server 2005 CTP
       All Users
Microsoft SQL Server 2005 CTP\Analysis Services      All Users:Microsoft
SQL Server 2005 CTP\Analysis

Services       All Users
Microsoft SQL Server 2005 CTP\Configuration Tools    All Users:Microsoft
SQL Server 2005

CTP\Configuration Tools       All Users
Microsoft SQL Server 2005 CTP\Performance Tools      All Users:Microsoft
SQL Server 2005 CTP\Performance

Tools   All Users
Installation Products  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    CLIENT1\Administrator:Accessories     CLIENT1\Administrator

Accessories\Accessibility
       CLIENT1\Administrator:Accessories\Accessibility

CLIENT1\Administrator
Accessories\Entertainment
       CLIENT1\Administrator:Accessories\Entertainment

CLIENT1\Administrator
Administrative Tools   CLIENT1\Administrator:Administrative Tools
       CLIENT1\Administrator
Startup CLIENT1\Administrator:Startup CLIENT1\Administrator

[Startup Programs]

Program Command User Name      Location
desktop desktop.ini    NT AUTHORITY\SYSTEM    Startup
desktop desktop.ini    CLIENT1\Administrator  Startup
rhost   rhost.lnk      CLIENT1\Administrator  Startup
desktop desktop.ini    .DEFAULT       Startup
desktop desktop.ini    All Users      Common Startup

[OLE Registration]

Object  Local Server
Sound (OLE2)   sndrec32.exe
Media Clip     mplay32.exe
Video Clip     mplay32.exe /avi
MIDI Sequence  mplay32.exe /mid
Sound   Not Available
Media Clip     Not Available
WordPad Document       "%programfiles%\windows nt\accessories\wordpad.exe"

Windows Media Services DRM Storage object    Not Available
Bitmap Image   mspaint.exe

[Windows Error Reporting]

Time    Type    Details

[Internet Settings]



[Internet Explorer]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Version 6.0.3790.1830
Build   63790.1830
Application Path       C:\Program Files\Internet Explorer
```

```
Language       English (United States)
Active Printer Not Available

Cipher Strength       128-bit
Content Advisor       Disabled
IEAK Install   No

[File Versions]

File    Version Size    Date    Path    Company
actxprxy.dll    6.0.3790.1830  97 KB   3/24/2005 5:55:26 PM
       C:\WINDOWS\system32    Microsoft

Corporation
advpack.dll     6.0.3790.1830  98 KB   3/24/2005 5:55:28 PM
       C:\WINDOWS\system32    Microsoft

Corporation
asctrls.ocx     6.0.3790.0     90 KB   3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft

Corporation
browselc.dll    6.0.3790.0     62 KB   3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft

Corporation
browseui.dll    6.0.3790.1830  1,009 KB       3/24/2005 5:56:10 PM
       C:\WINDOWS\system32

Microsoft Corporation
cdfview.dll     6.0.3790.1830  149 KB  3/24/2005 5:56:32 PM
       C:\WINDOWS\system32    Microsoft

Corporation
comctl32.dll    5.82.3790.1830 585 KB  3/24/2005 5:57:56 PM
       C:\WINDOWS\system32    Microsoft

Corporation
dxtrans.dll     6.3.3790.1830  205 KB  3/24/2005 6:00:58 PM
       C:\WINDOWS\system32    Microsoft

Corporation
dxtmsft.dll     6.3.3790.1830  355 KB  3/24/2005 6:00:58 PM
       C:\WINDOWS\system32    Microsoft

Corporation
iecont.dll      <File Missing> Not Available  Not Available  Not Available
       Not Available
iecontlc.dll    <File Missing> Not Available  Not Available  Not Available
       Not Available
iedkcs32.dll    16.0.3790.1830 324 KB  3/24/2005 6:04:58 PM
       C:\WINDOWS\system32    Microsoft

Corporation
iepeers.dll     6.0.3790.1830  248 KB  3/24/2005 6:04:58 PM
       C:\WINDOWS\system32    Microsoft

Corporation
iesetup.dll     6.0.3790.1830  61 KB   3/24/2005 6:04:58 PM
       C:\WINDOWS\system32    Microsoft

Corporation
ieuinit.inf     Not Available  24 KB   3/24/2005 6:04:58 PM
       C:\WINDOWS\system32    Not

Available
iexplore.exe    6.0.3790.1830  92 KB   3/24/2005 6:04:58 PM   C:\Program
Files\Internet Explorer

Microsoft Corporation
imgutil.dll     6.0.3790.1830  38 KB   3/24/2005 6:05:04 PM
       C:\WINDOWS\system32    Microsoft

Corporation
inetcpl.cpl     6.0.3790.1830  358 KB  3/24/2005 6:05:06 PM
       C:\WINDOWS\system32    Microsoft

Corporation
inetcplc.dll    6.0.3790.0     109 KB  3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft

Corporation
inseng.dll      6.0.3790.1830  94 KB   3/24/2005 6:05:06 PM
       C:\WINDOWS\system32    Microsoft

Corporation
mlang.dll       6.0.3790.1830  578 KB  3/24/2005 6:07:20 PM
       C:\WINDOWS\system32    Microsoft

Corporation
Mircosoft       2002.10.4.0    112 KB  3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft
mshta.exe       6.0.3790.1830  30 KB   3/24/2005 6:07:26 PM
       C:\WINDOWS\system32    Microsoft

Corporation
mshtml.dll      6.0.3790.1830  3,036 KB       3/24/2005 6:07:26 PM
       C:\WINDOWS\system32

Microsoft Corporation
mshtml.tlb      6.0.3790.1830  1,320 KB       3/24/2005 6:07:26 PM
       C:\WINDOWS\system32

Microsoft Corporation
mshtmled.dll    6.0.3790.1830  455 KB  3/24/2005 6:07:26 PM
       C:\WINDOWS\system32    Microsoft

Corporation
mshtmler.dll    6.0.3790.1830  56 KB   3/24/2005 6:07:26 PM
       C:\WINDOWS\system32    Microsoft

Corporation
msident.dll     6.0.3790.1830  48 KB   3/24/2005 6:07:28 PM
       C:\WINDOWS\system32    Microsoft

Corporation
```

```
msidntld.dll   6.0.3790.0     15 KB   3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft

Corporation
msieftp.dll    6.0.3790.1830  244 KB  3/24/2005 6:07:28 PM
       C:\WINDOWS\system32    Microsoft

Corporation
msrating.dll   6.0.3790.1830  144 KB  3/24/2005 6:07:36 PM
       C:\WINDOWS\system32    Microsoft

Corporation
mstime.dll     6.0.3790.1830  523 KB  3/24/2005 6:07:38 PM
       C:\WINDOWS\system32    Microsoft

Corporation
occache.dll    6.0.3790.1830  94 KB   3/24/2005 6:08:34 PM
       C:\WINDOWS\system32    Microsoft

Corporation
proctexe.ocx   6.3.3790.1830  83 KB   3/24/2005 6:12:26 PM
       C:\WINDOWS\system32    Intel

Corporation
sendmail.dll   6.0.3790.1830  56 KB   3/24/2005 6:13:36 PM
       C:\WINDOWS\system32    Microsoft

Corporation
shdoclc.dll    6.0.3790.0     589 KB  3/25/2003 12:00:00 PM
       C:\WINDOWS\system32    Microsoft

Corporation
shdocvw.dll    6.0.3790.1830  1,468 KB       3/24/2005 6:13:36 PM
       C:\WINDOWS\system32

Microsoft Corporation
shfolder.dll   6.0.3790.1830  25 KB   3/24/2005 6:13:36 PM
       C:\WINDOWS\system32    Microsoft

Corporation
shlwapi.dll    6.0.3790.1830  314 KB  3/24/2005 6:13:40 PM
       C:\WINDOWS\system32    Microsoft

Corporation
tdc.ocx 1.3.0.3130     58 KB   3/25/2003 12:00:00 PM  C:\WINDOWS\system32
       Microsoft

Corporation
url.dll 6.0.3790.1830  37 KB   3/24/2005 6:26:12 PM   C:\WINDOWS\system32
       Microsoft

Corporation
urlmon.dll     6.0.3790.1830  673 KB  3/24/2005 6:26:12 PM
       C:\WINDOWS\system32    Microsoft

Corporation
webcheck.dll   6.0.3790.1830  273 KB  3/24/2005 6:26:16 PM
       C:\WINDOWS\system32    Microsoft

Corporation
wininet.dll    6.0.3790.1830  646 KB  3/24/2005 6:26:18 PM
       C:\WINDOWS\system32    Microsoft

Corporation

[Connectivity]

Item    Value
Connection Preference  Never dial

LAN Settings

AutoConfigProxy        wininet.dll
AutoProxyDetectMode    Disabled
AutoConfigURL
Proxy   Disabled
ProxyServer
ProxyOverride

[Cache]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Page Refresh Type      Automatic
Temporary Internet Files Folder       C:\Documents and
Settings\Administrator\Local Settings\Temporary

Internet Files
Total Disk Space       Not Available
Available Disk Space   Not Available
Maximum Cache Size     Not Available
Available Cache Size   Not Available

[List of Objects]

Program File   Status  CodeBase
No cached object information available

[Content]

[ Following are sub-categories of this main category ]
[Summary]

Item    Value
Content Advisor        Disabled

[Personal Certificates]

Issued To      Issued By      Validity       Signature Algorithm
No personal certificate information available


[Other People Certificates]

Issued To      Issued By      Validity       Signature Algorithm
```

```
No other people certificate information available


[Publishers]

Name
No publisher information available

[Security]

Zone    Security Level
My Computer    Custom
Local intranet Custom
Trusted sites  Custom
Internet       Custom
Restricted sites       Custom
```

Client Hyperthreading Information (Common to 4 clients)

```
Hyper-Threading Technology is available.
Logical Processors Per Package: 2
OS Affinity ID: 0x00000001, APIC ID: 0 PHY ID: 0, LOG ID: 0
OS Affinity ID: 0x00000002, APIC ID: 6 PHY ID: 3, LOG ID: 0
OS Affinity ID: 0x00000004, APIC ID: 1 PHY ID: 0, LOG ID: 1
OS Affinity ID: 0x00000008, APIC ID: 7 PHY ID: 3, LOG ID: 1
Processors with Hyper-Threading Technology enabled was detected.
```

Windows 2003 IP Configuration Information

(Common to 4 clients except for Host Name, Physical Address, and IP Address)

Swcfg.ver

```
Windows IP Configuration


   Host Name . . . . . . . . . . . . : Client1

   Primary Dns Suffix  . . . . . . . :

   Node Type . . . . . . . . . . . . : Unknown

   IP Routing Enabled. . . . . . . . : No

   WINS Proxy Enabled. . . . . . . . : No


Ethernet adapter RTE:


   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Intel(R) PRO/1000 MT Network
Connection #2

   Physical Address. . . . . . . . . : 00-11-43-35-4D-E2

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.1.10.1

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.9.1.1

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :


Ethernet adapter Admin:


   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Intel(R) PRO/1000 MT Network
Connection

   Physical Address. . . . . . . . . : 00-11-43-35-4D-E1

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.168.123.2

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.168.91.1

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.158.2.9

   Subnet Mask . . . . . . . . . . . : 255.255.255.0
```

```
   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled

 Volume in drive C has no label.
 Volume Serial Number is 9491-81F8

 Directory of C:\inetpub\wwwroot

09/23/2005  10:56 AM            90,112 tpcc.dll
               1 File(s)         90,112 bytes
               0 Dir(s)  14,468,186,112 bytes free
 Volume in drive C has no label.
 Volume Serial Number is 9491-81F8

 Directory of C:\inetpub\wwwroot

09/23/2005  10:55 AM            94,208 tpcc_com_all.dll
               1 File(s)         94,208 bytes
               0 Dir(s)  14,468,186,112 bytes free
 Volume in drive C has no label.
 Volume Serial Number is 9491-81F8

 Directory of C:\inetpub\wwwroot

09/23/2005  10:55 AM            24,576 tpcc_com_ps.dll
               1 File(s)         24,576 bytes
               0 Dir(s)  14,468,186,112 bytes free
```

System_Currentcontrolset_Services_HTTP.txt

```
\registry\machine\system\currentcontrolset\services\HTTP\Parameters
    DisableServerHeader = REG_DWORD 0x00000001
    MaxConnections = REG_DWORD 0x0000ffff
    SslBindingInfo
    UrlAclInfo
```

Component Services Configuration

Complus.txt

```
Component Services Configuration

COM+ Component TPCC.AllTxns Settings:
   Transactions not supported
   Enable object pooling
   Minimum pool size 79
   Maximum pool size 79
   Creation timeout 120,000
   Enable object construction
   Enable just in time activation
   Concurrency required
```

Internet Information Server Registry Parameters

System_Currentcontrolset_Services_Inetinfo.txt

```
\registry\machine\system\currentcontrolset\services\inetinfo
    Parameters
        ListenBackLog = REG_DWORD 0x00000050
        BandwidthLevel = REG_DWORD 0xffffffff
        ThreadTimeout = REG_DWORD 0x00015180
        DisableMemoryCache = REG_DWORD 0x00000001
        MemoryCacheSize = REG_DWORD 0x00000000
        PoolThreadLimit = REG_DWORD 0x00000096
        ObjectCacheTTL = REG_DWORD 0xffffffff
        MaxConnections = REG_DWORD 0x0000ffff
    Performance
        Library = infoctrs.dll
        Open = OpenINFOPerformanceData
        Close = CloseINFOPerformanceData
        Collect = CollectINFOPerformanceData
        PerfIniFile = infoctrs.ini
        Last Counter = REG_DWORD 0x000009a6
        Last Help = REG_DWORD 0x000009a7
        First Counter = REG_DWORD 0x00000966
        First Help = REG_DWORD 0x00000967
        Object List = 2406
        Library Validation Code = REG_BINARY 0x00000010 0x05d12400
0x01c4b6d8 0x00002000 0x00000000
        WbemAdapFileSignature = REG_BINARY 0x00000010 0xe7d3c34c
0xe056ca44 0x14a0e8f3 0x0ffb2652
        WbemAdapFileTime = REG_BINARY 0x00000008 0x05388d80 0x01c4b6d8
        WbemAdapFileSize = REG_DWORD 0x00002000
        WbemAdapStatus = REG_DWORD 0x00000000
```

Tcpip Parameters

System_Currentcontrolset_Services_Tcpip.txt

(Common to 4 clients except for Host Name, Physical Address, and IP Address)

```
\registry\machine\system\currentcontrolset\services\Tcpip\Parameters
    NV Hostname = Client1
    DataBasePath = REG_EXPAND_SZ %SystemRoot%\System32\drivers\etc
    NameServer =
    ForwardBroadcasts = REG_DWORD 0x00000000
    IPEnableRouter = REG_DWORD 0x00000000
    Domain =
    Hostname = Client1
    SearchList =
    UseDomainNameDevolution = REG_DWORD 0x00000000
    EnableICMPRedirect = REG_DWORD 0x00000001
    DeadGWDetectDefault = REG_DWORD 0x00000001
    DontAddDefaultGatewayDefault = REG_DWORD 0x00000000
    EnableSecurityFilters = REG_DWORD 0x00000000
    ReservedPorts = REG_MULTI_SZ "3343-3343"
    KeepAliveInterval = REG_DWORD 0x00002710
    MaxUserPort = REG_DWORD 0x0000ffff
    Adapters
        NdisWanIp
            LLInterface = WANARP
            IpConfig = REG_MULTI_SZ
"Tcpip\Parameters\Interfaces\{2D13871F-65E0-4488-975A-87F4820F3CA7}"  \

"Tcpip\Parameters\Interfaces\{C66855BE-E13A-4E93-B9E8-4AEAB2144A65}"
            NumInterfaces = REG_DWORD 0x00000002
            IpInterfaces = REG_BINARY 0x00000020 0x2d13871f 0x448865e0
0xf4875a97 0xa73c0f82 0xc66855be 0x4e93e13a 0xea4ae8b9 0x654a14b2
        {35D335E3-7BFB-4A25-803D-7C9A89A68C20}
            LLInterface =
            IpConfig = REG_MULTI_SZ
"Tcpip\Parameters\Interfaces\{35D335E3-7BFB-4A25-803D-7C9A89A68C20}"
        {8D10888B-172C-42DA-9119-F690C6569F08}
            LLInterface =
            IpConfig = REG_MULTI_SZ
"Tcpip\Parameters\Interfaces\{8D10888B-172C-42DA-9119-F690C6569F08}"
    DNSRegisteredAdapters
    Interfaces
        {2D13871F-65E0-4488-975A-87F4820F3CA7}
            UseZeroBroadcast = REG_DWORD 0x00000000
            EnableDHCP = REG_DWORD 0x00000000
            IPAddress = REG_MULTI_SZ "0.0.0.0"
            SubnetMask = REG_MULTI_SZ "0.0.0.0"
            DefaultGateway = REG_MULTI_SZ
            EnableDeadGWDetect = REG_DWORD 0x00000001
            DontAddDefaultGateway = REG_DWORD 0x00000000
        {35D335E3-7BFB-4A25-803D-7C9A89A68C20}
            UseZeroBroadcast = REG_DWORD 0x00000000
            EnableDeadGWDetect = REG_DWORD 0x00000001
            EnableDHCP = REG_DWORD 0x00000000
            IPAddress = REG_MULTI_SZ "192.158.2.9"  \
                                     "192.168.91.1"  \
                                     "192.168.123.2"
            SubnetMask = REG_MULTI_SZ "255.255.255.0"  \
                                      "255.255.255.0"  \
                                      "255.255.255.0"
            DefaultGateway = REG_MULTI_SZ
            DefaultGatewayMetric = REG_MULTI_SZ
            NameServer =
            Domain =
            RegistrationEnabled = REG_DWORD 0x00000000
            RegisterAdapterName = REG_DWORD 0x00000000
            TCPAllowedPorts = REG_MULTI_SZ "0"
            UDPAllowedPorts = REG_MULTI_SZ "0"
            RawIPAllowedProtocols = REG_MULTI_SZ "0"
            NTEContextList = REG_MULTI_SZ "0x00000004"  \
                                          "0x00000005"  \
                                          "0x00000006"
            DhcpClassIdBin = REG_BINARY 0x00000000
            DhcpServer = 255.255.255.255
            Lease = REG_DWORD 0x00000e10
            LeaseObtainedTime = REG_DWORD 0x4176cfaa
            T1 = REG_DWORD 0x4176d6b2
            T2 = REG_DWORD 0x4176dbf8
            LeaseTerminatesTime = REG_DWORD 0x4176ddba
            IPAutoconfigurationAddress = 0.0.0.0
            IPAutoconfigurationMask = 255.255.0.0
            IPAutoconfigurationSeed = REG_DWORD 0x00000000
            AddressType = REG_DWORD 0x00000000
        {8D10888B-172C-42DA-9119-F690C6569F08}
            UseZeroBroadcast = REG_DWORD 0x00000000
            EnableDeadGWDetect = REG_DWORD 0x00000001
            EnableDHCP = REG_DWORD 0x00000000
            IPAddress = REG_MULTI_SZ "192.9.1.1"  \
                                     "192.1.10.1"
            SubnetMask = REG_MULTI_SZ "255.255.255.0"  \
                                      "255.255.255.0"
            DefaultGateway = REG_MULTI_SZ
            DefaultGatewayMetric = REG_MULTI_SZ
            NameServer =
            Domain =
            RegistrationEnabled = REG_DWORD 0x00000000
            RegisterAdapterName = REG_DWORD 0x00000000
            TCPAllowedPorts = REG_MULTI_SZ "0"
            UDPAllowedPorts = REG_MULTI_SZ "0"
            RawIPAllowedProtocols = REG_MULTI_SZ "0"
            NTEContextList = REG_MULTI_SZ "0x00000002"  \
                                          "0x00000003"
            DhcpClassIdBin = REG_BINARY 0x00000000
            DhcpServer = 255.255.255.255
            Lease = REG_DWORD 0x00000e10
            LeaseObtainedTime = REG_DWORD 0x4176aa20
            T1 = REG_DWORD 0x4176b128
            T2 = REG_DWORD 0x4176b66e
            LeaseTerminatesTime = REG_DWORD 0x4176b830
            IPAutoconfigurationAddress = 0.0.0.0
            IPAutoconfigurationMask = 255.255.0.0
            IPAutoconfigurationSeed = REG_DWORD 0x00000000
            AddressType = REG_DWORD 0x00000000
        {C66855BE-E13A-4E93-B9E8-4AEAB2144A65}
```

```
            UseZeroBroadcast = REG_DWORD 0x00000000
            EnableDHCP = REG_DWORD 0x00000000
            IPAddress = REG_MULTI_SZ "0.0.0.0"
            SubnetMask = REG_MULTI_SZ "0.0.0.0"
            DefaultGateway = REG_MULTI_SZ
            EnableDeadGWDetect = REG_DWORD 0x00000001
            DontAddDefaultGateway = REG_DWORD 0x00000000
    PersistentRoutes
    Winsock
        UseDelayedAcceptance = REG_DWORD 0x00000000
        HelperDllName = REG_EXPAND_SZ %SystemRoot%\System32\wshtcpip.dll
        MaxSockAddrLength = REG_DWORD 0x00000010
        MinSockAddrLength = REG_DWORD 0x00000010
        Mapping = REG_BINARY 0x0000008c 0x0000000b 0x00000003 0x00000002
0x00000001 0x00000006 0x00000002 0x00000001 0x00000000 0x00000002
0x00000000 0x00000006 0x00000000 0x00000000 0x00000006 0x00000000
0x00000001 0x00000006 0x00000002 \
                0x00000002 0x00000011 0x00000002 0x00000002 0x00000000
0x00000002 0x00000000 0x00000011 0x00000000 0x00000000 0x00000011
0x00000000 0x00000002 0x00000011 0x00000002 0x00000003 0x00000000
```

System_Currentcontrolset_Services_lpxkdrvr.txt

```
\registry\machine\system\currentcontrolset\services\lpxkdrvr
    Type = REG_DWORD 0x00000001
    Start = REG_DWORD 0x00000003
    ErrorControl = REG_DWORD 0x00000001
    ImagePath = REG_EXPAND_SZ system32\DRIVERS\lpxkdrvr.sys
    DisplayName = lpxkdrvr
    Description = LPXKSLI2 driver.
    Affinity
        0 = REG_DWORD 0xffffffff
        1 = REG_DWORD 0xffffffff
        2 = REG_DWORD 0xffffffff
        3 = REG_DWORD 0xffffffff
        4 = REG_DWORD 0xffffffff
        5 = REG_DWORD 0xffffffff
        6 = REG_DWORD 0xffffffff
        7 = REG_DWORD 0xffffffff
    Coalesce
        0 = REG_DWORD 0x00000000
        1 = REG_DWORD 0x00000000
        2 = REG_DWORD 0x00000000
        3 = REG_DWORD 0x00000000
        4 = REG_DWORD 0x00000000
        5 = REG_DWORD 0x00000000
        6 = REG_DWORD 0x00000000
        7 = REG_DWORD 0x00000000
    Security [17 1]
        Security = REG_BINARY 0x000000d0 0x80140001 0x000000b8 0x000000c4
0x00000014 0x00000030 0x001c0002 0x00000001 0x00148002 0x000f01ff
0x00000101 0x01000000 0x00000000 0x00880002 0x00000006 0x00140000
0x000201fd 0x00000101 0x05000000 \
                0x00000012 0x00180000 0x000f01ff 0x00000201 0x05000000
0x00000020 0x00000220 0x00140000 0x0002018d 0x00000101 0x05000000
0x00000004 0x00140000 0x0002018d 0x00000101 0x05000000 0x00000006
0x00140000 0x00000100 0x00000101 \
                0x05000000 0x0000000b 0x00180000 0x000201fd 0x00000201
0x05000000 0x00000020 0x00000223 0x00000101 0x05000000 0x00000012
0x00000101 0x05000000 0x00000012
    TgtIntCnt
        0 = REG_DWORD 0x00000000
        1 = REG_DWORD 0x00000000
        2 = REG_DWORD 0x00000000
        3 = REG_DWORD 0x00000000
        4 = REG_DWORD 0x00000000
        5 = REG_DWORD 0x00000000
        6 = REG_DWORD 0x00000000
        7 = REG_DWORD 0x00000000
    Enum
        0 =
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\5&1b4f3478&0&180230
        Count = REG_DWORD 0x00000002
        NextInstance = REG_DWORD 0x00000002
        1 =
PCI\VEN_10DF&DEV_FA00&SUBSYS_FA0010DF&REV_01\5&1b4f3478&0&190230
```

MSSQL Server Registry Parameters

Software_Microsoft_Mssqlserver_Client_sni90_via.txt

```
\registry\machine\software\microsoft\mssqlserver\client\SNI9.0\VIA
    DLLname = SQLNCLI
    NumberOfFlags = REG_DWORD 0x00000000
    NumberOfProperties = REG_DWORD 0x00000002
    ProtocolName = VIA
    Property1
        Name = Default Server Port
        Value = 0:1401
    Property2
        Name = Default Client NIC
        Value = 0
    Property3
        Value = Uvipl.dll
        Name = VendorDLL
```

Software_Microsoft_Mssqlserver_Client_Connectto_Sqlconnect.txt

(Common to all 4 clients except for DBServer port #)

```
\registry\machine\software\microsoft\mssqlserver\client\connectto
    DBSERVERtcp = DBMSSOCN,192.168.91.207,1401
    DBSERVER = DBNETLIB,via:tpcc-zorro,1401,0
```

```
    TPCC = DBMSSOCN,192.168.91.207,1433
```

Start World Wide Web Server Registry Parameters

System_Currentcontrolset_Services_W3svc.txt

```
\registry\machine\system\currentcontrolset\services\w3svc
    Type = REG_DWORD 0x00000020
    Start = REG_DWORD 0x00000003
    ErrorControl = REG_DWORD 0x00000001
    ImagePath = REG_EXPAND_SZ %SystemRoot%\System32\svchost.exe -k iissvcs
    DisplayName = World Wide Web Publishing Service
    DependOnService = REG_MULTI_SZ "IISADMIN"
    DependOnGroup = REG_MULTI_SZ
    ObjectName = LocalSystem
    Description = Provides Web connectivity and administration through the
Internet Information Services snap-in.
    FailureActions = REG_BINARY 0x0000002c 0x00015180 0x00000001
0x00000000 0x00000003 0x00650053 0x00000001 0x00000001 0x00000001
0x00000001 0x00000001 0x00000001
    ASP
        NOTE = This is for backward compatibility only.
        Parameters
    Parameters
        MajorVersion = REG_DWORD 0x00000005
        MinorVersion = REG_DWORD 0x00000000
        InstallPath = c:\WINDOWS\System32\inetsrv
        AccessDeniedMessage = Error: Access is Denied.
        ServiceDll = REG_EXPAND_SZ
C:\WINDOWS\system32\inetsrv\iisw3adm.dll
        AcceptExOutStanding = REG_DWORD 0x00000050
        LogFileDirectory = c:\WINDOWS\System32\LogFiles
        CertMapList = c:\WINDOWS\System32\inetsrv\iiscrmap.dll
        Filter DLLs =
        ADCLaunch
            AdvancedDataFactory
            RDSServer.DataFactory
        Script Map
        Virtual Roots
            / = c:\inetpub\wwwroot,,207
            /Scripts = c:\inetpub\scripts,,204
            /IISHelp = c:\WINDOWS\help\iishelp,,201
            /IISAdmin = c:\WINDOWS\System32\inetsrv\iisadmin,,201
            /IISSamples = c:\inetpub\iissamples,,201
            /MSADC = c:\program files\common files\system\msadc,,205
            /Printers = c:\WINDOWS\web\printers,,201
    Performance
        Library = w3ctrs.dll
        Open = OpenW3PerformanceData
        Close = CloseW3PerformanceData
        Collect = CollectW3PerformanceData
        PerfIniFile = w3ctrs.ini
        Last Counter = REG_DWORD 0x000008e6
        Last Help = REG_DWORD 0x000008e7
        First Counter = REG_DWORD 0x00000844
        First Help = REG_DWORD 0x00000845
        Object List = 2472 2646
        Library Validation Code = REG_BINARY 0x00000010 0xc18a727c
0x01c026d2 0x00003d10 0x00000000
        WbemAdapFileTime = REG_BINARY 0x00000008 0x964e6000 0x01bf40aa
        WbemAdapFileSize = REG_DWORD 0x00003d10
        WbemAdapStatus = REG_DWORD 0x00000000
    Security [17 1]
        Security = REG_BINARY 0x000000b8 0x80140001 0x000000a0 0x000000ac
0x00000014 0x00000030 0x001c0002 0x00000001 0x00148002 0x000f01ff
0x00000101 0x01000000 0x00000000 0x00700002 0x00000004 0x00180000
0x000201fd 0x00000101 0x05000000 \
                   0x00000012 0x006f0074 0x001c0000 0x000f01ff 0x00000201
0x05000000 0x00000020 0x00000220 0x00730072 0x00180000 0x0002018d
0x00000101 0x05000000 0x0000000b 0x00000220 0x001c0000 0x000201fd
0x00000201 0x05000000 0x00000020 \
                   0x00000223 0x00730072 0x00000101 0x05000000 0x00000012
0x00000101 0x05000000 0x00000012
    Enum
        0 = Root\LEGACY_W3SVC\0000
        Count = REG_DWORD 0x00000001
        NextInstance = REG_DWORD 0x00000001
```

TPCC Application Settings

Software\Unisys.txt

```
\registry\machine\software\unisys
    TPCC
        MAXTERMS = 60000
        DELIVERYTHREADS = 30
        SERVERNAME = DBSERVER
        DATABASE = tpcc
```

Appendix D - RTE Code

Admin Environment

Webnnnn.cmd

```
if '%1'=='' goto usage
if '%2'=='' goto usage
if '%3'=='' goto usage

:paramok

set WEBCHECKWIDS=1
set WEBDIAGLEVEL=4
set WEBEVENTLOG=0
set WEBEVENTHOST=
set WEBCHECKLEVEL=2

c:\webdriver\webadmin.exe -cweb%1.cfg -m%2 -d%3 -s160
if %ERRORLEVEL% NEQ 0 pause

goto end

:usage
@ECHO You must supply the following parameters:
@ECHO "webnnn.cmd <cfg file suffix> <min driver #> <max driver #>"
pause

:end
```

Profiles used for Performance Run

WebAdmin.cfg

```
//
//  Common Driver Configuration
//
INITBASEPORT 4300
INITSYNCMAX 4
INITPAUSE 1
INITRSCALE 400
INITTSCALE 1000
INITRWID 1,20050
INITFIXEDWID 1
INITCCLAST 208
INITCCID 208
INITCITEMID 208
//
//Configuration Driver 1
//
1 INITIPADDR 192.168.93.1
1 INITIISADDR 192.1.10.1
1 INITIISPORT 80
1 INITBROWSERS 790
1 INITMYWID 1,79
//
//Configuration Driver 2
//
2 INITIPADDR 192.168.93.1
2 INITIISADDR 192.1.10.1
2 INITIISPORT 80
2 INITBROWSERS 790
2 INITMYWID 80,158
//
//Configuration Driver 3
//
3 INITIPADDR 192.168.93.1
3 INITIISADDR 192.1.10.1
3 INITIISPORT 80
3 INITBROWSERS 790
3 INITMYWID 159,237
//
//Configuration Driver 4
//
4 INITIPADDR 192.168.93.1
4 INITIISADDR 192.1.10.1
4 INITIISPORT 80
4 INITBROWSERS 790
4 INITMYWID 238,316
//
//Configuration Driver 5
//
5 INITIPADDR 192.168.93.1
5 INITIISADDR 192.1.10.1
5 INITIISPORT 80
5 INITBROWSERS 790
5 INITMYWID 317,395
//
//Configuration Driver 6
//
6 INITIPADDR 192.168.93.1
6 INITIISADDR 192.1.10.1
6 INITIISPORT 80
6 INITBROWSERS 790
6 INITMYWID 396,474
//
//Configuration Driver 7
//
7 INITIPADDR 192.168.93.1
7 INITIISADDR 192.1.10.1
7 INITIISPORT 80
```

```
7 INITBROWSERS 790
7 INITMYWID 475,553
//
//Configuration Driver 8
//
8 INITIPADDR 192.168.93.1
8 INITIISADDR 192.1.10.1
8 INITIISPORT 80
8 INITBROWSERS 790
8 INITMYWID 554,632
//
//Configuration Driver 9
//
9 INITIPADDR 192.168.93.1
9 INITIISADDR 192.1.10.1
9 INITIISPORT 80
9 INITBROWSERS 790
9 INITMYWID 633,711
//
//Configuration Driver 10
//
10 INITIPADDR 192.168.93.1
10 INITIISADDR 192.1.10.1
10 INITIISPORT 80
10 INITBROWSERS 790
10 INITMYWID 712,790
//
//Configuration Driver 11
//
11 INITIPADDR 192.168.93.1
11 INITIISADDR 192.1.10.1
11 INITIISPORT 80
11 INITBROWSERS 790
11 INITMYWID 791,869
//
//Configuration Driver 12
//
12 INITIPADDR 192.168.93.1
12 INITIISADDR 192.1.10.1
12 INITIISPORT 80
12 INITBROWSERS 790
12 INITMYWID 870,948
//
//Configuration Driver 13
//
13 INITIPADDR 192.168.93.1
13 INITIISADDR 192.1.10.1
13 INITIISPORT 80
13 INITBROWSERS 790
13 INITMYWID 949,1027
//
//Configuration Driver 14
//
14 INITIPADDR 192.168.93.1
14 INITIISADDR 192.1.10.1
14 INITIISPORT 80
14 INITBROWSERS 790
14 INITMYWID 1028,1106
//
```

```
//Configuration Driver 15
//
15 INITIPADDR 192.168.93.1
15 INITIISADDR 192.1.10.1
15 INITIISPORT 80
15 INITBROWSERS 790
15 INITMYWID 1107,1185
//
//Configuration Driver 16
//
16 INITIPADDR 192.168.93.1
16 INITIISADDR 192.1.10.1
16 INITIISPORT 80
16 INITBROWSERS 790
16 INITMYWID 1186,1264
//
//Configuration Driver 17
//
17 INITIPADDR 192.168.93.1
17 INITIISADDR 192.1.10.1
17 INITIISPORT 80
17 INITBROWSERS 790
17 INITMYWID 1265,1343
//
//Configuration Driver 18
//
18 INITIPADDR 192.168.93.1
18 INITIISADDR 192.1.10.1
18 INITIISPORT 80
18 INITBROWSERS 790
18 INITMYWID 1344,1422
//
//Configuration Driver 19
//
19 INITIPADDR 192.168.93.1
19 INITIISADDR 192.1.10.1
19 INITIISPORT 80
19 INITBROWSERS 790
19 INITMYWID 1423,1501
//
//Configuration Driver 20
//
20 INITIPADDR 192.168.93.1
20 INITIISADDR 192.1.10.1
20 INITIISPORT 80
20 INITBROWSERS 790
20 INITMYWID 1502,1580
//
//Configuration Driver 21
//
21 INITIPADDR 192.168.93.1
21 INITIISADDR 192.1.10.1
21 INITIISPORT 80
21 INITBROWSERS 790
21 INITMYWID 1581,1659
//
//Configuration Driver 22
//
22 INITIPADDR 192.168.93.1
```

```
22 INITIISADDR 192.1.10.1
22 INITIISPORT 80
22 INITBROWSERS 790
22 INITMYWID 1660,1738
//
//Configuration Driver 23
//
23 INITIPADDR 192.168.93.1
23 INITIISADDR 192.1.10.1
23 INITIISPORT 80
23 INITBROWSERS 790
23 INITMYWID 1739,1817
//
//Configuration Driver 24
//
24 INITIPADDR 192.168.93.1
24 INITIISADDR 192.1.10.1
24 INITIISPORT 80
24 INITBROWSERS 790
24 INITMYWID 1818,1896
//
//Configuration Driver 25
//
25 INITIPADDR 192.168.93.1
25 INITIISADDR 192.1.10.1
25 INITIISPORT 80
25 INITBROWSERS 790
25 INITMYWID 1897,1975
//
//Configuration Driver 26
//
26 INITIPADDR 192.168.93.1
26 INITIISADDR 192.1.10.1
26 INITIISPORT 80
26 INITBROWSERS 790
26 INITMYWID 1976,2054
//
//Configuration Driver 27
//
27 INITIPADDR 192.168.93.1
27 INITIISADDR 192.1.10.1
27 INITIISPORT 80
27 INITBROWSERS 790
27 INITMYWID 2055,2133
//
//Configuration Driver 28
//
28 INITIPADDR 192.168.93.1
28 INITIISADDR 192.1.10.1
28 INITIISPORT 80
28 INITBROWSERS 790
28 INITMYWID 2134,2212
//
//Configuration Driver 29
//
29 INITIPADDR 192.168.93.1
29 INITIISADDR 192.1.10.1
29 INITIISPORT 80
29 INITBROWSERS 790
29 INITMYWID 2213,2291
//
//Configuration Driver 30
//
30 INITIPADDR 192.168.93.1
30 INITIISADDR 192.1.10.1
30 INITIISPORT 80
30 INITBROWSERS 790
30 INITMYWID 2292,2370
//
//Configuration Driver 31
//
31 INITIPADDR 192.168.93.2
31 INITIISADDR 192.1.10.1
31 INITIISPORT 80
31 INITBROWSERS 790
31 INITMYWID 2371,2449
//
//Configuration Driver 32
//
32 INITIPADDR 192.168.93.2
32 INITIISADDR 192.1.10.1
32 INITIISPORT 80
32 INITBROWSERS 790
32 INITMYWID 2450,2528
//
//Configuration Driver 33
//
33 INITIPADDR 192.168.93.2
33 INITIISADDR 192.1.10.1
33 INITIISPORT 80
33 INITBROWSERS 790
33 INITMYWID 2529,2607
//
//Configuration Driver 34
//
34 INITIPADDR 192.168.93.2
34 INITIISADDR 192.1.10.1
34 INITIISPORT 80
34 INITBROWSERS 790
34 INITMYWID 2608,2686
//
//Configuration Driver 35
//
35 INITIPADDR 192.168.93.2
35 INITIISADDR 192.1.10.1
35 INITIISPORT 80
35 INITBROWSERS 790
35 INITMYWID 2687,2765
//
//Configuration Driver 36
//
36 INITIPADDR 192.168.93.2
36 INITIISADDR 192.1.10.1
36 INITIISPORT 80
36 INITBROWSERS 790
36 INITMYWID 2766,2844
//
//Configuration Driver 37
```

```
//
37 INITIPADDR 192.168.93.2
37 INITIISADDR 192.1.10.1
37 INITIISPORT 80
37 INITBROWSERS 790
37 INITMYWID 2845,2923
//
//Configuration Driver 38
//
38 INITIPADDR 192.168.93.2
38 INITIISADDR 192.1.10.1
38 INITIISPORT 80
38 INITBROWSERS 790
38 INITMYWID 2924,3002
//
//Configuration Driver 39
//
39 INITIPADDR 192.168.93.2
39 INITIISADDR 192.1.10.1
39 INITIISPORT 80
39 INITBROWSERS 790
39 INITMYWID 3003,3081
//
//Configuration Driver 40
//
40 INITIPADDR 192.168.93.2
40 INITIISADDR 192.1.10.1
40 INITIISPORT 80
40 INITBROWSERS 790
40 INITMYWID 3082,3160
//
//Configuration Driver 41
//
41 INITIPADDR 192.168.93.2
41 INITIISADDR 192.1.10.1
41 INITIISPORT 80
41 INITBROWSERS 790
41 INITMYWID 3161,3239
//
//Configuration Driver 42
//
42 INITIPADDR 192.168.93.2
42 INITIISADDR 192.1.10.1
42 INITIISPORT 80
42 INITBROWSERS 790
42 INITMYWID 3240,3318
//
//Configuration Driver 43
//
43 INITIPADDR 192.168.93.2
43 INITIISADDR 192.1.10.1
43 INITIISPORT 80
43 INITBROWSERS 790
43 INITMYWID 3319,3397
//
//Configuration Driver 44
//
44 INITIPADDR 192.168.93.2
44 INITIISADDR 192.1.10.1
44 INITIISPORT 80
44 INITBROWSERS 790
44 INITMYWID 3398,3476
//
//Configuration Driver 45
//
45 INITIPADDR 192.168.93.2
45 INITIISADDR 192.1.10.1
45 INITIISPORT 80
45 INITBROWSERS 790
45 INITMYWID 3477,3555
//
//Configuration Driver 46
//
46 INITIPADDR 192.168.93.2
46 INITIISADDR 192.1.10.1
46 INITIISPORT 80
46 INITBROWSERS 790
46 INITMYWID 3556,3634
//
//Configuration Driver 47
//
47 INITIPADDR 192.168.93.2
47 INITIISADDR 192.1.10.1
47 INITIISPORT 80
47 INITBROWSERS 790
47 INITMYWID 3635,3713
//
//Configuration Driver 48
//
48 INITIPADDR 192.168.93.2
48 INITIISADDR 192.1.10.1
48 INITIISPORT 80
48 INITBROWSERS 790
48 INITMYWID 3714,3792
//
//Configuration Driver 49
//
49 INITIPADDR 192.168.93.2
49 INITIISADDR 192.1.10.1
49 INITIISPORT 80
49 INITBROWSERS 790
49 INITMYWID 3793,3871
//
//Configuration Driver 50
//
50 INITIPADDR 192.168.93.2
50 INITIISADDR 192.1.10.1
50 INITIISPORT 80
50 INITBROWSERS 790
50 INITMYWID 3872,3950
//
//Configuration Driver 51
//
51 INITIPADDR 192.168.93.2
51 INITIISADDR 192.1.10.1
51 INITIISPORT 80
51 INITBROWSERS 790
51 INITMYWID 3951,4029
```

```
//
//Configuration Driver 52
//
52 INITIPADDR 192.168.93.2
52 INITIISADDR 192.1.10.1
52 INITIISPORT 80
52 INITBROWSERS 790
52 INITMYWID 4030,4108
//
//Configuration Driver 53
//
53 INITIPADDR 192.168.93.2
53 INITIISADDR 192.1.10.1
53 INITIISPORT 80
53 INITBROWSERS 790
53 INITMYWID 4109,4187
//
//Configuration Driver 54
//
54 INITIPADDR 192.168.93.2
54 INITIISADDR 192.1.10.1
54 INITIISPORT 80
54 INITBROWSERS 790
54 INITMYWID 4188,4266
//
//Configuration Driver 55
//
55 INITIPADDR 192.168.93.2
55 INITIISADDR 192.1.10.1
55 INITIISPORT 80
55 INITBROWSERS 790
55 INITMYWID 4267,4345
//
//Configuration Driver 56
//
56 INITIPADDR 192.168.93.2
56 INITIISADDR 192.1.10.1
56 INITIISPORT 80
56 INITBROWSERS 790
56 INITMYWID 4346,4424
//
//Configuration Driver 57
//
57 INITIPADDR 192.168.93.2
57 INITIISADDR 192.1.10.1
57 INITIISPORT 80
57 INITBROWSERS 790
57 INITMYWID 4425,4503
//
//Configuration Driver 58
//
58 INITIPADDR 192.168.93.2
58 INITIISADDR 192.1.10.1
58 INITIISPORT 80
58 INITBROWSERS 790
58 INITMYWID 4504,4582
//
//Configuration Driver 59
//
59 INITIPADDR 192.168.93.2
59 INITIISADDR 192.1.10.1
59 INITIISPORT 80
59 INITBROWSERS 790
59 INITMYWID 4583,4661
//
//Configuration Driver 60
//
60 INITIPADDR 192.168.93.2
60 INITIISADDR 192.1.10.1
60 INITIISPORT 80
60 INITBROWSERS 790
60 INITMYWID 4662,4740
//
//Configuration Driver 61
//
61 INITIPADDR 192.168.93.3
61 INITIISADDR 192.2.10.1
61 INITIISPORT 80
61 INITBROWSERS 840
61 INITMYWID 4741,4824
//
//Configuration Driver 62
//
62 INITIPADDR 192.168.93.3
62 INITIISADDR 192.2.10.1
62 INITIISPORT 80
62 INITBROWSERS 840
62 INITMYWID 4825,4908
//
//Configuration Driver 63
//
63 INITIPADDR 192.168.93.3
63 INITIISADDR 192.2.10.1
63 INITIISPORT 80
63 INITBROWSERS 840
63 INITMYWID 4909,4992
//
//Configuration Driver 64
//
64 INITIPADDR 192.168.93.3
64 INITIISADDR 192.2.10.1
64 INITIISPORT 80
64 INITBROWSERS 840
64 INITMYWID 4993,5076
//
//Configuration Driver 65
//
65 INITIPADDR 192.168.93.3
65 INITIISADDR 192.2.10.1
65 INITIISPORT 80
65 INITBROWSERS 840
65 INITMYWID 5077,5160
//
//Configuration Driver 66
//
66 INITIPADDR 192.168.93.3
66 INITIISADDR 192.2.10.1
66 INITIISPORT 80
```

```
66 INITBROWSERS 840
66 INITMYWID 5161,5244
//
//Configuration Driver 67
//
67 INITIPADDR 192.168.93.3
67 INITIISADDR 192.2.10.1
67 INITIISPORT 80
67 INITBROWSERS 840
67 INITMYWID 5245,5328
//
//Configuration Driver 68
//
68 INITIPADDR 192.168.93.3
68 INITIISADDR 192.2.10.1
68 INITIISPORT 80
68 INITBROWSERS 840
68 INITMYWID 5329,5412
//
//Configuration Driver 69
//
69 INITIPADDR 192.168.93.3
69 INITIISADDR 192.2.10.1
69 INITIISPORT 80
69 INITBROWSERS 840
69 INITMYWID 5413,5496
//
//Configuration Driver 70
//
70 INITIPADDR 192.168.93.3
70 INITIISADDR 192.2.10.1
70 INITIISPORT 80
70 INITBROWSERS 840
70 INITMYWID 5497,5580
//
//Configuration Driver 71
//
71 INITIPADDR 192.168.93.3
71 INITIISADDR 192.2.10.1
71 INITIISPORT 80
71 INITBROWSERS 840
71 INITMYWID 5581,5664
//
//Configuration Driver 72
//
72 INITIPADDR 192.168.93.3
72 INITIISADDR 192.2.10.1
72 INITIISPORT 80
72 INITBROWSERS 840
72 INITMYWID 5665,5748
//
//Configuration Driver 73
//
73 INITIPADDR 192.168.93.3
73 INITIISADDR 192.2.10.1
73 INITIISPORT 80
73 INITBROWSERS 840
73 INITMYWID 5749,5832
//
```

```
//Configuration Driver 74
//
74 INITIPADDR 192.168.93.3
74 INITIISADDR 192.2.10.1
74 INITIISPORT 80
74 INITBROWSERS 840
74 INITMYWID 5833,5916
//
//Configuration Driver 75
//
75 INITIPADDR 192.168.93.3
75 INITIISADDR 192.2.10.1
75 INITIISPORT 80
75 INITBROWSERS 840
75 INITMYWID 5917,6000
//
//Configuration Driver 76
//
76 INITIPADDR 192.168.93.3
76 INITIISADDR 192.2.10.1
76 INITIISPORT 80
76 INITBROWSERS 840
76 INITMYWID 6001,6084
//
//Configuration Driver 77
//
77 INITIPADDR 192.168.93.3
77 INITIISADDR 192.2.10.1
77 INITIISPORT 80
77 INITBROWSERS 840
77 INITMYWID 6085,6168
//
//Configuration Driver 78
//
78 INITIPADDR 192.168.93.3
78 INITIISADDR 192.2.10.1
78 INITIISPORT 80
78 INITBROWSERS 840
78 INITMYWID 6169,6252
//
//Configuration Driver 79
//
79 INITIPADDR 192.168.93.3
79 INITIISADDR 192.2.10.1
79 INITIISPORT 80
79 INITBROWSERS 840
79 INITMYWID 6253,6336
//
//Configuration Driver 80
//
80 INITIPADDR 192.168.93.3
80 INITIISADDR 192.2.10.1
80 INITIISPORT 80
80 INITBROWSERS 840
80 INITMYWID 6337,6420
//
//Configuration Driver 81
//
81 INITIPADDR 192.168.93.3
```

```
81 INITIISADDR 192.2.10.1
81 INITIISPORT 80
81 INITBROWSERS 840
81 INITMYWID 6421,6504
//
//Configuration Driver 82
//
82 INITIPADDR 192.168.93.3
82 INITIISADDR 192.2.10.1
82 INITIISPORT 80
82 INITBROWSERS 840
82 INITMYWID 6505,6588
//
//Configuration Driver 83
//
83 INITIPADDR 192.168.93.3
83 INITIISADDR 192.2.10.1
83 INITIISPORT 80
83 INITBROWSERS 840
83 INITMYWID 6589,6672
//
//Configuration Driver 84
//
84 INITIPADDR 192.168.93.3
84 INITIISADDR 192.2.10.1
84 INITIISPORT 80
84 INITBROWSERS 840
84 INITMYWID 6673,6756
//
//Configuration Driver 85
//
85 INITIPADDR 192.168.93.3
85 INITIISADDR 192.2.10.1
85 INITIISPORT 80
85 INITBROWSERS 840
85 INITMYWID 6757,6840
//
//Configuration Driver 86
//
86 INITIPADDR 192.168.93.3
86 INITIISADDR 192.2.10.1
86 INITIISPORT 80
86 INITBROWSERS 840
86 INITMYWID 6841,6924
//
//Configuration Driver 87
//
87 INITIPADDR 192.168.93.3
87 INITIISADDR 192.2.10.1
87 INITIISPORT 80
87 INITBROWSERS 840
87 INITMYWID 6925,7008
//
//Configuration Driver 88
//
88 INITIPADDR 192.168.93.3
88 INITIISADDR 192.2.10.1
88 INITIISPORT 80
88 INITBROWSERS 840
88 INITMYWID 7009,7092
//
//Configuration Driver 89
//
89 INITIPADDR 192.168.93.3
89 INITIISADDR 192.2.10.1
89 INITIISPORT 80
89 INITBROWSERS 840
89 INITMYWID 7093,7176
//
//Configuration Driver 90
//
90 INITIPADDR 192.168.93.3
90 INITIISADDR 192.2.10.1
90 INITIISPORT 80
90 INITBROWSERS 840
90 INITMYWID 7177,7260
//
//Configuration Driver 91
//
91 INITIPADDR 192.168.93.4
91 INITIISADDR 192.2.10.1
91 INITIISPORT 80
91 INITBROWSERS 840
91 INITMYWID 7261,7344
//
//Configuration Driver 92
//
92 INITIPADDR 192.168.93.4
92 INITIISADDR 192.2.10.1
92 INITIISPORT 80
92 INITBROWSERS 840
92 INITMYWID 7345,7428
//
//Configuration Driver 93
//
93 INITIPADDR 192.168.93.4
93 INITIISADDR 192.2.10.1
93 INITIISPORT 80
93 INITBROWSERS 840
93 INITMYWID 7429,7512
//
//Configuration Driver 94
//
94 INITIPADDR 192.168.93.4
94 INITIISADDR 192.2.10.1
94 INITIISPORT 80
94 INITBROWSERS 840
94 INITMYWID 7513,7596
//
//Configuration Driver 95
//
95 INITIPADDR 192.168.93.4
95 INITIISADDR 192.2.10.1
95 INITIISPORT 80
95 INITBROWSERS 840
95 INITMYWID 7597,7680
//
//Configuration Driver 96
```

```
//
96 INITIPADDR 192.168.93.4
96 INITIISADDR 192.2.10.1
96 INITIISPORT 80
96 INITBROWSERS 840
96 INITMYWID 7681,7764
//
//Configuration Driver 97
//
97 INITIPADDR 192.168.93.4
97 INITIISADDR 192.2.10.1
97 INITIISPORT 80
97 INITBROWSERS 840
97 INITMYWID 7765,7848
//
//Configuration Driver 98
//
98 INITIPADDR 192.168.93.4
98 INITIISADDR 192.2.10.1
98 INITIISPORT 80
98 INITBROWSERS 840
98 INITMYWID 7849,7932
//
//Configuration Driver 99
//
99 INITIPADDR 192.168.93.4
99 INITIISADDR 192.2.10.1
99 INITIISPORT 80
99 INITBROWSERS 840
99 INITMYWID 7933,8016
//
//Configuration Driver 100
//
100 INITIPADDR 192.168.93.4
100 INITIISADDR 192.2.10.1
100 INITIISPORT 80
100 INITBROWSERS 840
100 INITMYWID 8017,8100
//
//Configuration Driver 101
//
101 INITIPADDR 192.168.93.4
101 INITIISADDR 192.2.10.1
101 INITIISPORT 80
101 INITBROWSERS 840
101 INITMYWID 8101,8184
//
//Configuration Driver 102
//
102 INITIPADDR 192.168.93.4
102 INITIISADDR 192.2.10.1
102 INITIISPORT 80
102 INITBROWSERS 840
102 INITMYWID 8185,8268
//
//Configuration Driver 103
//
103 INITIPADDR 192.168.93.4
103 INITIISADDR 192.2.10.1
103 INITIISPORT 80
103 INITBROWSERS 840
103 INITMYWID 8269,8352
//
//Configuration Driver 104
//
104 INITIPADDR 192.168.93.4
104 INITIISADDR 192.2.10.1
104 INITIISPORT 80
104 INITBROWSERS 840
104 INITMYWID 8353,8436
//
//Configuration Driver 105
//
105 INITIPADDR 192.168.93.4
105 INITIISADDR 192.2.10.1
105 INITIISPORT 80
105 INITBROWSERS 840
105 INITMYWID 8437,8520
//
//Configuration Driver 106
//
106 INITIPADDR 192.168.93.4
106 INITIISADDR 192.2.10.1
106 INITIISPORT 80
106 INITBROWSERS 840
106 INITMYWID 8521,8604
//
//Configuration Driver 107
//
107 INITIPADDR 192.168.93.4
107 INITIISADDR 192.2.10.1
107 INITIISPORT 80
107 INITBROWSERS 840
107 INITMYWID 8605,8688
//
//Configuration Driver 108
//
108 INITIPADDR 192.168.93.4
108 INITIISADDR 192.2.10.1
108 INITIISPORT 80
108 INITBROWSERS 840
108 INITMYWID 8689,8772
//
//Configuration Driver 109
//
109 INITIPADDR 192.168.93.4
109 INITIISADDR 192.2.10.1
109 INITIISPORT 80
109 INITBROWSERS 840
109 INITMYWID 8773,8856
//
//Configuration Driver 110
//
110 INITIPADDR 192.168.93.4
110 INITIISADDR 192.2.10.1
110 INITIISPORT 80
110 INITBROWSERS 840
110 INITMYWID 8857,8940
```

```
//
//Configuration Driver 111
//
111 INITIPADDR 192.168.93.4
111 INITIISADDR 192.2.10.1
111 INITIISPORT 80
111 INITBROWSERS 840
111 INITMYWID 8941,9024
//
//Configuration Driver 112
//
112 INITIPADDR 192.168.93.4
112 INITIISADDR 192.2.10.1
112 INITIISPORT 80
112 INITBROWSERS 840
112 INITMYWID 9025,9108
//
//Configuration Driver 113
//
113 INITIPADDR 192.168.93.4
113 INITIISADDR 192.2.10.1
113 INITIISPORT 80
113 INITBROWSERS 840
113 INITMYWID 9109,9192
//
//Configuration Driver 114
//
114 INITIPADDR 192.168.93.4
114 INITIISADDR 192.2.10.1
114 INITIISPORT 80
114 INITBROWSERS 840
114 INITMYWID 9193,9276
//
//Configuration Driver 115
//
115 INITIPADDR 192.168.93.4
115 INITIISADDR 192.2.10.1
115 INITIISPORT 80
115 INITBROWSERS 840
115 INITMYWID 9277,9360
//
//Configuration Driver 116
//
116 INITIPADDR 192.168.93.4
116 INITIISADDR 192.2.10.1
116 INITIISPORT 80
116 INITBROWSERS 840
116 INITMYWID 9361,9444
//
//Configuration Driver 117
//
117 INITIPADDR 192.168.93.4
117 INITIISADDR 192.2.10.1
117 INITIISPORT 80
117 INITBROWSERS 840
117 INITMYWID 9445,9528
//
//Configuration Driver 118
//
118 INITIPADDR 192.168.93.4
118 INITIISADDR 192.2.10.1
118 INITIISPORT 80
118 INITBROWSERS 840
118 INITMYWID 9529,9612
//
//Configuration Driver 119
//
119 INITIPADDR 192.168.93.4
119 INITIISADDR 192.2.10.1
119 INITIISPORT 80
119 INITBROWSERS 840
119 INITMYWID 9613,9696
//
//Configuration Driver 120
//
120 INITIPADDR 192.168.93.4
120 INITIISADDR 192.2.10.1
120 INITIISPORT 80
120 INITBROWSERS 840
120 INITMYWID 9697,9780
//
//Configuration Driver 121
//
121 INITIPADDR 192.168.93.5
121 INITIISADDR 192.3.10.1
121 INITIISPORT 80
121 INITBROWSERS 860
121 INITMYWID 9781,9866
//
//Configuration Driver 122
//
122 INITIPADDR 192.168.93.5
122 INITIISADDR 192.3.10.1
122 INITIISPORT 80
122 INITBROWSERS 860
122 INITMYWID 9867,9952
//
//Configuration Driver 123
//
123 INITIPADDR 192.168.93.5
123 INITIISADDR 192.3.10.1
123 INITIISPORT 80
123 INITBROWSERS 860
123 INITMYWID 9953,10038
//
//Configuration Driver 124
//
124 INITIPADDR 192.168.93.5
124 INITIISADDR 192.3.10.1
124 INITIISPORT 80
124 INITBROWSERS 860
124 INITMYWID 10039,10124
//
//Configuration Driver 125
//
125 INITIPADDR 192.168.93.5
125 INITIISADDR 192.3.10.1
125 INITIISPORT 80
```

```
125 INITBROWSERS 860
125 INITMYWID 10125,10210
//
//Configuration Driver 126
//
126 INITIPADDR 192.168.93.5
126 INITIISADDR 192.3.10.1
126 INITIISPORT 80
126 INITBROWSERS 860
126 INITMYWID 10211,10296
//
//Configuration Driver 127
//
127 INITIPADDR 192.168.93.5
127 INITIISADDR 192.3.10.1
127 INITIISPORT 80
127 INITBROWSERS 860
127 INITMYWID 10297,10382
//
//Configuration Driver 128
//
128 INITIPADDR 192.168.93.5
128 INITIISADDR 192.3.10.1
128 INITIISPORT 80
128 INITBROWSERS 860
128 INITMYWID 10383,10468
//
//Configuration Driver 129
//
129 INITIPADDR 192.168.93.5
129 INITIISADDR 192.3.10.1
129 INITIISPORT 80
129 INITBROWSERS 860
129 INITMYWID 10469,10554
//
//Configuration Driver 130
//
130 INITIPADDR 192.168.93.5
130 INITIISADDR 192.3.10.1
130 INITIISPORT 80
130 INITBROWSERS 860
130 INITMYWID 10555,10640
//
//Configuration Driver 131
//
131 INITIPADDR 192.168.93.5
131 INITIISADDR 192.3.10.1
131 INITIISPORT 80
131 INITBROWSERS 860
131 INITMYWID 10641,10726
//
//Configuration Driver 132
//
132 INITIPADDR 192.168.93.5
132 INITIISADDR 192.3.10.1
132 INITIISPORT 80
132 INITBROWSERS 860
132 INITMYWID 10727,10812
//
```

```
//Configuration Driver 133
//
133 INITIPADDR 192.168.93.5
133 INITIISADDR 192.3.10.1
133 INITIISPORT 80
133 INITBROWSERS 860
133 INITMYWID 10813,10898
//
//Configuration Driver 134
//
134 INITIPADDR 192.168.93.5
134 INITIISADDR 192.3.10.1
134 INITIISPORT 80
134 INITBROWSERS 860
134 INITMYWID 10899,10984
//
//Configuration Driver 135
//
135 INITIPADDR 192.168.93.5
135 INITIISADDR 192.3.10.1
135 INITIISPORT 80
135 INITBROWSERS 860
135 INITMYWID 10985,11070
//
//Configuration Driver 136
//
136 INITIPADDR 192.168.93.5
136 INITIISADDR 192.3.10.1
136 INITIISPORT 80
136 INITBROWSERS 860
136 INITMYWID 11071,11156
//
//Configuration Driver 137
//
137 INITIPADDR 192.168.93.5
137 INITIISADDR 192.3.10.1
137 INITIISPORT 80
137 INITBROWSERS 860
137 INITMYWID 11157,11242
//
//Configuration Driver 138
//
138 INITIPADDR 192.168.93.5
138 INITIISADDR 192.3.10.1
138 INITIISPORT 80
138 INITBROWSERS 860
138 INITMYWID 11243,11328
//
//Configuration Driver 139
//
139 INITIPADDR 192.168.93.5
139 INITIISADDR 192.3.10.1
139 INITIISPORT 80
139 INITBROWSERS 860
139 INITMYWID 11329,11414
//
//Configuration Driver 140
//
140 INITIPADDR 192.168.93.5
```

```
140 INITIISADDR 192.3.10.1
140 INITIISPORT 80
140 INITBROWSERS 860
140 INITMYWID 11415,11500
//
//Configuration Driver 141
//
141 INITIPADDR 192.168.93.5
141 INITIISADDR 192.3.10.1
141 INITIISPORT 80
141 INITBROWSERS 860
141 INITMYWID 11501,11586
//
//Configuration Driver 142
//
142 INITIPADDR 192.168.93.5
142 INITIISADDR 192.3.10.1
142 INITIISPORT 80
142 INITBROWSERS 860
142 INITMYWID 11587,11672
//
//Configuration Driver 143
//
143 INITIPADDR 192.168.93.5
143 INITIISADDR 192.3.10.1
143 INITIISPORT 80
143 INITBROWSERS 860
143 INITMYWID 11673,11758
//
//Configuration Driver 144
//
144 INITIPADDR 192.168.93.5
144 INITIISADDR 192.3.10.1
144 INITIISPORT 80
144 INITBROWSERS 860
144 INITMYWID 11759,11844
//
//Configuration Driver 145
//
145 INITIPADDR 192.168.93.5
145 INITIISADDR 192.3.10.1
145 INITIISPORT 80
145 INITBROWSERS 860
145 INITMYWID 11845,11930
//
//Configuration Driver 146
//
146 INITIPADDR 192.168.93.5
146 INITIISADDR 192.3.10.1
146 INITIISPORT 80
146 INITBROWSERS 860
146 INITMYWID 11931,12016
//
//Configuration Driver 147
//
147 INITIPADDR 192.168.93.5
147 INITIISADDR 192.3.10.1
147 INITIISPORT 80
147 INITBROWSERS 860
147 INITMYWID 12017,12102
//
//Configuration Driver 148
//
148 INITIPADDR 192.168.93.5
148 INITIISADDR 192.3.10.1
148 INITIISPORT 80
148 INITBROWSERS 860
148 INITMYWID 12103,12188
//
//Configuration Driver 149
//
149 INITIPADDR 192.168.93.5
149 INITIISADDR 192.3.10.1
149 INITIISPORT 80
149 INITBROWSERS 860
149 INITMYWID 12189,12274
//
//Configuration Driver 150
//
150 INITIPADDR 192.168.93.5
150 INITIISADDR 192.3.10.1
150 INITIISPORT 80
150 INITBROWSERS 860
150 INITMYWID 12275,12360
//
//Configuration Driver 151
//
151 INITIPADDR 192.168.93.6
151 INITIISADDR 192.3.10.1
151 INITIISPORT 80
151 INITBROWSERS 860
151 INITMYWID 12361,12446
//
//Configuration Driver 152
//
152 INITIPADDR 192.168.93.6
152 INITIISADDR 192.3.10.1
152 INITIISPORT 80
152 INITBROWSERS 860
152 INITMYWID 12447,12532
//
//Configuration Driver 153
//
153 INITIPADDR 192.168.93.6
153 INITIISADDR 192.3.10.1
153 INITIISPORT 80
153 INITBROWSERS 860
153 INITMYWID 12533,12618
//
//Configuration Driver 154
//
154 INITIPADDR 192.168.93.6
154 INITIISADDR 192.3.10.1
154 INITIISPORT 80
154 INITBROWSERS 860
154 INITMYWID 12619,12704
//
//Configuration Driver 155
```

```
//
155 INITIPADDR 192.168.93.6
155 INITIISADDR 192.3.10.1
155 INITIISPORT 80
155 INITBROWSERS 860
155 INITMYWID 12705,12790
//
//Configuration Driver 156
//
156 INITIPADDR 192.168.93.6
156 INITIISADDR 192.3.10.1
156 INITIISPORT 80
156 INITBROWSERS 860
156 INITMYWID 12791,12876
//
//Configuration Driver 157
//
157 INITIPADDR 192.168.93.6
157 INITIISADDR 192.3.10.1
157 INITIISPORT 80
157 INITBROWSERS 860
157 INITMYWID 12877,12962
//
//Configuration Driver 158
//
158 INITIPADDR 192.168.93.6
158 INITIISADDR 192.3.10.1
158 INITIISPORT 80
158 INITBROWSERS 860
158 INITMYWID 12963,13048
//
//Configuration Driver 159
//
159 INITIPADDR 192.168.93.6
159 INITIISADDR 192.3.10.1
159 INITIISPORT 80
159 INITBROWSERS 860
159 INITMYWID 13049,13134
//
//Configuration Driver 160
//
160 INITIPADDR 192.168.93.6
160 INITIISADDR 192.3.10.1
160 INITIISPORT 80
160 INITBROWSERS 860
160 INITMYWID 13135,13220
//
//Configuration Driver 161
//
161 INITIPADDR 192.168.93.6
161 INITIISADDR 192.3.10.1
161 INITIISPORT 80
161 INITBROWSERS 860
161 INITMYWID 13221,13306
//
//Configuration Driver 162
//
162 INITIPADDR 192.168.93.6
162 INITIISADDR 192.3.10.1
162 INITIISPORT 80
162 INITBROWSERS 860
162 INITMYWID 13307,13392
//
//Configuration Driver 163
//
163 INITIPADDR 192.168.93.6
163 INITIISADDR 192.3.10.1
163 INITIISPORT 80
163 INITBROWSERS 860
163 INITMYWID 13393,13478
//
//Configuration Driver 164
//
164 INITIPADDR 192.168.93.6
164 INITIISADDR 192.3.10.1
164 INITIISPORT 80
164 INITBROWSERS 860
164 INITMYWID 13479,13564
//
//Configuration Driver 165
//
165 INITIPADDR 192.168.93.6
165 INITIISADDR 192.3.10.1
165 INITIISPORT 80
165 INITBROWSERS 860
165 INITMYWID 13565,13650
//
//Configuration Driver 166
//
166 INITIPADDR 192.168.93.6
166 INITIISADDR 192.3.10.1
166 INITIISPORT 80
166 INITBROWSERS 860
166 INITMYWID 13651,13736
//
//Configuration Driver 167
//
167 INITIPADDR 192.168.93.6
167 INITIISADDR 192.3.10.1
167 INITIISPORT 80
167 INITBROWSERS 860
167 INITMYWID 13737,13822
//
//Configuration Driver 168
//
168 INITIPADDR 192.168.93.6
168 INITIISADDR 192.3.10.1
168 INITIISPORT 80
168 INITBROWSERS 860
168 INITMYWID 13823,13908
//
//Configuration Driver 169
//
169 INITIPADDR 192.168.93.6
169 INITIISADDR 192.3.10.1
169 INITIISPORT 80
169 INITBROWSERS 860
169 INITMYWID 13909,13994
```

```
//
//Configuration Driver 170
//
170 INITIPADDR 192.168.93.6
170 INITIISADDR 192.3.10.1
170 INITIISPORT 80
170 INITBROWSERS 860
170 INITMYWID 13995,14080
//
//Configuration Driver 171
//
171 INITIPADDR 192.168.93.6
171 INITIISADDR 192.3.10.1
171 INITIISPORT 80
171 INITBROWSERS 860
171 INITMYWID 14081,14166
//
//Configuration Driver 172
//
172 INITIPADDR 192.168.93.6
172 INITIISADDR 192.3.10.1
172 INITIISPORT 80
172 INITBROWSERS 860
172 INITMYWID 14167,14252
//
//Configuration Driver 173
//
173 INITIPADDR 192.168.93.6
173 INITIISADDR 192.3.10.1
173 INITIISPORT 80
173 INITBROWSERS 860
173 INITMYWID 14253,14338
//
//Configuration Driver 174
//
174 INITIPADDR 192.168.93.6
174 INITIISADDR 192.3.10.1
174 INITIISPORT 80
174 INITBROWSERS 860
174 INITMYWID 14339,14424
//
//Configuration Driver 175
//
175 INITIPADDR 192.168.93.6
175 INITIISADDR 192.3.10.1
175 INITIISPORT 80
175 INITBROWSERS 860
175 INITMYWID 14425,14510
//
//Configuration Driver 176
//
176 INITIPADDR 192.168.93.6
176 INITIISADDR 192.3.10.1
176 INITIISPORT 80
176 INITBROWSERS 860
176 INITMYWID 14511,14596
//
//Configuration Driver 177
//
177 INITIPADDR 192.168.93.6
177 INITIISADDR 192.3.10.1
177 INITIISPORT 80
177 INITBROWSERS 860
177 INITMYWID 14597,14682
//
//Configuration Driver 178
//
178 INITIPADDR 192.168.93.6
178 INITIISADDR 192.3.10.1
178 INITIISPORT 80
178 INITBROWSERS 860
178 INITMYWID 14683,14768
//
//Configuration Driver 179
//
179 INITIPADDR 192.168.93.6
179 INITIISADDR 192.3.10.1
179 INITIISPORT 80
179 INITBROWSERS 860
179 INITMYWID 14769,14854
//
//Configuration Driver 180
//
180 INITIPADDR 192.168.93.6
180 INITIISADDR 192.3.10.1
180 INITIISPORT 80
180 INITBROWSERS 860
180 INITMYWID 14855,14940
//
//Configuration Driver 181
//
181 INITIPADDR 192.168.93.7
181 INITIISADDR 192.4.10.1
181 INITIISPORT 80
181 INITBROWSERS 850
181 INITMYWID 14941,15025
//
//Configuration Driver 182
//
182 INITIPADDR 192.168.93.7
182 INITIISADDR 192.4.10.1
182 INITIISPORT 80
182 INITBROWSERS 850
182 INITMYWID 15026,15110
//
//Configuration Driver 183
//
183 INITIPADDR 192.168.93.7
183 INITIISADDR 192.4.10.1
183 INITIISPORT 80
183 INITBROWSERS 850
183 INITMYWID 15111,15195
//
//Configuration Driver 184
//
184 INITIPADDR 192.168.93.7
184 INITIISADDR 192.4.10.1
184 INITIISPORT 80
```

```
184 INITBROWSERS 850
184 INITMYWID 15196,15280
//
//Configuration Driver 185
//
185 INITIPADDR 192.168.93.7
185 INITIISADDR 192.4.10.1
185 INITIISPORT 80
185 INITBROWSERS 850
185 INITMYWID 15281,15365
//
//Configuration Driver 186
//
186 INITIPADDR 192.168.93.7
186 INITIISADDR 192.4.10.1
186 INITIISPORT 80
186 INITBROWSERS 860
186 INITMYWID 15366,15451
//
//Configuration Driver 187
//
187 INITIPADDR 192.168.93.7
187 INITIISADDR 192.4.10.1
187 INITIISPORT 80
187 INITBROWSERS 850
187 INITMYWID 15452,15536
//
//Configuration Driver 188
//
188 INITIPADDR 192.168.93.7
188 INITIISADDR 192.4.10.1
188 INITIISPORT 80
188 INITBROWSERS 850
188 INITMYWID 15537,15621
//
//Configuration Driver 189
//
189 INITIPADDR 192.168.93.7
189 INITIISADDR 192.4.10.1
189 INITIISPORT 80
189 INITBROWSERS 850
189 INITMYWID 15622,15706
//
//Configuration Driver 190
//
190 INITIPADDR 192.168.93.7
190 INITIISADDR 192.4.10.1
190 INITIISPORT 80
190 INITBROWSERS 850
190 INITMYWID 15707,15791
//
//Configuration Driver 191
//
191 INITIPADDR 192.168.93.7
191 INITIISADDR 192.4.10.1
191 INITIISPORT 80
191 INITBROWSERS 850
191 INITMYWID 15792,15876
//
```

```
//Configuration Driver 192
//
192 INITIPADDR 192.168.93.7
192 INITIISADDR 192.4.10.1
192 INITIISPORT 80
192 INITBROWSERS 860
192 INITMYWID 15877,15962
//
//Configuration Driver 193
//
193 INITIPADDR 192.168.93.7
193 INITIISADDR 192.4.10.1
193 INITIISPORT 80
193 INITBROWSERS 850
193 INITMYWID 15963,16047
//
//Configuration Driver 194
//
194 INITIPADDR 192.168.93.7
194 INITIISADDR 192.4.10.1
194 INITIISPORT 80
194 INITBROWSERS 850
194 INITMYWID 16048,16132
//
//Configuration Driver 195
//
195 INITIPADDR 192.168.93.7
195 INITIISADDR 192.4.10.1
195 INITIISPORT 80
195 INITBROWSERS 850
195 INITMYWID 16133,16217
//
//Configuration Driver 196
//
196 INITIPADDR 192.168.93.7
196 INITIISADDR 192.4.10.1
196 INITIISPORT 80
196 INITBROWSERS 850
196 INITMYWID 16218,16302
//
//Configuration Driver 197
//
197 INITIPADDR 192.168.93.7
197 INITIISADDR 192.4.10.1
197 INITIISPORT 80
197 INITBROWSERS 850
197 INITMYWID 16303,16387
//
//Configuration Driver 198
//
198 INITIPADDR 192.168.93.7
198 INITIISADDR 192.4.10.1
198 INITIISPORT 80
198 INITBROWSERS 860
198 INITMYWID 16388,16473
//
//Configuration Driver 199
//
199 INITIPADDR 192.168.93.7
```

```
199 INITIISADDR 192.4.10.1
199 INITIISPORT 80
199 INITBROWSERS 850
199 INITMYWID 16474,16558
//
//Configuration Driver 200
//
200 INITIPADDR 192.168.93.7
200 INITIISADDR 192.4.10.1
200 INITIISPORT 80
200 INITBROWSERS 850
200 INITMYWID 16559,16643
//
//Configuration Driver 201
//
201 INITIPADDR 192.168.93.7
201 INITIISADDR 192.4.10.1
201 INITIISPORT 80
201 INITBROWSERS 850
201 INITMYWID 16644,16728
//
//Configuration Driver 202
//
202 INITIPADDR 192.168.93.7
202 INITIISADDR 192.4.10.1
202 INITIISPORT 80
202 INITBROWSERS 850
202 INITMYWID 16729,16813
//
//Configuration Driver 203
//
203 INITIPADDR 192.168.93.7
203 INITIISADDR 192.4.10.1
203 INITIISPORT 80
203 INITBROWSERS 850
203 INITMYWID 16814,16898
//
//Configuration Driver 204
//
204 INITIPADDR 192.168.93.7
204 INITIISADDR 192.4.10.1
204 INITIISPORT 80
204 INITBROWSERS 860
204 INITMYWID 16899,16984
//
//Configuration Driver 205
//
205 INITIPADDR 192.168.93.7
205 INITIISADDR 192.4.10.1
205 INITIISPORT 80
205 INITBROWSERS 850
205 INITMYWID 16985,17069
//
//Configuration Driver 206
//
206 INITIPADDR 192.168.93.7
206 INITIISADDR 192.4.10.1
206 INITIISPORT 80
206 INITBROWSERS 850
206 INITMYWID 17070,17154
//
//Configuration Driver 207
//
207 INITIPADDR 192.168.93.7
207 INITIISADDR 192.4.10.1
207 INITIISPORT 80
207 INITBROWSERS 850
207 INITMYWID 17155,17239
//
//Configuration Driver 208
//
208 INITIPADDR 192.168.93.7
208 INITIISADDR 192.4.10.1
208 INITIISPORT 80
208 INITBROWSERS 850
208 INITMYWID 17240,17324
//
//Configuration Driver 209
//
209 INITIPADDR 192.168.93.7
209 INITIISADDR 192.4.10.1
209 INITIISPORT 80
209 INITBROWSERS 850
209 INITMYWID 17325,17409
//
//Configuration Driver 210
//
210 INITIPADDR 192.168.93.7
210 INITIISADDR 192.4.10.1
210 INITIISPORT 80
210 INITBROWSERS 860
210 INITMYWID 17410,17495
//
//Configuration Driver 211
//
211 INITIPADDR 192.168.93.8
211 INITIISADDR 192.4.10.1
211 INITIISPORT 80
211 INITBROWSERS 850
211 INITMYWID 17496,17580
//
//Configuration Driver 212
//
212 INITIPADDR 192.168.93.8
212 INITIISADDR 192.4.10.1
212 INITIISPORT 80
212 INITBROWSERS 850
212 INITMYWID 17581,17665
//
//Configuration Driver 213
//
213 INITIPADDR 192.168.93.8
213 INITIISADDR 192.4.10.1
213 INITIISPORT 80
213 INITBROWSERS 850
213 INITMYWID 17666,17750
//
//Configuration Driver 214
```

```
//
214 INITIPADDR 192.168.93.8
214 INITIISADDR 192.4.10.1
214 INITIISPORT 80
214 INITBROWSERS 850
214 INITMYWID 17751,17835
//
//Configuration Driver 215
//
215 INITIPADDR 192.168.93.8
215 INITIISADDR 192.4.10.1
215 INITIISPORT 80
215 INITBROWSERS 850
215 INITMYWID 17836,17920
//
//Configuration Driver 216
//
216 INITIPADDR 192.168.93.8
216 INITIISADDR 192.4.10.1
216 INITIISPORT 80
216 INITBROWSERS 860
216 INITMYWID 17921,18006
//
//Configuration Driver 217
//
217 INITIPADDR 192.168.93.8
217 INITIISADDR 192.4.10.1
217 INITIISPORT 80
217 INITBROWSERS 850
217 INITMYWID 18007,18091
//
//Configuration Driver 218
//
218 INITIPADDR 192.168.93.8
218 INITIISADDR 192.4.10.1
218 INITIISPORT 80
218 INITBROWSERS 850
218 INITMYWID 18092,18176
//
//Configuration Driver 219
//
219 INITIPADDR 192.168.93.8
219 INITIISADDR 192.4.10.1
219 INITIISPORT 80
219 INITBROWSERS 850
219 INITMYWID 18177,18261
//
//Configuration Driver 220
//
220 INITIPADDR 192.168.93.8
220 INITIISADDR 192.4.10.1
220 INITIISPORT 80
220 INITBROWSERS 850
220 INITMYWID 18262,18346
//
//Configuration Driver 221
//
221 INITIPADDR 192.168.93.8
221 INITIISADDR 192.4.10.1
221 INITIISPORT 80
221 INITBROWSERS 850
221 INITMYWID 18347,18431
//
//Configuration Driver 222
//
222 INITIPADDR 192.168.93.8
222 INITIISADDR 192.4.10.1
222 INITIISPORT 80
222 INITBROWSERS 860
222 INITMYWID 18432,18517
//
//Configuration Driver 223
//
223 INITIPADDR 192.168.93.8
223 INITIISADDR 192.4.10.1
223 INITIISPORT 80
223 INITBROWSERS 850
223 INITMYWID 18518,18602
//
//Configuration Driver 224
//
224 INITIPADDR 192.168.93.8
224 INITIISADDR 192.4.10.1
224 INITIISPORT 80
224 INITBROWSERS 850
224 INITMYWID 18603,18687
//
//Configuration Driver 225
//
225 INITIPADDR 192.168.93.8
225 INITIISADDR 192.4.10.1
225 INITIISPORT 80
225 INITBROWSERS 850
225 INITMYWID 18688,18772
//
//Configuration Driver 226
//
226 INITIPADDR 192.168.93.8
226 INITIISADDR 192.4.10.1
226 INITIISPORT 80
226 INITBROWSERS 850
226 INITMYWID 18773,18857
//
//Configuration Driver 227
//
227 INITIPADDR 192.168.93.8
227 INITIISADDR 192.4.10.1
227 INITIISPORT 80
227 INITBROWSERS 850
227 INITMYWID 18858,18942
//
//Configuration Driver 228
//
228 INITIPADDR 192.168.93.8
228 INITIISADDR 192.4.10.1
228 INITIISPORT 80
228 INITBROWSERS 860
228 INITMYWID 18943,19028
```

```
//
//Configuration Driver 229
//
229 INITIPADDR 192.168.93.8
229 INITIISADDR 192.4.10.1
229 INITIISPORT 80
229 INITBROWSERS 850
229 INITMYWID 19029,19113
//
//Configuration Driver 230
//
230 INITIPADDR 192.168.93.8
230 INITIISADDR 192.4.10.1
230 INITIISPORT 80
230 INITBROWSERS 850
230 INITMYWID 19114,19198
//
//Configuration Driver 231
//
231 INITIPADDR 192.168.93.8
231 INITIISADDR 192.4.10.1
231 INITIISPORT 80
231 INITBROWSERS 850
231 INITMYWID 19199,19283
//
//Configuration Driver 232
//
232 INITIPADDR 192.168.93.8
232 INITIISADDR 192.4.10.1
232 INITIISPORT 80
232 INITBROWSERS 850
232 INITMYWID 19284,19368
//
//Configuration Driver 233
//
233 INITIPADDR 192.168.93.8
233 INITIISADDR 192.4.10.1
233 INITIISPORT 80
233 INITBROWSERS 850
233 INITMYWID 19369,19453
//
//Configuration Driver 234
//
234 INITIPADDR 192.168.93.8
234 INITIISADDR 192.4.10.1
234 INITIISPORT 80
234 INITBROWSERS 860
234 INITMYWID 19454,19539
//
//Configuration Driver 235
//
235 INITIPADDR 192.168.93.8
235 INITIISADDR 192.4.10.1
235 INITIISPORT 80
235 INITBROWSERS 850
235 INITMYWID 19540,19624
//
//Configuration Driver 236
//
236 INITIPADDR 192.168.93.8
236 INITIISADDR 192.4.10.1
236 INITIISPORT 80
236 INITBROWSERS 850
236 INITMYWID 19625,19709
//
//Configuration Driver 237
//
237 INITIPADDR 192.168.93.8
237 INITIISADDR 192.4.10.1
237 INITIISPORT 80
237 INITBROWSERS 850
237 INITMYWID 19710,19794
//
//Configuration Driver 238
//
238 INITIPADDR 192.168.93.8
238 INITIISADDR 192.4.10.1
238 INITIISPORT 80
238 INITBROWSERS 850
238 INITMYWID 19795,19879
//
//Configuration Driver 239
//
239 INITIPADDR 192.168.93.8
239 INITIISADDR 192.4.10.1
239 INITIISPORT 80
239 INITBROWSERS 850
239 INITMYWID 19880,19964
//
//Configuration Driver 240
//
240 INITIPADDR 192.168.93.8
240 INITIISADDR 192.4.10.1
240 INITIISPORT 80
240 INITBROWSERS 860
240 INITMYWID 19965,20050
```

Driver Environment

Webdriver.cmd

```
if '%1'=='' goto usage

:paramok

set WEBDRIVERNO=%1
set WEBADMBASEPORT=4300
set WEBDIAGLEVEL=2
set WEBEVENTLOG=1
set WEBEVENTHOST=
set WEBLOGLEVEL=1
set WEBSINGLETRAN=0
set WEBTPCCAUDIT=0
```

```
set WEBRTFUDGETM=110
set WEBNEWORDERPROB=4494
set WEBPAYMENTPROB=4303
set WEBORDERSTATUSPROB=401
set WEBDELIVERYPROB=401
set WEBSTOCKLEVELPROB=401
set WEBTTNEWORDER=12030
set WEBTTPAYMENT=12030
set WEBTTDELIVERY=5060
set WEBTTORDERSTATUS=10070
set WEBTTSTOCKLEVEL=5060

webdriver.exe

goto end

:usage
@ECHO  You must supply the following parameters:
@ECHO  "webdriver.cmd <driver number>"
pause

:end
Exit
```

RTE IP Configuration Information

Rtedif.ver

```
C:\rhost>if 'ipconfig' == '' goto usage

C:\rhost>c:

C:\rhost>cd \webdriver

C:\webdriver>call ipconfig /all

Windows IP Configuration


   Host Name . . . . . . . . . . . . : SQLRTE1

   Primary Dns Suffix  . . . . . . . :

   Node Type . . . . . . . . . . . . : Unknown

   IP Routing Enabled. . . . . . . . : No

   WINS Proxy Enabled. . . . . . . . : No


Ethernet adapter Admin:


   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet

   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-80

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.168.93.1

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.158.3.9

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled


Ethernet adapter Client:


   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2

   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-81

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.1.10.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.9.1.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end

C:\rhost>if 'ipconfig' == '' goto usage
```

```
C:\rhost>c:
C:\rhost>cd \webdriver
C:\webdriver>call ipconfig /all

Windows IP Configuration


   Host Name . . . . . . . . . . . . : SQLRTE2
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No


Ethernet adapter Admin:


   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-7E
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.2
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.10
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled


Ethernet adapter Client:


   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-7F
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.2.10.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.1.10.21
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.10.1.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end
C:\rhost>if 'ipconfig' == '' goto usage
C:\rhost>c:
C:\rhost>cd \webdriver
C:\webdriver>call ipconfig /all

Windows IP Configuration


   Host Name . . . . . . . . . . . . : SQLRTE3
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No


Ethernet adapter Admin:


   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-62
```

```
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.3
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

Ethernet adapter Client:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-63
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.3.10.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.2.10.21
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.11.1.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end
C:\rhost>if 'ipconfig' == '' goto usage
C:\rhost>c:
C:\rhost>cd \webdriver
C:\webdriver>call ipconfig /all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : SQLRTE4
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Admin:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-C0
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.4
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.12
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

Ethernet adapter Client:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-C1
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.4.10.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.2.10.22
```

```
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.12.1.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end
C:\rhost>if 'ipconfig' == '' goto usage
C:\rhost>c:
C:\rhost>cd \webdriver
C:\webdriver>call ipconfig /all

Windows IP Configuration


   Host Name . . . . . . . . . . . . : SQLRTE5
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No


Ethernet adapter Admin:


   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-D2
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.5
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.13
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled


Ethernet adapter Client:


   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-D3
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.5.10.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.3.10.21
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.13.1.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end
C:\rhost>if 'ipconfig' == '' goto usage
C:\rhost>c:
C:\rhost>cd \webdriver
C:\webdriver>call ipconfig /all

Windows IP Configuration


   Host Name . . . . . . . . . . . . : SQLRTE6
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
```

```
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Admin:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-6A
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.6
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.14
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

Ethernet adapter Client:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-6B
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.6.10.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.3.10.22
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.14.1.11
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled
```

```
C:\webdriver>goto end

C:\rhost>if 'ipconfig' == '' goto usage

C:\rhost>c:

C:\rhost>cd \webdriver

C:\webdriver>call ipconfig /all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : SQLRTE7
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Unknown
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Admin:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-84
   DHCP Enabled. . . . . . . . . . . : No
   IP Address. . . . . . . . . . . . : 192.168.93.7
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   IP Address. . . . . . . . . . . . : 192.158.3.15
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Disabled

Ethernet adapter Client:
```

```
   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2

   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-85

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.7.10.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.4.10.21

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.15.1.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end

C:\rhost>if 'ipconfig' == '' goto usage

C:\rhost>c:

C:\rhost>cd \webdriver

C:\webdriver>call ipconfig /all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : SQLRTE8

   Primary Dns Suffix  . . . . . . . :

   Node Type . . . . . . . . . . . . : Unknown

   IP Routing Enabled. . . . . . . . : No

   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Admin:

   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet

   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-6E

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.168.93.8

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.158.3.16

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled

Ethernet adapter Client:

   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
#2

   Physical Address. . . . . . . . . : 00-06-5B-8C-9B-6F

   DHCP Enabled. . . . . . . . . . . : No

   IP Address. . . . . . . . . . . . : 192.8.10.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.4.10.22

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   IP Address. . . . . . . . . . . . : 192.16.1.11

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\webdriver>goto end
 Volume in drive \\sqlrte1\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte1\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,964,890,112 bytes free
```

```
 Volume in drive \\sqlrte2\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte2\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  14,021,414,912 bytes free
 Volume in drive \\sqlrte3\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte3\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,979,516,928 bytes free
 Volume in drive \\sqlrte4\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte4\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,975,224,320 bytes free
 Volume in drive \\sqlrte5\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte5\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,892,968,448 bytes free
 Volume in drive \\sqlrte6\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte6\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,901,807,616 bytes free
 Volume in drive \\sqlrte7\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte7\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,903,626,240 bytes free
 Volume in drive \\sqlrte8\c$ has no label.
 Volume Serial Number is 7433-AD41

 Directory of \\sqlrte8\c$\webdriver

06/06/2005  02:33p              94,208 webdriver.exe
               1 File(s)         94,208 bytes
               0 Dir(s)  13,895,135,232 bytes free
 Volume in drive \\sqlrte1\e$ is Eric the big disk
 Volume Serial Number is A096-F0D3

 Directory of \\sqlrte1\e$\Zorro_16x_3.3GHz_382k

10/29/2004  02:05p              61,440 rapic.exe
               1 File(s)         61,440 bytes
               0 Dir(s)  145,577,418,752 bytes free
```

Start RTE Cmd

Startrte.txt

```
start " D1 RTE1 " /MIN webdriver.cmd 1
start " D1 RTE2 " /MIN webdriver.cmd 2
start " D1 RTE3 " /MIN webdriver.cmd 3
start " D1 RTE4 " /MIN webdriver.cmd 4
start " D1 RTE5 " /MIN webdriver.cmd 5
start " D1 RTE6 " /MIN webdriver.cmd 6
start " D1 RTE7 " /MIN webdriver.cmd 7
start " D1 RTE8 " /MIN webdriver.cmd 8
start " D1 RTE9 " /MIN webdriver.cmd 9
start " D1 RTE10 " /MIN webdriver.cmd 10
start " D1 RTE11 " /MIN webdriver.cmd 11
start " D1 RTE12 " /MIN webdriver.cmd 12
start " D1 RTE13 " /MIN webdriver.cmd 13
start " D1 RTE14 " /MIN webdriver.cmd 14
start " D1 RTE15 " /MIN webdriver.cmd 15
start " D1 RTE16 " /MIN webdriver.cmd 16
start " D1 RTE17 " /MIN webdriver.cmd 17
start " D1 RTE18 " /MIN webdriver.cmd 18
start " D1 RTE19 " /MIN webdriver.cmd 19
start " D1 RTE20 " /MIN webdriver.cmd 20
start " D1 RTE21 " /MIN webdriver.cmd 21
start " D1 RTE22 " /MIN webdriver.cmd 22
start " D1 RTE23 " /MIN webdriver.cmd 23
start " D1 RTE24 " /MIN webdriver.cmd 24
start " D1 RTE25 " /MIN webdriver.cmd 25
start " D1 RTE26 " /MIN webdriver.cmd 26
start " D1 RTE27 " /MIN webdriver.cmd 27
start " D1 RTE28 " /MIN webdriver.cmd 28
start " D1 RTE29 " /MIN webdriver.cmd 29
start " D1 RTE30 " /MIN webdriver.cmd 30
start " D2 RTE31 " /MIN webdriver.cmd 31
start " D2 RTE32 " /MIN webdriver.cmd 32
start " D2 RTE33 " /MIN webdriver.cmd 33
start " D2 RTE34 " /MIN webdriver.cmd 34
start " D2 RTE35 " /MIN webdriver.cmd 35
start " D2 RTE36 " /MIN webdriver.cmd 36
start " D2 RTE37 " /MIN webdriver.cmd 37
start " D2 RTE38 " /MIN webdriver.cmd 38
start " D2 RTE39 " /MIN webdriver.cmd 39
start " D2 RTE40 " /MIN webdriver.cmd 40
start " D2 RTE41 " /MIN webdriver.cmd 41
start " D2 RTE42 " /MIN webdriver.cmd 42
start " D2 RTE43 " /MIN webdriver.cmd 43
start " D2 RTE44 " /MIN webdriver.cmd 44
start " D2 RTE45 " /MIN webdriver.cmd 45
```

```
start " D2 RTE46 " /MIN webdriver.cmd 46
start " D2 RTE47 " /MIN webdriver.cmd 47
start " D2 RTE48 " /MIN webdriver.cmd 48
start " D2 RTE49 " /MIN webdriver.cmd 49
start " D2 RTE50 " /MIN webdriver.cmd 50
start " D2 RTE51 " /MIN webdriver.cmd 51
start " D2 RTE52 " /MIN webdriver.cmd 52
start " D2 RTE53 " /MIN webdriver.cmd 53
start " D2 RTE54 " /MIN webdriver.cmd 54
start " D2 RTE55 " /MIN webdriver.cmd 55
start " D2 RTE56 " /MIN webdriver.cmd 56
start " D2 RTE57 " /MIN webdriver.cmd 57
start " D2 RTE58 " /MIN webdriver.cmd 58
start " D2 RTE59 " /MIN webdriver.cmd 59
start " D2 RTE60 " /MIN webdriver.cmd 60
start " D3 RTE61 " /MIN webdriver.cmd 61
start " D3 RTE62 " /MIN webdriver.cmd 62
start " D3 RTE63 " /MIN webdriver.cmd 63
start " D3 RTE64 " /MIN webdriver.cmd 64
start " D3 RTE65 " /MIN webdriver.cmd 65
start " D3 RTE66 " /MIN webdriver.cmd 66
start " D3 RTE67 " /MIN webdriver.cmd 67
start " D3 RTE68 " /MIN webdriver.cmd 68
start " D3 RTE69 " /MIN webdriver.cmd 69
start " D3 RTE70 " /MIN webdriver.cmd 70
start " D3 RTE71 " /MIN webdriver.cmd 71
start " D3 RTE72 " /MIN webdriver.cmd 72
start " D3 RTE73 " /MIN webdriver.cmd 73
start " D3 RTE74 " /MIN webdriver.cmd 74
start " D3 RTE75 " /MIN webdriver.cmd 75
start " D3 RTE76 " /MIN webdriver.cmd 76
start " D3 RTE77 " /MIN webdriver.cmd 77
start " D3 RTE78 " /MIN webdriver.cmd 78
start " D3 RTE79 " /MIN webdriver.cmd 79
start " D3 RTE80 " /MIN webdriver.cmd 80
start " D3 RTE81 " /MIN webdriver.cmd 81
start " D3 RTE82 " /MIN webdriver.cmd 82
start " D3 RTE83 " /MIN webdriver.cmd 83
start " D3 RTE84 " /MIN webdriver.cmd 84
start " D3 RTE85 " /MIN webdriver.cmd 85
start " D3 RTE86 " /MIN webdriver.cmd 86
start " D3 RTE87 " /MIN webdriver.cmd 87
start " D3 RTE88 " /MIN webdriver.cmd 88
start " D3 RTE89 " /MIN webdriver.cmd 89
start " D3 RTE90 " /MIN webdriver.cmd 90
start " D4 RTE91 " /MIN webdriver.cmd 91
start " D4 RTE92 " /MIN webdriver.cmd 92
start " D4 RTE93 " /MIN webdriver.cmd 93
start " D4 RTE94 " /MIN webdriver.cmd 94
start " D4 RTE95 " /MIN webdriver.cmd 95
start " D4 RTE96 " /MIN webdriver.cmd 96
start " D4 RTE97 " /MIN webdriver.cmd 97
start " D4 RTE98 " /MIN webdriver.cmd 98
start " D4 RTE99 " /MIN webdriver.cmd 99
start " D4 RTE100 " /MIN webdriver.cmd 100
start " D4 RTE101 " /MIN webdriver.cmd 101
start " D4 RTE102 " /MIN webdriver.cmd 102
start " D4 RTE103 " /MIN webdriver.cmd 103
start " D4 RTE104 " /MIN webdriver.cmd 104
start " D4 RTE105 " /MIN webdriver.cmd 105
start " D4 RTE106 " /MIN webdriver.cmd 106
start " D4 RTE107 " /MIN webdriver.cmd 107
start " D4 RTE108 " /MIN webdriver.cmd 108
start " D4 RTE109 " /MIN webdriver.cmd 109
start " D4 RTE110 " /MIN webdriver.cmd 110
start " D4 RTE111 " /MIN webdriver.cmd 111
start " D4 RTE112 " /MIN webdriver.cmd 112
start " D4 RTE113 " /MIN webdriver.cmd 113
start " D4 RTE114 " /MIN webdriver.cmd 114
start " D4 RTE115 " /MIN webdriver.cmd 115
start " D4 RTE116 " /MIN webdriver.cmd 116
start " D4 RTE117 " /MIN webdriver.cmd 117
start " D4 RTE118 " /MIN webdriver.cmd 118
start " D4 RTE119 " /MIN webdriver.cmd 119
start " D4 RTE120 " /MIN webdriver.cmd 120
start " D5 RTE121 " /MIN webdriver.cmd 121
start " D5 RTE122 " /MIN webdriver.cmd 122
start " D5 RTE123 " /MIN webdriver.cmd 123
start " D5 RTE124 " /MIN webdriver.cmd 124
start " D5 RTE125 " /MIN webdriver.cmd 125
start " D5 RTE126 " /MIN webdriver.cmd 126
start " D5 RTE127 " /MIN webdriver.cmd 127
start " D5 RTE128 " /MIN webdriver.cmd 128
start " D5 RTE129 " /MIN webdriver.cmd 129
start " D5 RTE130 " /MIN webdriver.cmd 130
start " D5 RTE131 " /MIN webdriver.cmd 131
start " D5 RTE132 " /MIN webdriver.cmd 132
start " D5 RTE133 " /MIN webdriver.cmd 133
start " D5 RTE134 " /MIN webdriver.cmd 134
start " D5 RTE135 " /MIN webdriver.cmd 135
start " D5 RTE136 " /MIN webdriver.cmd 136
start " D5 RTE137 " /MIN webdriver.cmd 137
start " D5 RTE138 " /MIN webdriver.cmd 138
start " D5 RTE139 " /MIN webdriver.cmd 139
start " D5 RTE140 " /MIN webdriver.cmd 140
start " D5 RTE141 " /MIN webdriver.cmd 141
start " D5 RTE142 " /MIN webdriver.cmd 142
start " D5 RTE143 " /MIN webdriver.cmd 143
start " D5 RTE144 " /MIN webdriver.cmd 144
start " D5 RTE145 " /MIN webdriver.cmd 145
start " D5 RTE146 " /MIN webdriver.cmd 146
start " D5 RTE147 " /MIN webdriver.cmd 147
start " D5 RTE148 " /MIN webdriver.cmd 148
start " D5 RTE149 " /MIN webdriver.cmd 149
start " D5 RTE150 " /MIN webdriver.cmd 150
start " D6 RTE151 " /MIN webdriver.cmd 151
start " D6 RTE152 " /MIN webdriver.cmd 152
start " D6 RTE153 " /MIN webdriver.cmd 153
start " D6 RTE154 " /MIN webdriver.cmd 154
start " D6 RTE155 " /MIN webdriver.cmd 155
start " D6 RTE156 " /MIN webdriver.cmd 156
start " D6 RTE157 " /MIN webdriver.cmd 157
start " D6 RTE158 " /MIN webdriver.cmd 158
start " D6 RTE159 " /MIN webdriver.cmd 159
start " D6 RTE160 " /MIN webdriver.cmd 160
start " D6 RTE161 " /MIN webdriver.cmd 161
start " D6 RTE162 " /MIN webdriver.cmd 162
start " D6 RTE163 " /MIN webdriver.cmd 163
```

```
start " D6 RTE164 " /MIN webdriver.cmd 164
start " D6 RTE165 " /MIN webdriver.cmd 165
start " D6 RTE166 " /MIN webdriver.cmd 166
start " D6 RTE167 " /MIN webdriver.cmd 167
start " D6 RTE168 " /MIN webdriver.cmd 168
start " D6 RTE169 " /MIN webdriver.cmd 169
start " D6 RTE170 " /MIN webdriver.cmd 170
start " D6 RTE171 " /MIN webdriver.cmd 171
start " D6 RTE172 " /MIN webdriver.cmd 172
start " D6 RTE173 " /MIN webdriver.cmd 173
start " D6 RTE174 " /MIN webdriver.cmd 174
start " D6 RTE175 " /MIN webdriver.cmd 175
start " D6 RTE176 " /MIN webdriver.cmd 176
start " D6 RTE177 " /MIN webdriver.cmd 177
start " D6 RTE178 " /MIN webdriver.cmd 178
start " D6 RTE179 " /MIN webdriver.cmd 179
start " D6 RTE180 " /MIN webdriver.cmd 180
start " D7 RTE181 " /MIN webdriver.cmd 181
start " D7 RTE182 " /MIN webdriver.cmd 182
start " D7 RTE183 " /MIN webdriver.cmd 183
start " D7 RTE184 " /MIN webdriver.cmd 184
start " D7 RTE185 " /MIN webdriver.cmd 185
start " D7 RTE186 " /MIN webdriver.cmd 186
start " D7 RTE187 " /MIN webdriver.cmd 187
start " D7 RTE188 " /MIN webdriver.cmd 188
start " D7 RTE189 " /MIN webdriver.cmd 189
start " D7 RTE190 " /MIN webdriver.cmd 190
start " D7 RTE191 " /MIN webdriver.cmd 191
start " D7 RTE192 " /MIN webdriver.cmd 192
start " D7 RTE193 " /MIN webdriver.cmd 193
start " D7 RTE194 " /MIN webdriver.cmd 194
start " D7 RTE195 " /MIN webdriver.cmd 195
start " D7 RTE196 " /MIN webdriver.cmd 196
start " D7 RTE197 " /MIN webdriver.cmd 197
start " D7 RTE198 " /MIN webdriver.cmd 198
start " D7 RTE199 " /MIN webdriver.cmd 199
start " D7 RTE200 " /MIN webdriver.cmd 200
start " D7 RTE201 " /MIN webdriver.cmd 201
start " D7 RTE202 " /MIN webdriver.cmd 202
start " D7 RTE203 " /MIN webdriver.cmd 203
start " D7 RTE204 " /MIN webdriver.cmd 204
start " D7 RTE205 " /MIN webdriver.cmd 205
start " D7 RTE206 " /MIN webdriver.cmd 206
start " D7 RTE207 " /MIN webdriver.cmd 207
start " D7 RTE208 " /MIN webdriver.cmd 208
start " D7 RTE209 " /MIN webdriver.cmd 209
start " D7 RTE210 " /MIN webdriver.cmd 210
start " D8 RTE211 " /MIN webdriver.cmd 211
start " D8 RTE212 " /MIN webdriver.cmd 212
start " D8 RTE213 " /MIN webdriver.cmd 213
start " D8 RTE214 " /MIN webdriver.cmd 214
start " D8 RTE215 " /MIN webdriver.cmd 215
start " D8 RTE216 " /MIN webdriver.cmd 216
start " D8 RTE217 " /MIN webdriver.cmd 217
start " D8 RTE218 " /MIN webdriver.cmd 218
start " D8 RTE219 " /MIN webdriver.cmd 219
start " D8 RTE220 " /MIN webdriver.cmd 220
start " D8 RTE221 " /MIN webdriver.cmd 221
start " D8 RTE222 " /MIN webdriver.cmd 222
start " D8 RTE223 " /MIN webdriver.cmd 223
start " D8 RTE224 " /MIN webdriver.cmd 224
start " D8 RTE225 " /MIN webdriver.cmd 225
start " D8 RTE226 " /MIN webdriver.cmd 226
start " D8 RTE227 " /MIN webdriver.cmd 227
start " D8 RTE228 " /MIN webdriver.cmd 228
start " D8 RTE229 " /MIN webdriver.cmd 229
start " D8 RTE230 " /MIN webdriver.cmd 230
start " D8 RTE231 " /MIN webdriver.cmd 231
start " D8 RTE232 " /MIN webdriver.cmd 232
start " D8 RTE233 " /MIN webdriver.cmd 233
start " D8 RTE234 " /MIN webdriver.cmd 234
start " D8 RTE235 " /MIN webdriver.cmd 235
start " D8 RTE236 " /MIN webdriver.cmd 236
start " D8 RTE237 " /MIN webdriver.cmd 237
start " D8 RTE238 " /MIN webdriver.cmd 238
start " D8 RTE239 " /MIN webdriver.cmd 239
start " D8 RTE240 " /MIN webdriver.cmd 240
```

Appendix E - Disk Storage

TPC-C 60-Day Disk Space Requirements

Init Warehouses	**20,200**	tpmC	**251,691**	tpmC/W	**12.46**

Table	**Initial Rows**	**Data KB**	**Index KB**	**Extra 5% KB**	**Total With 5% KB**
Warehouse	20,200	2,160	288	122	2,570
District	202,000	22,448	432	1,144	24,024
Customer	606,000,000	124,307,696	26,792,016	7,554,986	158,654,698
Customer.Text	606,000,000	380,236,072		19,011,804	399,247,876
History (D)	606,000,000	35,386,864	132,824		35,519,688
Order (D)	606,000,000	19,787,760	45,336		19,833,096
New-Order	181,800,000	3,239,200	8,400	162,380	3,409,980
Order-Line (D)	6,059,984,194	397,376,016	936,160		398,312,176
Item	100,000	9,416	408	491	10,315
Stock	2,020,000,000	646,400,000	1,362,768	32,388,138	680,150,906
Totals KB		1,606,767,632	29,278,632	59,119,065	1,695,165,329

Db/Filegroup	**Count**	**Size MB**	**MB Allocated**	**MB Loaded +5%**	**MB for 8 Hours**
master, model & msdb		22	22	22	22
tempdb		10	10	10	10
mssql70_tpcc_root	1	10	10	10	10
mssql70_misc_fg	48	9,500	456,000	424,614	432,165
mssql70_cs_fg	48	18,000	864,000	819,146	819,146
mssql70_ord_fg	48	12,500	600,000	411,675	571,320
Total Allocated MB			**1,920,042**	**1,655,477**	**1,822,673**

	MB	
Dynamic Space MB	441,944	Sum of data for orders, order_line & history
Static Space	1,213,491	Sum of data+index+5% - Dynamic Space
Free Space	264,607	Total allocated space - (Dynamic & Static Spaces)
Daily Growth	88,106	(Dynamic Space / (W * 62.5)) * tpmC
Daily Spread	132,449	Free space - 1.5 * Daily growth (zero if negative)
	0	SQL Server can be configured to eliminate Daily Spread
60 Day Space MB	6,499,827	Static Space + 60 * (Daily Growth + Daily Spread)
60 Day Space GB	**6,347.49**	
8 hr log GB	**760.30**	(need double for mirroring)

Disk Capacity MB	16744	**16.352 GB**	Capacity of 18GB disks (15,000 RPM)
	35000	**34.180 GB**	Capacity of 36GB disks (15,000 RPM)
	136854	**133.646 GB**	Capacity of 146GB disks (10,000 RPM)

Space Usage				
60-day space DB	**GB Needed**	**Disks Priced**	**GB Priced**	
Total DB	6347.49 GB	287	4692.90 GB	18GB drives
		49	1674.80 GB	36GB drives
		336	6367.70 GB	
8-hr log+mirror	1520.60 GB	12	1529.20 GB	146GB drives
OS, SQL Server	20.00 GB	2	67.78 GB	36GB drive
Total space	**7888.09 GB**	**350**	**7964.67 GB**	**7.8 TB**

TPC-C Dynamic Table Growth Rates for 8 Hours				251,691 tpmC	
Tables	**Initial (KB)**	**Final (KB)**	**Change(KB)**	**KB / New-Order**	**8-Hr MB**
History	35,519,688	39,040,016	3,520,328	0.0640	42,238.77
Orders	19,833,096	24,654,296	4,821,200	0.1086	32,176.17
Order_line	398,312,176	465,087,432	66,775,256	1.2141	532,218.65
Dynamic	**453,664,960**	**528,781,744**	**75,116,784**	**1.3867**	**606,633.59**
New_order	3,247,600	4,997,288	1,749,688	0.0318	6,924.80
Static					
Log	18,165,952	372,832,706	354,666,755	**6.4486**	778,548.14
SUM(d_next_o_id)	606,202,000	661,200,951	54,998,951		

Appendix F - Third-Party Price Quotations

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
http://www.microsoft.com/

Microsoft

October 20, 2005

Unisys Corporation
Glenn Weeks
2470 Highcrest Rd
Roseville, MN 55113

Mr. Weeks:

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-C benchmark testing.

All pricing shown is in US Dollars ($).

Part Number	Description	Unit Price	Quantity	Price
810-03134	**SQL Server 2005 Enterprise x64 Edition** *Per Processor License* *Discount Schedule: Open Program - Level C* *Unit Price reflects a 6% discount from the retail unit price of $24,999.*	$23,432	8	$187,456
P73-00295	**Windows Server 2003 Standard Edition** *Server License Only - No CALs* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 28% discount from the retail unit price of $999.*	$719	4	$2,876
P72-00274	**Windows Server 2003 Enterprise x64 Edition** *Server License Only - No CALs* *Discount Schedule: Open Program - No Level* *Unit Price reflects a 42% discount from the retail unit price of $3,999.*	$2,334	1	$2,334
254-00170	**Visual C++ Standard Edition** *Discount Schedule: No Discounts Applied*	$109	1	$109
N/A	**Microsoft Problem Resolution Services** *Professional Support* *(1 Incident)*	$245	1	$245

Some products may not be currently orderable but will be available through Microsoft's normal distribution channels by November 7, 2005.

Defect support is included in the purchase price. Additional support is available from Microsoft PSS on an incident by incident basis at $245 per call.

This quote is valid for the next 90 days.

If we can be of any further assistance, please contact Jamie Reding at (425) 703-0510 or jamiere@microsoft.com.

Reference ID: PCgwee0520104819.
Please include this Reference ID in any correspondence regarding this price quote.

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SALES QUOTE

SQ-20671	Oct 24,2005

Customer	Contact	Ship To
UNISYS CORPORATION 25725 JERONIMO RD MISSION VIEJO CA 92691 UNITED STATES		UNISYS CORPORATION 25725 JERONIMO RD MISSION VIEJO CA 92691 UNITED STATES

Account	Terms	Due Date	Account Rep	Schedule Date
UNIMISSI	NET 30	Nov 23, 2005	Dave Loewenbaum	

Quotation	PO #	Reference	Ship VIA	Page	Printed
SQ-20671			UPS GROUND	1	10/24/05 15:30

L	Item	Description	Qty	Ship	Price	M	Discount	Amount
1		ES7000 600 Series Server						
2	ES7600083-256	SYS: ES7000-600, 8X 3.3GHZ/8MB, 256GB	1		417050.00	EA		417050.00
3	FC76222-P64	CTRL: 2 GB FC, INTELLIFIBRE	5		2850.00	EA		14250.00
4	FCH752323-PCX	CTRL: FIBRE CHANNEL HBA, 2-PORT, 6 BIT	2		2138.00	EA		4276.00
5	FAC7600361-IDK	ACC: ES7/600 1X36GB SAS KIT	1		618.00	EA		618.00
6	HDF4036100-X25	DSK:SAS 36BG 10K	1		428.00	EA		428.00
7	ES70006-UIF	I/F: MONITOR, 17" LCD, KYBRD, MSE & CABL	1		546.00	EA		546.00
8								
9		USS200/JBD2000 STORAGE						
10	JBD201815-P84	6 RACKS - 84 X 18GB 15K RPM	3		28220.00	EA		84660.00
11	JBD201815-P70	DISK: 1.3TB PKG, 70X 18GB, 15KRPM	1		24281.00	EA		24281.00
12	JBD203615-P56	DISK: 2.0TB PKG, 42X 36GB, 15KRPM	1		27132.00	EA		27132.00
13	CXR14610-2GF	DISK:146GB,10KRPM,2GB FC, +10%SPARES	12		1435.00	EA		17220.00
14	JBD2002-SA	DISK:NON-HA ENCLOSURE WITH 14 DRIVE SLOT	16		3197.00	EA		51152.00
15	JBD2011-SA	DISK:NON-HA ENCLOSURE WITH 14 DRIVE SLOT	8		3413.00	EA		27304.00
16	RMM20103-ELS	SAN:SYMM DISK VIRT SRVR II-ELS	4		4559.00	EA		18236.00
17	RMM20701-TAR	SAN:HBA,ATTO PCI3300	12		1805.00	EA		21660.00
18	USS10300-SW	SAN:USS2100 SW & PROD INF	1		5472.00	EA		5472.00
19	USS20310-LIC	SAN:USS2200 10 TBYTE LIC	1		25200.00	EA		25200.00
20	JBD20003-CCL	DISK:.3 METER 2GB FIBRE CHANNEL COPPER C	16		53.00	EA		848.00
21	JBD2001-RMK	DISK:ENCLOSURE RACK MOUNT KIT FOR 36U RA	24		190.00	EA		4560.00
22	CX300-DPE	DPE:2RAID CNTRL, 1GB CACHE EA	1		13300.00	EA		13300.00
23	CXN300-WRK	SYS MGT: STORAGE, NAVISPHERE MANAGER	1		2138.00	EA		2138.00
24	KVM9163101-SWC	SWITCH:KVM 16-PORT PS/2-CAT 5	1		1805.00	EA		1805.00
25	ES70004-UIF	I/F: MONITOR, 17-INCH LDC, KYBRD, MSE	1		665.00	EA		665.00
26	KVM9001301-CNV	ADPT: CAT5 TO PS/2	8		114.00	EA		912.00
27	SFR9-PWR	ACC: 9-PLUG POWER STRIP	9		162.00	EA		1458.00
28	USE1936-LC6	PWR CORD:C20/NEMA L6-20P	9		86.00	EA		774.00

Page 1	
SubTotal	765945.00

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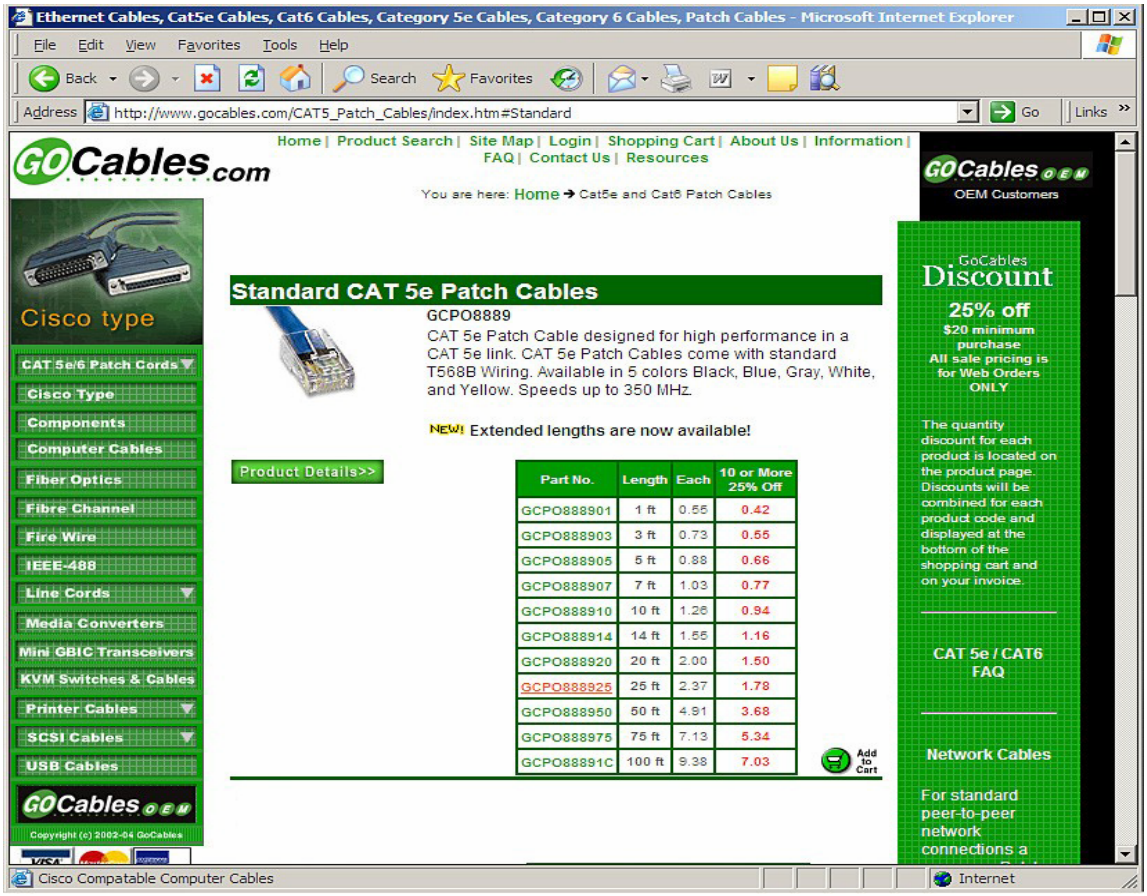
UNIMISSI	NET 30	Nov 23, 2005	Dave Loewenbaum	

Quotation	PO #	Reference	Ship VIA	Page	Printed
SQ-20671			UPS GROUND	2	10/24/05 15:30

L	Item	Description	Qty	Ship	Price	M	Discount	Amount
29	HRT361941-OFT	ACC:36U 19X41 OPEN FRT CAB, HRT COLOR	3		1425.00	EA		4275.00
30								
31		ES3120L Server						
32	ESL312002-340	UNISYS ESL 3120 3.4 GHZ	4		2006.00	EA		8024.00
33	CPL3120342-2MB	ACC:ESL3120 3.4G 2MB	4		1196.00	EA		4784.00
34	DIM3120021-2GB	MEM: 2GB, 2X 1GB DIMMS DDR SDRAM	4		864.00	EA		3456.00
35	HDP36115-DC4	DISK:36GB U320 15K CAR	4		385.00	EA		1540.00
36	HBP3120101-MOD	DISK:ESL3120 HSBP MOD	4		264.00	EA		1056.00
37	ESL3120-VRL	ACC: ESL3120 V-RAILS	4		331.00	EA		1324.00
38	FCH752323-PCX	CTRL: FIBRE CHANNEL HBA, 2-PORT, 6 BIT	4		2138.00	EA		8552.00
39	CDR12243-AIS	CDR: 24X SMSNG CD	4		41.00	EA		164.00
40								
41		Discount						
42	DISCOUNT	Volume Cash Discount for	1		-111877.00	EA		-111877.00
43		similiar configurations &						
44		quantities						
45								
46		Disks come with a 3 year						
47		return-to-factory warranty,						
48		7 day replenishment.						
49								
50		Quote valid for 90 days.						
51								

Taxable	0.00
Tax	0.00
Exempt	687243.00
Total	687243.00
Paid	0.00
Tr Disc	0.00
Balance	687243.00

Amount shown in
Rate :0.00 of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GCPO888903 | 3 ft | 0.73 | 0.55
GCPO888905 | 5 ft | 0.88 | 0.66
GCPO888907 | 7 ft | 1.03 | 0.77
GCPO888910 | 10 ft | 1.26 | 0.94
GCPO888914 | 14 ft | 1.55 | 1.16
GCPO888920 | 20 ft | 2.00 | 1.50
GCPO888925 | 25 ft | 2.37 | 1.78
GCPO888950 | 50 ft | 4.91 | 3.68
GCPO888975 | 75 ft | 7.13 | 5.34
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GCFAZLL05 | 5 m | 31.46 | 23.60
GCFAZLL10 | 10 m | 37.76 | 28.32
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GCFAZLL20 | 20 m | 50.36 | 37.77
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