



# TPC Benchmark™ C Full Disclosure Report

**Unisys ES7000 Orion 540  
Enterprise Server (16P)**

**using**

**Microsoft SQL Server 2000 Enterprise Edition**

**on**

**Microsoft Windows Server 2003,  
Datacenter Edition**

**First Edition  
May 16, 2003**

## First Edition – May 2003

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

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 (\$/tpmC). No warranty of system performance or price/performance is expressed or implied in this report.

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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 Orion 540 Enterprise Server (16P). The operating system on the server was Microsoft Windows Server 2003, Datacenter Edition. The DBMS used was Microsoft SQL Server 2000 Enterprise Edition. The operating system on the clients was Microsoft Windows 2000 Server. The clients ran Microsoft's Internet Information Server 5.0 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.

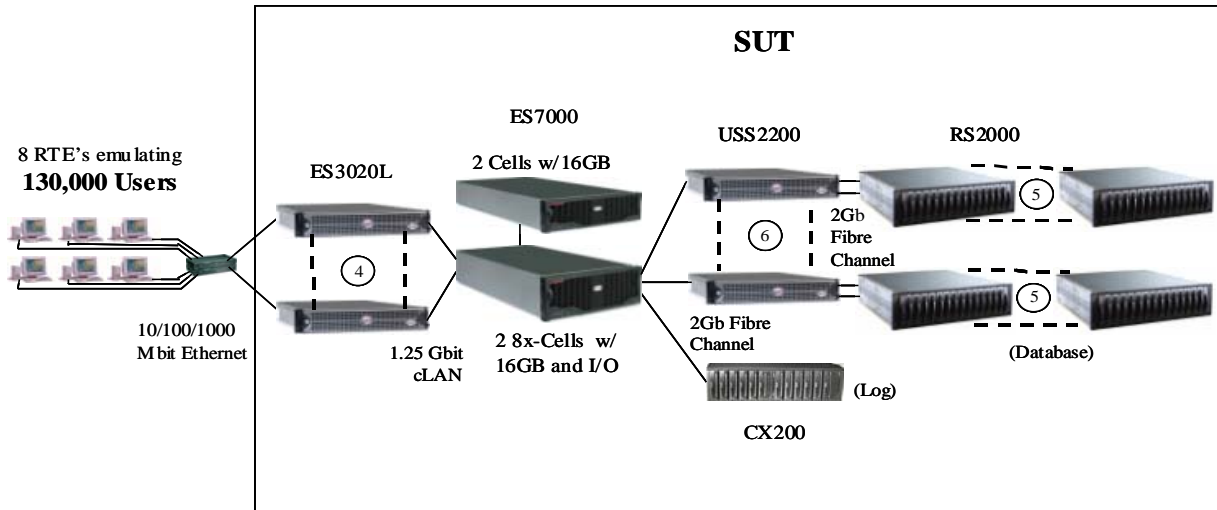
## **Executive Summary**

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

## **Auditor**

Lorna Livingtree of Performance Metrics, Inc. verified compliance with the relevant TPC specification, 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.

<b>UNISYS</b>	<b>ES7000 Orion 540</b>		TPC-C Rev. 5.1
	<b>Enterprise Server (16P)</b>		Report Date May 16, 2003
<b>Total System Cost</b>	<b>TPC-C Throughput</b>	<b>Price Performance</b>	<b>Availability Date</b>
<b>\$986,622</b>	<b>161,542.04 tpmC</b>	<b>\$6.11 / tpmC</b>	<b>May 30, 2003</b>
<b>Processors/ Cores/Threads</b>	<b>Database Manager</b>	<b>Operating System</b>	<b>Other Software</b>
16/16/32 Database 8/8/16 Clients	Microsoft SQL Server 2000 Enterprise Edition	Microsoft Windows Server 2003, Datacenter Edition	Windows 2000 Server w/ IIS 5.0 and COM+ Microsoft Visual C++
			<b>130,000</b>



**Clients (each of 4)**  
**ES3020L Server**  
 2 x 2.4GHz Intel® Xeon™  
 w/ 512KB L2 cache,  
 2 GB memory,  
 1 x 18GB internal disk,  
 2 Inbuilt 10/100/1000Mb  
 Ethernet (1 used),  
 1 x PCI cLAN controller

**ES7000 Orion 540**  
**Enterprise Server**  
 16 x 1.5GHz Intel® Xeon™ MP  
 w/ 1MB L3 cache,  
 64 GB memory,  
 1 internal disk controller,  
 1 x 30GB internal disk,  
 7 x PCI Fibre Channel controllers,  
 4 x PCI cLAN controllers

**Storage**  
**USS2200/RS2000 & CX200**  
 412 x 18GB + 14 x 73GB  
 Hot-Pluggable,  
 External Fibre Channel disks,  
 8 x FC RAID controllers

System Components	Server		Clients (each of 4)	
	Quantity		Quantity	
Processors/Cores/Threads Cache	16/16/32	1.5GHz Intel® Xeon™ MP with 1MB Level 3 Cache	2/2/4	2.4GHz Intel® Xeon™ with 512KB Level 2 Cache
Memory	4	16 GB	2	1 GB
Disk Controllers	7	PCI Fibre Channel	1	Inbuilt SCSI
Disk Drives	14	18GB FC (16.4 GB useable)	1	18GB SCSI (16.9 GB useable)
	14	73GB FC (60.4 GB useable)		
	1	30GB boot (28.0 GB useable)		
Total Storage	7.4 TB		16.9 GB	
Tape / CD-ROM	1	IDE CD-ROM	1	IDE CD-ROM
Terminals	1	Console Monitor	1	Console Monitor



## ES7000 Orion 540 Enterprise Server (16P)

TPC-C Rev. 5.1

Report Date  
May 16, 2003

Description	Part No.	Third Party		Unit Price	Qty.	Extended Price	3 yr.Maint. Price
		Brand	Price				
<b>Server Hardware:</b>							
SYS: ES7000-540, 16x 1.5GHz, 128MB Cch, 64GB Mem.	ES7540161-640		1	\$166,250	1	\$166,250	\$12,384
Inbuilt Disk Controller, 1x 30GB Disk (boot media)	Included						
Sentinel System Management S/W and Media	Included						
CTRL: Fibre Channel HBA, 2-Port, 64-bit PCI	FC76222-P64		1	\$2,850	7	\$19,950	
CTRL: cLAN, PCI Host Adapter & Cable	PCI10001-CXG		1	\$755	4	\$3,020	
I/F: Monitor, 15-inch Color, Kybrd, Mse & Cable	ES70003-UIF		1	\$570	1	\$570	
<b>Server Software:</b>							
O/S: Windows 2003 Srvr, Datacenter Edtn, 16P, 1yr Lsub.	WND2316-TSP		2	\$35,112	1	\$35,112	
O/S: Windows 2003 Server, DC Lmtd Sbscrptn, 1yr.	DUS200316-TSP		2	\$3,192	2	\$6,384	
O/S: Windows 2003 Server DC Support, 24x7x4, 1yr.	GTS7523416-SSA		2	\$12,574	3		\$37,722
APP: Microsoft SQL Server 2000 Enterprise Edtn, 16P	DQL200316-LX		2	\$212,800	1	\$212,800	* Inc. below
SRVC: Microsoft Database Server Support Package*	PRO-PRORS-16U-01		2	\$1,950	3		\$5,850
<b>Server Subtotal</b>						<b>\$444,086</b>	<b>\$55,956</b>
<b>Storage Hardware:</b>							
DISK: 18GB Drive, 15Krpm, 2Gb FC, SCA	JBD201815-2F		1	\$578	412	\$238,136	Spared
DISK: 18GB Drive, 15Krpm, 2Gb FC, SCA 10% spares**	JBD201815-2F		1	\$578	42		\$24,276
DISK: 73GB Drive, 10Krpm, 2Gb FC, SCA	CXR7310-2GF		1	\$1,748	14	\$24,472	Spared
DISK: 73GB Drive, 10Krpm, 2Gb FC, SCA 10% spares**	CXR7310-2GF		1	\$1,748	2		\$3,496
RCK: FC 2Gb Storage, Standard, Copper/Copper I/F	JBD2002-SA		1	\$3,197	18	\$57,546	\$9,720
RCK: FC 2Gb Storage, Standard, Optical/Copper I/F	JBD2011-SA		1	\$3,413	12	\$40,956	\$6,912
CTRL: Symmetric Disk Virt. 2x2GHz, 512MB Mem	RMM20103-ELS		1	\$5,502	6	\$33,012	\$6,984
CTRL: USS, Fibre Channel HBA, 1-Port, 64-bit PCI	RMM20701-TAR		1	\$2,209	18	\$39,762	\$8,208
APP: Unisys Storage Sentinel 2200 SDV Software	USS10300-SW		1	\$8,550	1	\$8,550	\$4,068
APP: Storage Sentinel SDV SW, 10TB License	USS20310-LIC		1	\$46,313	1	\$46,313	
CBL: FC, Copper, HSDC2 Conn's, 0.3m	JBD20003-CCL		1	\$54	18	\$972	
CBL: FC, 50um Dupx, LC->LC Conn's, 10m	JBD2010-OCL		1	\$172	19	\$3,268	
RCK: Rack Mount Kit, Disk Enclosure	JBD2000-RMK		1	\$182	30	\$5,460	
CTRL: DPE: 2 RAID Cntrl, 1GB Cache ea., 0 Disk	CX200-DPE		1	\$19,000	1	\$19,000	\$2,988
SYS MGT: Storage, Navisphere Manager	CXN200-T3		1	\$3,800	1	\$3,800	\$744
SYS MGT: Storage, Navisphere Agent	CXN600-WIN		1	\$950	1	\$950	\$204
SWTCH: Switch, 10/100/1000Mb Ethernet	GS516-T16		1	\$2,850	1	\$2,850	
SWTCH: Switch, 8-port KVM	SWC81-SXR		1	\$1,520	2	\$3,040	\$2,232
CBL: Cable, KVM, 12 foot	CBL121-SWC		1	\$143	10	\$1,430	
KBD: Keyboard & Drawer, Rackmount	KBR28301-SXR		1	\$333	2	\$666	
MON: Display, Rackmount LCD	MON2145-LCD		1	\$2,565	2	\$5,130	
PWR: Distribution Strip, 9-Plug, 220V	SFR9-PWR		1	\$162	12	\$1,944	
CBL: Power, U.S. (Domestic), C20 - L6-20P	USE1936-LC6		1	\$86	12	\$1,032	
CAB: 36U x 19" x 41" Open Front Cabinet	HRT361941-OFT		1	\$1,425	4	\$5,700	
DOOR: 36U x 19", Rear	HRT3619-RDR		1	\$475	4	\$1,900	
PNL: 36U x 41" Side Skins, L&R HRT	HRT3641-SDS		1	\$475	4	\$1,900	
INSTL: Stabilizer Foot	RM1936-FOT		1	\$162	4	\$648	
<b>Storage Subtotal</b>						<b>\$548,437</b>	<b>\$69,832</b>
<b>Client Hardware:</b>							
SYS: ES3020L w/ 1x 2.4GHz Proc., 0MB Mem	ESL30201-240		1	\$1,557	4	\$6,228	\$5,232
PROC: 1x 2.4GHz Intel Xeon/512KB Cache	CPL3020241-512		1	\$665	4	\$2,660	
MEM: 2GB, 2x 1GB DDR DRAM PC133ECC	DIM3000022-2GB		1	\$1,598	4	\$6,392	
RCK: ESL2026 Disk Backpanel, 1x4	HBP3020101-51		1	\$265	4	\$1,060	
DISK: 18GB 10Krpm U160 3.5 Internal	HDM18110-DC4		1	\$333	4	\$1,332	
CTRL: cLAN, PCI Host Adapter & Cable	PCI10001-CXG		1	\$755	4	\$3,020	
RCK: ES3020L Universal Rack Kit	ESL3020-VRL		1	\$333	4	\$1,332	
<b>Client Software:</b>							
O/S: Microsoft Windows 2000 Server	C11-00821		2	\$738	4	\$2,952	* Inc. above
ACC: Microsoft Visual C++ Standard	254-00170		2	\$109	1	\$109	* Inc. above
<b>Client Subtotal</b>						<b>\$25,085</b>	<b>\$5,232</b>
<b>Total</b>						<b>\$1,017,608</b>	<b>\$131,020</b>
Computer Resolutions Large Volume Discount						(\$162,006)	

**Notes:**

1. 3rd Party Brand & Pricing: 1 = CRI Product Price, Unisys Maintenance Price  
2 = Microsoft
2. HW & SW maintenance figured at 24 x 7 w/ 4 hr. max. response time for spares.
3. \*\* = 10% spare disks added in place of onsite service.

**Three Year Cost of Ownership: \$986,622**  
**tpmC Rating: 161,542.04**  
**\$ / tpmC: \$6.11**

Benchmark results and test methodology audited by Lorna Livingtree 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](mailto:pricing@tpc.org). Thank You.

## Numerical Quantities Summary

**MQTh, Computed Maximum Qualified Throughput: 161,542.04 tpmC**

### Response Times, in seconds

Transaction	90th %ile	Average	Maximum
New-Order	0.57	0.41	36.58
Payment	0.53	0.36	29.30
Order-Status	0.54	0.37	23.20
Delivery (interactive portion)	0.42	0.27	4.31
Delivery (deferred portion)	0.28	0.21	32.27
Stock-Level	1.06	0.78	34.91
Menu	0.43	0.27	4.31

### 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	44.93%
Payment	43.02%
Order-Status	4.00%
Delivery (interactive portion)	4.01%
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 / 5.07	2.03 / 50.61
Stock-Level	2.01 / 0.00	2.01 / 5.06	2.03 / 50.61

### Test Duration

Ramp up time	90 minutes
Measurement interval (M)	120 minutes
Transactions (all types) completed during measurement interval	43,137,403
Ramp-down time	36 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 Orion 540 Enterprise Server (16P) using Microsoft SQL Server 2000 Enterprise Edition on Microsoft Windows Server 2003, Datacenter Edition.

## TPC Benchmark C Overview

The Transaction Processing Performance Council (TPC) developed The TPC Benchmark™ C Standard Specification Revision 5.1. 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.

## 0.1. 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

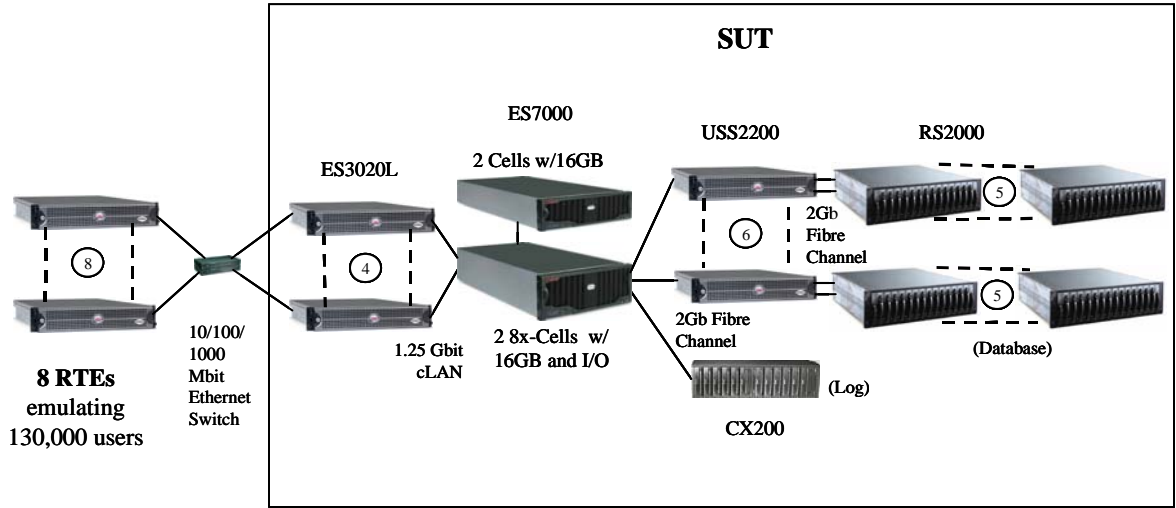
*Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences. This includes, but is not limited to: (8.1.1.7)*

- *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 Orion 540 Enterprise Server (16P) is illustrated in Figure 0.1. Tables 4.3 and 4.5 contain a detailed explanation of the disk configuration.

The priced configuration for the Unisys ES7000 Orion 540 Enterprise Server (16P) is shown in Figure 0.2.

**Figure 0.1: Benchmarked Configuration**

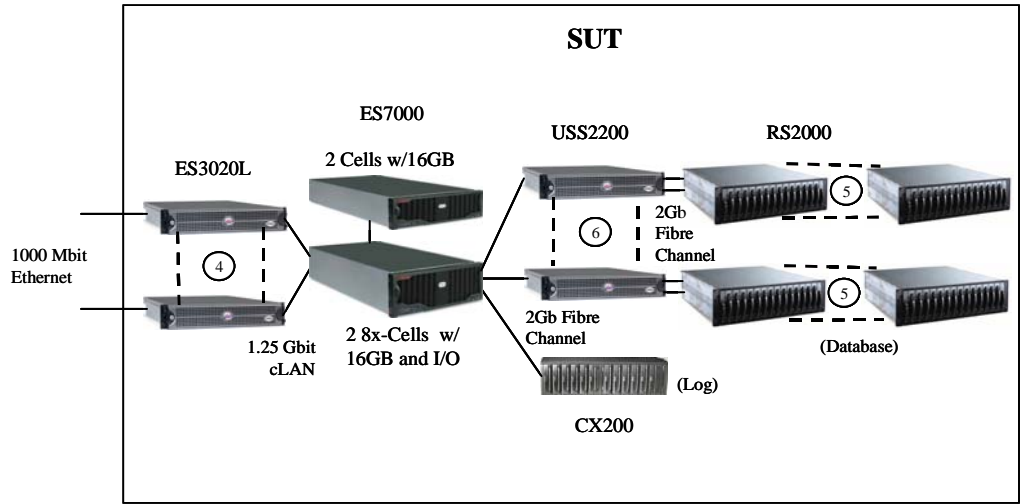


**Clients (each of 4)**  
**ES3020L Server**  
 2 x 2.4GHz Intel® Xeon™  
 w/ 512KB L2 cache,  
 2 GB memory,  
 1 x 18GB internal disk,  
 2 Inbuilt 10/100/1000Mb  
 Ethernet (1 used),  
 1 x PCI cLAN controller

**ES7000 Orion 540  
 Enterprise Server**  
 16 x 1.5GHz Intel® Xeon™ MP  
 w/ 1MB L3 cache,  
 64 GB memory,  
 1 internal disk controller,  
 1 x 30GB internal disk,  
 7 x PCI Fibre Channel controllers,  
 4 x PCI cLAN controllers

**Storage**  
**USS2200/RS2000 & CX200**  
 412 x 18GB + 14 x 73GB  
 Hot-Pluggable,  
 External Fibre Channel disks,  
 8 x FC RAID controllers

**Figure 0.2: Priced Configuration**



**Clients (each of 4)**  
**ES3020L Server**  
 2 x 2.4GHz Intel® Xeon™  
 w/ 512KB L2 cache,  
 2 GB memory,  
 1 x 18GB internal disk,  
 2 Inbuilt 10/100/1000Mb  
 Ethernet (1 used),  
 1 x PCI cLAN controller

**ES7000 Orion 540  
 Enterprise Server**  
 16 x 1.5GHz Intel® Xeon™ MP  
 w/ 1MB L3 cache,  
 64 GB memory,  
 1 internal disk controller,  
 1 x 30GB internal disk,  
 7 x PCI Fibre Channel controllers,  
 4 x PCI cLAN controllers

**Storage**  
**USS2200/RS2000 & CX200**  
 412 x 18GB + 14 x 73GB  
 Hot-Pluggable,  
 External Fibre Channel disks,  
 8 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, which was independently audited. The initial population of the database was performed by the loader program from V4.21 of the Microsoft TPC-C toolkit, which was also independently audited. Furthermore, the auditor sampled various initial and runtime distributions produced by this implementation to verify correctness.

### **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 15,390 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 15,390 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 15,390 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 SQL server.
5. After 5 additional minutes of operation, a hot-pluggable data disk was removed from the disk cabinet.
6. Windows Datacenter 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. Moreover, the counts were matched with those obtained in step 12.

### **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 14,600 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	14,600
District	146,000
Customer	438,000,000
History	438,000,000
Order	438,000,000
New-Order	131,400,000
Order Line	4,379,990,719
Stock	1,460,000,000
Item	100,000

1600 rows of the warehouse table were inactive (deleted) 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 412 18GB disks and the transaction log over 7 mirrored pairs of 73GB disks for the benchmark configuration. In addition, there was one 30GB disk in the host server containing Windows Server 2003, Datacenter Edition and SQL Server 2000 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. The tested and priced disk configurations were identical.

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

Microsoft SQL Server 2000 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

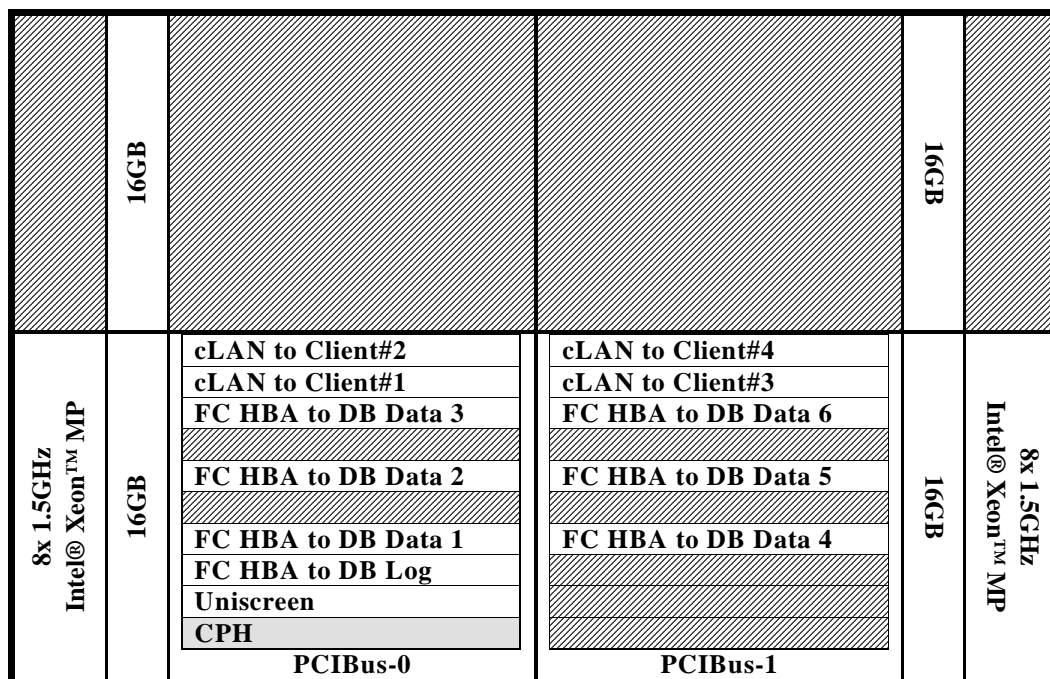
*Details of the 60-day space computation along with proof that the database is configured to sustain 8 hours of growth for dynamic tables (Order, Order-line, and History) must be disclosed (see Clause 4.2.3) (8.1.5.5).*

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	
USS2	0	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	1	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	
USS3	0	11	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS3	0	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	1	14	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS3	1	15	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS4	0	16	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS4	0	17	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS4	0	18	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS4	1	19	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS4	1	20	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS5	0	21	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS5	0	22	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS5	0	23	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS5	1	24	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	Empty	Empty	
USS5	1	25	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	Empty	Empty	
USS6	0	26	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS6	0	27	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS6	0	28	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	
USS6	1	29	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	Empty	Empty	
USS6	1	30	0	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	18GB	Empty	Empty	
CX200	n/a	1	10	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	73GB	Empty

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
30 GB Disk CD-ROM	0 CD-ROM 0	C: System D:	NTFS Capacity=27.95GB

		Logical Disk#	Partition 1 Size=422.75 GB FS=Raw Junction Point
CX200	SP		
1	A	1	C:\BigDb\dbLogs\tpcclog

Disk Management Configuration						
USS	HBA	Logical Disk#	Partition 1 Size=4.86GB FS=Raw Junction Point	Partition 2 Size=8.03GB FS=Raw Junction Point	Partition 3 Size=4.23GB FS=Raw Junction Point	Partition 4 Size=85.42GB FS=NTFS Junction Point
1	0	2	C:\BigDb\cabA\ord1	C:\BigDb\cabA\cs1	C:\BigDb\cabA\misc1	Unallocated
	0	3	C:\BigDb\cabA\ord2	C:\BigDb\cabA\cs2	C:\BigDb\cabA\misc2	C:\BigDb\dbBackups\backupA2
	0	4	C:\BigDb\cabA\ord3	C:\BigDb\cabA\cs3	C:\BigDb\cabA\misc3	C:\BigDb\dbBackups\backupA3
	0	5	C:\BigDb\cabA\ord4	C:\BigDb\cabA\cs4	C:\BigDb\cabA\misc4	C:\BigDb\dbBackups\backupA4
	0	6	C:\BigDb\cabA\ord5	C:\BigDb\cabA\cs5	C:\BigDb\cabA\misc5	Unallocated
	0	7	C:\BigDb\cabA\ord6	C:\BigDb\cabA\cs6	C:\BigDb\cabA\misc6	Unallocated
	0	8	C:\BigDb\cabA\ord7	C:\BigDb\cabA\cs7	C:\BigDb\cabA\misc7	Unallocated
	1	9	C:\BigDb\cabA\ord8	C:\BigDb\cabA\cs8	C:\BigDb\cabA\misc8	Unallocated
	1	10	C:\BigDb\cabA\ord9	C:\BigDb\cabA\cs9	C:\BigDb\cabA\misc9	Unallocated
	1	11	C:\BigDb\cabA\ord10	C:\BigDb\cabA\cs10	C:\BigDb\cabA\misc10	Unallocated
	1	12*	C:\BigDb\cabA\ord11	C:\BigDb\cabA\cs11	C:\BigDb\cabA\misc11	Unallocated
	1	13*	C:\BigDb\cabA\ord12	C:\BigDb\cabA\cs12	C:\BigDb\cabA\misc12	Unallocated
	2	0	14	C:\BigDb\cabB\ord1	C:\BigDb\cabB\cs1	C:\BigDb\cabB\misc1
0		15	C:\BigDb\cabB\ord2	C:\BigDb\cabB\cs2	C:\BigDb\cabB\misc2	C:\BigDb\dbBackups\backupB2
0		16	C:\BigDb\cabB\ord3	C:\BigDb\cabB\cs3	C:\BigDb\cabB\misc3	C:\BigDb\dbBackups\backupB3
0		17	C:\BigDb\cabB\ord4	C:\BigDb\cabB\cs4	C:\BigDb\cabB\misc4	C:\BigDb\dbBackups\backupB4
0		18	C:\BigDb\cabB\ord5	C:\BigDb\cabB\cs5	C:\BigDb\cabB\misc5	Unallocated
0		19	C:\BigDb\cabB\ord6	C:\BigDb\cabB\cs6	C:\BigDb\cabB\misc6	Unallocated
0		20	C:\BigDb\cabB\ord7	C:\BigDb\cabB\cs7	C:\BigDb\cabB\misc7	Unallocated
1		21	C:\BigDb\cabB\ord8	C:\BigDb\cabB\cs8	C:\BigDb\cabB\misc8	Unallocated
1		22	C:\BigDb\cabB\ord9	C:\BigDb\cabB\cs9	C:\BigDb\cabB\misc9	Unallocated
1		23	C:\BigDb\cabB\ord10	C:\BigDb\cabB\cs10	C:\BigDb\cabB\misc10	Unallocated
1		24*	C:\BigDb\cabB\ord11	C:\BigDb\cabB\cs11	C:\BigDb\cabB\misc11	Unallocated
1		25*	C:\BigDb\cabB\ord12	C:\BigDb\cabB\cs12	C:\BigDb\cabB\misc12	Unallocated

**Table 4.5: Disk Management Configuration (Continued)**

Disk Management Configuration						
USS	HBA	Logical Disk#	Partition 1 Size=4.86GB FS=Raw Junction Point	Partition 2 Size=8.03GB FS=Raw Junction Point	Partition 3 Size=4.23GB FS=Raw Junction Point	Partition 4 Size=85.42GB FS=NTFS Junction Point
3	0	26	C:\BigDb\cabC\ord1	C:\BigDb\cabC\cs1	C:\BigDb\cabC\misc1	Unallocated
	0	27	C:\BigDb\cabC\ord2	C:\BigDb\cabC\cs2	C:\BigDb\cabC\misc2	C:\BigDb\dbBackups\backupC2
	0	28	C:\BigDb\cabC\ord3	C:\BigDb\cabC\cs3	C:\BigDb\cabC\misc3	C:\BigDb\dbBackups\backupC3
	0	29	C:\BigDb\cabC\ord4	C:\BigDb\cabC\cs4	C:\BigDb\cabC\misc4	C:\BigDb\dbBackups\backupC4
	0	30	C:\BigDb\cabC\ord5	C:\BigDb\cabC\cs5	C:\BigDb\cabC\misc5	Unallocated
	0	31	C:\BigDb\cabC\ord6	C:\BigDb\cabC\cs6	C:\BigDb\cabC\misc6	Unallocated
	0	32	C:\BigDb\cabC\ord7	C:\BigDb\cabC\cs7	C:\BigDb\cabC\misc7	Unallocated
	1	33	C:\BigDb\cabC\ord8	C:\BigDb\cabC\cs8	C:\BigDb\cabC\misc8	Unallocated
	1	34	C:\BigDb\cabC\ord9	C:\BigDb\cabC\cs9	C:\BigDb\cabC\misc9	Unallocated
	1	35	C:\BigDb\cabC\ord10	C:\BigDb\cabC\cs10	C:\BigDb\cabC\misc10	Unallocated
	1	36*	C:\BigDb\cabC\ord11	C:\BigDb\cabC\cs11	C:\BigDb\cabC\misc11	Unallocated
	1	37*	C:\BigDb\cabC\ord12	C:\BigDb\cabC\cs12	C:\BigDb\cabC\misc12	Unallocated
4	0	38	C:\BigDb\cabD\ord1	C:\BigDb\cabD\cs1	C:\BigDb\cabD\misc1	Unallocated
	0	39	C:\BigDb\cabD\ord2	C:\BigDb\cabD\cs2	C:\BigDb\cabD\misc2	C:\BigDb\dbBackups\backupD2
	0	40	C:\BigDb\cabD\ord3	C:\BigDb\cabD\cs3	C:\BigDb\cabD\misc3	C:\BigDb\dbBackups\backupD3
	0	41	C:\BigDb\cabD\ord4	C:\BigDb\cabD\cs4	C:\BigDb\cabD\misc4	C:\BigDb\dbBackups\backupD4
	0	42	C:\BigDb\cabD\ord5	C:\BigDb\cabD\cs5	C:\BigDb\cabD\misc5	Unallocated
	0	43	C:\BigDb\cabD\ord6	C:\BigDb\cabD\cs6	C:\BigDb\cabD\misc6	Unallocated
	0	44	C:\BigDb\cabD\ord7	C:\BigDb\cabD\cs7	C:\BigDb\cabD\misc7	Unallocated
	1	45	C:\BigDb\cabD\ord8	C:\BigDb\cabD\cs8	C:\BigDb\cabD\misc8	Unallocated
	1	46	C:\BigDb\cabD\ord9	C:\BigDb\cabD\cs9	C:\BigDb\cabD\misc9	Unallocated
	1	47	C:\BigDb\cabD\ord10	C:\BigDb\cabD\cs10	C:\BigDb\cabD\misc10	Unallocated
	1	48*	C:\BigDb\cabD\ord11	C:\BigDb\cabD\cs11	C:\BigDb\cabD\misc11	Unallocated
	1	49*	C:\BigDb\cabD\ord12	C:\BigDb\cabD\cs12	C:\BigDb\cabD\misc12	Unallocated
5	0	50	C:\BigDb\cabE\ord1	C:\BigDb\cabE\cs1	C:\BigDb\cabE\misc1	Unallocated
	0	51	C:\BigDb\cabE\ord2	C:\BigDb\cabE\cs2	C:\BigDb\cabE\misc2	C:\BigDb\dbBackups\backupE2
	0	52	C:\BigDb\cabE\ord3	C:\BigDb\cabE\cs3	C:\BigDb\cabE\misc3	C:\BigDb\dbBackups\backupE3
	0	53	C:\BigDb\cabE\ord4	C:\BigDb\cabE\cs4	C:\BigDb\cabE\misc4	C:\BigDb\dbBackups\backupE4
	0	54	C:\BigDb\cabE\ord5	C:\BigDb\cabE\cs5	C:\BigDb\cabE\misc5	Unallocated
	0	55	C:\BigDb\cabE\ord6	C:\BigDb\cabE\cs6	C:\BigDb\cabE\misc6	Unallocated
	0	56	C:\BigDb\cabE\ord7	C:\BigDb\cabE\cs7	C:\BigDb\cabE\misc7	Unallocated
	1	57	C:\BigDb\cabE\ord8	C:\BigDb\cabE\cs8	C:\BigDb\cabE\misc8	Unallocated
	1	58	C:\BigDb\cabE\ord9	C:\BigDb\cabE\cs9	C:\BigDb\cabE\misc9	Unallocated
	1	59	C:\BigDb\cabE\ord10	C:\BigDb\cabE\cs10	C:\BigDb\cabE\misc10	Unallocated
	1	60	C:\BigDb\cabE\ord11	C:\BigDb\cabE\cs11	C:\BigDb\cabE\misc11	Unallocated
6	0	61	C:\BigDb\cabA\ord13	C:\BigDb\cabA\cs13	C:\BigDb\cabA\misc13	Unallocated
	0	62	C:\BigDb\cabA\ord14	C:\BigDb\cabA\cs14	C:\BigDb\cabA\misc14	Unallocated
	0	63	C:\BigDb\cabB\ord13	C:\BigDb\cabB\cs13	C:\BigDb\cabB\misc13	Unallocated
	0	64	C:\BigDb\cabB\ord14	C:\BigDb\cabB\cs14	C:\BigDb\cabB\misc14	Unallocated
	0	65	C:\BigDb\cabC\ord13	C:\BigDb\cabC\cs13	C:\BigDb\cabC\misc13	Unallocated
	0	66	C:\BigDb\cabC\ord14	C:\BigDb\cabC\cs14	C:\BigDb\cabC\misc14	Unallocated
	0	67	C:\BigDb\cabD\ord13	C:\BigDb\cabD\cs13	C:\BigDb\cabD\misc13	Unallocated
	1	68	C:\BigDb\cabD\ord14	C:\BigDb\cabD\cs14	C:\BigDb\cabD\misc14	Unallocated
	1	69	C:\BigDb\cabE\ord12	C:\BigDb\cabE\cs12	C:\BigDb\cabE\misc12	Unallocated
	1	70	C:\BigDb\cabE\ord13	C:\BigDb\cabE\cs13	C:\BigDb\cabE\misc13	Unallocated
	1	71	C:\BigDb\cabE\ord14	C:\BigDb\cabE\cs14	C:\BigDb\cabE\misc14	Unallocated

\* The size of partition 4 is 68.33 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 161,542.04.

### 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	0.41	36.58	0.57
Payment	0.36	29.30	0.53
Order Status	0.37	23.20	0.54
Delivery (interactive)	0.27	4.31	0.42
Delivery (deferred)	0.21	32.27	0.28
Stock-Level	0.78	34.91	1.06
Menu	0.27	4.31	0.43

### 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	5.07	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

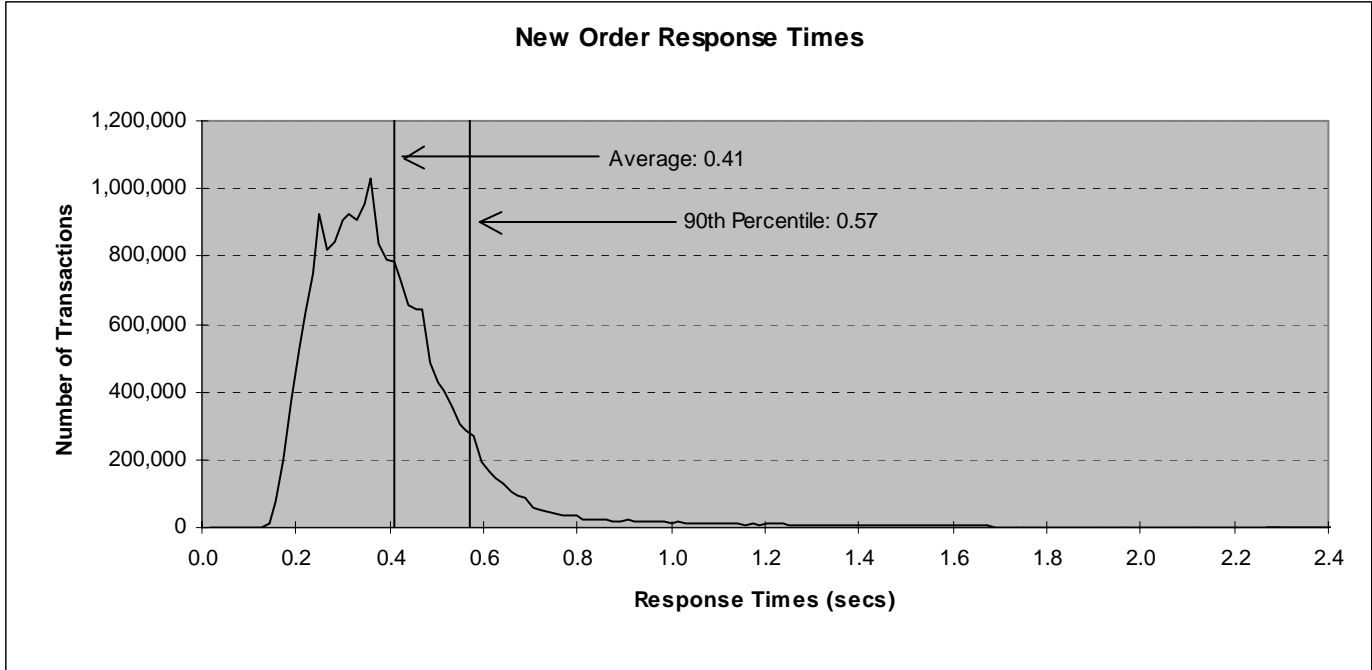
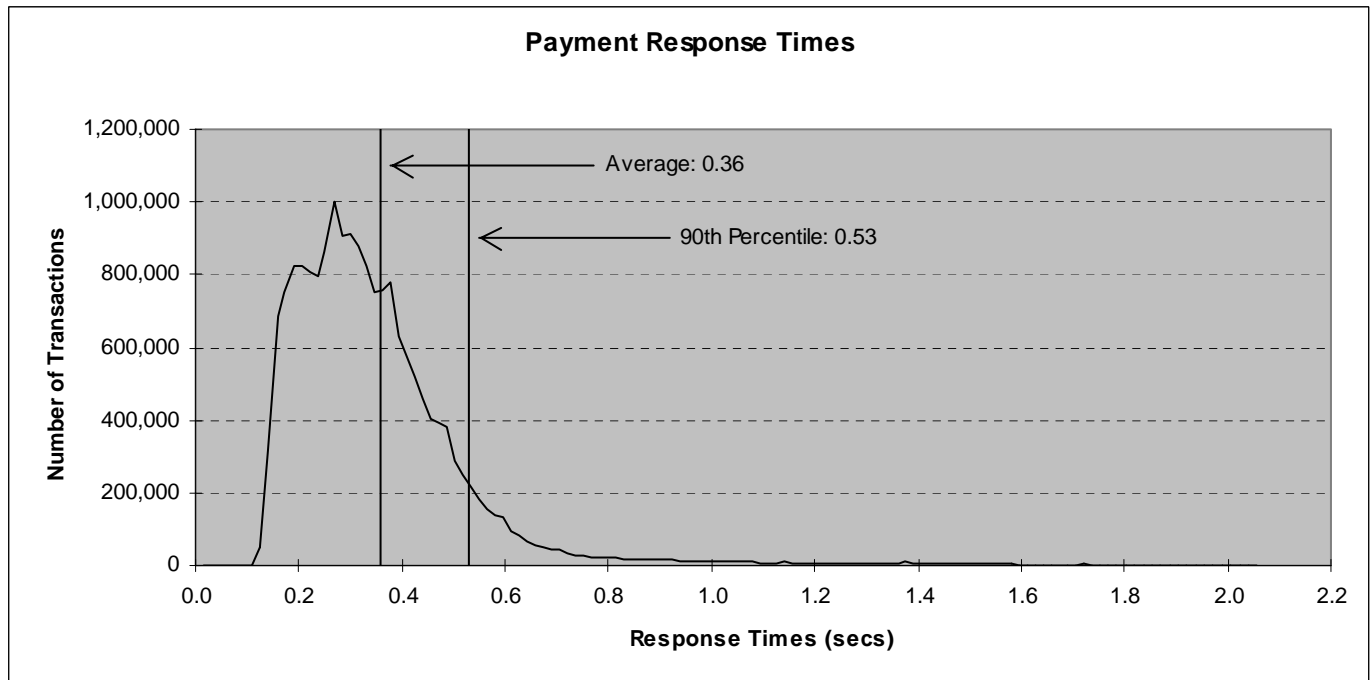
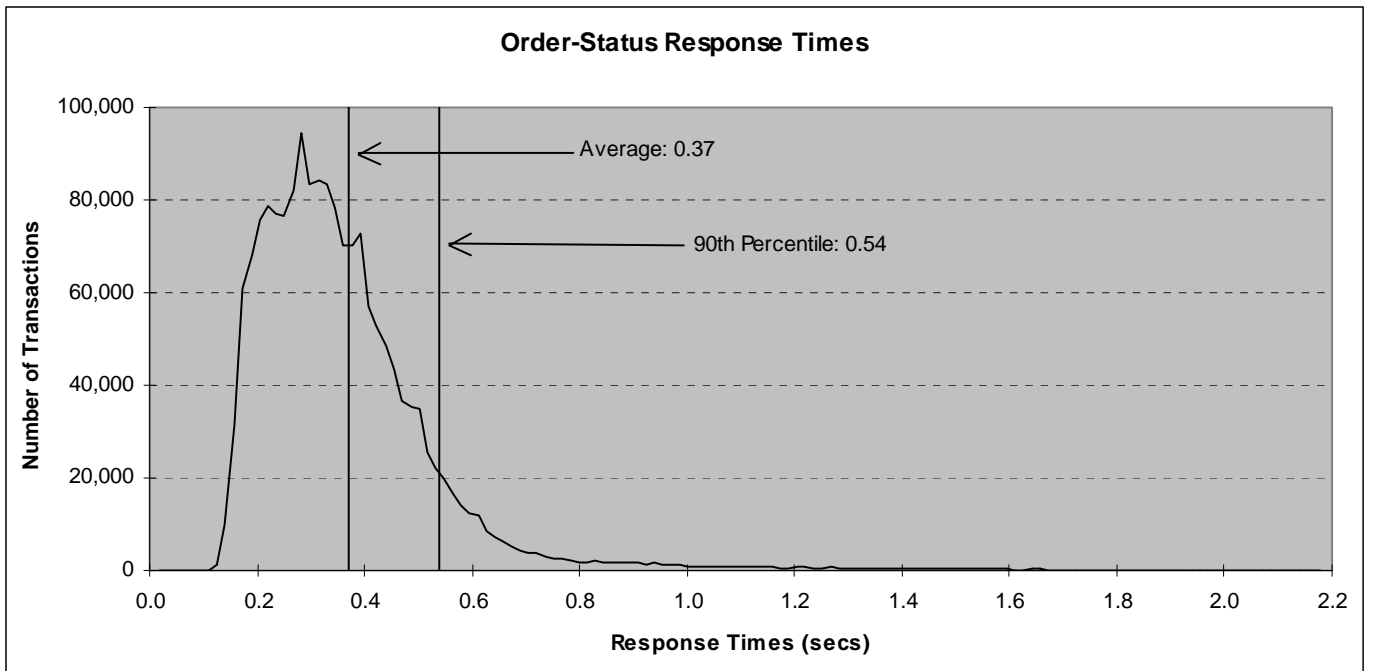


Figure 5.2: Payment Response Time Distribution

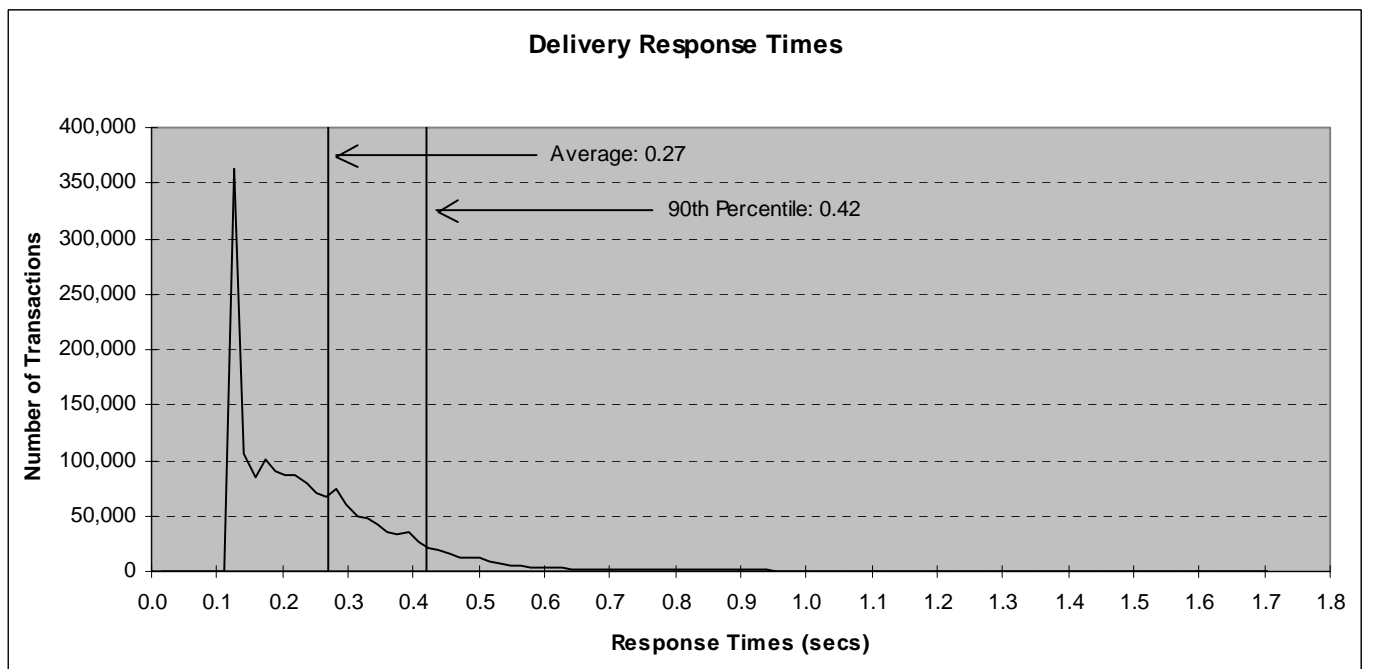




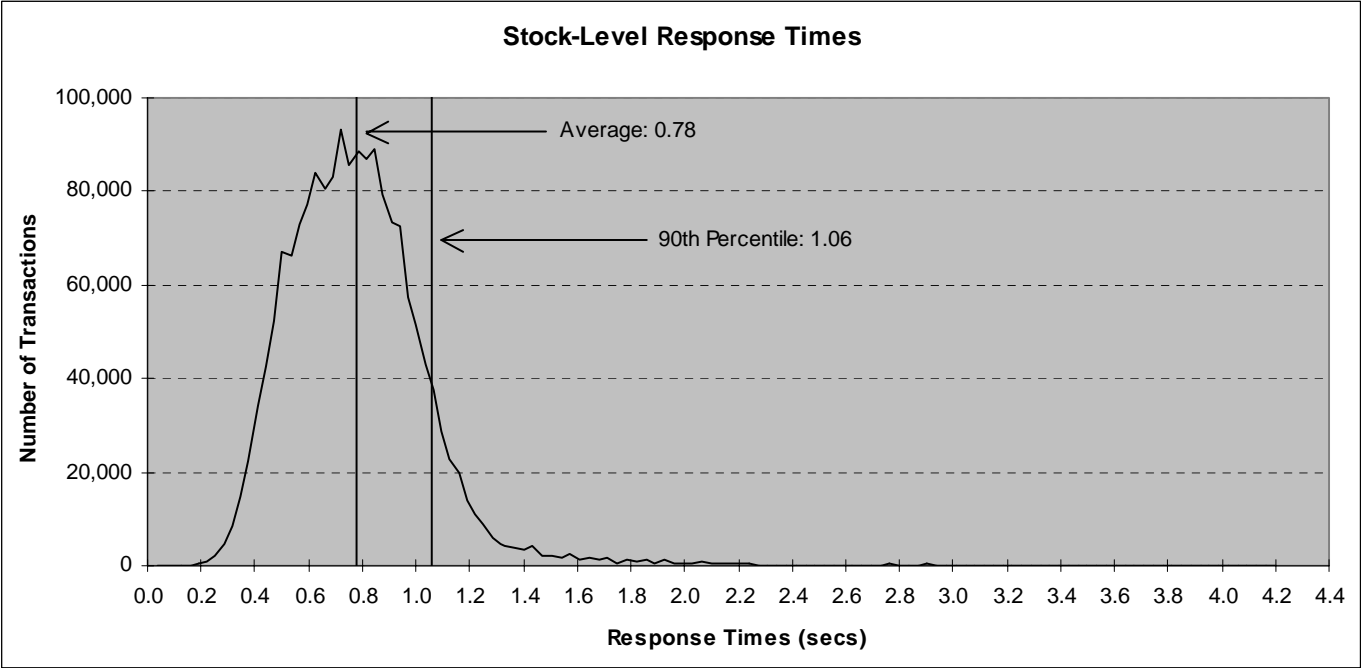
**Figure 5.3: Order Status Response Time Distribution**



**Figure 5.4: Delivery Response Time Distribution**



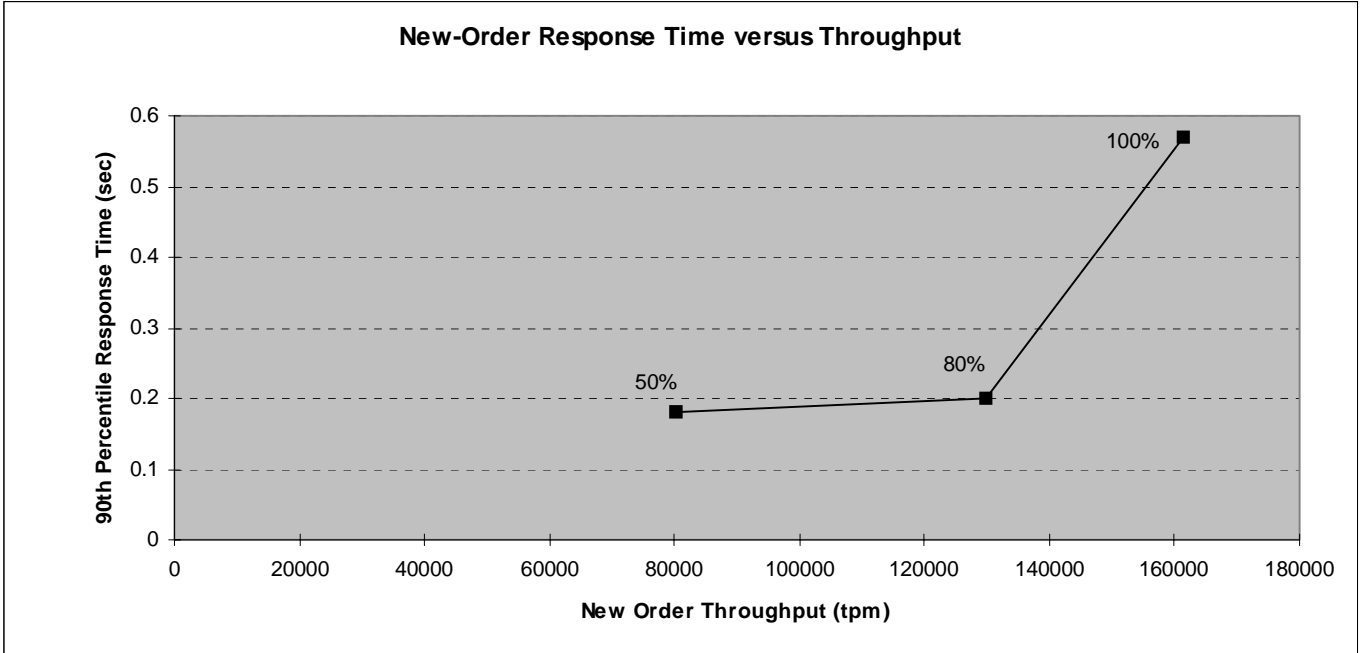
**Figure 5.5: Stock Level Response Time Distribution**



**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)*

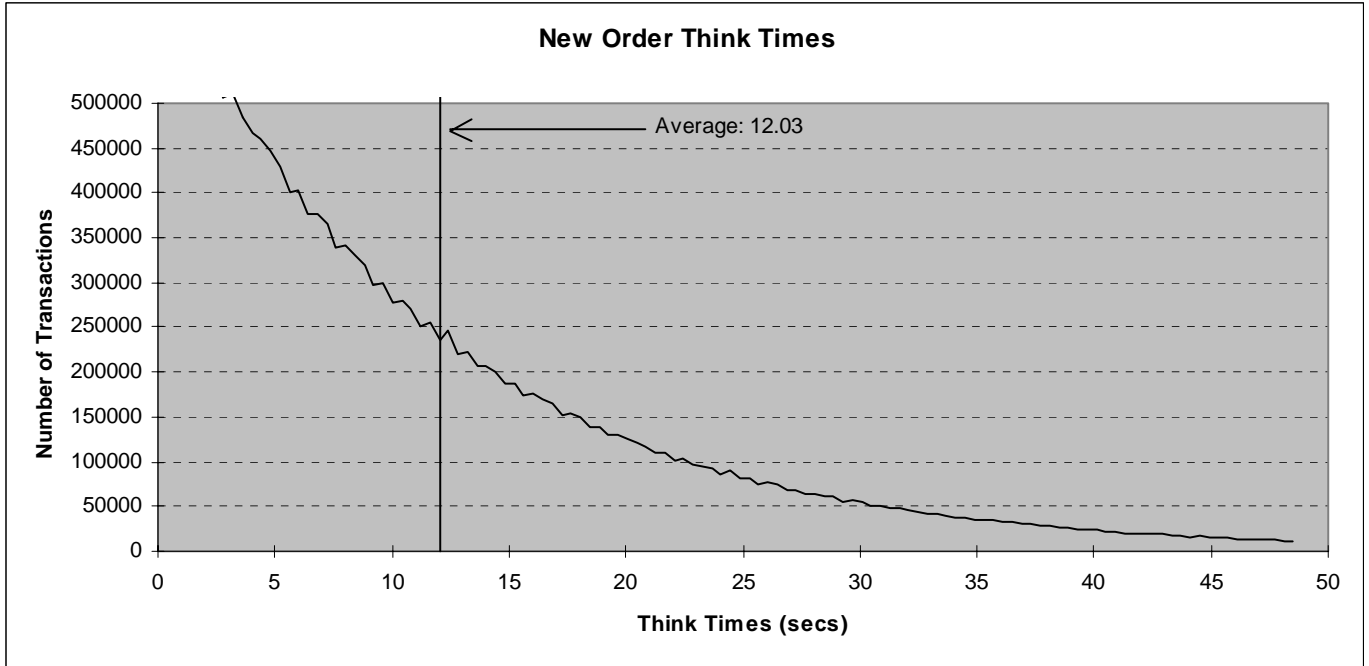
**Figure 5.6: New Order Response Time versus Throughput**



## 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)

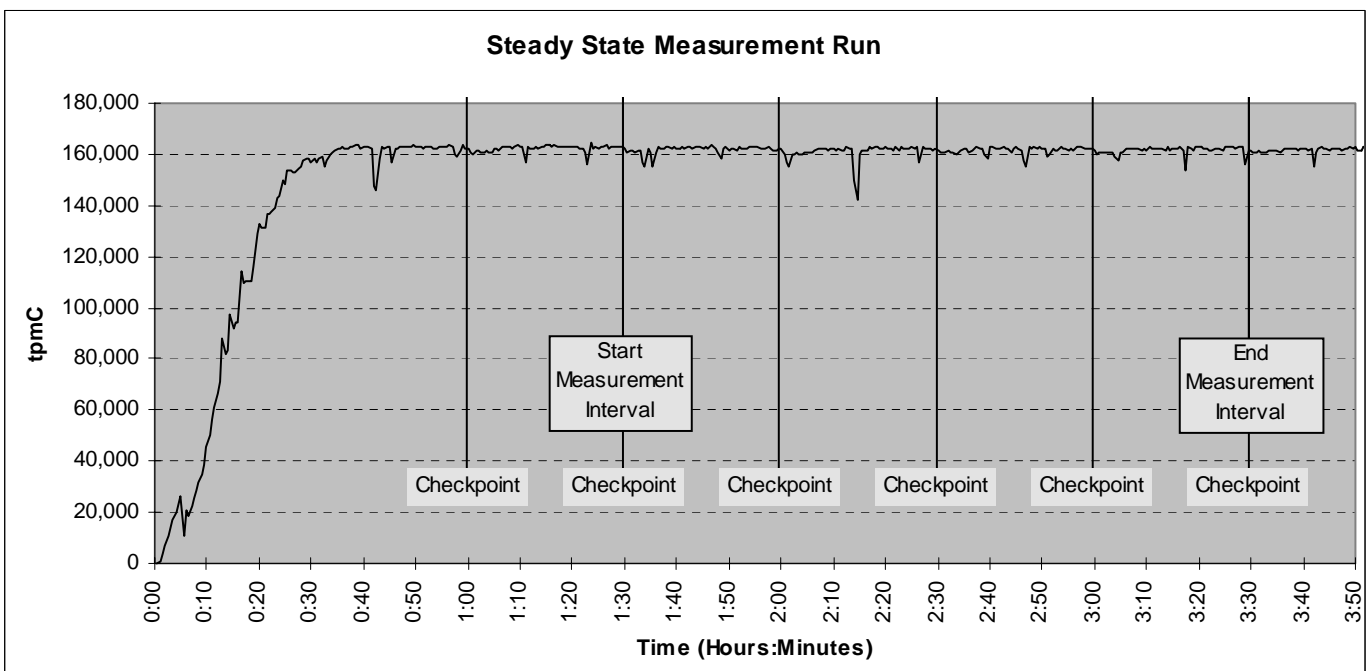
Figure 5.7: New Order Think Time Distribution



## 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, SQL Server’s recovery interval was set to four times the desired checkpoint duration, and 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	Rolledback transactions	1.00%
	Home warehouse	99.00%
	Remote warehouse	1.00%
	Average Items per Order	10.00
Payment	Home warehouse	85.00%
	Remote warehouse	15.00%
	Non-primary key access	60.00%
Order Status	Non-primary key access	60.03%
Delivery	Skipped transactions (Interactive)	0
	Skipped transaction counts (Deferred)	0
	Skipped District counts (Deferred)	0
Transaction Mix	New Order	44.93%
	Payment	43.02%
	Order-Status	4.00%
	Delivery	4.01%
	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 6 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 29.8 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**

<b>Item</b>	<b>Start</b>	<b>End</b>	<b>Duration</b>
Measurement Interval	1:29:35	3:29:35	7200
1st Checkpoint	1:29:41	1:59:27	1786
2nd Checkpoint	1:59:40	2:29:26	1786
3rd Checkpoint	2:29:39	2:59:25	1786
4th Checkpoint	2:59:38	3:29:24	1786

## 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 four cLAN 1.25 gigabit-per-second LAN adapters. Each was direct connected to a cLAN adapter in the four clients. These LAN segments run at 1.25 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.



## **7.1. 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 SQL Server 2000 Enterprise Edition software has been supplemented by Service Pack 3 and Microsoft Knowledge Base # Q332004 AWE fix.

### **7.1.1. System Pricing**

Each priced configuration consists of an integrated system package, additional options, and components. Prices for all products are U.S. list prices.

### **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 support pricing is based on 3 years of annual support costs.

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 large volume cash discount for the client, server and storage components of the priced configuration.

## 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)*

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

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

## 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 v and vi.

## 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, Datacenter Edition license, 16 processor
- One (1) Microsoft SQL Server 2000 Enterprise Edition license, 16 processor
- Four (4) Microsoft Windows 2000 Server licenses
- One (1) Microsoft Visual C++ Standard license

## 8.

## ***Clause 8 : Full Disclosure Availability***

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### **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](http://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



**9.1. 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)*

Lorna Livingtree, a TPC certified auditor, audited this implementation of the TPC Benchmark C on the Unisys ES7000 Orion 540 Enterprise Server (16P) representing:

Performance Metrics, Inc.  
137 Yankton St. Suite 101  
Folsom, CA 95630

Phone: (916) 985-1131  
Fax: (916) 985-1185  
Email: Lorna@PerfMetrics.com

The attestation letter is shown on the next 2 pages.



**PERFORMANCE METRICS INC.**  
**TPC Certified Auditors**

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May 8, 2003

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

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

Platform: Unisys ES7000 Orion 540 Enterprise Server (16P)  
Database Manager: Microsoft SQL Server 2000 Enterprise Edition  
Operating System: Microsoft Windows Server 2003, Datacenter Edition  
Transaction Manager: Microsoft COM+ (included in Windows 2000)

Server: Unisys ES7000 Orion 540 Enterprise Server (16P)				
CPU's	Memory	Disks	90% Response	TpmC
16 Intel Xeon MP @ 1.5 GHz	Main: 64 GB Cache: 1MB each	412 @ 18GB 14 @ 73GB 1 @ 30GB	<b>0.57 sec</b>	<b>161,542.04</b>
4 Clients: Unisys ES3020L Server				
2 Intel Xeon @ 2.4 GHz	Main: 2 GB Cache: 512KB	1 @ 18GB	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 sized and populated.
- The database was properly scaled with 14,600 warehouses of which only 13,000 were active during the Measured Interval.

**PERFORMANCE METRICS INC.**  
**TPC Certified Auditors**

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- The ACID properties were successfully demonstrated.
- The system loss durability test was successfully demonstrated.
- 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. The measured configuration has sufficient storage to satisfy this requirement.
- Measurement cycle times included a 0.1 second menu and a 0.1 second response time delay for an emulated Web browser.
- There were 130,000 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:

None

Sincerely,



Lorna Livingtree  
Auditor





# 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

// TPC 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 ERRRTXT_CMD_UNKNOWN "Unrecognized Command"
#define ERR_ALREADY_LOGGEDIN -11
#define ERRRTXT_ALREADY_LOGGEDIN "Already Logged In"
#define ERR_TERMID -12
#define ERRRTXT_TERMID "TermId or SyncId in Error"
#define ERR_FORM_UNKNOWN -13
#define ERRRTXT_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
{
    short ol_supply_w_id;
    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;
    short w_id;
    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;
    short w_id;
    short d_id;
    long c_id;
    short c_d_id;
    short c_w_id;
    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;
    short ol_supply_w_id;
    short ol_quantity;
    double ol_amount;
    DATEDETAILS ol_delivery_d;
} OL_ORDER_STATUS_DATA;

typedef struct
{
    bool bTPRslt;
    short iTPRslt;
    short w_id;
    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;
    short w_id;
    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;
    short w_id;
    short d_id;
    short thresh_hold;
    long low_stock;
    char execution_status[STATUS_LEN];
} STOCK_LEVEL_DATA;

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

```

**tpcc.cpp**

```

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

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

#define EXTN_VERSION MAKEULONG(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 * szTMinInitError =
    HTTPHdr "<HTML>"
    "<HEAD><TITLE>Welcome To TPC-C</TITLE></HEAD><BODY>"
    "<B>TPCC Extension Error (TMinInit 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 WINAPI 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);
            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);
        };
        TlsSetValue(dwTlsInx, pTPCC);
        pTPCC->tsTMon.pszErrTxt = pTPCC->ErrTxt;
        if (TMinInit(&pTPCC->tsTMon))
        {
            wsprintf(pDiag, "ThrAtt(%ld): TMinInit %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);
            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;
    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, szTMinInitError, 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 TPCCSESEND:
        SendResponse(pECB, pTPCC->SendMsg, pTPCC->szHeader);
        break;
    case TPCCENDNOW:
    default:
        break;
}; // switch (TPCCHandler result)

Httpxit:

    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
    SHORT sWid; // TPCC WareHouse Id
    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
} 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"

// 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=\"TERMINID\" VALUE=\"-2\">"
    "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"0\">"
    "Warehouse ID <INPUT NAME=\"w_id\" SIZE=4><BR>"
    "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 * TERMINIDTOKEN = "TERMINID=";
```

```

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);

//=====
//
// 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)
{
    SHORT sWid;
    SHORT sDId;
    TERM_STATE * pTerm;

    if (GetShortKey(&sWid,pIn,"w_id",pTPCC))
    {
        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;

    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);
        if (GetShortKey (&pnod->Ol [uLine].ol_supply_w_id, ptr, szKey, pTPCC)
        {
            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 %d",
                    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;
hr = pTMon->pIAllTxn->NewOrder(&iSize,(unsigned char**) &pTMon-
>pTxnData);
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>"
    "Warehouse: %4.4d   District: %2.2d                                     "
    "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,
        " %4.4d %6.6d %%-24s %2.2d %3.3d %1.1s $%6.2f
$%7.2f <BR>",
        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>"
        "Warehouse: %4.4d   District: %2.2d
Date:<BR>"
        "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;

    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
if (GetShortKey(&ppd->c_w_id,pIn,"CWI*",pTPCC))
{
    FormatMenu(pOut,pTPCC);
    return(TRUE);
};
if (ppd->c_w_id < 1)
{
    wsprintf(pTPCC->ErrTxt,
        "Payment Contains Invalid Customer WId %d",
        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;

```

```

    hr = pTMon->pIAllTxn->Payment(&iSize, (unsigned char**) &pTMon-
    >pTxnData);
    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>
        <Date: %2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d <BR><BR>"
        "Warehouse: %4.4d"
        "
        District: %2.2d<BR>"
        "%-20s %20s<BR>"
        "%-20s %20s<BR>"
        "%-20s %-2s %10.10s %20s %-2s %10.10s<BR><BR>"
        "Customer: %4.4d Cust-Warehouse: %4.4d Cust-District: %2.2d<BR>"
        "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 += sprintf(pOut + iInx,
    "<PRE>
    Warehouse: %4.4d<BR><BR>"
    "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;

    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)
    {
        sprintf(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;
    hr = pTMon->pIAllTxn->OrderStatus(&iSize, (unsigned char**) &pTMon-
    >pTxnData);
    if (FAILED(hr))
    {
        pTPCC->iStatusId = ERR_TM_INTERFACE;
        sprintf(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)
    {
        sprintf(pTPCC->ErrTxt,
            "Order Status Service Returned Error(%ld): %s",
            posd->iTPRslt, posd->execution_status);
        pTPCC->iStatusId = ERR_SERVICE_RSLT;
        FormatMenu(pOut, pTPCC);
        return(TRUE);
    };
    iInx = FormatRespHdr(pOut, "TPC-C Order-Status", pTPCC);
    iInx += sprintf(pOut + iInx,
        "<PRE>
        Order-Status<BR>"
        "Warehouse: %4.4d District: %2.2d<BR>"
        "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 += sprintf(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,
        " %4.4d %6.6d %2.2d %8.2f %2.2d-%2.2d-%
%4.4d<BR>",
        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;

    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;
hr = pTMon->pIAllTxn->StockLevel(&iSize, (unsigned char*)&pTMon-
>pTxnData);
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>"
    "Warehouse: %4.4d District: %2.2d<BR><BR>"
    "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=\"TERMINID\" 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>"
        "Warehouse: %4.4d District: <INPUT NAME=\"DID*\" SIZE=1>
Date:<BR>",
        pTPCC->swId);
    strcpy(pOut + iInx,
        "Customer: <INPUT NAME=\"CID*\" SIZE=4> Name:
        %Disc:<BR>"
        "Order Number:          Number of Lines:          W_tax:
D_tax:<BR><BR>"
        " Supp_W Item_Id Item Name
Amount<BR>"

```

```

        " <INPUT NAME=\"SP00*\" SIZE=4> <INPUT NAME=\"IID00*\" SIZE=6>
<INPUT NAME=\"Qty00*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP01*\" SIZE=4> <INPUT NAME=\"IID01*\" SIZE=6>
<INPUT NAME=\"Qty01*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP02*\" SIZE=4> <INPUT NAME=\"IID02*\" SIZE=6>
<INPUT NAME=\"Qty02*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP03*\" SIZE=4> <INPUT NAME=\"IID03*\" SIZE=6>
<INPUT NAME=\"Qty03*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP04*\" SIZE=4> <INPUT NAME=\"IID04*\" SIZE=6>
<INPUT NAME=\"Qty04*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP05*\" SIZE=4> <INPUT NAME=\"IID05*\" SIZE=6>
<INPUT NAME=\"Qty05*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP06*\" SIZE=4> <INPUT NAME=\"IID06*\" SIZE=6>
<INPUT NAME=\"Qty06*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP07*\" SIZE=4> <INPUT NAME=\"IID07*\" SIZE=6>
<INPUT NAME=\"Qty07*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP08*\" SIZE=4> <INPUT NAME=\"IID08*\" SIZE=6>
<INPUT NAME=\"Qty08*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP09*\" SIZE=4> <INPUT NAME=\"IID09*\" SIZE=6>
<INPUT NAME=\"Qty09*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP10*\" SIZE=4> <INPUT NAME=\"IID10*\" SIZE=6>
<INPUT NAME=\"Qty10*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP11*\" SIZE=4> <INPUT NAME=\"IID11*\" SIZE=6>
<INPUT NAME=\"Qty11*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP12*\" SIZE=4> <INPUT NAME=\"IID12*\" SIZE=6>
<INPUT NAME=\"Qty12*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP13*\" SIZE=4> <INPUT NAME=\"IID13*\" SIZE=6>
<INPUT NAME=\"Qty13*\" SIZE=1><BR>"
        " <INPUT NAME=\"SP14*\" SIZE=4> <INPUT NAME=\"IID14*\" SIZE=6>
<INPUT NAME=\"Qty14*\" SIZE=1><BR>"
        "Execution Status:
Total:<BR><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>"
        "Warehouse: %4.4d",
        pTPCC->swId);
    strcpy(pOut + iInx,
        "
        District: <INPUT NAME=\"DID*\"
SIZE=1><BR><BR><BR><BR><BR>"
        "Customer: <INPUT NAME=\"CID*\" SIZE=4>"
        "Cust-Warehouse: <INPUT NAME=\"CWI*\" SIZE=4> "
        "Cust-District: <INPUT NAME=\"CDI*\" SIZE=1><BR>"
        "Name:
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>
        Warehouse: %4.4d<BR><BR>"
        "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>"
        Warehouse: %4.4d "
        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>"
        Warehouse: %4.4d District: %2.2d<BR><BR>"
        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=\"TERMIN\" 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=\"TERMIN\" 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

```

## 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\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
    SHORT sWId; // TPCC Warehouse Id
    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 TMinInit(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: TMinInit
//
// Result:

```

```

// FALSE Initialization completed successfully
// TRUE Initialization failed
//
//=====
BOOL TMinInit(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);
}; // TMinInit

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

```

## timesupp.h

```
// timesupp.c
//
// Copyright Unisys, 1997 1998 1999 2000
//

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

//=====
//
// 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: TimebElapsed
//
//=====
TMILLI TimebElapsed(struct _timeb * p_tb1)
{
    struct _timeb _tb2;
    _ftime(&_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_tbt1->millitm = atoi(psz);
}
else
    p_tbt1->millitm = 0;
p_tbt1->time = mktime(ptm);
return(FALSE);
}; // TimebFromString

//=====
//
// Function name: TimebAddSecs
//
//=====
VOID TimebAddSecs(struct _timeb * p_tbt1,INT iSeconds)
{
    p_tbt1->time += iSeconds;
}; // TimebAddSecs

//=====
//
// 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

```

## diagio.h

```

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

// Environment variable defaults
#define DEFAULTDIAGLEVEL DIAG_INFO
#define DEFAULTTEVENTLOG 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
//
// Copyright Unisys, 1999

```

## tpccsvr.h

```

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;
SQLINTEGER m_BindOffset;

```

```

SQLINTEGER 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>

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

#include "tpccproxy.h"
#include "tpcc.h"

#include "resource.h"

```

```

#include "tpccsvr_i.h"
#include "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()

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);

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

```

```

VERSIONINFO, szServer, szDatabase, szUser, szPassword, iDeadlockRetry);
                WriteEventLog(szDiag, FALSE);
                return FALSE;
            };
            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();
                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)
{
    // registers object, typelib and all interfaces in typelib
    return _Module.RegisterServer(TRUE);
};

STDAPI DllUnregisterServer(void)
{
    _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);
    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,
        "DRIVER=SQL Server;SERVER=%s;UID=%s;PWD=%s;DATABASE=%s;WSID=%s-
%ld",
        szServer, szUser, szPassword, szDatabase, szMyHost, m_lRefId);
        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 (InitOSPParams())
        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;
    int 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;
    if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
        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
            ||
SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,

```

```

    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[0].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[0].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
failed\n",m_lRefId);
        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;

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

    int i;

    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)
            {
                char szDiag[100];
                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);
            };
        // clip statement buffer based on number of parameters
        // fixed part is 29 chars and variable part is 6 chars per line

    item
        i = 29 + pnod->o_ol_cnt * 6;
        wcsncpy(&szSqlTemplate[i],L"}");

```

```

// 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;
    };
};
memcpy(&m_TData.NOData, pnod, sizeof(NEW_ORDER_DATA));
for (m_iTryCount = 1; m_iTryCount <= m_iMaxRetry; m_iTryCount++)
{
    bRetry = FALSE;
    m_BindOffset = 0;
    rc = SQLExecDirectW(m_hstmt, (SQLWCHAR *) szSqlTemplate, SQL_NTS);
    if (rc != SQL_SUCCESS && rc !=
SQL_SUCCESS_WITH_INFO)
    {
        char szDiag[100];
        sprintf(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)
        {
            char szDiag[100];
            sprintf(szDiag, "NewOrder(%ld): Fetch Ol%d\n", m_lRefId, (i +
1));
            if (CheckDBError(szDiag))
                m_iTPRslt = SVCERR_ODBC;
            else
                bRetry = TRUE;
            break;
        };
        // move to the next resultset
        if (SQLMoreResults(m_hstmt) == SQL_ERROR)
        {
            char szDiag[100];
            sprintf(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)
{
    char szDiag[100];
    sprintf(szDiag, "NewOrder(%ld): SetStmtAttr
NOCols2\n", m_lRefId);
    if (CheckDBError(szDiag))
    {
        m_iTPRslt = SVCERR_ODBC;
        break;
    };
    continue;
};
if (SQLFetch(m_hstmt) == SQL_ERROR)
{
    char szDiag[100];
    sprintf(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 committed.");
    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)
    sprintf(pnod->execution_status, "Hit retry
max(%d).", m_iMaxRetry);
else
    strcpy(pnod->execution_status, "DBTranAbort, Check Input Data");
return(S_OK);
}
catch (...)

```

```

    {
    char szDiag[300];
    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;
    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,
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;
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 *)L"call
tpcc_payment(?,?,?,?,,?),SQL_NTS);
        if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
        {
            char szDiag[100];
            sprintf(szDiag,"Payment(%ld): Execute Direct\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
                m_iTPRslt = SVCERR_ODBC;
                break;
            };
            continue;
        };
        if (SQLFetch(m_hstmt) == SQL_ERROR)
        {
            char szDiag[100];
            sprintf(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 committed.");
        return(S_OK);
    };
    if (m_iTPRslt == SVCERR_NOCUSTOMER)
    {
        strcpy(ppd->execution_status,"Invalid Customer id,name.");
        return(S_OK);
    };
    if (m_iTPRslt == SVCERR_DEADLOCK)

```

```

        sprintf(ppd->execution_status,"Hit retry max(%d).",m_iMaxRetry);
    else
        strcpy(ppd->execution_status,"DBTranAbort, Check Input Data");
    return(S_OK);
}
catch (...)
{
    char szDiag[300];
    sprintf(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)
    {
        sprintf(szDiag,"InitDLParams(%ld): Allocate Stmt Handle
failed\n",m_lRefId);
        CheckDBError(szDiag);
        return(TRUE);
    };
    m_hstmt = m_hstmtDelivery;
    i = 0;
    if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
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
)
    {
        sprintf(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)
        {
            sprintf(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;
    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 *)L"call
tpcc_delivery(?,?)",SQL_NTS);
            if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
            {
                char szDiag[100];
                wsprintf(szDiag,"Delivery(%ld): Execute Direct\n",m_lRefId);
                if (CheckDBError(szDiag))
                {
                    m_iTPRslt = SVCERR_ODBC;
                    break;
                };
                continue;
            };
            if ( SQLFetch(m_hstmt) == SQL_ERROR )
            {
                char szDiag[100];
                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 (...)
    {
        char szDiag[300];
        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;
    if
(SQLBindParameter(m_hstmt,++i,SQL_PARAM_INPUT,SQL_C_SSHORT,SQL_SMALLINT,
        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;

```

```

        if (SQLBindCol(m_hstmt, ++i, SQL_C_SSHORT,
            &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,
            &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 ** pData)
{

```

```

        ORDER_STATUS_DATA * posd;
        RETCODE rc;

        posd = (ORDER_STATUS_DATA *) *pData;
        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)
            {
                char szDiag[100];
                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)
                {
                    char szDiag[100];
                    wsprintf(szDiag, "OrderStatus(%ld): SetStmtAttr
RowArraySize\n", m_lRefId);
                    if (CheckDBError(szDiag))
                    {
                        m_iTPRslt = SVCERR_ODBC;
                        break;
                    };
                    continue;
                };
                rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)L"{call
tpcc_orderstatus(?, ?, ?, ?)", SQL_NTS);
                if ( ((rc == SQL_SUCCESS_WITH_INFO) && (m_RowsFetched != 0)) ||
                (rc == SQL_ERROR) )
                {
                    char szDiag[100];
                    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)
                {
                    char szDiag[100];

```

```

        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) )
    {
        char szDiag[100];
        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)
        {
            char szDiag[100];
            wsprintf(szDiag,"OrderStatus(%ld): SetStmtAttr
OSCols2\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
                m_iTPRslt = SVCERR_ODBC;
                break;
            };
            continue;
        };
        if (SQLMoreResults(m_hstmt) == SQL_ERROR)
        {
            char szDiag[100];
            wsprintf(szDiag,"OrderStatus(%ld):
MoreResults\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
                m_iTPRslt = SVCERR_ODBC;
                break;
            };
            continue;
        };
        if (SQLFetch(m_hstmt) == SQL_ERROR)
        {
            char szDiag[100];
            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)
            {
                char szDiag[100];

```

```

        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 committed.");
    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 (...)
{
    char szDiag[300];
    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;
    if
(SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SSHORT, SQL_SMALLINT,
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;
    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*)L"call tpcc_stocklevel(?, ?, ?)", SQL_NTS);
            if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
            {
                char szDiag[100];
                wsprintf(szDiag, "StockLevel(%ld): Execute Direct\n", m_lRefId);

```

```

                if (CheckDBError(szDiag))
                {
                    m_iTPRslt = SVCERR_ODBC;
                    break;
                };
                continue;
            };
        }
        if (SQLFetch(m_hstmt) == SQL_ERROR)
        {
            char szDiag[100];
            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 committed.");
        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 (...)
{
    char szDiag[300];
    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));

    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);
    wprintf(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

```

# Appendix B - Database Design

## Build Scripts

### BACKUP.SQL

```
-- File:      BACKUP.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates backup of tpcc database

DBCC TRACEON (3111)
GO

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select 'Start date:', convert(varchar(30),@startdate,9)

backup database tpcc to tpccbackA2, tpccbackB2, tpccbackC2, tpccbackD2,
tpccbackE2,
                tpccbackA3, tpccbackB3, tpccbackC3, tpccbackD3,
tpccbackE3,
                tpccbackA4, tpccbackB4, tpccbackC4, tpccbackD4,
tpccbackE4
                with init, stats = 1

select @enddate = getdate()
select 'End date: ', convert(varchar(30),@enddate,9)
select 'Elapsed time (in seconds): ', datediff(second, @startdate,
@enddate)

go
```

### BACKUPDEVB.SQL

```
-- File:      BACKUPDEVB.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates tpcc database Backup Devices

use master
go

-- create backup devices

exec sp_addumpdevice
'disk','tpccbackA4','C:\Bigdb\dbBackups\BackupA4\backupA4.dmp'
exec sp_addumpdevice
'disk','tpccbackB4','C:\Bigdb\dbBackups\BackupB4\backupB4.dmp'
exec sp_addumpdevice
'disk','tpccbackC4','C:\Bigdb\dbBackups\BackupC4\backupC4.dmp'
```

```
exec sp_addumpdevice
'disk','tpccbackD4','C:\Bigdb\dbBackups\BackupD4\backupD4.dmp'
exec sp_addumpdevice
'disk','tpccbackE4','C:\Bigdb\dbBackups\BackupE4\backupE4.dmp'

exec sp_addumpdevice
'disk','tpccbackA3','C:\Bigdb\dbBackups\BackupA3\backupA3.dmp'
exec sp_addumpdevice
'disk','tpccbackB3','C:\Bigdb\dbBackups\BackupB3\backupB3.dmp'
exec sp_addumpdevice
'disk','tpccbackC3','C:\Bigdb\dbBackups\BackupC3\backupC3.dmp'
exec sp_addumpdevice
'disk','tpccbackD3','C:\Bigdb\dbBackups\BackupD3\backupD3.dmp'
exec sp_addumpdevice
'disk','tpccbackE3','C:\Bigdb\dbBackups\BackupE3\backupE3.dmp'

exec sp_addumpdevice
'disk','tpccbackA2','C:\Bigdb\dbBackups\BackupA2\backupA2.dmp'
exec sp_addumpdevice
'disk','tpccbackB2','C:\Bigdb\dbBackups\BackupB2\backupB2.dmp'
exec sp_addumpdevice
'disk','tpccbackC2','C:\Bigdb\dbBackups\BackupC2\backupC2.dmp'
exec sp_addumpdevice
'disk','tpccbackD2','C:\Bigdb\dbBackups\BackupD2\backupD2.dmp'
exec sp_addumpdevice
'disk','tpccbackE2','C:\Bigdb\dbBackups\BackupE2\backupE2.dmp'
```

go

### CREATEDB.SQL

```
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",
```



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LOG ON
( NAME = MSSQL_tpcc_log,
  FILENAME = "C:\Bigdb\dblogs\tpcclog\",
  SIZE = 398336MB, 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. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Sets database options for data load

use master
go

exec sp_dboption tpcc,'select into/bulkcopy',true
exec sp_dboption tpcc,'trunc. log on chkpt.',true
exec sp_dboption tpcc,'torn page detection',false

go

use tpcc
go

checkpoint
go

```

## DBOPT2.SQL

```

-- File:      DBOPT2.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Resets database options after data load

sp_dboption tpcc,'select into/bulkcopy',FALSE
GO

sp_dboption tpcc,'trunc. log on chkpt.',FALSE
GO

USE tpcc
GO

CHECKPOINT
GO

sp_configure 'allow updates',1
GO

RECONFIGURE WITH OVERRIDE
GO

DECLARE @msg          varchar(50)

--
-- Set option values for user-defined indexes --
--

SET @msg = ' '
PRINT @msg
SET @msg = 'Setting SQL Server 2000 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', TRUE

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

EXEC sp_tableoption 'district', 'pintable',true
EXEC sp_tableoption 'warehouse', 'pintable',true
EXEC sp_tableoption 'new_order', 'pintable',true
EXEC sp_tableoption 'item', 'pintable',true
GO

```

## REMOVEDB.SQL

```

-- File: REMOVEDB.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.21
-- Copyright Microsoft, 1999, 2000
-- Purpose: Removes tpcc database and backup files

```

```

use master
go

-- remove any existing database and backup files

```

```

exec sp_dbremove tpcc, dropdev
go

```

```

exec sp_dropdevice 'tpccbackA2'
exec sp_dropdevice 'tpccbackB2'
exec sp_dropdevice 'tpccbackC2'
exec sp_dropdevice 'tpccbackD2'
exec sp_dropdevice 'tpccbackE2'

```

```

exec sp_dropdevice 'tpccbackA3'
exec sp_dropdevice 'tpccbackB3'
exec sp_dropdevice 'tpccbackC3'
exec sp_dropdevice 'tpccbackD3'
exec sp_dropdevice 'tpccbackE3'

```

```

exec sp_dropdevice 'tpccbackA4'
exec sp_dropdevice 'tpccbackB4'
exec sp_dropdevice 'tpccbackC4'
exec sp_dropdevice 'tpccbackD4'

```

```

exec sp_dropdevice 'tpccbackE4'

```

```

go

```

## RESTORE.SQL

```

-- File: RESTORE.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.21
-- Copyright Microsoft, 1999, 2000
-- Purpose: Loads database backup from backup files

```

```

DBCC TRACEON (3111)
GO

```

```

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select 'Start date:', convert(varchar(30),@startdate,9)

```

```

restore database tpcc from tpccbackA4, tpccbackB4, tpccbackC4, tpccbackD4,
tpccbackE4,
tpccbackA3, tpccbackB3, tpccbackC3, tpccbackD3,
tpccbackE3,
tpccbackA2, tpccbackB2, tpccbackC2, tpccbackD2,
tpccbackE2
with replace, stats = 1,blocksize=65536

```

```

select @enddate = getdate()
select 'End date: ', convert(varchar(30),@enddate,9)
select 'Elapsed time (in seconds): ', datediff(second, @startdate,
@enddate)

```

```

go
dbcc traceoff (3111)
go
use tpcc
go
EXEC sp_tableoption 'new_order', 'pintable',FALSE

```

## SETUP.CMD

```

::@ECHO OFF

```

```

@ECHO
*****
@ECHO *
*
@ECHO * Microsoft TPC-C V3 Benchmark Kit Ver. 4.21
*
@ECHO *
*
@ECHO
*****

```

```

@if '%1'==' ' goto usage
@if '%2'==' ' goto usage
@if '%3'==' ' goto usage

```

```

@if not '%4'==' ' if not '%4' == 'normal' if not '%4' == 'scale_down' goto
usage

:: Cleanup any old .err files
@@if exist logs\*.err del logs\*.err >nul

@if '%3'=='full' goto start
@if '%3'=='bulddb' goto bulddb
@if '%3'=='objects' goto objects
@if '%3'=='bulkload' goto bulkload
@if '%3'=='objectsfull' goto objects
@if '%3'=='bulkloadfull' goto bulkload
@if '%3'=='backup' goto backup
@if '%3'=='backupfull' goto backup
@if '%3'=='verifyload' goto verifyload
goto usage

:start
:: Cleanup the logs directory...
@if exist logs\version.log del logs\version.log
>nul
@if exist logs\db.log del logs\db.log >nul
@if exist logs\objects.log del logs\objects.log
>nul
@if exist logs\objects.log del logs\objects.log
>nul
@if exist logs\bulkload.log del logs\bulkload.log >nul
@if exist logs\backup.log del logs\backup.log
>nul

@isql -Usa -P -S%1 -Q"select @@version"
> logs\version.log
@isql -Usa -P -S%1 -Q"select getdate()"
>> logs\version.log

:Verify_Installation
@isql -Usa -P -S%1 -b -iscripts\utility\verify_msg.sql
>nul
@isql -Usa -P -S%1 -b -iscripts\utility\verify_sort.sql
>nul
@isql -Usa -P -S%1 -b -Q"ms_verify_sort" >nul
@if errorlevel 1 goto BAD_SORT

:bulddb
@@if exist logs\db.log del logs\db.log
>nul
@ECHO Removing any existing TPC database and backup devices...
@isql -Usa -P -S%1 -e < scripts\%2.war\database\removedb.sql
> logs\db.log
@ECHO Creating Backup Device(s)...
@isql -Usa -P -S%1 -e < scripts\%2.war\database\backupdev.sql
>> logs\db.log
@if errorlevel 1 goto CREATE_ERROR
@ECHO Building database files and database...
@isql -Usa -P -S%1 -b -e < scripts\%2.war\database\createdb.sql
>> logs\db.log
@if errorlevel 1 goto CREATE_ERROR
@ECHO Database build complete.
@if '%3'=='full' goto objects
goto end

:objects
@if exist logs\objects.log del logs\objects.log
>nul
@ECHO Creating TPC-C database tables...
@isql -Usa -P -S%1 -b -e < scripts\%2.war\ddl\tables.sql >
logs\objects.log
@if errorlevel 1 goto TABLES_ERROR
@ECHO Creating database objects...
@isql -Usa -P -S%1 -b -e < scripts\dml\neword.sql >>
logs\objects.log
@if errorlevel 1 goto NEWORDER_ERROR
@isql -Usa -P -S%1 -b -e < scripts\dml\payment.sql >>
logs\objects.log
@if errorlevel 1 goto PAYMENT_ERROR
@isql -Usa -P -S%1 -b -e < scripts\dml\ordstat.sql >>
logs\objects.log
@if errorlevel 1 goto ORDERSTATUS_ERROR
@isql -Usa -P -S%1 -b -e < scripts\dml\delivery.sql >>
logs\objects.log
@if errorlevel 1 goto DELIVERY_ERROR
@isql -Usa -P -S%1 -b -e < scripts\dml\stocklev.sql >>
logs\objects.log
@if errorlevel 1 goto STOCKLEVEL_ERROR
@isql -Usa -P -S%1 -e < scripts\dml\version.sql
>> logs\objects.log
@ECHO Database object creation complete.
@if '%3'=='full' goto bulkload
@if '%3'=='objectsfull' goto bulkload
goto end

:bulkload
@if exist logs\bulkload.log del logs\bulkload.log >nul
@ECHO Setting database options before load...
@isql -Usa -P -S%1 -b -e < scripts\utility\dbopt1.sql
>> logs\bulkload.log
@if errorlevel 1 goto DBOPT1_ERROR
@ECHO Beginning data load and index creation...
rem @isql -Usa -P -S%1 -b -e < scripts\%2.war\ddl\idxhiscl.sql
> logs\idxhiscl.log
@if '%4'==' ' loader\bin\tpccldr -S%1 -W%2 -flogs\bulkload.log -
dscripts\%2.war\ddl -c0
@if errorlevel 1 goto END
@if '%4'=='normal' loader\bin\tpccldr -S%1 -W%2 -flogs\bulkload.log -
dscripts\%2.war\ddl -c0
@if errorlevel 1 goto END
@if '%4'=='scale_down' loader\bin\tpccldr -S%1 -W%2 -flogs\bulkload.log -
dscripts\%2.war\ddl -c1
@if errorlevel 1 goto END
goto bulkloaddone
:bulkloaddone
@ECHO Setting database options after load...
@isql -Usa -P -S%1 -b -e < scripts\utility\dbopt2.sql
>> logs\bulkload.log
@if errorlevel 1 goto DBOPT2_ERROR
@ECHO Data load and index creation complete.

@ECHO.
@ECHO Calculating initial database space usage...
@cd..\acid\space
@call space.cmd %1
@cd..\..\setup

```

```

@if '%3'=='full' goto backup
@if '%3'=='objectsfull' goto backup
@if '%3'=='bulkloadfull' goto backup
goto end

:backup
@if exist logs\backup.log del logs\backup.log
>nul
@ECHO Backing up database...
@isql -Usa -P -S%1 -b -e < scripts\%2.war\database\backup.sql
> logs\backup.log
@if errorlevel 1 goto BACKUP_ERROR
@ECHO Database backup complete.
@if '%3'=='full' goto verifyload
@if '%3'=='objectsfull' goto verifyload
@if '%3'=='bulkloadfull' goto verifyload
@if '%3'=='backupfull' goto verifyload
goto complete

:verifyload
@if exist logs\verifyload.log del logs\verifyload.log
>nul
@Echo Verifying TPC-C database load...
@isql -Usa -P -S%1 -b -e < scripts\utility\verifytpccload.sql >
logs\verifyload.log
@if errorlevel 1 goto VERIFY_ERROR
@ECHO Check logs\verifyload.log to verify database load.

@ECHO.
@ECHO Checking database build
@cd ..\acid
@call doall.cmd %1
@cd ..\setup

:complete
@ECHO
*****
**
@ECHO *
*
@ECHO * Full TPC-C V3 build complete. Check logs directory for setup
errors. *
@ECHO *
*
@ECHO
*****
**
goto end

:usage
@ECHO
*****
@ECHO *
*
@ECHO * The TPC-C setup command file requires the following parameters:
*
@ECHO *
*

```

```

@ECHO * setup SERVER NUMWAR BLDOPT VERSION DBTYPE
*
@ECHO *
*
@ECHO * SERVER = machine name of server (use "" for local server)
*
@ECHO * NUMWAR = number of warehouses
*
@ECHO * BLDOPT = full, bulddb, objects, objectsfull, bulkload,
*
@ECHO * bulkloadfull, backup, or backupfull
*
@ECHO * DBTYPE = normal or scale_down
*
@ECHO *
*
@ECHO * Note #1: the BLDOPT and VERSION parameters are case sensitive.
*
@ECHO *
*
@ECHO * Note #2: the DBTYPE is optional. If no DBTYPE is specified,
SETUP *
@ECHO * will default to NORMAL.
*
@ECHO *
*
@ECHO * Example:
*
@ECHO *
*
@ECHO * The following command would be used to build a complete 200
*
@ECHO * warehouse database on SQL Server 7.0 running on server
\\myserver. *
@ECHO *
*
@ECHO * SETUP myserver 200 full
*
@ECHO *
*
@ECHO * NOTE 1: This command file does a backup of the database by
default *
@ECHO * after the database build process is complete. If you do not wish
*
@ECHO * to make a backup (strongly discouraged), you must edit this file
*
@ECHO * and comment that section out. Also, if you need to run the
dbcheck *
@ECHO * and the dbtables scripts on the fresh database load for an audit,
*
@ECHO * you must either run them manually or edit this file to include
them. *
@ECHO *
*
@ECHO * NOTE 2: The TPC-C setup program supports both Intel and Alpha
*
@ECHO * systems. It queries the %PROCESSOR_ARCHITECTURE% environment
*
@ECHO * variable and runs the appropriate executables.
*

```

```

@ECHO *
*
@ECHO
*****
@goto end

:CREATE_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the database/backup device creation.
@echo.
@echo Check your CREATEDB.SQL, BACKUPDEV.SQL, LOGS\DB.LOG, and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:TABLES_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the table creation.
@echo.
@echo Verify that the FileGroup names specified in CREATEDB.SQL
@echo match those specified in SCRIPTS\DDL\TABLES.SQL.
@echo.
@goto END

:NEWORDER_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the creation of the New Order stored
@echo procedure.
@echo.
@echo Check your LOGS\OBJECTS.LOG, SCRIPTS\DML\NEWORD.SQL and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:PAYMENT_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the creation of the Payment stored procedure.
@echo.
@echo Check your LOGS\OBJECTS.LOG, SCRIPTS\DML\PAYMENT.SQL and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:ORDERSTATUS_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the creation of the Order Status stored
@echo procedure.
@echo.
@echo Check your LOGS\OBJECTS.LOG, SCRIPTS\DML\ORDSTAT.SQL and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.

```

```

@echo.
@goto END

:DELIVERY_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the creation of the Delivery stored procedure.
@echo.
@echo Check your LOGS\OBJECTS.LOG, SCRIPTS\DML\DELIVERY.SQL and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:STOCKLEVEL_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error in the creation of the Stock Level stored
@echo procedure.
@echo.
@echo Check your LOGS\OBJECTS.LOG, SCRIPTS\DML\STOCKLEV.SQL and the
@echo SQL Server errorlog (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:DBOPT1_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error setting the database options before load.
@echo.
@echo Check your LOGS\OBJECTS.LOG and the SQL Server errorlog
@echo (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:DBOPT2_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error setting the database options after load.
@echo.
@echo Check your LOGS\OBJECTS.LOG and the SQL Server errorlog
@echo (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:BACKUP_ERROR
@echo.
@echo BUILD ABORTED!
@echo.
@echo There was an error backing up the database after load.
@echo.
@echo Check your LOGS\BACKUP.LOG and the SQL Server errorlog
@echo (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:VERIFY_ERROR
@echo.

```

```

@echo BUILD ABORTED!
@echo.
@echo There was an error performing TPC-C database verification.
@echo.
@echo Check your LOGS\VERIFYLOAD.LOG and the SQL Server errorlog
@echo (MSSQL7\LOG\ERRORLOG) for details.
@echo.
@goto END

:BAD_SORT
@echo.
@echo BUILD ABORTED!
@echo.
@echo Incorrect SQL Server Sort Order. For performance and compatibility
@echo issues, you must run SQL Server with the Binary Sort Order.
@echo.
@echo For SQL Server 7.0, please re-install and specify the Binary Sort
Order.
@echo.
@echo For SQL Server 8.0, please re-install and specify Latin1_General
with the Binary Option.
@echo.
@goto END
:end

echo on

```

## VERIFY\_MSG.SQL

```

exec sp_dropmessage 50003
exec sp_addmessage 50003, 1,"Incorrect Sort Order - Please re-install SQL
Server with the Binary Sort Order"

```

## VERIFY\_SORT.SQL

```

-- File:      VERIFY_SORT.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Verifies the Sort Order

if exists (select name from sysobjects where name = "ms_verify_sort" )
    drop procedure ms_verify_sort
go

create proc ms_verify_sort

as

declare @sort_order    int

-- get the sort order
select @sort_order    = (select value from sysconfigures where config =
'1123')

if (select @sort_order) <> 50
    RAISERROR (50003,11,1)

```

```

Go

                                VERIFYTPCCLOAD

-- File:      VERIFYTPCCLOAD.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Performs series of TPCC database checks to verify
--           that database load completed correctly

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

use tpcc
go

-- *****
--
-- Check rows per table from SYSINDEXES
--
-- *****

print 'WAREHOUSE TABLE'

select rowcnt
from sysindexes
where id = object_id("warehouse")
go

print 'DISTRICT TABLE = (10 * No of warehouses)'

select rowcnt
from sysindexes
where id =object_id("district")
go

print 'ITEM TABLE = 100,000'

select rowcnt
from sysindexes
where id =object_id("item")
go

print 'CUSTOMER TABLE = (30,000 * No of warehouses)'

select rowcnt
from sysindexes
where id =object_id("customer")
go

print 'ORDERS TABLE = (30,000 * No of warehouses)'

select rowcnt
from sysindexes
where id =object_id("orders")
go

print 'HISTORY TABLE = (30,000 * No of warehouses)'

```

```

select rowcnt
from sysindexes
where id =object_id("history")
go

print 'STOCK TABLE = (100,000 * No of warehouses) '

select rowcnt
from sysindexes
where id =object_id("stock")
go

print 'ORDER_LINE TABLE = (300,000 * No of warehouses some change) '

select rowcnt
from sysindexes
where id =object_id("order_line")
go

print 'NEW_ORDER TABLE = (9000 * No of warehouses) '

select rowcnt
from sysindexes
where id =object_id("new_order")
go

-- *****
-- Check indices
-- *****

print '*****Index Check*****'

use tpcc
go

sp_helpindex customer
go

sp_helpindex stock
go

sp_helpindex district
go

sp_helpindex item
go

sp_helpindex new_order
go

sp_helpindex orders
go

sp_helpindex order_line
go

sp_helpindex warehouse
go

```

## Tables

### IDXCUSCL.SQL

```

-- File: IDXCUSCL.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.21
-- Copyright Microsoft, 1999, 2000
-- Purpose: Creates clustered index on customer table

```

```

use tpcc
go

```

```

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

```

```

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_id,
c_d_id)
on MSSQL_cs_fg

```

```

select @enddate = getdate()
select "End date: ", convert(varchar(30),@enddate,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

```

```

go

```

### IDXCUSNC.SQL

```

-- File: IDXCUSNC.SQL
-- Microsoft TPC-C Benchmark Kit Ver. 4.21
-- Copyright Microsoft, 1999, 2000
-- Purpose: Creates non-clustered index on customer table

```

```

use tpcc
go

```

```

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

```

```

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)
  with SORT_IN_TEMPDB
on MSSQL_cs_fg

select @enddate = getdate()
select "End date: ", convert(varchar(30),@enddate,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

```

## IDXDISCL.SQL

```

-- File:      IDXDISCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on district table

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

```

## IDXHISCL.SQL

```

-- File:      IDXHISCL.SQL
-- Purpose:   Creates clustered index on history table

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select 'Start date:', convert(varchar(30),@startdate,9)

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_id, h_c_d_id, h_amount)
on MSSQL_misc_fg

select @enddate = getdate()
select 'End date: ', convert(varchar(30),@enddate,9)
select "Elapsed time (in seconds): ', datediff(second, @startdate,
@enddate)

go

waitfor delay '00:00:30'
go

```

## IDXITMCL.SQL

```

-- File:      IDXITMCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on item table

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

```

## IDXNODCL.SQL

```

-- File:      IDXNODCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on new_order table

use tpcc
go

declare @startdate datetime
declare @enddate datetime

```



```

select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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)
with pad_index, fillfactor=90
on MSSQL_ord_fg

select @enddate = getdate()
select "End date: ", convert(varchar(30),@enddate,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

```

### IDXODLCL.SQL

```

-- File:      IDXODLCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on order_line table

```

```

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

waitfor delay '00:00:30'
go

```

### IDXORDCL.SQL

```

-- File:      IDXORDCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on orders table

```

```

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

```

### IDXSTKCL.SQL

```

-- File:      IDXSTKCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on stock table

```

```

use tpcc
go

declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)

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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)

go

waitfor delay '00:00:25'
go

```

## IDXWARCL.SQL

```
-- File:      IDXWARCL.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates clustered index on warehouse table
```

```
use tpcc
go
```

```
declare @startdate datetime
declare @enddate datetime
select @startdate = getdate()
select "Start date:", convert(varchar(30),@startdate,9)
```

```
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,9)
select "Elapsed time (in seconds): ", datediff(second, @startdate,
@enddate)
```

```
go
```

## TABLES.SQL

```
-- File:      TABLES.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates TPC-C tables
```

```
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                smallint,
    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),
    w_tax              numeric(4,4),
    w_ytd              numeric(12,2)
) on MSSQL_misc_fg
go
create table district
(
    d_id                tinyint,
    d_w_id              smallint,
    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),
    d_tax              numeric(4,4),
    d_ytd              numeric(12,2),
    d_next_o_id        int
) on MSSQL_misc_fg
go
create table customer
(
    c_id                int,
    c_d_id              tinyint,
    c_w_id              smallint,
    c_first             char(16),
    c_middle            char(2),
    c_last              char(16),
    c_street_1          char(20),
    c_street_2          char(20),
    c_city              char(20),
    c_state             char(2),
    c_zip              char(9),
    c_phone             char(16),
```

```

        c_since                datetime,
        c_credit               char(2),
        c_credit_lim           numeric(12,2),
        c_discount             numeric(4,4),
        c_balance              numeric(12,2),
        c_ytd_payment          numeric(12,2),
        c_payment_cnt          smallint,
        c_delivery_cnt         smallint,
        c_data                  text
) on MSSQL_cs_fg
  textimage_on MSSQL_misc_fg
go

create table history
(
    h_c_id                    int,
    h_c_d_id                  tinyint,
    h_c_w_id                  smallint,
    h_d_id                    tinyint,
    h_w_id                    smallint,
    h_date                    datetime,
    h_amount                  numeric(6,2),
    h_data                     char(24)
) on MSSQL_misc_fg
go

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

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

create table order_line
(
    ol_o_id                   int,
    ol_d_id                   tinyint,
    ol_w_id                   smallint,
    ol_number                 tinyint,
    ol_i_id                   int,
    ol_supply_w_id           smallint,
    ol_delivery_d             datetime,
    ol_quantity               smallint,
    ol_amount                 numeric(6,2),
    ol_dist_info              char(24)
) on MSSQL_ord_fg
go

```

```

create table item
(
    i_id                      int,
    i_im_id                   int,
    i_name                    char(24),
    i_price                   numeric(5,2),
    i_data                    varchar(50)
) on MSSQL_misc_fg
go

create table stock
(
    s_i_id                    int,
    s_w_id                    smallint,
    s_quantity                smallint,
    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),
    s_ytd                     int,
    s_order_cnt               smallint,
    s_remote_cnt              smallint,
    s_data                    varchar(50)
) on MSSQL_cs_fg
go

```

## Stored Procedures

### DELIVERY.SQL

```

-- File:      DELIVERY.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates delivery transaction stored procedure
--
--           Interface Level: 4.10.000

use tpcc
go

if exists (select name from sysobjects where name = "tpcc_delivery" )
  drop procedure tpcc_delivery
go

create proc tpcc_delivery    @w_id            smallint,
                             @o_carrier_id   smallint
as

declare @d_id tinyint,
        @o_id int,

```

```

@c_id int,
@total numeric(12,2),
@oid1 int,
@oid2 int,
@oid3 int,
@oid4 int,
@oid5 int,
@oid6 int,
@oid7 int,
@oid8 int,
@oid9 int,
@oid10 int

select @d_id = 0

begin tran d

    while (@d_id < 10)
    begin

        select @d_id = @d_id + 1,
               @total = 0,
               @o_id = 0

        select top 1
               @o_id = no_o_id
        from    new_order (serializable uplock)
        where   no_w_id = @w_id and
               no_d_id = @d_id
        order  by no_o_id asc

        if (@@rowcount <> 0)
        begin

-- claim the order for this district

            delete new_order
            where   no_w_id = @w_id and
                   no_d_id = @d_id and
                   no_o_id = @o_id

-- set carrier_id on this order (and get customer id)

            update orders
            set    o_carrier_id = @o_carrier_id,
                   @c_id = o_c_id
            where  o_w_id = @w_id and
                   o_d_id = @d_id and
                   o_id = @o_id

-- set date in all lineitems for this order (and sum amounts)

            update order_line
            set    ol_delivery_d = getdate(),
                   @total = @total + ol_amount
            where  ol_w_id = @w_id and
                   ol_d_id = @d_id and
                   ol_o_id = @o_id

-- accumulate lineitem amounts for this order into customer

```

```

update customer
set    c_balance = c_balance + @total,
       c_delivery_cnt = c_delivery_cnt + 1

where  c_w_id = @w_id and
       c_d_id = @d_id and
       c_id = @c_id

end

select @oid1 = case @d_id when 1 then @o_id else @oid1 end,
       @oid2 = case @d_id when 2 then @o_id else @oid2 end,
       @oid3 = case @d_id when 3 then @o_id else @oid3 end,
       @oid4 = case @d_id when 4 then @o_id else @oid4 end,
       @oid5 = case @d_id when 5 then @o_id else @oid5 end,
       @oid6 = case @d_id when 6 then @o_id else @oid6 end,
       @oid7 = case @d_id when 7 then @o_id else @oid7 end,
       @oid8 = case @d_id when 8 then @o_id else @oid8 end,
       @oid9 = case @d_id when 9 then @o_id else @oid9 end,
       @oid10 = case @d_id when 10 then @o_id else @oid10 end

end

commit tran d

-- return delivery data to client

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

go

```

## NEWORDER.SQL

```

-- File:      NEWORDER.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates new order transaction stored procedure
--
--           Interface Level: 4.10.000

use tpcc
go

if exists ( select name from sysobjects where name = "tpcc_neworder" )
drop procedure tpcc_neworder
go

create proc tpcc_neworder
           @w_id      smallint,
           @d_id      tinyint,

```

```

@c_id          int,
@o_ol_cnt     tinyint,
@o_all_local  tinyint,
@i_id1       int = 0, @s_w_id1  smallint
@i_id2       int = 0, @s_w_id2  smallint
@i_id3       int = 0, @s_w_id3  smallint
@i_id4       int = 0, @s_w_id4  smallint
@i_id5       int = 0, @s_w_id5  smallint
@i_id6       int = 0, @s_w_id6  smallint
@i_id7       int = 0, @s_w_id7  smallint
@i_id8       int = 0, @s_w_id8  smallint
@i_id9       int = 0, @s_w_id9  smallint
@i_id10      int = 0, @s_w_id10 smallint
@i_id11      int = 0, @s_w_id11 smallint
@i_id12      int = 0, @s_w_id12 smallint
@i_id13      int = 0, @s_w_id13 smallint
@i_id14      int = 0, @s_w_id14 smallint
@i_id15      int = 0, @s_w_id15 smallint

= 0, @ol_qty1  smallint = 0,
= 0, @ol_qty2  smallint = 0,
= 0, @ol_qty3  smallint = 0,
= 0, @ol_qty4  smallint = 0,
= 0, @ol_qty5  smallint = 0,
= 0, @ol_qty6  smallint = 0,
= 0, @ol_qty7  smallint = 0,
= 0, @ol_qty8  smallint = 0,
= 0, @ol_qty9  smallint = 0,
= 0, @ol_qty10 smallint = 0,
= 0, @ol_qty11 smallint = 0,
= 0, @ol_qty12 smallint = 0,
= 0, @ol_qty13 smallint = 0,
= 0, @ol_qty14 smallint = 0,
= 0, @ol_qty15 smallint = 0

```

```

as
declare @w_tax          numeric(4,4),
        @d_tax         numeric(4,4),
        @c_last        char(16),
        @c_credit      char(2),
        @c_discount    numeric(4,4),
        @i_price       numeric(5,2),
        @i_name        char(24),
        @i_data        char(50),
        @o_entry_d     datetime,
        @remote_flag   int,
        @s_quantity    smallint,
        @s_data        char(50),
        @s_dist        char(24),
        @li_no         int,
        @o_id          int,
        @commit_flag   tinyint,
        @li_id        int,
        @li_s_w_id     smallint,
        @li_qty        smallint,
        @ol_number     int,
        @c_id_local    int

```

```

begin
begin transaction n

```

```

-- get district tax and next available order id and update
-- plus initialize local variables

```

```

update district
set   @d_tax      = d_tax,
      @o_id       = d_next_o_id,
      d_next_o_id = d_next_o_id + 1,
      @o_entry_d  = getdate(),
      @li_no      = 0,
      @commit_flag = 1
where d_w_id      = @w_id and
      d_id        = @d_id

```

```

-- process orderlines

```

```

while (@li_no < @o_ol_cnt)
begin

```

```

        select @li_no = @li_no + 1

```

```

-- set i_id, s_w_id, and qty for this lineitem

```

```

        select @li_id = case @li_no
            when 1 then @i_id1
            when 2 then @i_id2
            when 3 then @i_id3
            when 4 then @i_id4
            when 5 then @i_id5
            when 6 then @i_id6
            when 7 then @i_id7
            when 8 then @i_id8
            when 9 then @i_id9
            when 10 then @i_id10
            when 11 then @i_id11
            when 12 then @i_id12
            when 13 then @i_id13
            when 14 then @i_id14
            when 15 then @i_id15
        end,

```

```

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

```

```

        @li_qty = case @li_no
            when 1 then @ol_qty1

```

```

when 2 then @ol_qty2
when 3 then @ol_qty3
when 4 then @ol_qty4
when 5 then @ol_qty5
when 6 then @ol_qty6
when 7 then @ol_qty7
when 8 then @ol_qty8
when 9 then @ol_qty9
when 10 then @ol_qty10
when 11 then @ol_qty11
when 12 then @ol_qty12
when 13 then @ol_qty13
when 14 then @ol_qty14
when 15 then @ol_qty15
end

-- get item data (no one updates item)

select @i_price = i_price,
       @i_name = i_name,
       @i_data = i_data
from   item (tablock repeatableread)
where  i_id = @li_id

-- update stock values

update stock
set    s_ytd          = s_ytd + @li_qty,
       @s_quantity   = s_quantity -
@li_qty +
       case when (s_quantity -
@li_qty < 10) then 91 else 0 end,
       s_order_cnt   = s_order_cnt + 1,
       s_remote_cnt  = s_remote_cnt + case when
(@li_s_w_id = @w_id) then 0 else 1 end,
       @s_data       = s_data,
       @s_dist       = case @d_id
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
begin
if (@@rowcount > 0)
-- insert order_line data (using data from item and stock)
insert into order_line values(@o_id,
                             @d_id,
                             @w_id,

```

```

                             @li_no,
                             @li_id,
                             @li_s_w_id,
                             "dec 31, 1899",
                             @li_qty,
                             @i_price * @li_qty,
                             @s_dist)
-- send line-item data to client
select @i_name,
       @s_quantity,
       b_g = case when (
(patindex("%ORIGINAL%",@i_data) > 0) and
(patindex("%ORIGINAL%",@s_data) > 0) )
then "B" else "G" end,
       @i_price,
       @i_price * @li_qty
end
else
begin
-- no item (or stock) found - triggers rollback condition
select "",0,"",0,0
select @commit_flag = 0
end
end
-- get customer last name, discount, and credit rating
select @c_last      = c_last,
       @c_discount  = c_discount,
       @c_credit    = c_credit,
       @c_id_local  = c_id
from   customer (repeatableread)
where  c_id         = @c_id and
       c_w_id       = @w_id and
       c_d_id       = @d_id

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

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

```

```

-- select warehouse tax

select @w_tax = w_tax
from warehouse (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

```

## ORDSTAT.SQL

```

-- File:      ORDSTAT.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--            Copyright Microsoft, 1999, 2000
-- Purpose:   Creates order status transaction stored procedure
--
--            Interface Level: 4.10.000

use tpcc
go

if exists ( select name from sysobjects where name = "tpcc_orderstatus" )
    drop procedure tpcc_orderstatus
go

create proc tpcc_orderstatus @w_id smallint,
                           @d_id tinyint,

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

as

declare @c_balance numeric(12,2),
        @c_first   char(16),
        @c_middle  char(2),
        @o_id      int,
        @o_entry_d datetime,
        @o_carrier_id smallint,

```

```

        @cnt        smallint

begin tran o

if (@c_id = 0)
    begin
-- get customer id and info using last name

        select @cnt = (count(*)+1)/2
        from customer (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 (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 (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 top 1 @o_id = o_id,

```

```

        @o_entry_d      = o_entry_d,
        @o_carrier_id   = o_carrier_id
from orders (serializable)
where  o_c_id          = @c_id and
       o_d_id          = @d_id and
       o_w_id          = @w_id
order  by o_id desc

```

```
-- 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 (repeatableread)
where  ol_o_id = @o_id and
       ol_d_id = @d_id and
       ol_w_id = @w_id

```

```
custnotfound:
```

```
commit tran o
```

```
-- return data to client
```

```

select @c_id,
       @c_last,
       @c_first,
       @c_middle,
       @o_entry_d,
       @o_carrier_id,
       @c_balance,
       @o_id

```

```
go
```

## PAYMENT.SQL

```

-- File:      PAYMENT.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--            Copyright Microsoft, 1999, 2000
-- Purpose:   Creates payment transaction stored procedure
--
--            Interface Level: 4.10.000

```

```
use tpcc
go
```

```

if exists (select name from sysobjects where name = 'tpcc_payment' )
drop procedure tpcc_payment
go

```

```

create proc tpcc_payment      @w_id      smallint,
                             @c_w_id     smallint,
                             @h_amount   numeric(6,2),
                             @d_id       tinyint,
                             @c_d_id     tinyint,
                             @c_id       int,

```

```
@c_last      char(16) = ''
```

```
as
```

```

declare @w_street_1 char(20),
        @w_street_2 char(20),
        @w_city     char(20),
        @w_state    char(2),
        @w_zip      char(9),
        @w_name     char(10),
        @d_street_1 char(20),
        @d_street_2 char(20),
        @d_city     char(20),
        @d_state    char(2),
        @d_zip      char(9),
        @d_name     char(10),
        @c_first    char(16),
        @c_middle   char(2),
        @c_street_1 char(20),
        @c_street_2 char(20),
        @c_city     char(20),
        @c_state    char(2),
        @c_zip      char(9),
        @c_phone    char(16),
        @c_since    datetime,
        @c_credit   char(2),
        @c_credit_lim numeric(12,2),
        @c_balance  numeric(12,2),
        @c_discount numeric(4,4),
        @c_data     char(42),
        @datetime   datetime,
        @w_ytd      numeric(12,2),
        @d_ytd      numeric(12,2),
        @cnt        smallint,
        @val        smallint,
        @screen_data char(200),
        @d_id_local tinyint,
        @w_id_local smallint,
        @c_id_local int

```

```
select @screen_data = ''
```

```
begin tran p
```

```
-- get payment date
```

```
select @datetime = getdate()
```

```

if (@c_id = 0)
begin

```

```
-- get customer id and info using last name
```

```

select @cnt = count(*)
from   customer (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 (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

--
        select @screen_data = substring (@c_data, 1, 200)

```

```

    end

-- get district data and update year-to-date

    update district
    set   d_ytd = d_ytd + @h_amount,
          @d_street_1 = d_street_1,
          @d_street_2 = d_street_2,
          @d_city = d_city,
          @d_state = d_state,
          @d_zip = d_zip,
          @d_name = d_name,
          @d_id_local = d_id
    where d_w_id = @w_id and
          d_id = @d_id

-- get warehouse data and update year-to-date

    update warehouse
    set   w_ytd = w_ytd + @h_amount,
          @w_street_1 = w_street_1,
          @w_street_2 = w_street_2,
          @w_city = w_city,
          @w_state = w_state,
          @w_zip = w_zip,
          @w_name = w_name,
          @w_id_local = w_id
    where w_id = @w_id

-- create history record

        insert into history values ( @c_id local,
                                    @c_d_id,
                                    @c_w_id,
                                    @d_id local,
                                    @w_id local,
                                    @datetime,
                                    @h_amount,
                                    @w_name + ' ' + @d_name)

commit tran p

-- return data to client

select @c_id,
      @c_last,
      @datetime,
      @w_street_1,
      @w_street_2,
      @w_city,
      @w_state,
      @w_zip,
      @d_street_1,
      @d_street_2,
      @d_city,
      @d_state,
      @d_zip,
      @c_first,
      @c_middle,
      @c_street_1,
      @c_street_2,
      @c_city,

```

```

@c_state,
@c_zip,
@c_phone,
@c_since,
@c_credit,
@c_credit_lim,
@c_discount,
@c_balance,
@screen_data

```

```
go
```

## STOCKLEV.SQL

```

-- File:      STOCKLEV.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates stock level transaction stored procedure
--
--           Interface Level: 4.10.000

```

```
use tpcc
go
```

```
if exists (select name from sysobjects where name = "tpcc_stocklevel" )
drop procedure tpcc_stocklevel
go
```

```
create proc tpcc_stocklevel @w_id      smallint,
                           @d_id      tinyint,
                           @threshold smallint
as
```

```
declare @o_id_low int,
        @o_id_high int
```

```
select @o_id_low = (d_next_o_id - 20),
       @o_id_high = (d_next_o_id - 1)
from   district
where  d_w_id = @w_id and
       d_id   = @d_id
```

```
select count(distinct(s_i_id))
from   stock, order_line
where  ol_w_id = @w_id and
       ol_d_id = @d_id and
       ol_o_id between @o_id_low and
                @o_id_high and
       s_w_id = ol_w_id and
       s_i_id = ol_i_id and
       s_quantity < @threshold
```

```
go
```

## VERSION.SQL

```
-- File:      VERSION.SQL
```

```

--           Microsoft TPC-C Benchmark Kit Ver. 4.21.000
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Returns version level of TPC-C stored procs
-- Note:      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.

```

```
use tpcc
go
```

```
if exists ( select name from sysobjects where name = "tpcc_version" )
drop procedure tpcc_version
```

```
go
```

```
create proc tpcc_version
as
declare @version      char(8)
```

```
begin
```

```
select @version = "4.10.000"
select @version as "Version"
```

```
end
```

```
go
```

## Loader Source

### GETARGS.C

```

// File:      GETARGS.C
//           Microsoft TPC-C Kit Ver. 4.21
//           Copyright Microsoft, 1996, 1997, 1998, 1999,
//           2000
// Purpose:   Source file for command line processing

```

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

```

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

```

```
void GetArgsLoader(int argc, char **argv, TPCC_LDR_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->pack_size     = DEF_LDPACKSIZE;
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 'h':      /* Fall throught */
        case 'H':
            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 '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("-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. 4.21
//      Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
//      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
//Original 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. 4.21
//                      Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
//      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++)
    {
        cc = chArray[RandomNumber(0, chArrayMax)];
        str[i] = cc;
    }
    if ( len < z )
        memset(str+len, ' ', z - len);
    str[z] = 0;

    return len;
}

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

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

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

    // verify percentage is valid
    if ((percent < 0) || (percent > 100))
    {
        printf("MakeOriginalAlphaString: Invalid percentage: %d\n",
percent);
    }
}

```

```

        exit(-1);
    }

    // verify string is at least 8 chars in length
    if ((x + y) <= 8)
    {
        printf("MakeOriginalAlphaString: string length must be >=
8\n");
        exit(-1);
    }

    // Make Alpha String
    len = MakeAlphaString(x,y, z, str);

    val = RandomNumber(1,100);
    if (val <= percent)
    {
        start = RandomNumber(0, len - 8);
        strncpy(str + start, "ORIGINAL", 8);
    }

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

    return strlen(str);
}

//=====
//
// Function name: MakeNumberString
//
//=====
int MakeNumberString(int x, int y, int z, char *str)
{
    char tmp[16];

    //MakeNumberString is always called MakeZipNumberString(16, 16,
16, string)

    memset(str, '0', 16);
    itoa(RandomNumber(0, 99999999), tmp, 10);
    memcpy(str, tmp, strlen(tmp));

    itoa(RandomNumber(0, 99999999), tmp, 10);
    memcpy(str+8, tmp, strlen(tmp));

    str[16] = 0;

    return 16;
}

//=====
//
// Function name: MakeZipNumberString
//
//=====

```

```

int MakeZipNumberString(int x, int y, int z, char *str)
{
    char tmp[16];

    //MakeZipNumberString is always called MakeZipNumberString(9, 9,
9, string)

    strcpy(str, "000011111");

    itoa(RandomNumber(0, 9999), tmp, 10);
    memcpy(str, tmp, strlen(tmp));

    return 9;
}

//=====
//
// Function name: InitString
//
//=====
void InitString(char *str, int len)
{
#ifdef DEBUG
    printf("[%ld]DBG: Entering InitString()\n", (int)
GetCurrentThreadId());
#endif

    memset(str, ' ', len);
    str[len] = 0;
}

//=====
//
// Function name: InitAddress
//
// Description:
//
//=====
void InitAddress(char *street_1, char *street_2, char *city, char *state,
char *zip)
{
    memset(street_1, ' ', ADDRESS_LEN+1);
    memset(street_2, ' ', ADDRESS_LEN+1);
    memset(city, ' ', ADDRESS_LEN+1);

    street_1[ADDRESS_LEN+1] = 0;
    street_2[ADDRESS_LEN+1] = 0;
    city[ADDRESS_LEN+1] = 0;

    memset(state, ' ', STATE_LEN+1);
    state[STATE_LEN+1] = 0;

    memset(zip, ' ', ZIP_LEN+1);
    zip[ZIP_LEN+1] = 0;
}

//=====
//

```



```
// Function name: PaddString
//
//=====
void PaddString(int max, char *name)
{
    int            len;

    len = strlen(name);
    if ( len < max )
        memset(name+len, ' ', max - len);
    name[max] = 0;

    return;
}
```

## TIME.C

```
// File:            TIME.C
//                  Microsoft TPC-C Kit Ver. 4.21
//                  Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
// 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. 4.21
```

```
//                  Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
// Purpose:         Header file for TPC-C database loader
```

```
// Build number of TPC Benchmark Kit
#define TPCKIT_VER    "4.21"
```

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

```
// ODBC headers
#include <sql.h>
#include <sqlext.h>
#include <odbcss.h>
```

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

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

```
// Default loader arguments
#define BATCH                 10000
#define DEFLDPACKSIZE        32768
#define LOADER_RES_FILE      "logs\\load.out"
#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                *synch_servername;
        long                case_sensitivity;
        long                starting_warehouse;
        long                build_index;
        long                index_order;
        long                scale_down;
        char                *index_script_path;
} TPCCLDR_ARGS;

```

```
// String length constants
```

```

#define SERVER_NAME_LEN      20
#define DATABASE_NAME_LEN   20
#define USER_NAME_LEN       20
#define PASSWORD_LEN        20
#define TABLE_NAME_LEN    20
#define I_DATA_LEN          50
#define I_NAME_LEN          24
#define BRAND_LEN           1
#define LAST_NAME_LEN       16
#define W_NAME_LEN          10
#define ADDRESS_LEN         20
#define STATE_LEN           2
#define ZIP_LEN              9
#define S_DIST_LEN          24
#define S_DATA_LEN          50
#define D_NAME_LEN          10
#define FIRST_NAME_LEN      16
#define MIDDLE_NAME_LEN     2
#define PHONE_LEN           16
#define CREDIT_LEN          2
#define C_DATA_LEN          500
#define H_DATA_LEN          24
#define DIST_INFO_LEN       24
#define MAX_OL_NEW_ORDER_ITEMS 15
#define MAX_OL_ORDER_STATUS_ITEMS 15
#define STATUS_LEN          25
#define OL_DIST_INFO_LEN    24
#define C_SINCE_LEN         23
#define H_DATE_LEN          23
#define OL_DELIVERY_D_LEN   23
#define O_ENTRY_D_LEN       23

```

```

// Functions in random.c
void seed();
long irand();

```

```

double drand();
void WUCreate();
short WURand();
long RandomNumber(long lower, long upper);

// Functions in getargs.c;
void GetArgsLoader();
void GetArgsLoaderUsage();

// Functions in time.c
long TimeNow();

// Functions in strings.c
void MakeAddress();
void LastName();
int MakeAlphaString();
int MakeOriginalAlphaString();
int MakeNumberString();
int MakeZipNumberString();
void InitString();
void InitAddress();
void PaddString();

```

## TPCCLDR.C

```

// File:                TPCCLDR.C
//                        Microsoft TPC-C Kit Ver. 4.21
//                        Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
// Purpose:                Source file for TPC-C database loader

```

```

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

```

```

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

```

```
// Functions declarations
```

```

void HandleErrorDBC (SQLHDBC hdbc1);

void CheckSQL();
void CheckDataBase();

long NURand();
void LoadItem();
void LoadWarehouse();

```

```

void Stock();
void District();

void LoadCustomer();
void CustomerBufInit();
void CustomerBufLoad();
void LoadCustomerTable();
void LoadHistoryTable();

void LoadOrders();
void OrdersBufInit();
void OrdersBufLoad();
void LoadOrdersTable();
void LoadNewOrderTable();
void LoadOrderLineTable();
void GetPermutation();
void CheckForCommit();
void OpenConnections();
void BuildIndex();
void FormatDate();

// Shared memory structures

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

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

typedef struct
{
    long            c_id;
    short           c_d_id;
    short           c_w_id;
    char            c_first[FIRST_NAME_LEN+1];
    char            c_middle[MIDDLE_NAME_LEN+1];
    char            c_last[LAST_NAME_LEN+1];
    char            c_street_1[ADDRESS_LEN+1];
    char            c_street_2[ADDRESS_LEN+1];
    char            c_city[ADDRESS_LEN+1];
    char            c_state[STATE_LEN+1];
    char            c_zip[ZIP_LEN+1];
    char            c_phone[PHONE_LEN+1];

```

```

    char            c_credit[CREDIT_LEN+1];
    double          c_credit_lim;
    double          c_discount;
    // fix to avoid ODBC float to numeric conversion problem.
    // double
    char            c_balance;
    char            c_balance[6];

    double          c_ytd_payment;
    short           c_payment_cnt;
    short           c_delivery_cnt;
    char            c_data[C_DATA_LEN+1];
    double          h_amount;
    char            h_data[H_DATA_LEN+1];
} CUSTOMER_STRUCT;

typedef struct
{
    char            c_last[LAST_NAME_LEN+1];
    char            c_first[FIRST_NAME_LEN+1];
    long            c_id;
} CUSTOMER_SORT_STRUCT;

typedef struct
{
    long            time_start;
} LOADER_TIME_STRUCT;

// Global variables

char            szLastError[300];
HENV            henv;

HDBC            v_hdbc; // for SQL Server
version verification
HDBC            i_hdbc1; // for ITEM table
HDBC            w_hdbc1; // for WAREHOUSE,
DISTRICT, STOCK
HDBC            c_hdbc1; // for CUSTOMER
HDBC            c_hdbc2; // for HISTORY
HDBC            o_hdbc1; // for ORDERS
HDBC            o_hdbc2; // for NEW-ORDER

HDBC            o_hdbc3; // for ORDER-LINE

HSTMT           v_hstmt; // for SQL Server
version verification
HSTMT           i_hstmt1;
HSTMT           w_hstmt1;
HSTMT           c_hstmt1, c_hstmt2;
HSTMT           o_hstmt1, o_hstmt2, o_hstmt3;

ORDERS_STRUCT  orders_buf[ORDERS_PER_DISTRICT];
CUSTOMER_STRUCT customer_buf[CUSTOMERS_PER_DISTRICT];
long            orders_rows_loaded;
long            new_order_rows_loaded;
long            order_line_rows_loaded;
long            history_rows_loaded;
long            customer_rows_loaded;
long            stock_rows_loaded;

```

```

long      district_rows_loaded;
long      item_rows_loaded;
long      warehouse_rows_loaded;
long      main_time_start;
long      main_time_end;
long      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);

// verify database and tables exist before attempting to load

CheckDataBase();

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

if (aptr->build_index == 0)
    printf("Data load only - no index creation.\n");
else
    printf("Data load and index creation.\n");

if (aptr->index_order == 0)

```

```

        printf("Clustered indexes will be created after bulk
load.\n");
    else
        printf("Clustered indexes will be created before bulk
load.\n");

// set database scale values
if (aptr->scale_down == 1)
{
    printf("*** Scaled Down Database ***\n");
    max_items = MAXITEMS_SCALE_DOWN;
    customers_per_district = CUSTOMERS_SCALE_DOWN;
    orders_per_district = ORDERS_SCALE_DOWN;
    first_new_order = 0;
    last_new_order = 30;
}
else
{
    max_items = MAXITEMS;
    customers_per_district = CUSTOMERS_PER_DISTRICT;
    orders_per_district = ORDERS_PER_DISTRICT;
    first_new_order = 2100;
    last_new_order = 3000;
}

// open connections to SQL Server

OpenConnections();

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

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

// start loading data

sprintf(buffer, "TPC-C load started for %ld warehouses.\n", aptr-
>num_warehouses);

printf("%s", buffer);
fprintf(fLoader, "%s", buffer);

main_time_start = (TimeNow() / MILLI);

// start parallel load threads

if (aptr->tables_all || aptr->table_item)
{
    fprintf(fLoader, "\nStarting loader threads for: item\n");

    hThread[0] = CreateThread(NULL,
                                0,
(LPTHREAD_START_ROUTINE) LoadItem,
                                NULL,

```

```

                                0,
&dwThreadID[0]);
        if (hThread[0] == NULL)
        {
            printf("Error, failed in creating creating thread =
0.\n");
            exit(-1);
        }
        if (aptr->tables_all || aptr->table_warehouse)
        {
            fprintf(fLoader, "Starting loader threads for:
warehouse\n");
            hThread[1] = CreateThread(NULL,
                                0,
(LPTHREAD_START_ROUTINE) LoadWarehouse,
                                NULL,
                                0,
&dwThreadID[1]);
            if (hThread[1] == NULL)
            {
                printf("Error, failed in creating creating thread =
1.\n");
                exit(-1);
            }
            if (aptr->tables_all || aptr->table_customer)
            {
                fprintf(fLoader, "Starting loader threads for:
customer\n");
                hThread[2] = CreateThread(NULL,
                                0,
(LPTHREAD_START_ROUTINE) LoadCustomer,
                                NULL,
                                0,
&dwThreadID[2]);
                if (hThread[2] == NULL)
                {
                    printf("Error, failed in creating creating main
thread = 2.\n");
                    exit(-1);
                }
            }
            if (aptr->tables_all || aptr->table_orders)
            {
                fprintf(fLoader, "Starting loader threads for: orders\n");
                hThread[3] = CreateThread(NULL,

```

```

                                0,
(LPTHREAD_START_ROUTINE) LoadOrders,
                                NULL,
                                0,
&dwThreadID[3]);
            if (hThread[3] == NULL)
            {
                printf("Error, failed in creating creating main
thread = 3.\n");
                exit(-1);
            }
            // Wait for threads to finish...
            for (i=0; i<MAX_MAIN_THREADS; i++)
            {
                if (hThread[i] != NULL)
                {
                    WaitForSingleObject( hThread[i], INFINITE );
                    CloseHandle(hThread[i]);
                    hThread[i] = NULL;
                }
            }
            main_time_end = (TimeNow() / MILLI);
            sprintf(buffer, "\nTPC-C load completed successfully in %ld
minutes.\n",
                    (main_time_end - main_time_start)/60);
            printf("%s",buffer);
            fprintf(fLoader, "%s", buffer);
            fclose(fLoader);
            SQLFreeEnv(henv);
            exit(0);
            return 0;
        }
//=====
//
// Function name: LoadItem
//
//=====
void LoadItem()
{
    long        i_id;
    long        i_im_id;
    char        i_name[I_NAME_LEN+1];
    double      i_price;
    char        i_data[I_DATA_LEN+1];
    char        name[20];
    long        time_start;

```

```

RETCODE      rc;
DBINT        rcint;
char         bcphint[128];

// Seed with unique number
seed(1);

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

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

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

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

rc = bcp_init(i_hdbc1, name, NULL, "logs\\item.err", DB_IN);
if (rc != SUCCEEDED)
    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 != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
}

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

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

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

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

rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0, I_DATA_LEN, NULL, 0, 0,
5);
if (rc != SUCCEEDED)
    HandleErrorDBC(i_hdbc1);

time_start = (TimeNow() / MILLI);

item_rows_loaded = 0;

for (i_id = 1; i_id <= max_items; i_id++)

```

```

{
    i_im_id = RandomNumber(1L, 10000L);

    MakeAlphaString(14, 24, I_NAME_LEN, i_name);

    i_price = ((float) RandomNumber(100L, 10000L))/100.0;

    MakeOriginalAlphaString(26, 50, I_DATA_LEN, i_data, 10);

    rc = bcp_sendrow(i_hdbc1);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);

    item_rows_loaded++;
    CheckForCommit(i_hdbc1, i_hstmt1, item_rows_loaded, "item",
&time_start);
}

rcint = bcp_done(i_hdbc1);
if (rcint < 0)
    HandleErrorDBC(i_hdbc1);

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

SQLFreeStmt(i_hstmt1, SQL_DROP);
SQLDisconnect(i_hdbc1);
SQLFreeConnect(i_hdbc1);

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

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

void LoadWarehouse()
{
    short      w_id;
    char       w_name[W_NAME_LEN+1];
    char       w_street_1[ADDRESS_LEN+1];
    char       w_street_2[ADDRESS_LEN+1];
    char       w_city[ADDRESS_LEN+1];
    char       w_state[STATE_LEN+1];
    char       w_zip[ZIP_LEN+1];
    double     w_tax;
    double     w_ytd;
    char       name[20];
    long       time_start;
    RETCODE    rc;
    DBINT      rcint;

```

```

char    bcp hint[128];

// 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");

rc = bcp_init(w_hdbc1, name, NULL, "logs\\whouse.err", DB_IN);
if (rc != SUCCEED)
    HandleErrorDBC(w_hdbc1);

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

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

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

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

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

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

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

rc = bcp_bind(w_hdbc1, (BYTE *) w_zip, 0, ZIP_LEN, NULL, 0, 0, 7);

```

```

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

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

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

time_start = (TimeNow() / MILLI);

warehouse_rows_loaded = 0;

for (w_id = (short)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
{
    MakeAlphaString(6,10, W_NAME_LEN, w_name);

    MakeAddress(w_street_1, w_street_2, w_city, w_state,
w_zip);

    w_tax = ((float) RandomNumber(0L,2000L))/10000.00;

    w_ytd = 300000.00;

    rc = bcp_sendrow(w_hdbc1);
    if (rc != 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()
{
    short    d_id;
    short    d_w_id;
    char     d_name[D_NAME_LEN+1];
    char     d_street_1[ADDRESS_LEN+1];
    char     d_street_2[ADDRESS_LEN+1];
    char     d_city[ADDRESS_LEN+1];
    char     d_state[STATE_LEN+1];
    char     d_zip[ZIP_LEN+1];
    double   d_tax;
    double   d_ytd;
    char     name[20];
    long     d_next_o_id;
    long     time_start;
    int      w_id;
    RETCODE rc;
    DBINT    rcint;
    char     bcphint[128];

    // Seed with unique number
    seed(4);

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

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

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

    rc = bcp_init(w_hdbc1, name, NULL, "logs\\district.err", DB_IN);
    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);
    }

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

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

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

```

```
        HandleErrorDBC(w_hdbc1);

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

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

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

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

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

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

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

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

    d_ytd = 30000.0;

    d_next_o_id = orders_per_district+1;

    time_start = (TimeNow() / MILLI);

    for (w_id = aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
    {
        d_w_id = w_id;

        for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
        {
            MakeAlphaString(6,10,D_NAME_LEN, d_name);

            MakeAddress(d_street_1, d_street_2, d_city,
d_state, d_zip);

            d_tax = ((float) RandomNumber(0L,2000L))/10000.00;

```



```

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

        district_rows_loaded++;
        CheckForCommit(w_hdbc1, w_hstmt1,
district_rows_loaded, "district", &time_start);
    }
}

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

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

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

return;
}

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

void Stock()
{
    long      s_i_id;
    short     s_w_id;
    short     s_quantity;
    char      s_dist_01[S_DIST_LEN+1];
    char      s_dist_02[S_DIST_LEN+1];
    char      s_dist_03[S_DIST_LEN+1];
    char      s_dist_04[S_DIST_LEN+1];
    char      s_dist_05[S_DIST_LEN+1];
    char      s_dist_06[S_DIST_LEN+1];
    char      s_dist_07[S_DIST_LEN+1];
    char      s_dist_08[S_DIST_LEN+1];
    char      s_dist_09[S_DIST_LEN+1];
    char      s_dist_10[S_DIST_LEN+1];
    long      s_ytd;
    short     s_order_cnt;
    short     s_remote_cnt;
    char      s_data[S_DATA_LEN+1];
    short     len;
    char      name[20];
    long      time_start;
    RETCODE rc;
    DBINT     rcint;
    char      bcphint[128];

    // Seed with unique number
    seed(3);

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

```

```

        BuildIndex("idxstkcl");

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

        rc = bcp_init(w_hdbc1, name, NULL, "logs\\stock.err", DB_IN);
        if (rc != SUCCEED)
            HandleErrorDBC(w_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
            sprintf(bcphint, "tablock, order (s_i_id, s_w_id),
ROWS_PER_BATCH = %u", (aptr->num_warehouses * 100000));
            rc = bcp_control(w_hdbc1, BCPHINTS, (void*) bcphint);
            if (rc != SUCCEED)
                HandleErrorDBC(w_hdbc1);
        }

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

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

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

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

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

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

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

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

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

```

```

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

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

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

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

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

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

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

    rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0, S_DATA_LEN, NULL, 0, 0,
17);
    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 = (short)aptr->starting_warehouse; s_w_id <=
aptr->num_warehouses; s_w_id++)
        {
            s_quantity = (short)RandomNumber(10L,100L);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_01);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_02);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_03);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_04);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_05);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_06);

            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_07);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_08);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_09);
            len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_10);

            len = MakeOriginalAlphaString(26,50, S_DATA_LEN,
s_data,10);

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

            stock_rows_loaded++;
            CheckForCommit(w_hdbc1, w_hstmt1,
stock_rows_loaded, "stock", &time_start);
        }
    }

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

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

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

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

    return;
}

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

void LoadCustomer()
{
    LOADER_TIME_STRUCT    customer_time_start;
    LOADER_TIME_STRUCT    history_time_start;
    short                 w_id;
    short                 d_id;
    DWORD                 dwThreadID[MAX_CUSTOMER_THREADS];
    HANDLE                 hThread[MAX_CUSTOMER_THREADS];
    char                  name[20];
    RETCODE                rc;
    DBINT                 rcint;
    char                  bcphint[128];
    char                  cmd[256];
    // SQLRETURN            rc_1;
    // SQLSMALLINT          recnum, MsgLen;
    // SQLCHAR              SqlState[6],
    Msg[SQL_MAX_MESSAGE_LENGTH];
    // SQLINTEGER           NativeError;
}

```

```

// Seed with unique number
seed(5);

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

// if build index before load...
if ((aptr->build_index == 1) && (aptr->index_order == 1))
{
    BuildIndex("idxcuscl");
    BuildIndex("idxhiscl"); // added history clustered index
                                // 9/10/2001
}

// Initialize bulk copy
sprintf(name, "%s.%s", aptr->database, "customer");

rc = bcp_init(c_hdbc1, name, NULL, "logs\\customer.err", DB_IN);
if (rc != SUCCEEDED)
    HandleErrorDBC(c_hdbc1);

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

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

rc = bcp_init(c_hdbc2, name, NULL, "logs\\history.err", DB_IN);
if (rc != SUCCEEDED)
    HandleErrorDBC(c_hdbc2);

//    sprintf(bcphint, "tablock");
//    sprintf(bcphint, "tablock, order (h_c_w_id, h_date, h_c_d_id,
h_c_id, h_amount), ROWS_PER_BATCH = %u", (aptr->num_warehouses * 30000));
// Add hint to help history index creation
// 9/10/2001 RBS
rc = bcp_control(c_hdbc2, BCPHINTS, (void*) bcphint);
if (rc != SUCCEEDED)
    HandleErrorDBC(c_hdbc2);

customer_rows_loaded    = 0;
history_rows_loaded     = 0;

CustomerBufInit();

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

for (w_id = (short)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
{
    for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)

```

```

CustomerBufLoad(d_id, w_id);

// Start parallel loading threads here...

// Start customer table thread

printf("...Loading customer table for: d_id = %d,
w_id = %d\n", d_id, w_id);

hThread[0] = CreateThread(NULL,
                                0,
(LPTHREAD_START_ROUTINE) LoadCustomerTable,
&customer_time_start,
                                0,
&dwThreadID[0]);

if (hThread[0] == NULL)
{
    printf("Error, failed in creating creating
thread = 0.\n");
    exit(-1);
}

// Start History table thread

printf("...Loading history table for: d_id = %d,
w_id = %d\n", d_id, w_id);

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

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

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

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

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

```

```

    }
}

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

rcint = bcp_done(c_hdbc2);
if (rcint < 0)
    HandleErrorDBC(c_hdbc2);

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

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

// 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, "isql -S%s -U%s -P%s -d%s -e -Q\"update customer set
c_first = 'C_LOAD = %d' where c_id = 1 and c_w_id = 1 and c_d_id = 1\" >
logs\\nurand_load.log",
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database,
        LOADER_NURAND_C);

system(cmd);

SQLFreeStmt(c_hstmt1, SQL_DROP);
SQLDisconnect(c_hdbc1);
SQLFreeConnect(c_hdbc1);

SQLFreeStmt(c_hstmt2, SQL_DROP);
SQLDisconnect(c_hdbc2);
SQLFreeConnect(c_hdbc2);

return;
}

//=====
//
// Function : CustomerBufInit
//
//=====
void CustomerBufInit()

```

```

{
    int i;

    for (i=0;i<customers_per_district;i++)
    {
        customer_buf[i].c_id = 0;
        customer_buf[i].c_d_id = 0;
        customer_buf[i].c_w_id = 0;

        strcpy(customer_buf[i].c_first,"");
        strcpy(customer_buf[i].c_middle,"");
        strcpy(customer_buf[i].c_last,"");
        strcpy(customer_buf[i].c_street_1,"");
        strcpy(customer_buf[i].c_street_2,"");
        strcpy(customer_buf[i].c_city,"");
        strcpy(customer_buf[i].c_state,"");
        strcpy(customer_buf[i].c_zip,"");
        strcpy(customer_buf[i].c_phone,"");
        strcpy(customer_buf[i].c_credit,"");

        customer_buf[i].c_credit_lim = 0;
        customer_buf[i].c_discount = (float) 0;

        // fix to avoid ODBC float to numeric conversion problem.
        // customer_buf[i].c_balance = 0;
        strcpy(customer_buf[i].c_balance,"");

        customer_buf[i].c_ytd_payment = 0;
        customer_buf[i].c_payment_cnt = 0;
        customer_buf[i].c_delivery_cnt = 0;

        strcpy(customer_buf[i].c_data,"");

        customer_buf[i].h_amount = 0;

        strcpy(customer_buf[i].h_data,"");
    }
}

//=====
//
// Function : CustomerBufLoad
//
// Fills shared buffer for HISTORY and CUSTOMER
//=====

void CustomerBufLoad(int d_id, int w_id)
{
    long i;
    CUSTOMER_SORT_STRUCT c[CUSTOMERS_PER_DISTRICT];

    for (i=0;i<customers_per_district;i++)
    {
        if (i < 1000)
            LastName(i, c[i].c_last);
        else

```

```

        LastName(NURand(255,0,999,LOADER_NURAND_C),
c[i].c_last);
        MakeAlphaString(8,16,FIRST_NAME_LEN, c[i].c_first);
        c[i].c_id = i+1;
    }
    printf("...Loading customer buffer for: d_id = %d, w_id = %d\n",
        d_id, w_id);
    for (i=0;i<customers_per_district;i++)
    {
        customer_buf[i].c_d_id = d_id;
        customer_buf[i].c_w_id = w_id;
        customer_buf[i].h_amount = 10.0;

        customer_buf[i].c_ytd_payment = 10.0;

        customer_buf[i].c_payment_cnt = 1;
        customer_buf[i].c_delivery_cnt = 0;

        // Generate CUSTOMER and HISTORY data
        customer_buf[i].c_id = c[i].c_id;

        strcpy(customer_buf[i].c_first, c[i].c_first);
        strcpy(customer_buf[i].c_last, c[i].c_last);

        customer_buf[i].c_middle[0] = 'O';
        customer_buf[i].c_middle[1] = 'E';

        MakeAddress(customer_buf[i].c_street_1,
                    customer_buf[i].c_street_2,
                    customer_buf[i].c_city,
                    customer_buf[i].c_state,
                    customer_buf[i].c_zip);

        MakeNumberString(16, 16, PHONE_LEN,
customer_buf[i].c_phone);

        if (RandomNumber(1L, 100L) > 10)
            customer_buf[i].c_credit[0] = 'G';
        else
            customer_buf[i].c_credit[0] = 'B';
        customer_buf[i].c_credit[1] = 'C';

        customer_buf[i].c_credit_lim = 50000.0;
        customer_buf[i].c_discount = ((float) RandomNumber(0L,
5000L)) / 10000.0;

        // fix to avoid ODBC float to numeric conversion problem.

        // customer_buf[i].c_balance = -10.0;
        strcpy(customer_buf[i].c_balance, "-10.0");

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

```

```

        // Generate HISTORY data
        MakeAlphaString(12, 24, H_DATA_LEN,
customer_buf[i].h_data);
    }
}
//=====
//
// Function   : LoadCustomerTable
//
//=====
void LoadCustomerTable(LOADER_TIME_STRUCT *customer_time_start)
{
    int         i;
    long        c_id;
    short       c_d_id;
    short       c_w_id;
    char        c_first[FIRST_NAME_LEN+1];
    char        c_middle[MIDDLE_NAME_LEN+1];
    char        c_last[LAST_NAME_LEN+1];
    char        c_street_1[ADDRESS_LEN+1];
    char        c_street_2[ADDRESS_LEN+1];
    char        c_city[ADDRESS_LEN+1];
    char        c_state[STATE_LEN+1];
    char        c_zip[ZIP_LEN+1];
    char        c_phone[PHONE_LEN+1];
    char        c_credit[CREDIT_LEN+1];
    double      c_credit_lim;
    double      c_discount;

    // fix to avoid ODBC float to numeric conversion problem.

    // double          c_balance;
    char              c_balance[6];

    double           c_ytd_payment;
    short            c_payment_cnt;
    short            c_delivery_cnt;
    char             c_data[C_DATA_LEN+1];
    char             c_since[C_SINCE_LEN+1];
    RETCODE          rc;

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

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

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

    rc = bcp_bind(c_hdbc1, (BYTE *) c_first, 0, FIRST_NAME_LEN, NULL, 0,
0, 4);

```

```

    if (rc != SUCCEEDED)
        HandleErrorDBC(c_hdbc1);

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

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

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

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

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

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

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

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

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

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

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

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

```

```

        // fix to avoid ODBC float to numeric conversion problem.

        // rc = bcp_bind(c_hdbc1, (BYTE *) &c_balance, 0, SQL_VARLEN_DATA,
NULL, 0, SQLFLT8, 17);
        // if (rc != SUCCEEDED)
        //     HandleErrorDBC(c_hdbc1);
        rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5, NULL, 0,
SQLCHARACTER, 17);
        if (rc != SUCCEEDED)
            HandleErrorDBC(c_hdbc1);

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

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

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

        rc = bcp_bind(c_hdbc1, (BYTE *) c_data, 0, 500, NULL, 0, 0, 21);
        if (rc != SUCCEEDED)
            HandleErrorDBC(c_hdbc1);

    for (i = 0; i < customers_per_district; i++)
    {
        c_id = customer_buf[i].c_id;
        c_d_id = customer_buf[i].c_d_id;
        c_w_id = customer_buf[i].c_w_id;

        strcpy(c_first, customer_buf[i].c_first);
        strcpy(c_middle, customer_buf[i].c_middle);
        strcpy(c_last, customer_buf[i].c_last);
        strcpy(c_street_1, customer_buf[i].c_street_1);
        strcpy(c_street_2, customer_buf[i].c_street_2);
        strcpy(c_city, customer_buf[i].c_city);
        strcpy(c_state, customer_buf[i].c_state);
        strcpy(c_zip, customer_buf[i].c_zip);
        strcpy(c_phone, customer_buf[i].c_phone);
        strcpy(c_credit, customer_buf[i].c_credit);

        FormatDate(&c_since);

        c_credit_lim = customer_buf[i].c_credit_lim;
        c_discount = customer_buf[i].c_discount;

        // fix to avoid ODBC float to numeric conversion problem.

        // c_balance = customer_buf[i].c_balance;
        strcpy(c_balance, customer_buf[i].c_balance);

        c_ytd_payment = customer_buf[i].c_ytd_payment;

```

```

    c_payment_cnt = customer_buf[i].c_payment_cnt;
    c_delivery_cnt = customer_buf[i].c_delivery_cnt;

    strcpy(c_data, customer_buf[i].c_data);

    // Send data to server
    rc = bcp_sendrow(c_hdbc1);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc1);

    customer_rows_loaded++;
    CheckForCommit(c_hdbc1, c_hstmt1, customer_rows_loaded,
"customer", &customer_time_start->time_start);
}

}

//=====
//
// Function   : LoadHistoryTable
//
//=====

void LoadHistoryTable(LOADER_TIME_STRUCT *history_time_start)
{
    int         i;
    long        c_id;
    short       c_d_id;
    short       c_w_id;
    double      h_amount;
    char        h_data[H_DATA_LEN+1];
    char        h_date[H_DATE_LEN+1];
    RETCODE     rc;

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

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

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

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

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

```

```

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

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

    rc = bcp_bind(c_hdbc2, (BYTE *) h_data, 0, H_DATA_LEN, NULL, 0, 0, 8);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);

    for (i = 0; i < customers_per_district; i++)
    {
        c_id = customer_buf[i].c_id;
        c_d_id = customer_buf[i].c_d_id;
        c_w_id = customer_buf[i].c_w_id;
        h_amount = customer_buf[i].h_amount;
        strcpy(h_data, customer_buf[i].h_data);

        FormatDate(&h_date);

        // send to server
        rc = bcp_sendrow(c_hdbc2);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc2);

        history_rows_loaded++;
        CheckForCommit(c_hdbc2, c_hstmt2, history_rows_loaded,
"history", &history_time_start->time_start);
    }

}

//=====
//
// Function   : LoadOrders
//
//=====

void LoadOrders()
{
    LOADER_TIME_STRUCT    orders_time_start;
    LOADER_TIME_STRUCT    new_order_time_start;
    LOADER_TIME_STRUCT    order_line_time_start;
    short                 w_id;
    short                 d_id;
    DWORD                 dwThreadID[MAX_ORDER_THREADS];
    HANDLE                 hThread[MAX_ORDER_THREADS];
    char                  name[20];
    RETCODE               rc;
    char                  bcphint[128];

    // 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);
if (rc != SUCCEEDED)
    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 != SUCCEEDED)
        HandleErrorDBC(o_hdbc1);
}

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

rc = bcp_init(o_hdbc2, name, NULL, "logs\\neword.err", DB_IN);
if (rc != SUCCEEDED)
    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 != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);
}

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

rc = bcp_init(o_hdbc3, name, NULL, "logs\\ordline.err", DB_IN);
if (rc != SUCCEEDED)
    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 *
30000));
    rc = bcp_control(o_hdbc3, BCPHINTS, (void*) bcphint);
    if (rc != SUCCEEDED)
        HandleErrorDBC(o_hdbc3);
}

orders_rows_loaded = 0;
new_order_rows_loaded = 0;
order_line_rows_loaded = 0;

```

```

OrdersBufInit();

orders_time_start.time_start = (TimeNow() / MILLI);
new_order_time_start.time_start = (TimeNow() / MILLI);
order_line_time_start.time_start = (TimeNow() / MILLI);

for (w_id = (short)aptr->starting_warehouse; w_id <= aptr-
>num_warehouses; w_id++)
{
    for (d_id = 1; d_id <= DISTRICT_PER_WAREHOUSE; d_id++)
    {
        OrdersBufLoad(d_id, w_id);

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

    printf("...Loading Order Buffer for: d_id = %d, w_id = %d\n",
           d_id, w_id);

    GetPermutation(cust, orders_per_district);

    for (o_id=0;o_id<orders_per_district;o_id++)
    {
        // Generate ORDER and NEW-ORDER data

        orders_buf[o_id].o_d_id = d_id;
        orders_buf[o_id].o_w_id = w_id;
        orders_buf[o_id].o_id = o_id+1;
        orders_buf[o_id].o_c_id = cust[o_id+1];
        orders_buf[o_id].o_ol_cnt = (short)RandomNumber(5L, 15L);
    }
}

```

```

        if (o_id < first_new_order)
        {
            orders_buf[o_id].o_carrier_id =
(short)RandomNumber(1L, 10L);
            orders_buf[o_id].o_all_local = 1;
        }
        else
        {
            orders_buf[o_id].o_carrier_id = 0;
            orders_buf[o_id].o_all_local = 1;
        }

        for (ol=0; ol<orders_buf[o_id].o_ol_cnt; ol++)
        {
            orders_buf[o_id].o_ol[ol].ol = ol+1;
            orders_buf[o_id].o_ol[ol].ol_i_id =
RandomNumber(1L, max_items);
            orders_buf[o_id].o_ol[ol].ol_supply_w_id = w_id;
            orders_buf[o_id].o_ol[ol].ol_quantity = 5;
            MakeAlphaString(24, 24, OL_DIST_INFO_LEN,
&orders_buf[o_id].o_ol[ol].ol_dist_info);

            // Generate ORDER-LINE data
            if (o_id < first_new_order)
            {
                orders_buf[o_id].o_ol[ol].ol_amount = 0;
                // Added to insure ol_delivery_d set
properly during load

                FormatDate(&orders_buf[o_id].o_ol[ol].ol_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;
        short        o_w_id;

        long         o_c_id;
        short        o_carrier_id;
        short        o_ol_cnt;
        short        o_all_local;
        char         o_entry_d[O_ENTRY_D_LEN+1];
        RETCODE      rc;
        DBINT        rcint;

        // bind ORDER data
        rc = bcp_bind(o_hdbc1, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, 1);
        if (rc != SUCCEED)
            HandleErrorDBC(o_hdbc1);

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

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

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

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

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

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

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

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

    if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
    {
        rcint = bcp_done(o_hdbc1);
        if (rcint < 0)
            HandleErrorDBC(o_hdbc1);

        SQLFreeStmt(o_hstmt1, SQL_DROP);
        SQLDisconnect(o_hdbc1);
        SQLFreeConnect(o_hdbc1);

        // if build index after load...
        if ((aptr->build_index == 1) && (aptr->index_order == 0))
            BuildIndex("idxordc1");

        // build non-clustered index
        if (aptr->build_index == 1)
            BuildIndex("idxordnc");
    }
    // No Non Clustered index on orders
}

//=====
//
// Function   : LoadNewOrderTable
//
//=====

void LoadNewOrderTable(LOADER_TIME_STRUCT *new_order_time_start)
{
    int         i;
    long        o_id;
    short       o_d_id;
    short       o_w_id;
    RETCODE     rc;
    DBINT       rcint;

    // Bind NEW-ORDER data

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

```

```

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

        rc = bcp_bind(o_hdbc2, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, 3);
        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(o_hdbc2, o_hstmt2, new_order_rows_loaded,
"new_order", &new_order_time_start->time_start);
        }

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

        if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
        {
            rcint = bcp_done(o_hdbc2);
            if (rcint < 0)
                HandleErrorDBC(o_hdbc2);

            SQLFreeStmt(o_hstmt2, SQL_DROP);
            SQLDisconnect(o_hdbc2);
            SQLFreeConnect(o_hdbc2);

            // if build index after load...
            if ((aptr->build_index == 1) && (aptr->index_order == 0))
                BuildIndex("idxnodc1");
        }
    }

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

void LoadOrderLineTable(LOADER_TIME_STRUCT *order_line_time_start)
{
    int         i, j;
    long        o_id;
    short       o_d_id;
    short       o_w_id;

```

```

long      ol;
    long      ol_i_id;
short     ol_supply_w_id;
short     ol_quantity;
double    ol_amount;
char      ol_dist_info[DIST_INFO_LEN+1];
    char      ol_delivery_d[OL_DELIVERY_D_LEN+1];
RETCODE   rc;
DBINT     rcint;

    // bind ORDER-LINE data
rc = bcp_bind(o_hdbc3, (BYTE *) &o_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, 1);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc3);

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

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

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

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

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

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

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

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

rc = bcp_bind(o_hdbc3, (BYTE *) ol_dist_info, 0, DIST_INFO_LEN, NULL,
0, 0, 10);
    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(o_hdbc3, o_hstmt3,
order_line_rows_loaded, "order_line", &order_line_time_start->time_start);
        }
    }

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

    if ((o_w_id == aptr->num_warehouses) && (o_d_id == 10))
    {
        rcint = bcp_done(o_hdbc3);
        if (rcint < 0)
            HandleErrorDBC(o_hdbc3);

        SQLFreeStmt(o_hstmt3, SQL_DROP);
        SQLDisconnect(o_hdbc3);
        SQLFreeConnect(o_hdbc3);

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

//=====
//
// Function   : GetPermutation
//
//=====

```

```

void GetPermutation(int perm[], int n)
{
    int i, r, t;

    for (i=1;i<=n;i++)
        perm[i] = i;

    for (i=1;i<=n;i++)
    {
        r = RandomNumber(i,n);
        t = perm[i];
        perm[i] = perm[r];
        perm[r] = t;
    }
}

//=====
//
// Function   : CheckForCommit
//
//=====

void CheckForCommit(HDBC hdbc,
                   HSTMT hstmt,
                   int rows_loaded,
                   char *table_name,
                   long *time_start)
{
    long    time_end, time_diff;
    // DBINT    rcint;

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

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

        printf("-> Loaded %ld rows into %s in %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   : OpenConnections
//
//=====

void OpenConnections()
{
    RETCODE    rc;

    char        szDriverString[300];
    char        szDriverStringOut[1024];
    SQLSMALLINT cbDriverStringOut;

    SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv );

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

    SQLAllocHandle(SQL_HANDLE_DBC, henv , &i_hdbc1);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &w_hdbc1);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &c_hdbc1);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &c_hdbc2);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc1);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc2);
    SQLAllocHandle(SQL_HANDLE_DBC, henv , &o_hdbc3);

    SQLSetConnectAttr(i_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(w_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(c_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(c_hdbc2, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(o_hdbc1, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(o_hdbc2, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );
    SQLSetConnectAttr(o_hdbc3, SQL_COPT_SS_BCP, (void *)SQL_BCP_ON,
SQL_IS_INTEGER );

    // Open connections to SQL Server

    // Connection 1

    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
            aptr->server,
            aptr->user,
            aptr->password,
            aptr->database );

    rc = SQLSetConnectOption (i_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);

    rc = SQLDriverConnect ( i_hdbc1,
                            NULL,

```

```

        (SQLCHAR*)&szDriverString[0]
        SQL_NTS,
    (SQLCHAR*)&szDriverStringOut[0],
    sizeof(szDriverStringOut),
    &cbDriverStringOut,
    SQL_DRIVER_NOPROMPT );
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);
    // Connection 2
    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );
    rc = SQLSetConnectOption (w_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);
    rc = SQLDriverConnect ( w_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT
    );
    if (rc != SUCCEED)
        HandleErrorDBC(w_hdbc1);
    // Connection 3
    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );
    rc = SQLSetConnectOption (c_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc1);
    rc = SQLDriverConnect ( c_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],

```

```

        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT
    );
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc1);
    // Connection 4
    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );
    rc = SQLSetConnectOption (c_hdbc2, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);
    rc = SQLDriverConnect ( c_hdbc2,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT
    );
    if (rc != SUCCEED)
        HandleErrorDBC(c_hdbc2);
    // Connection 5
    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );
    rc = SQLSetConnectOption (o_hdbc1, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc1);
    rc = SQLDriverConnect ( o_hdbc1,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,

```

```

);
    SQL_DRIVER_NOPROMPT
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc1);

    // Connection 6

    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );

    rc = SQLSetConnectOption (o_hdbc2, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc2);

    rc = SQLDriverConnect ( o_hdbc2,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT
);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc2);

    // Connection 7

    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );

    rc = SQLSetConnectOption (o_hdbc3, SQL_PACKET_SIZE, aptr-
>pack_size);
    if (rc != SUCCEED)
        HandleErrorDBC(o_hdbc3);

    rc = SQLDriverConnect ( o_hdbc3,
        NULL,
        (SQLCHAR*)&szDriverString[0] ,
        SQL_NTS,
        (SQLCHAR*)&szDriverStringOut[0],
        sizeof(szDriverStringOut),
        &cbDriverStringOut,
        SQL_DRIVER_NOPROMPT
);
    if (rc != SUCCEED)

```

```

        HandleErrorDBC(o_hdbc3);
    }
    //=====
    //
    // Function name: BuildIndex
    //
    //=====
void BuildIndex(char *index_script)
{
    char cmd[256];

    printf("Starting index creation: %s\n",index_script);

    sprintf(cmd, "isql -S%s -U%s -P%s -e -i%s\\%s.sql > logs\\%s.log",
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->index_script_path,
        index_script,
        index_script);

    system(cmd);

    printf("Finished index creation: %s\n",index_script);
}

void HandleErrorDBC (SQLHDBC hdbc1)
{
    SQLCHAR SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
    SQLINTEGER NativeError;
    SQLSMALLINT i, MsgLen;
    SQLRETURN rc2;
    char timebuf[128];
    char datebuf[128];
    FILE *fp1;

    i = 1;
    while (( rc2 = SQLGetDiagRec(SQL_HANDLE_DBC , hdbc1, i, SqlState ,
&NativeError,
        Msg, sizeof(Msg) , &MsgLen )) !=
SQL_NO_DATA )
    {
        sprintf( szLastError , "%s" , Msg );

        _strtime(timebuf);
        _strdate(datebuf);

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

        fp1 = fopen("logs\\tpccldr.err","w");
        if (fp1 == NULL)
            printf("ERROR: Unable to open errorlog file.\n");
        else
        {

```

```

        fprintf(fp1, "[%s : %s] %s\n" , datebuf, timebuf,
szLastError);
    }
    fclose(fp1);
    i++;
}

void HandleErrorSTMT (HSTMT hstmt1)
{
    SQLCHAR      SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
    SQLINTEGER   NativeError;
    SQLSMALLINT i, MsgLen;
    SQLRETURN    rc2;
    char         timebuf[128];
    char         datebuf[128];
    FILE         *fp1;

    i = 1;
    while (( rc2 = SQLGetDiagRec(SQL_HANDLE_STMT , hstmt1, i, SqlState
, &NativeError,
        Msg, sizeof(Msg) , &MsgLen )) !=
SQL_NO_DATA )
    {
        sprintf( szLastError , "%s" , Msg );

        _strtime(timebuf);
        _strdate(datebuf);

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

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

void FormatDate ( char* szTimeCOutput )
{
    struct tm when;
    time_t now;

    time( &now );
    when = *localtime( &now );
    mktime( &when );

```

```

// odbc datetime format
strftime( szTimeCOutput , 30 , "%Y-%m-%d %H:%M:%S.000", &when );

return;
}

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

void CheckDataBase()
{
    RETCODE      rc;

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

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

    ExitFlag = 0;

    SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv );

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

    SQLAllocHandle(SQL_HANDLE_DBC, henv , &v_hdbc);

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

    // Open connection to SQL Server

    sprintf( szDriverString , "DRIVER={SQL
Server};SERVER=%s;UID=%s;PWD=%s;DATABASE=%s" ,
        aptr->server,
        aptr->user,
        aptr->password,
        aptr->database );

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

    rc = SQLDriverConnect ( v_hdbc,
        NULL,
        (SQLCHAR*)&szDriverString[0]
,
        SQL_NTS,

```



```

        (SQLCHAR*)&szDriverStringOut[0],
                                sizeof(szDriverStringOut),
                                &cbDriverStringOut,
                                SQL_DRIVER_NOPROMPT );

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

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

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

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

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

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

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

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

    SQLAllocHandle(SQL_HANDLE_STMT, v_hdbc , &v_hstmt);

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

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

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

```

```

while ((rc = SQLFetch(v_hstmt)) != SQL_NO_DATA)
{
    switch( TabName[0] )
    {
        case 'w':
            TablesBitMap[0] = '1';
            break;
        case 'd':
            TablesBitMap[1] = '1';
            break;
        case 'c':
            TablesBitMap[2] = '1';
            break;
        case 'h':
            TablesBitMap[3] = '1';
            break;
        case 'n':
            TablesBitMap[4] = '1';
            break;
        case 'o':
            if (TabName[5] = 's')
                TablesBitMap[5] = '1';
            if (TabName[5] = '_')
                TablesBitMap[6] = '1';
            break;
        case 'i':
            TablesBitMap[7] = '1';
            break;
        case 's':
            TablesBitMap[8] = '1';
            break;
    }

    // a '0' ExitFlag means do NOT exit the loader early, a '1'
means exit the loader early
    ExitFlag = 0;

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

```

```

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

    // if one or more tables are missing, display message and
    exit the loader
}

if (ExitFlag = 1)
{
    printf("\nExiting TPC-C Loader!\n");
    printf("\nCheck LOGS\\ directory for database\n");
    printf("or table creation errors.\n");

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

    exit(1);
}

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

return;
}

```

# Appendix C - Tunable Parameters

## Microsoft SQL Server Startup Parameters

```
sqlservr -c -x -g250 -T3502 -T3428
```

Where:

- -c Start SQL Server independently of the Service Control Manager
- -x Disables the keeping of CPU time and cache hit ratio statistics
- -g250 Specifies the amount of virtual address space, in MB, SQL Server will leave available for memory allocations, excluding the buffer pool and thread stacks, such as dynamically-loaded DLLs, extended procedure calls, etc. If this option is not specified, SQL Server will use a value that is suitable for a wide range of runtime environments. Use of this option may be appropriate in 2GB (3GB Enterprise Edition) configurations in which the memory usage requirements of SQL Server are atypical and the virtual address space of the SQL Server process is totally in use. Incorrect use of this option can lead to conditions under which SQL Server may not start or may encounter runtime errors.
- -T3502 Writes a message to the SQL Server Errorlog showing the beginning and ending time of each checkpoint
- T3428 Use half of the memory available on the system during the recovery process to keep a hash table that enables recovery to proceed smoothly.

## BOOT.INI

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Windows Server 2003,
Datacenter" /fastdetect /hb=0 /pae
```

The /pae switch was added to the boot.ini file to cause the OS to support more than 4GB of physical memory.

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 2000 could use large amounts of physical memory.

## Microsoft SQL Server Configuration Parameters

```
1> 2> 3> 4> 5> 6> 7> 8> 9> 10> 11>
-- File:          VERSION.SQL
--               Microsoft TPC-C Benchmark Kit Ver. 4.21
--               Copyright Microsoft, 1999, 2000
-- Purpose:       Returns SQL Server version string
```

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

```
-----
Apr 30 2003  1:47:21:200AM
```

(1 row affected)

```
1> 2> 3>
select @@version
```

```
-----
-----
-----
-----
-----
-----
Microsoft SQL Server 2000 - 8.00.761 (Intel X86)
Feb 27 2003 12:09:37
Cop
yright (c) 1988-2003 Microsoft Corporation
Enterprise Edition on Windo
ws NT 5.2 (Build 3788: )
```

(1 row affected)

```
1> 2>
1> 2> 3> 4> 5> 6> 7> 8> 9> 10>
-- File:          CONFIG.SQL
--               Microsoft TPC-C Benchmark Kit Ver. 4.21
--               Copyright Microsoft, 1999, 2000
```

-- Purpose: Collects SQL Server configuration parameters

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

```
-----
Apr 30 2003 1:47:22:000AM
```

(1 row affected)

1> 2> 3> DBCC execution completed. If DBCC printed error messages, contact your system administrator. Configuration option 'show advanced options' changed from 1 to 1. Run the RECONFIGURE statement to install.

```
sp_configure "show advanced",1
1> 2> reconfigure with override
1> 2> sp_configure
```

name	minimum	maximum	config_value	run_value
affinity mask				
2147483648	2147483647		-1	-1
allow updates				
0	1	0	0	
awe enabled				
0	1	1	1	
c2 audit mode				
0	1	0	0	
cost threshold for parallelism				
0	32767	5	5	
Cross DB Ownership Chaining				
0	1	0	0	
cursor threshold				
-1	2147483647	-1	-1	
default full-text language				
0	2147483647	1033	1033	
default language				
0	9999	0	0	
fill factor (%)				
0	100	0	0	
index create memory (KB)				
704	2147483647	0	0	
lightweight pooling				
0	1	1	1	
locks				
5000	2147483647	0	0	
max degree of parallelism				
0	32	1	1	
max server memory (MB)				
4	2147483647	63500	63500	
max text repl size (B)				
0	2147483647	65536	65536	
max worker threads				
32	32767	480	480	

media retention				
0	365	0	0	
min memory per query (KB)				
512	2147483647	512	512	
min server memory (MB)				
0	2147483647	0	0	
nested triggers				
0	1	0	0	
network packet size (B)				
512	65536	4096	4096	
open objects				
0	2147483647	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	119	119	
remote access				
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	
scan for startup procs				
0	1	0	0	
set working set size				
0	1	0	0	
show advanced options				
0	1	1	1	
two digit year cutoff				
1753	9999	2049	2049	
user connections				
0	32767	0	0	
user options				
0	32767	0	0	

1>

## Hyperthreading Information

```
C:\Tools\DetectHyperthreading>detecthyperthreading
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: 2 PHY ID: 1, LOG ID: 0
OS Affinity ID: 0x00000004, APIC ID: 4 PHY ID: 2, LOG ID: 0
OS Affinity ID: 0x00000008, APIC ID: 6 PHY ID: 3, LOG ID: 0
OS Affinity ID: 0x00000010, APIC ID: 8 PHY ID: 4, LOG ID: 0
OS Affinity ID: 0x00000020, APIC ID: 10 PHY ID: 5, LOG ID: 0
OS Affinity ID: 0x00000040, APIC ID: 12 PHY ID: 6, LOG ID: 0
OS Affinity ID: 0x00000080, APIC ID: 14 PHY ID: 7, LOG ID: 0
OS Affinity ID: 0x00000100, APIC ID: 16 PHY ID: 8, LOG ID: 0
```

```

OS Affinity ID: 0x00000200, APIC ID: 18 PHY ID: 9, LOG ID: 0
OS Affinity ID: 0x00000400, APIC ID: 20 PHY ID: 10, LOG ID: 0
OS Affinity ID: 0x00000800, APIC ID: 22 PHY ID: 11, LOG ID: 0
OS Affinity ID: 0x00001000, APIC ID: 24 PHY ID: 12, LOG ID: 0
OS Affinity ID: 0x00002000, APIC ID: 26 PHY ID: 13, LOG ID: 0
OS Affinity ID: 0x00004000, APIC ID: 28 PHY ID: 14, LOG ID: 0
OS Affinity ID: 0x00008000, APIC ID: 30 PHY ID: 15, LOG ID: 0
OS Affinity ID: 0x00010000, APIC ID: 1 PHY ID: 0, LOG ID: 1
OS Affinity ID: 0x00020000, APIC ID: 3 PHY ID: 1, LOG ID: 1
OS Affinity ID: 0x00040000, APIC ID: 5 PHY ID: 2, LOG ID: 1
OS Affinity ID: 0x00080000, APIC ID: 7 PHY ID: 3, LOG ID: 1
OS Affinity ID: 0x00100000, APIC ID: 9 PHY ID: 4, LOG ID: 1
OS Affinity ID: 0x00200000, APIC ID: 11 PHY ID: 5, LOG ID: 1
OS Affinity ID: 0x00400000, APIC ID: 13 PHY ID: 6, LOG ID: 1
OS Affinity ID: 0x00800000, APIC ID: 15 PHY ID: 7, LOG ID: 1
OS Affinity ID: 0x01000000, APIC ID: 17 PHY ID: 8, LOG ID: 1
OS Affinity ID: 0x02000000, APIC ID: 19 PHY ID: 9, LOG ID: 1
OS Affinity ID: 0x04000000, APIC ID: 21 PHY ID: 10, LOG ID: 1
OS Affinity ID: 0x08000000, APIC ID: 23 PHY ID: 11, LOG ID: 1
OS Affinity ID: 0x10000000, APIC ID: 25 PHY ID: 12, LOG ID: 1
OS Affinity ID: 0x20000000, APIC ID: 27 PHY ID: 13, LOG ID: 1
OS Affinity ID: 0x40000000, APIC ID: 29 PHY ID: 14, LOG ID: 1
OS Affinity ID: 0x80000000, APIC ID: 31 PHY ID: 15, LOG ID: 1
Processors with Hyper-Threading Technology enabled was detected.

```

C:\Tools\DetectHyperthreading>

## Storage Configuration Information

### Log DPE-Cache Configuration

```

SP Read Cache State           Disabled
SP Write Cache State          Enabled
Cache Page size:              8
Write Cache Mirrored:         YES
Low Watermark:                15
High Watermark:               85
SPA Cache pages:              25349
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):           275 MB
System Buffer (spB):           275 MB
SPS Test Day:                 Saturday
SPS Test Time:                18:00
SPA Physical Memory Size =    512
SPB Physical Memory Size =    512

```

```

Physical memory size of Front-End = Switch not supported
Physical memory size of Back-End = Switch not supported
SPA Free Memory Size =        0
SPB Free Memory Size =        0
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 =        237
SPB Write Cache Size =        237
SPA Optimized Raid 3 Memory Size = 0
SPB Optimized Raid 3 Memory Size = 0

```

### Log DPE LUN Configurations

```

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): 432894
LUN Capacity (Blocks): 886566912
UID:
60:06:01:F3:95:0C:00:00:C0:27:87:C0:D1:66:D7:11
Bus 0 Enclosure 0 Disk 0 Queue Length: 0
Bus 0 Enclosure 0 Disk 2 Queue Length: 0
Bus 0 Enclosure 0 Disk 4 Queue Length: 0
Bus 0 Enclosure 0 Disk 6 Queue Length: 0
Bus 0 Enclosure 0 Disk 8 Queue Length: 0
Bus 0 Enclosure 0 Disk 10 Queue Length: 0
Bus 0 Enclosure 0 Disk 12 Queue Length: 0
Bus 0 Enclosure 0 Disk 1 Queue Length: 0
Bus 0 Enclosure 0 Disk 3 Queue Length: 0
Bus 0 Enclosure 0 Disk 5 Queue Length: 0
Bus 0 Enclosure 0 Disk 7 Queue Length: 0
Bus 0 Enclosure 0 Disk 9 Queue Length: 0
Bus 0 Enclosure 0 Disk 11 Queue Length: 0
Bus 0 Enclosure 0 Disk 13 Queue Length: 0
Bus 0 Enclosure 0 Disk 0 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 2 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 4 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 6 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 8 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 10 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 12 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 1 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 3 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 5 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 7 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 9 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 11 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 13 Hard Read Errors: 0
Bus 0 Enclosure 0 Disk 0 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 2 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 4 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 6 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 8 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 10 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 12 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 1 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 3 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 5 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 7 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 9 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 11 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 13 Hard Write Errors: 0
Bus 0 Enclosure 0 Disk 0 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 2 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 4 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 6 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 8 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 10 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 12 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 1 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 3 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 5 Soft Read Errors: 0

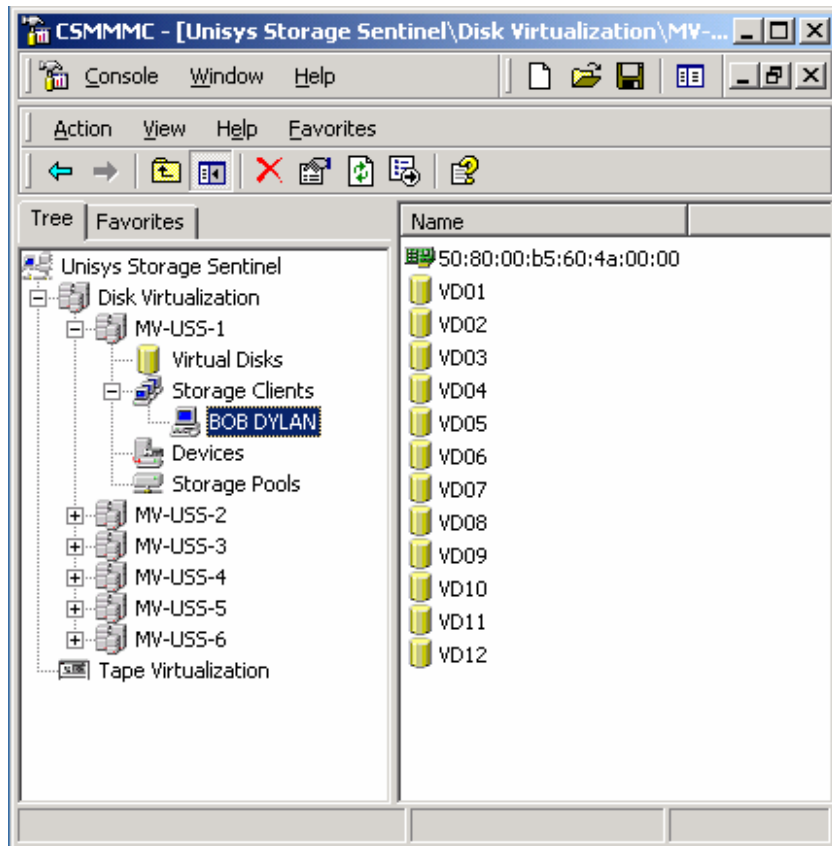
```

```

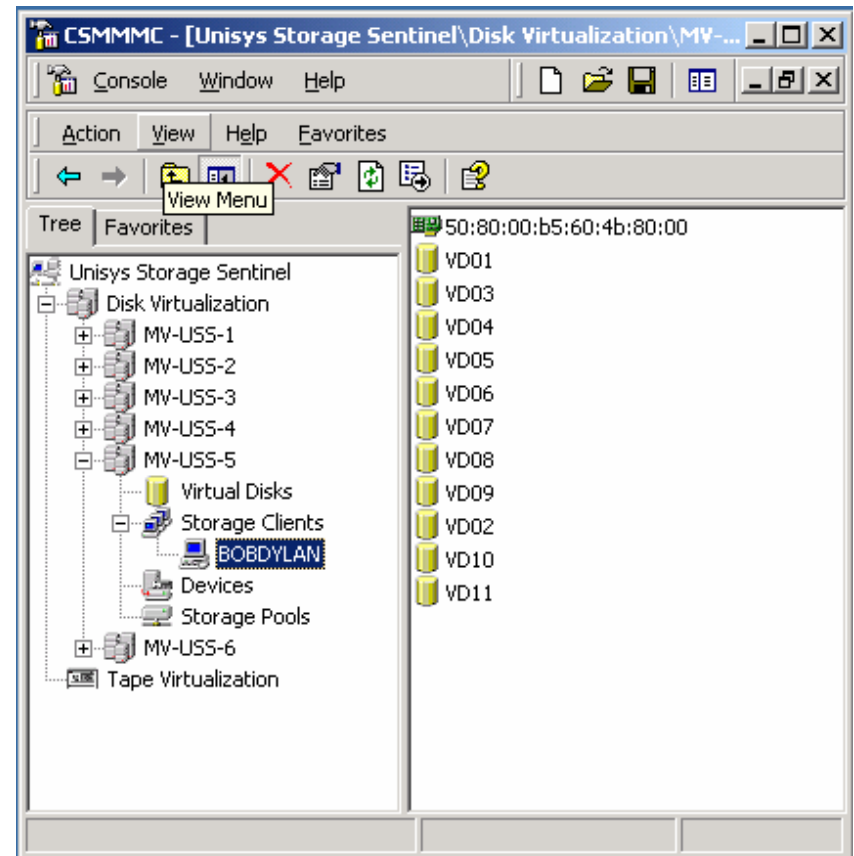
Bus 0 Enclosure 0 Disk 7 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 9 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 11 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 13 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 0 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 2 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 4 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 6 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 8 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 10 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 12 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 1 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 3 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 5 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 7 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 9 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 11 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 13 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 0 Enabled
Bus 0 Enclosure 0 Disk 2 Enabled
Bus 0 Enclosure 0 Disk 4 Enabled
Bus 0 Enclosure 0 Disk 6 Enabled
Bus 0 Enclosure 0 Disk 8 Enabled
Bus 0 Enclosure 0 Disk 10 Enabled
Bus 0 Enclosure 0 Disk 12 Enabled
Bus 0 Enclosure 0 Disk 1 Enabled
Bus 0 Enclosure 0 Disk 3 Enabled
Bus 0 Enclosure 0 Disk 5 Enabled
Bus 0 Enclosure 0 Disk 7 Enabled
Bus 0 Enclosure 0 Disk 9 Enabled
Bus 0 Enclosure 0 Disk 11 Enabled
Bus 0 Enclosure 0 Disk 13 Enabled
Is Private: NO
Snapshots List: None
MirrorView Name if any: Not Mirrored

```

### Database USS Configuration Info (common to USS 1-4)



### Database USS Configuration Info (common to USS 5 & 6)







Memory Address 0xF0000000-0xF1FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF0000000-0xF1FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

I/O Port 0x00000000-0x00002FFF PCI bus  
I/O Port 0x00000000-0x00002FFF Direct memory access controller

Memory Address 0xEF800000-0xEFFFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEF800000-0xEFFFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xF9000000-0xFBFFFFFF PCI bus  
Memory Address 0xF9000000-0xFBFFFFFF cLAN Host Adapter #5

Memory Address 0xF8800000-0xF8FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF8800000-0xF8FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xF8400000-0xF8FFFFFF PCI bus  
Memory Address 0xF8400000-0xF8FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF8400000-0xF8FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

I/O Port 0x000003C0-0x000003DF DEC 21152 PCI to PCI bridge  
I/O Port 0x000003C0-0x000003DF Console Manager Video Driver

IRQ 10 Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI  
IRQ 10 Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI  
IRQ 10 Intel(R) 8255xER PCI Adapter #2

I/O Port 0x00002000-0x00002FFF DEC 21152 PCI to PCI bridge  
I/O Port 0x00002000-0x00002FFF Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI

I/O Port 0x000003F6-0x000003F6 System speaker  
I/O Port 0x000003F6-0x000003F6 Primary IDE Channel

Memory Address 0xE4100000-0xE7FFFFFF DEC 21152 PCI to PCI bridge  
Memory Address 0xE4100000-0xE7FFFFFF Console Manager Video Driver

Memory Address 0xF2000000-0xF4FFFFFF PCI bus  
Memory Address 0xF2000000-0xF4FFFFFF cLAN Host Adapter #3

Memory Address 0xEC000000-0xEE7FFFFFF PCI bus  
Memory Address 0xEC000000-0xEE7FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEC000000-0xEE7FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xF6000000-0xF7FFFFFF PCI bus  
Memory Address 0xF6000000-0xF7FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF6000000-0xF7FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xF5800000-0xF5FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF5800000-0xF5FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xF1800000-0xF1FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xF1800000-0xF1FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xA0000-0xBFFFF PCI bus  
Memory Address 0xA0000-0xBFFFF DEC 21152 PCI to PCI bridge  
Memory Address 0xA0000-0xBFFFF Console Manager Video Driver

Memory Address 0xEE800000-0xEFFFFFFF PCI bus  
Memory Address 0xEE800000-0xEFFFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEE800000-0xEFFFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

I/O Port 0x000003B0-0x000003BB DEC 21152 PCI to PCI bridge  
I/O Port 0x000003B0-0x000003BB Console Manager Video Driver

IRQ 0 Unisys Intelligent Fibre Channel Fabric Bus Adapter  
IRQ 0 System timer

IRQ 1 Unisys Intelligent Fibre Channel Fabric Bus Adapter  
IRQ 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Memory Address 0xEC100000-0xEC1FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEC100000-0xEC1FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xEA000000-0xEBFFFFFF DEC 21152 PCI to PCI bridge  
Memory Address 0xEA000000-0xEBFFFFFF Console Manager control device

Memory Address 0xEE000000-0xEE7FFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEE000000-0xEE7FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

Memory Address 0xED800000-0xEDFFFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xED800000-0xEDFFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter

[DMA]

Resource	Device Status	
Channel 4	Direct memory access controller	OK
Channel 1	ECP Printer Port (LPT1)	OK
Channel 2	Standard floppy disk controller	OK

[Forced Hardware]

Device PNP Device ID

[I/O]

Resource	Device	Status
0x00003000-0x0000300F	PCI bus	OK
0x00003010-0x000033FF	PCI bus	OK
0x00000000-0x00002FFF	PCI bus	OK
0x00000000-0x00002FFF	Direct memory access controller	OK
0x00000A79-0x00000A79	ISAPNP Read Data Port	OK
0x00000279-0x00000279	ISAPNP Read Data Port	OK
0x00000274-0x00000277	ISAPNP Read Data Port	OK
0x00000081-0x0000008F	Direct memory access controller	OK
0x000000C0-0x000000DF	Direct memory access controller	OK
0x00000020-0x00000021	Programmable interrupt controller	OK
0x000000A0-0x000000A1	Programmable interrupt controller	OK
0x00000070-0x00000071	System CMOS/real time clock	OK
0x00000040-0x00000043	System timer	OK
0x00000061-0x00000061	System speaker	OK
0x00000101-0x0000016F	System speaker	OK
0x00000178-0x000001CD	System speaker	OK
0x000001D0-0x000001EF	System speaker	OK
0x000001F8-0x00000273	System speaker	OK
0x00000280-0x000002E7	System speaker	OK
0x000002F0-0x000002F7	System speaker	OK
0x00000300-0x00000377	System speaker	OK
0x00000380-0x000003AF	System speaker	OK
0x000003BC-0x000003BF	System speaker	OK
0x000003E0-0x000003E7	System speaker	OK
0x000003F6-0x000003F6	System speaker	OK
0x000003F6-0x000003F6	Primary IDE Channel	OK
0x00000501-0x0000056F	System speaker	OK
0x00000578-0x000005CD	System speaker	OK
0x000005D0-0x000005EF	System speaker	OK
0x000005F8-0x00000677	System speaker	OK
0x00000680-0x000006E7	System speaker	OK
0x000006F0-0x000006F7	System speaker	OK
0x00000700-0x00000777	System speaker	OK
0x00000780-0x000007AF	System speaker	OK
0x000007BC-0x000007BF	System speaker	OK
0x000007E0-0x000007E7	System speaker	OK
0x000007F6-0x000007F6	System speaker	OK
0x00000901-0x0000096F	System speaker	OK
0x00000978-0x000009CD	System speaker	OK
0x000009D0-0x000009EF	System speaker	OK
0x000009F8-0x00000A77	System speaker	OK
0x00000A80-0x00000AE7	System speaker	OK
0x00000AF0-0x00000AF7	System speaker	OK
0x00000B00-0x00000B77	System speaker	OK
0x00000B80-0x00000BAF	System speaker	OK
0x00000BBC-0x00000BBF	System speaker	OK
0x00000BE0-0x00000BE7	System speaker	OK
0x00000BF6-0x00000BF6	System speaker	OK
0x00000D01-0x00000D6F	System speaker	OK
0x00000D78-0x00000DCD	System speaker	OK
0x00000DD0-0x00000DEF	System speaker	OK
0x00000DF8-0x00000E77	System speaker	OK
0x00000E80-0x00000EE7	System speaker	OK
0x00000EF0-0x00000EF7	System speaker	OK

0x00000F00-0x00000F77	System speaker	OK
0x00000F80-0x00000FAF	System speaker	OK
0x00000FBC-0x00000FBF	System speaker	OK
0x00000FE0-0x00000FE7	System speaker	OK
0x00000FF6-0x00000FF6	System speaker	OK
0x00001101-0x0000116F	System speaker	OK
0x00001178-0x000011CD	System speaker	OK
0x000011D0-0x000011EF	System speaker	OK
0x000011F8-0x00001277	System speaker	OK
0x00001280-0x000012E7	System speaker	OK
0x000012F0-0x000012F7	System speaker	OK
0x00001300-0x00001377	System speaker	OK
0x00001380-0x000013AF	System speaker	OK
0x000013BC-0x000013BF	System speaker	OK
0x000013E0-0x000013E7	System speaker	OK
0x000013F6-0x000013F6	System speaker	OK
0x00001501-0x0000156F	System speaker	OK
0x00001578-0x000015CD	System speaker	OK
0x000015D0-0x000015EF	System speaker	OK
0x000015F8-0x00001677	System speaker	OK
0x00001680-0x000016E7	System speaker	OK
0x000016F0-0x000016F7	System speaker	OK
0x00001700-0x00001777	System speaker	OK
0x00001780-0x000017AF	System speaker	OK
0x000017BC-0x000017BF	System speaker	OK
0x000017E0-0x000017E7	System speaker	OK
0x000017F6-0x000017F6	System speaker	OK
0x00001901-0x0000196F	System speaker	OK
0x00001978-0x000019CD	System speaker	OK
0x000019D0-0x000019EF	System speaker	OK
0x000019F8-0x00001A77	System speaker	OK
0x00001A80-0x00001AE7	System speaker	OK
0x00001AF0-0x00001AF7	System speaker	OK
0x00001B00-0x00001B77	System speaker	OK
0x00001B80-0x00001BAF	System speaker	OK
0x00001BBC-0x00001BBF	System speaker	OK
0x00001BE0-0x00001BE7	System speaker	OK
0x00001BF6-0x00001BF6	System speaker	OK
0x00001D01-0x00001D6F	System speaker	OK
0x00001D78-0x00001DCD	System speaker	OK
0x00001DD0-0x00001DEF	System speaker	OK
0x00001DF8-0x00001E77	System speaker	OK
0x00001E80-0x00001EE7	System speaker	OK
0x00001EF0-0x00001EF7	System speaker	OK
0x00001F00-0x00001F77	System speaker	OK
0x00001F80-0x00001FAF	System speaker	OK
0x00001FBC-0x00001FBF	System speaker	OK
0x00001FE0-0x00001FE7	System speaker	OK
0x00001FF6-0x00001FF6	System speaker	OK
0x00000378-0x0000037F	ECP Printer Port (LPT1)	OK
0x00000778-0x0000077F	ECP Printer Port (LPT1)	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
0x000003F0-0x000003F5	Standard floppy disk controller	OK
0x000003F7-0x000003F7	Standard floppy disk controller	OK
0x00001060-0x0000106F	Intel(r) 82371AB/EB PCI Bus Master IDE Controller	OK

0x000001F0-0x000001F7	Primary IDE Channel	OK	
0x00000170-0x00000177	Secondary IDE Channel	OK	
0x00000376-0x00000376	Secondary IDE Channel	OK	
0x00001040-0x0000105F	Intel(r) 82371AB/EB PCI to USB Universal Host Controller	OK	
0x00002000-0x00002FFF	DEC 21152 PCI to PCI bridge	OK	
0x00002000-0x00002FFF	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
0x000003B0-0x000003BB	DEC 21152 PCI to PCI bridge	OK	
0x000003B0-0x000003BB	Console Manager Video Driver	OK	
0x000003C0-0x000003DF	DEC 21152 PCI to PCI bridge	OK	
0x000003C0-0x000003DF	Console Manager Video Driver	OK	
0x00002400-0x000024FF	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
0x00001000-0x0000103F	Intel(R) 8255xER PCI Adapter #2		OK
0x00003400-0x0000340F	PCI bus	OK	
0x00003410-0x0000341F	PCI bus	OK	
0x00003420-0x000037FF	PCI bus	OK	
0x00003800-0x0000380F	PCI bus	OK	
0x00003810-0x0000381F	PCI bus	OK	
0x00003820-0x00003BFF	PCI bus	OK	
0x00003C00-0x00003C0F	PCI bus	OK	
0x00003C10-0x00003C1F	PCI bus	OK	
0x00003C20-0x0000FFFF	PCI bus	OK	

[IRQs]

Resource	Device	Status	
IRQ 23	Microsoft ACPI-Compliant System	OK	
IRQ 0	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 0	System timer	OK	
IRQ 1	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard		OK
IRQ 5	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 8	System CMOS/real time clock	OK	
IRQ 12	PS/2 Compatible Mouse	OK	
IRQ 6	Standard floppy disk controller	OK	
IRQ 14	Primary IDE Channel	OK	
IRQ 13	Secondary IDE Channel	OK	
IRQ 11	Intel(r) 82371AB/EB PCI to USB Universal Host Controller		OK
IRQ 9	Console Manager control device	OK	
IRQ 10	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
IRQ 10	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
IRQ 10	Intel(R) 8255xER PCI Adapter #2		OK
IRQ 25	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 28	cLAN Host Adapter #3	OK	
IRQ 29	cLAN Host Adapter #4	OK	
IRQ 48	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 52	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 73	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK	
IRQ 76	cLAN Host Adapter #5	OK	
IRQ 77	cLAN Host Adapter #6	OK	

[Memory]

Resource	Device	Status
0xEC000000-0xEE7FFFFFFF	PCI bus	OK

0xEC000000-0xEE7FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xEC000000-0xEE7FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xED800000-0xEDFFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xED800000-0xEDFFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xEC100000-0xEC1FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xEC100000-0xEC1FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xEE000000-0xEE7FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xEE000000-0xEE7FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xEE800000-0xEFFFFFFF	PCI bus	OK	
0xEE800000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xEE800000-0xEFFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xEF800000-0xEFFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xEF800000-0xEFFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xA0000-0xBFFFF	PCI bus	OK	
0xA0000-0xBFFFF	DEC 21152 PCI to PCI bridge	OK	
0xA0000-0xBFFFF	Console Manager Video Driver	OK	
0xC0000-0xDFFFF	PCI bus	OK	
0xE0000-0xFFFF	PCI bus	OK	
0xE4000000-0xEBFFFFFFF	PCI bus	OK	
0xE4100000-0xE7FFFFFFF	DEC 21152 PCI to PCI bridge	OK	
0xE4100000-0xE7FFFFFFF	Console Manager Video Driver	OK	
0xEA000000-0xEBFFFFFFF	DEC 21152 PCI to PCI bridge	OK	
0xEA000000-0xEBFFFFFFF	Console Manager control device		OK
0xE4110000-0xE4110FFF	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
0xE4111000-0xE4111FFF	Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI		OK
0xE6000000-0xE7FFFFFFF	Console Manager Video Driver	OK	
0xE4001000-0xE4001FFF	Intel(R) 8255xER PCI Adapter #2		OK
0xE4020000-0xE403FFFF	Intel(R) 8255xER PCI Adapter #2		OK
0xF0000000-0xF1FFFFFFF	PCI bus	OK	
0xF0000000-0xF1FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xF0000000-0xF1FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xF1800000-0xF1FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xF1800000-0xF1FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xF2000000-0xF4FFFFFFF	PCI bus	OK	
0xF2000000-0xF4FFFFFFF	cLAN Host Adapter #3		OK
0xF2020000-0xF203FFFF	cLAN Host Adapter #3		OK
0xF2200000-0xF23FFFFF	cLAN Host Adapter #3		OK
0xF3000000-0xF3FFFFFFF	cLAN Host Adapter #3		OK
0xF2040000-0xF205FFFF	cLAN Host Adapter #4		OK
0xF2400000-0xF25FFFFF	cLAN Host Adapter #4		OK
0xF4000000-0xF4FFFFFFF	cLAN Host Adapter #4		OK
0xF2010000-0xF201FFFF	cLAN Host Adapter #4		OK
0xF5000000-0xF53FFFFF	PCI bus	OK	
0xF5400000-0xF5FFFFFFF	PCI bus	OK	
0xF5400000-0xF5FFFFFFF	PCI standard PCI-to-PCI bridge	OK	
0xF5400000-0xF5FFFFFFF	Unisys Intelligent Fibre Channel Fabric Bus Adapter		OK
0xF5800000-0xF5FFFFFFF	PCI standard PCI-to-PCI bridge	OK	

```

0xF5800000-0xF5FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter
OK
0xF6000000-0xF7FFFFFF PCI bus OK
0xF6000000-0xF7FFFFFF PCI standard PCI-to-PCI bridge OK
0xF6000000-0xF7FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter
OK
0xF7800000-0xF7FFFFFF PCI standard PCI-to-PCI bridge OK
0xF7800000-0xF7FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter
OK
0xF8000000-0xF83FFFFFF PCI bus OK
0xF8400000-0xF8FFFFFF PCI bus OK
0xF8400000-0xF8FFFFFF PCI standard PCI-to-PCI bridge OK
0xF8400000-0xF8FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter
OK
0xF8800000-0xF8FFFFFF PCI standard PCI-to-PCI bridge OK
0xF8800000-0xF8FFFFFF Unisys Intelligent Fibre Channel Fabric Bus Adapter
OK
0xF9000000-0xFBFFFFFF PCI bus OK
0xF9000000-0xFBFFFFFF cLAN Host Adapter #5 OK
0xF9020000-0xF903FFFF cLAN Host Adapter #5 OK
0xF9200000-0xF93FFFFF cLAN Host Adapter #5 OK
0xFA000000-0xFAFFFFFF cLAN Host Adapter #5 OK
0xF9040000-0xF905FFFF cLAN Host Adapter #6 OK
0xF9400000-0xF95FFFFF cLAN Host Adapter #6 OK
0xFB000000-0xFBFFFFFF cLAN Host Adapter #6 OK
0xF9010000-0xF901FFFF cLAN Host Adapter #6 OK
0xFC000000-0xFDFFFFFF PCI bus OK

```

[Components]

[Multimedia]

[Audio Codecs]

CODEC	Manufacturer	Description	Status	File	Version	Size
		Creation Date				
c:\windows\system32\msg723.acm	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSG723.ACM			4.4.4000		116.00 KB
	(118,784 bytes)	3/21/2003 2:58 PM				
c:\windows\system32\tsoft32.acm	DSP GROUP, INC.		OK			
	C:\WINDOWS\system32\TSSOFT32.ACM			1.01	9.50 KB (9,728 bytes)	
		3/18/2003 4:00 AM				
c:\windows\system32\msgsm32.acm	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSGSM32.ACM			5.2.3788.0 (srv03_rtm.030317-		
	2234)	20.50 KB (20,992 bytes)		3/18/2003 4:00 AM		
c:\windows\system32\imaadp32.acm	Microsoft Corporation		OK			
	C:\WINDOWS\system32\IMAADP32.ACM			5.2.3788.0 (srv03_rtm.030317-		
	2234)	15.50 KB (15,872 bytes)		3/18/2003 4:00 AM		
c:\windows\system32\msg711.acm	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSG711.ACM			5.2.3788.0 (srv03_rtm.030317-		
	2234)	10.00 KB (10,240 bytes)		3/18/2003 4:00 AM		
c:\windows\system32\msadp32.acm	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSADP32.ACM			5.2.3788.0 (srv03_rtm.030317-		
	2234)	14.50 KB (14,848 bytes)		3/18/2003 4:00 AM		

```

c:\windows\system32\msaud32.acm Microsoft Corporation Windows Media
Audio Codec OK C:\WINDOWS\system32\MSAUD32.ACM 8.00.00.4487
288.00 KB (294,912 bytes) 3/18/2003 4:00 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) 3/18/2003 4:00 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			5.2.3788.0 (srv03_rtm.030317-		
	2234)	10.50 KB (10,752 bytes)		3/18/2003 4:00 AM		
c:\windows\system32\msvidc32.dll	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSVIDC32.DLL			5.2.3788.0 (srv03_rtm.030317-		
	2234)	26.50 KB (27,136 bytes)		3/18/2003 4:00 AM		
c:\windows\system32\iyuv_32.dll	Microsoft Corporation		OK			
	C:\WINDOWS\system32\IYUV_32.DLL			5.2.3788.0 (srv03_rtm.030317-		
	2234)	45.00 KB (46,080 bytes)		3/18/2003 8:59 AM		
c:\windows\system32\msyuv.dll	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSYUV.DLL			5.2.3788.0 (srv03_rtm.030317-2234)		
		16.50 KB (16,896 bytes)		3/18/2003 8:59 AM		
c:\windows\system32\msh261.drv	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSH261.DRV			4.4.4000	180.00 KB	
	(184,320 bytes)	3/21/2003 2:58 PM				
c:\windows\system32\tsbyuv.dll	Microsoft Corporation		OK			
	C:\WINDOWS\system32\TSBYUV.DLL			5.2.3788.0 (srv03_rtm.030317-		
	2234)	8.00 KB (8,192 bytes)		3/18/2003 9:00 AM		
c:\windows\system32\msh263.drv	Microsoft Corporation		OK			
	C:\WINDOWS\system32\MSH263.DRV			4.4.4000	284.00 KB	
	(290,816 bytes)	3/18/2003 8:57 AM				

[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_____1.9A____\5&15E60F8D&0&0.0.0

```

[Sound Device]

```
Item Value
```

[Display]

```

Item Value
Name Console Manager Video Driver
PNP Device ID
PCI\VEN_1013&DEV_00D6&SUBSYS_80D61018&REV_03\4&A40E83F&0&1008

```

```

Adapter Type    Cirrus Logic 5465, Unisys Corporation compatible
Adapter Description  Console Manager Video Driver
Adapter RAM     2.00 MB (2,097,152 bytes)
Installed Drivers  unesconf.dll
Driver Version  6.0.3.29
INF File       oem2.inf (unescons section)
Color Planes   1
Color Table Entries  256
Resolution     800 x 600 x 72 hertz
Bits/Pixel     8
Memory Address 0xE6000000-0xE7FFFFFF
Memory Address 0xE4100000-0xE7FFFFFF
I/O Port      0x000003B0-0x000003BB
I/O Port      0x000003C0-0x000003DF
Memory Address 0xA0000-0xBFFFF

```

[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\21
Number of Function Keys  12
I/O Port    0x00000060-0x00000060
I/O Port    0x00000064-0x00000064
IRQ Channel  IRQ 1

```

[Pointing Device]

```

Item Value
Hardware Type PS/2 Compatible Mouse
Number of Buttons  3
Status OK
PNP Device ID  ACPI\PNP0F13\21
Power Management Supported  No
Double Click Threshold 6
Handedness    Right Handed Operation
IRQ Channel    IRQ 12

```

[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 4/29/2003 2:19 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_L2TPMINIPOINT\0000
Last Reset 4/29/2003 2:19 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

```

```

Name [00000003] WAN Miniport (PPTP)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPTP)
Installed Yes
PNP Device ID ROOT\MS_PPTPMINIPOINT\0000
Last Reset 4/29/2003 2:19 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

```

```

Name [00000004] WAN Miniport (PPPOE)
Adapter Type Wide Area Network (WAN)
Product Type WAN Miniport (PPPOE)
Installed Yes
PNP Device ID ROOT\MS_PPPOEMINIPOINT\0000
Last Reset 4/29/2003 2:19 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

Name [00000005] Direct Parallel  
Adapter Type Not Available  
Product Type Direct Parallel  
Installed Yes  
PNP Device ID ROOT\MS\_PTMINIPOINT\0000  
Last Reset 4/29/2003 2:19 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

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 4/29/2003 2:19 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

Name [00000007] Intel(R) 8255xER PCI Adapter  
Adapter Type Not Available  
Product Type Intel(R) 8255xER PCI Adapter  
Installed Yes  
PNP Device ID Not Available  
Last Reset 4/29/2003 2:19 PM  
Index 7  
Service Name E100E  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled No  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available

MAC Address Not Available

Name [00000008] cLAN Host Adapter  
Adapter Type Not Available  
Product Type cLAN Host Adapter  
Installed Yes  
PNP Device ID Not Available  
Last Reset 4/29/2003 2:19 PM  
Index 8  
Service Name GNINDIS  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled Yes  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available

Name [00000009] cLAN Host Adapter  
Adapter Type Not Available  
Product Type cLAN Host Adapter  
Installed Yes  
PNP Device ID Not Available  
Last Reset 4/29/2003 2:19 PM  
Index 9  
Service Name GNINDIS  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled Yes  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available

Name [00000010] cLAN Host Adapter  
Adapter Type Ethernet 802.3  
Product Type cLAN Host Adapter  
Installed Yes  
PNP Device ID PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1B2F0CE&0&00  
Last Reset 4/29/2003 2:19 PM  
Index 10  
Service Name GNINDIS  
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 00:90:FA:00:14:BC  
Memory Address 0xF2020000-0xF203FFFF  
Memory Address 0xF2200000-0xF23FFFFF  
Memory Address 0xF3000000-0xF3FFFFFF  
Memory Address 0xF2000000-0xF4FFFFFF  
IRQ Channel IRQ 28

Name [00000011] cLAN Host Adapter  
 Adapter Type Ethernet 802.3  
 Product Type cLAN Host Adapter  
 Installed Yes  
 PNP Device ID PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1B2F0CE&0&08

Last Reset 4/29/2003 2:19 PM  
 Index 11  
 Service Name GNINDIS  
 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 00:90:FA:00:15:9A  
 Memory Address 0xF2040000-0xF205FFFF  
 Memory Address 0xF2400000-0xF25FFFFF  
 Memory Address 0xF4000000-0xF4FFFFFF  
 Memory Address 0xF2010000-0xF201FFFF  
 IRQ Channel IRQ 29

Name [00000012] Intel(R) 8255xER PCI Adapter  
 Adapter Type Ethernet 802.3  
 Product Type Intel(R) 8255xER PCI Adapter  
 Installed Yes  
 PNP Device ID PCI\VEN\_8086&DEV\_1209&SUBSYS\_10180D88&REV\_09\3&23C0707C&0&10

Last Reset 4/29/2003 2:19 PM  
 Index 12  
 Service Name E100E  
 IP Address 192.59.13.213  
 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:26:01:04  
 Memory Address 0xE4001000-0xE4001FFF  
 I/O Port 0x00001000-0x0000103F  
 Memory Address 0xE4020000-0xE403FFFF  
 IRQ Channel IRQ 10

Name [00000013] cLAN Host Adapter  
 Adapter Type Ethernet 802.3  
 Product Type cLAN Host Adapter  
 Installed Yes  
 PNP Device ID PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&23FF515D&0&00

Last Reset 4/29/2003 2:19 PM  
 Index 13  
 Service Name GNINDIS  
 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 00:90:FA:00:1C:8C  
 Memory Address 0xF9020000-0xF903FFFF  
 Memory Address 0xF9200000-0xF93FFFFF  
 Memory Address 0xFA000000-0xFAFFFFFF  
 Memory Address 0xF9000000-0xFBFFFFFF  
 IRQ Channel IRQ 76

Name [00000014] cLAN Host Adapter  
 Adapter Type Ethernet 802.3  
 Product Type cLAN Host Adapter  
 Installed Yes  
 PNP Device ID PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&23FF515D&0&08

Last Reset 4/29/2003 2:19 PM  
 Index 14  
 Service Name GNINDIS  
 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 00:90:FA:00:1C:15  
 Memory Address 0xF9040000-0xF905FFFF  
 Memory Address 0xF9400000-0xF95FFFFF  
 Memory Address 0xFB000000-0xFBFFFFFF  
 Memory Address 0xF9010000-0xF901FFFF  
 IRQ Channel IRQ 77

[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\_{29E25B58-27C6-4105-BA33-8D9A6E1DA60F}] SEQPACKET 9  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes

Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{29E25B58-27C6-4105-BA33-8D9A6E1DA60F}] DATAGRAM 9  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{BA39212D-8A0D-4B3C-9B12-60B79030C310}] SEQPACKET 8  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{BA39212D-8A0D-4B3C-9B12-60B79030C310}] DATAGRAM 8  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No



Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{0F74F378-CEB1-492E-9C06-21DF6EAEC966}] SEQPACKET 7  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{0F74F378-CEB1-492E-9C06-21DF6EAEC966}] DATAGRAM 7  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{2BAE7DE7-8C00-41F7-B62D-86F56649CA5C}] 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\_{2BAE7DE7-8C00-41F7-B62D-86F56649CA5C}] 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\_{714BB0E3-7714-4B8B-901E-727276B5E731}] SEQPACKET 6  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{714BB0E3-7714-4B8B-901E-727276B5E731}] DATAGRAM 6  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No

Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{0B8AFFC2-5EEF-4F77-A611-A4448635C733}] SEQPACKET 5  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{0B8AFFC2-5EEF-4F77-A611-A4448635C733}] DATAGRAM 5  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{F2963324-82E7-4E81-A26D-98B6EE49E440}] SEQPACKET 4  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No

Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{F2963324-82E7-4E81-A26D-98B6EE49E440}] DATAGRAM 4  
Connectionless Service Yes  
Guarantees Delivery No  
Guarantees Sequencing No  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting Yes  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{ED2A7177-F870-420D-A28A-1003D1AB1C54}] 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\_{ED2A7177-F870-420D-A28A-1003D1AB1C54}] 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\_{6C2BC63B-0DDB-4960-947B-96803A8E8171}] SEQUENCE 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\_{6C2BC63B-0DDB-4960-947B-96803A8E8171}] 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\_{64FA1790-4B4E-45C2-93EE-21970463F516}] SEQUENCE 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\_{64FA1790-4B4E-45C2-93EE-21970463F516}] 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	5.2.3788.0 (srv03_rtm.030317-2234)

[Ports]

[Serial]

Item	Value
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[Parallel]

Item	Value
Name	LPT1
PNP Device ID	ACPI\PNP0401\21
I/O Port	0x00000378-0x0000037F
I/O Port	0x00000778-0x0000077F
DMA Channel	Channel 1

[Storage]

[Drives]

Item	Value
Drive A:	
Description	3 1/2 Inch Floppy Drive
Drive C:	
Description	Local Fixed Disk

Compressed No  
File System NTFS  
Size 27.94 GB (29,997,559,808 bytes)  
Free Space 21.26 GB (22,824,550,400 bytes)  
Volume Name  
Volume Serial Number 00227212

Drive D:  
Description CD-ROM Disc

Drive Z:  
Description Network Connection  
Provider Name \\192.59.13.16\nas4

[Disks]

Item Value  
Description Disk drive  
Manufacturer (Standard disk drives)  
Model FUJITSU MHS2030AT  
Bytes/Sector 512  
Media Loaded Yes  
Media Type Fixed hard disk  
Partitions 1  
SCSI Bus 0  
SCSI Logical Unit 0  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 63  
Size 27.95 GB (30,005,821,440 bytes)  
Total Cylinders 3,648  
Total Sectors 58,605,120  
Total Tracks 930,240  
Tracks/Cylinder 255  
Partition Disk #0, Partition #0  
Partition Size 27.94 GB (29,997,563,904 bytes)  
Partition Starting Offset 32,256 bytes

Description Unisys Intelligent Fibre Channel Fabric Disk Driver  
Manufacturer Unisys Corporation  
Model DGC RAID 10 0099  
Bytes/Sector 512  
Media Loaded Yes  
Media Type Fixed hard disk  
Partitions 1  
SCSI Bus 253  
SCSI Logical Unit 0  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 422.75 GB (453,922,258,944 bytes)  
Total Cylinders 432,894  
Total Sectors 886,566,912  
Total Tracks 13,852,608  
Tracks/Cylinder 32  
Partition Disk #49, Partition #0  
Partition Size 422.75 GB (453,921,177,600 bytes)  
Partition Starting Offset 32,768 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 7  
SCSI Logical Unit 1  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #64, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #64, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #64, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #64, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 2  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #65, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #65, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #65, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #65, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
 SCSI Logical Unit 3  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #66, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #66, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #66, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #66, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 7  
 SCSI Logical Unit 4  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #67, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #67, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #67, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #67, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)

Partition Starting Offset 18,382,585,856 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 7  
 SCSI Logical Unit 5  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #68, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #68, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #68, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #68, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 7  
 SCSI Logical Unit 6  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #69, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #69, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #69, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #69, Partition #3

Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 7  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #70, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #70, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #70, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #70, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 8  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #71, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #71, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #71, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes

Partition Disk #71, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 9  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #50, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #50, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #50, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #50, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 10  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #51, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #51, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #51, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)

Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #51, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 7  
SCSI Logical Unit 11  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #52, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #52, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #52, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #52, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 1  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #1, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #1, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #1, Partition #2

Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #1, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 2  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #2, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #2, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #2, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #2, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 3  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #3, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #3, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes

Partition Disk #3, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #3, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 5  
 SCSI Logical Unit 4  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #4, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #4, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #4, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #4, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 5  
 SCSI Logical Unit 5  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #5, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #5, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)

Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #5, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #5, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 5  
 SCSI Logical Unit 6  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #6, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #6, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #6, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #6, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 5  
 SCSI Logical Unit 7  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #7, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #7, Partition #1



Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #7, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #7, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 8  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #8, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #8, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #8, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #8, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 9  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #9, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes

Partition Disk #9, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #9, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #9, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 10  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #10, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #10, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #10, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #10, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 11  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #11, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)

Partition Starting Offset 32,768 bytes  
Partition Disk #11, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #11, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #11, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 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 5  
SCSI Logical Unit 12  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #12, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #12, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #12, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #12, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 1  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #54, Partition #0

Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #54, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #54, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #54, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 2  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #55, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #55, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #55, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #55, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 3  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32

Partition Disk #56, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #56, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #56, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #56, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 4  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #57, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #57, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #57, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #57, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 5  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000

Tracks/Cylinder 32  
Partition Disk #58, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #58, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #58, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #58, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 6  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #59, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #59, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #59, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #59, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 7  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000

Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #60, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #60, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #60, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #60, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 8  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #61, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #61, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #61, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #61, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 9  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000

Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #62, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #62, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #62, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #62, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 10  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #63, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #63, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #63, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #63, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 11  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)

Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #53, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #53, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #53, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #53, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 1  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64

Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #13, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #13, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #13, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #13, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 2  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64

Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #14, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #14, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #14, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #14, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 3  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64

Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #15, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #15, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #15, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #15, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 9  
 SCSI Logical Unit 4  
 SCSI Port 0  
 SCSI Target ID 0

Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #16, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #16, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #16, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #16, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 5  
SCSI Port 0  
SCSI Target ID 0

Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #17, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #17, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #17, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #17, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 6  
SCSI Port 0

SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #18, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #18, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #18, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #18, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 7  
SCSI Port 0  
SCSI Target ID 0

Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #19, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #19, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #19, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #19, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 8

SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #20, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #20, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #20, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #20, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 9  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #21, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #21, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #21, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #21, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9

SCSI Logical Unit 10  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #22, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #22, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #22, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #22, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 9  
SCSI Logical Unit 11  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #23, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #23, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #23, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #23, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 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          9
SCSI Logical Unit 12
SCSI Port         0
SCSI Target ID   0
Sectors/Track    64
Size             85.45 GB (91,750,400,000 bytes)
Total Cylinders   87,500
Total Sectors    179,200,000
Total Tracks     2,800,000
Tracks/Cylinder  32
Partition        Disk #24, Partition #0
Partition Size   4.86 GB (5,222,924,288 bytes)
Partition Starting Offset 32,768 bytes
Partition        Disk #24, Partition #1
Partition Size   8.03 GB (8,619,294,720 bytes)
Partition Starting Offset 5,222,957,056 bytes
Partition        Disk #24, Partition #2
Partition Size   4.23 GB (4,540,334,080 bytes)
Partition Starting Offset 13,842,251,776 bytes
Partition        Disk #24, Partition #3
Partition Size   68.33 GB (73,366,765,568 bytes)
Partition Starting Offset 18,382,585,856 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         12
SCSI Logical Unit 1
SCSI Port        0
SCSI Target ID  0
Sectors/Track    64
Size             102.54 GB (110,100,480,000 bytes)
Total Cylinders   105,000
Total Sectors    215,040,000
Total Tracks     3,360,000
Tracks/Cylinder  32
Partition        Disk #25, Partition #0
Partition Size   4.86 GB (5,222,924,288 bytes)
Partition Starting Offset 32,768 bytes
Partition        Disk #25, Partition #1
Partition Size   8.03 GB (8,619,294,720 bytes)
Partition Starting Offset 5,222,957,056 bytes
Partition        Disk #25, Partition #2
Partition Size   4.23 GB (4,540,334,080 bytes)
Partition Starting Offset 13,842,251,776 bytes
Partition        Disk #25, Partition #3
Partition Size   85.42 GB (91,716,845,568 bytes)
Partition Starting Offset 18,382,585,856 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         12
SCSI Logical Unit 2
SCSI Port        0
SCSI Target ID   0
Sectors/Track    64
Size             102.54 GB (110,100,480,000 bytes)
Total Cylinders   105,000
Total Sectors    215,040,000
Total Tracks     3,360,000
Tracks/Cylinder  32
Partition        Disk #26, Partition #0
Partition Size   4.86 GB (5,222,924,288 bytes)
Partition Starting Offset 32,768 bytes
Partition        Disk #26, Partition #1
Partition Size   8.03 GB (8,619,294,720 bytes)
Partition Starting Offset 5,222,957,056 bytes
Partition        Disk #26, Partition #2
Partition Size   4.23 GB (4,540,334,080 bytes)
Partition Starting Offset 13,842,251,776 bytes
Partition        Disk #26, Partition #3
Partition Size   85.42 GB (91,716,845,568 bytes)
Partition Starting Offset 18,382,585,856 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         12
SCSI Logical Unit 3
SCSI Port        0
SCSI Target ID   0
Sectors/Track    64
Size             102.54 GB (110,100,480,000 bytes)
Total Cylinders   105,000
Total Sectors    215,040,000
Total Tracks     3,360,000
Tracks/Cylinder  32
Partition        Disk #27, Partition #0
Partition Size   4.86 GB (5,222,924,288 bytes)
Partition Starting Offset 32,768 bytes
Partition        Disk #27, Partition #1
Partition Size   8.03 GB (8,619,294,720 bytes)
Partition Starting Offset 5,222,957,056 bytes
Partition        Disk #27, Partition #2
Partition Size   4.23 GB (4,540,334,080 bytes)
Partition Starting Offset 13,842,251,776 bytes
Partition        Disk #27, Partition #3
Partition Size   85.42 GB (91,716,845,568 bytes)
Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 4  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #28, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #28, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #28, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #28, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 5  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #29, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #29, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #29, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #29, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 6  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #30, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #30, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #30, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #30, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 7  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #31, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #31, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #31, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #31, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 8  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #32, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #32, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #32, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #32, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 9  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #33, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #33, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #33, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #33, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 10  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #34, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #34, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #34, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #34, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
 SCSI Logical Unit 11  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 85.45 GB (91,750,400,000 bytes)  
 Total Cylinders 87,500  
 Total Sectors 179,200,000  
 Total Tracks 2,800,000  
 Tracks/Cylinder 32  
 Partition Disk #35, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #35, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #35, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #35, Partition #3  
 Partition Size 68.33 GB (73,366,765,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 12  
SCSI Logical Unit 12  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #36, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #36, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #36, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #36, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 1  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #37, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #37, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #37, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #37, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 2  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #38, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #38, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #38, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #38, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 3  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #39, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #39, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #39, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #39, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
 SCSI Logical Unit 4  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #40, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #40, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #40, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #40, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 249  
 SCSI Logical Unit 5  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #41, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #41, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #41, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #41, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)

Partition Starting Offset 18,382,585,856 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 249  
 SCSI Logical Unit 6  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #42, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #42, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #42, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #42, Partition #3  
 Partition Size 85.42 GB (91,716,845,568 bytes)  
 Partition Starting Offset 18,382,585,856 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 249  
 SCSI Logical Unit 7  
 SCSI Port 0  
 SCSI Target ID 0  
 Sectors/Track 64  
 Size 102.54 GB (110,100,480,000 bytes)  
 Total Cylinders 105,000  
 Total Sectors 215,040,000  
 Total Tracks 3,360,000  
 Tracks/Cylinder 32  
 Partition Disk #43, Partition #0  
 Partition Size 4.86 GB (5,222,924,288 bytes)  
 Partition Starting Offset 32,768 bytes  
 Partition Disk #43, Partition #1  
 Partition Size 8.03 GB (8,619,294,720 bytes)  
 Partition Starting Offset 5,222,957,056 bytes  
 Partition Disk #43, Partition #2  
 Partition Size 4.23 GB (4,540,334,080 bytes)  
 Partition Starting Offset 13,842,251,776 bytes  
 Partition Disk #43, Partition #3

Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 8  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #44, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #44, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #44, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #44, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 9  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #45, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #45, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #45, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes

Partition Disk #45, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 10  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 102.54 GB (110,100,480,000 bytes)  
Total Cylinders 105,000  
Total Sectors 215,040,000  
Total Tracks 3,360,000  
Tracks/Cylinder 32  
Partition Disk #46, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #46, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #46, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #46, Partition #3  
Partition Size 85.42 GB (91,716,845,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 11  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #47, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #47, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #47, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)

Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #47, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 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 249  
SCSI Logical Unit 12  
SCSI Port 0  
SCSI Target ID 0  
Sectors/Track 64  
Size 85.45 GB (91,750,400,000 bytes)  
Total Cylinders 87,500  
Total Sectors 179,200,000  
Total Tracks 2,800,000  
Tracks/Cylinder 32  
Partition Disk #48, Partition #0  
Partition Size 4.86 GB (5,222,924,288 bytes)  
Partition Starting Offset 32,768 bytes  
Partition Disk #48, Partition #1  
Partition Size 8.03 GB (8,619,294,720 bytes)  
Partition Starting Offset 5,222,957,056 bytes  
Partition Disk #48, Partition #2  
Partition Size 4.23 GB (4,540,334,080 bytes)  
Partition Starting Offset 13,842,251,776 bytes  
Partition Disk #48, Partition #3  
Partition Size 68.33 GB (73,366,765,568 bytes)  
Partition Starting Offset 18,382,585,856 bytes

[SCSI]

Item Value  
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\4&1B316B8F&0&0000

Memory Address 0xED800000-0xEDFFFFFF  
Memory Address 0xEC000000-0xEE7FFFFFF  
IRQ Channel IRQ 0

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\4&13664542&0&0008

Memory Address 0xEE000000-0xEE7FFFFFF  
Memory Address 0xEC100000-0xEC1FFFFFF  
IRQ Channel IRQ 1

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\4&E785D57&0&0008

Memory Address 0xEF800000-0xEFFFFFFF  
Memory Address 0xEE800000-0xEFFFFFFF  
IRQ Channel IRQ 5

Name Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI  
Manufacturer Adaptec  
Status OK  
PNP Device ID  
PCI\VEN\_9005&DEV\_005F&SUBSYS\_080F9005&REV\_00\4&A40E83F&0&0808

I/O Port 0x00002000-0x00002FFF  
Memory Address 0xE4110000-0xE4110FFF  
IRQ Channel IRQ 10

Name Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI  
Manufacturer Adaptec  
Status OK  
PNP Device ID  
PCI\VEN\_9005&DEV\_005F&SUBSYS\_080F9005&REV\_00\4&A40E83F&0&0908

I/O Port 0x00002400-0x000024FF  
Memory Address 0xE4111000-0xE4111FFF  
IRQ Channel IRQ 10

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\4&12E85E37&0&0008

Memory Address 0xF1800000-0xF1FFFFFF  
Memory Address 0xF0000000-0xF1FFFFFF  
IRQ Channel IRQ 25

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\4&1F3768A3&0&0000

Memory Address 0xF5800000-0xF5FFFFFF  
Memory Address 0xF5400000-0xF5FFFFFF  
IRQ Channel IRQ 48

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\4&102FA53&0&0000

Memory Address 0xF7800000-0xF7FFFFFF  
Memory Address 0xF6000000-0xF7FFFFFF  
IRQ Channel IRQ 52

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\4&142EC5AD&0&0008

Memory Address 0xF8800000-0xF8FFFFFF  
 Memory Address 0xF8400000-0xF8FFFFFF  
 IRQ Channel IRQ 73

[IDE]

Item Value  
 Name Intel(r) 82371AB/EB PCI Bus Master IDE Controller  
 Manufacturer Intel  
 Status OK  
 PNP Device ID  
 PCI\VEN\_8086&DEV\_7111&SUBSYS\_00000000&REV\_01\3&23C0707C&0&01

I/O Port 0x00001060-0x0000106F

Name Primary IDE Channel  
 Manufacturer (Standard IDE ATA/ATAPI controllers)  
 Status OK  
 PNP Device ID PCIIDE\IDECHANNEL\4&232EABD1&0&0  
 I/O Port 0x000001F0-0x000001F7  
 I/O Port 0x000003F6-0x000003F6  
 IRQ Channel IRQ 14

Name Secondary IDE Channel  
 Manufacturer (Standard IDE ATA/ATAPI controllers)  
 Status OK  
 PNP Device ID PCIIDE\IDECHANNEL\4&232EABD1&0&1  
 I/O Port 0x00000170-0x00000177  
 I/O Port 0x00000376-0x00000376  
 IRQ Channel IRQ 13

[Printing]

Name	Driver	Port Name	Server Name
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[Problem Devices]

Device PNP Device ID Error Code  
 Not Available ACPI\UNO4501\0 The drivers for this device are not installed.

[USB]

Device PNP Device ID  
 Intel(r) 82371AB/EB PCI to USB Universal Host Controller  
 PCI\VEN\_8086&DEV\_7112&SUBSYS\_00000000&REV\_01\3&23C0707C&0&02

USB Root Hub USB\ROOT\_HUB\4&1491ADA7&0

[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	No	
	Disabled	Stopped	OK	Ignore	No	No	
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Yes	Boot	Running	OK
Driver	Yes	Boot	Running	OK	Normal	No	Yes
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel Driver	No	Disabled	Stopped	OK
	No	Disabled	Stopped	OK	Normal	No	No
adpu160m	adpu160m		Not Available	Kernel Driver	No	No	
	Disabled	Stopped	OK	Normal	No	No	
adpu320	adpu320	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
afcnt	afcnt	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
afd	AFD Networking Support Environment	c:\windows\system32\drivers\afd.sys	Kernel Driver	Yes	Auto	Running	OK
	Running	OK	Normal	No	Yes	Yes	
aha154x	Aha154x	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
aic78u2	aic78u2	c:\windows\system32\drivers\aic78u2.sys	Kernel Driver	Yes	Boot	Running	OK
	Yes	Boot	Running	OK	Normal	No	Yes
aic78xx	aic78xx	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
aliide	AliIde	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
asynctac	RAS Asynchronous Media Driver	c:\windows\system32\drivers\asynctac.sys	Kernel Driver	No	Manual	Stopped	OK
	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
	Running	OK	Normal	No	Yes	Yes	
atdisk	Atdisk	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Ignore	No	No	No	
atmarpc	ATM ARP Client Protocol	c:\windows\system32\drivers\atmarpc.sys	Kernel Driver	No	Manual	Stopped	OK
	Manual	Stopped	OK	Normal	No	No	
audstub	Audio Stub Driver	c:\windows\system32\drivers\audstub.sys	Kernel Driver	Yes	Manual	Running	OK
	Kernel Driver	Yes	Manual	Running	OK	Normal	No
	Yes	Manual	Running	OK	Normal	No	Yes
beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel Driver	Yes	System	Running	OK
	System	Running	OK	Normal	No	Yes	
cbidf2k	cbidf2k	c:\windows\system32\drivers\cbidf2k.sys	Kernel Driver	No	No	Disabled	Stopped
	No	Disabled	Stopped	OK	Normal	No	No
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File System Driver	Yes	Yes	Disabled	Running
	Yes	Disabled	Running	OK	Normal	No	Yes
cdrom	CD-ROM Driver	c:\windows\system32\drivers\cdrom.sys	Kernel Driver	Yes	System	Running	OK
	Yes	System	Running	OK	Normal	No	Yes
changer	Changer	Not Available	Kernel Driver	No	System	Stopped	OK
	Ignore	No	No	System	Stopped	OK	
clusdisk	Cluster Disk Driver	c:\windows\system32\drivers\clusdisk.sys	Kernel Driver	No	Disabled	Stopped	OK
	Disabled	Stopped	OK	Normal	No	No	No
cmdide	CmdIde	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	Stopped	OK	Normal	No	No	No	
cpqarray	Cpqarray	Not Available	Kernel Driver	No	Disabled	Stopped	OK
	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				
crdisk	CRC Disk Filter Driver	c:\windows\system32\drivers\crdisk.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
dac960nt	dac960nt	Not Available	Kernel Driver	No					
	Disabled	Stopped OK	Normal	No	No				
dasd_231	IntelliFibre Fabric Disk Driver (dasd)	c:\windows\system32\drivers\dasd.sys	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					
e100e	E100E	c:\windows\system32\drivers\e100ent.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
escon	Console Manager Control Device	c:\windows\system32\drivers\escon.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
esvuart	Console Manager Network Connection	c:\windows\system32\drivers\esvuart.sys	Kernel Driver	No	Auto	Stopped OK	Normal	No	No
fastfat	Fastfat Driver	c:\windows\system32\drivers\fastfat.sys	File System Driver	No	Disabled	Stopped OK	Normal	No	No
fdc	Floppy Disk Controller Driver	c:\windows\system32\drivers\fdc.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
fips	Fips	c:\windows\system32\drivers\fips.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes
flpydisk	Floppy Disk Driver	c:\windows\system32\drivers\flpydisk.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
ftdisk	Volume Manager Driver	c:\windows\system32\drivers\ftdisk.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
gnindis	cLAN NDIS Driver	c:\windows\system32\drivers\gnindis.sys	Kernel Driver	Yes	Auto	Running OK	Normal	No	Yes
gnivia	cLAN VIA Driver	c:\windows\system32\drivers\gnivia.sys	Kernel Driver	Yes	Auto	Running OK	Normal	No	Yes
gpc	Generic Packet Classifier	c:\windows\system32\drivers\msgpc.sys	Kernel Driver	Yes	Running OK	Normal	No	Yes	Manual
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
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	Boot	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	No					System
	Stopped OK	Normal	No	No					
intelide	IntelIde	c:\windows\system32\drivers\intelide.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
ipfilterdriver	IP Traffic Filter Driver	c:\windows\system32\drivers\ipfltdrv.sys	Kernel Driver	No	Manual	Stopped OK	Normal	No	No
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
isapnp	PnP ISA/EISA Bus Driver	c:\windows\system32\drivers\isapnp.sys	Kernel Driver	Yes	Boot	Running OK	Critical	No	Yes
kbdclass	Keyboard Class Driver	c:\windows\system32\drivers\kbdclass.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes
ksecdd	KSecDD	c:\windows\system32\drivers\ksecdd.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
lp6nds35	lp6nds35	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	No
mnmdd	mnmdd	c:\windows\system32\drivers\mnmdd.sys	Kernel Driver	Yes	System	Running OK	Ignore	No	Yes



modem	Modem	c:\windows\system32\drivers\modem.sys	Kernel Driver	No					
	Manual Stopped OK	Ignore No No							
mouclass	Mouse Class Driver								
		c:\windows\system32\drivers\mouclass.sys	Kernel Driver	Yes					
	System Running OK	Normal No Yes							
mountmgr	Mount Point Manager								
		c:\windows\system32\drivers\mountmgr.sys	Kernel Driver	Yes					
	Boot Running OK	Normal No Yes							
mrraid35x	mrraid35x	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							
mrxsmbs	MRXSMB	c:\windows\system32\drivers\mrxsmbs.sys	File System Driver						
Driver	Yes	System Running OK	Normal No Yes						
msfs	Msfms	c:\windows\system32\drivers\msfs.sys	File System Driver						
	Yes	System 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						
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						
Driver	Yes	Manual Running OK	Normal No Yes						
netbios	NetBIOS Interface	c:\windows\system32\drivers\netbios.sys	File System Driver	Yes					
	Yes	File System Driver	Yes	System Running OK	Normal No				
netbt	NetBios over Tcpip	c:\windows\system32\drivers\netbt.sys	Kernel Driver						
Driver	Yes	System Running OK	Normal No Yes						
nfrd960	nfrd960	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
npfs	Npfs	c:\windows\system32\drivers\npfs.sys	File System Driver						
	Yes	System Running OK	Normal No Yes						
ntfs	Ntfs	c:\windows\system32\drivers\ntfs.sys	File System Driver						
	Yes	Disabled Running OK	Normal No Yes						
null	Null	c:\windows\system32\drivers\null.sys	Kernel Driver	Yes					
	System Running OK	Normal No Yes							
parport	Parallel port driver	c:\windows\system32\drivers\parport.sys	Kernel Driver	Yes					
	Kernel Driver	Yes	Manual Running OK	Normal No Yes					
partmgr	Partition Manager	c:\windows\system32\drivers\partmgr.sys	Kernel Driver	Yes					
	Kernel Driver	Yes	Boot Running OK	Normal No Yes					
parvdm	Parvdm	c:\windows\system32\drivers\parvdm.sys	Kernel Driver						
	Yes	Auto Running OK	Ignore No Yes						
pci	PCI Bus Driver	c:\windows\system32\drivers\pci.sys	Kernel Driver						
	Yes	Boot Running OK	Critical No Yes						
pciide	PCIIde	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
pcmcia	Pcmcia	c:\windows\system32\drivers\pcmcia.sys	Kernel Driver						
	No	Disabled Stopped OK	Normal No No						

pdcomp	PDCOMP	Not Available	Kernel Driver	No					
	Ignore No No								
pdframe	PDFRAME	Not Available	Kernel Driver	No					
	Ignore No No								
pdreli	PDRELI	Not Available	Kernel Driver	No					
	Ignore No No								
pdrframe	PDRFRAME	Not Available	Kernel Driver	No					
	Stopped OK	Ignore No No							
perc2	perc2	Not Available	Kernel Driver	No					
	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\rasppptp.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							
ql1080	ql1080	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql10wnt	Ql10wnt	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql12160	ql12160	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql1240	ql1240	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql1280	ql1280	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql2100	ql2100	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql2200	ql2200	Not Available	Kernel Driver	No					
	Stopped OK	Normal No No							
ql2300	ql2300	Not Available	Kernel Driver	No					
	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					
	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					
	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					
	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							

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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 No Manual Stopped OK Normal No No
serial Serial port driver c:\windows\system32\drivers\serial.sys
Kernel Driver No System Stopped OK Ignore No No
sfloppy Sfloppy c:\windows\system32\drivers\sfloppy.sys Kernel Driver
No System Stopped OK Ignore No No
simbad Simbad Not Available Kernel Driver No Disabled
Stopped OK Normal No No
sparrow Sparrow Not Available Kernel Driver No Disabled
Stopped OK Normal No No
srv Srv c:\windows\system32\drivers\srv.sys File System Driver
Yes Manual Running OK Normal No Yes
swenum Software Bus Driver c:\windows\system32\drivers\swenum.sys
Kernel Driver Yes Manual Running OK Normal No Yes
symc810 symc810 Not Available Kernel Driver No Disabled
Stopped OK Normal No No
symc8xx symc8xx Not Available Kernel Driver No Disabled
Stopped OK Normal No No
symmpi symmpi Not Available Kernel Driver No Disabled
Stopped OK Normal No No
sym_hi sym_hi Not Available Kernel Driver No Disabled
Stopped OK Normal No No
sym_u3 sym_u3 Not Available Kernel Driver No Disabled
Stopped OK Normal No No
tcpip TCP/IP Protocol Driver c:\windows\system32\drivers\tcpip.sys Kernel
Driver Yes System Running OK Normal No Yes
tdpipe TDPIPE c:\windows\system32\drivers\tdpipe.sys Kernel Driver
No Manual Stopped OK Ignore No No
tdtcp TDTCP c:\windows\system32\drivers\tdtcp.sys Kernel Driver Yes
Manual Running OK Ignore No Yes
termdd Terminal Device Driver c:\windows\system32\drivers\termdd.sys
Kernel Driver Yes System Running OK Normal No Yes
toside TosIde Not Available Kernel Driver No Disabled
Stopped OK Normal No No
udfs Udfs c:\windows\system32\drivers\udfs.sys File System Driver
No Disabled Stopped OK Normal No No
unescons Console Manager Video Driver
c:\windows\system32\drivers\unescons.sys Kernel Driver Yes
Manual Running OK Ignore No Yes
update Microcode Update Driver
c:\windows\system32\drivers\update.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
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

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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
Not Available Not Available Not Available Not Available Not Available
Not Available Not Available Not Available HTREE\ROOT\0
CMP (ACPI) Server No COMPUTER 5.3763.8.308 2/10/2003
Unisys oem0.inf Not Available ROOT\ACPI_HAL\0000
Microsoft ACPI-Compliant System No SYSTEM 5.2.3788.0
10/1/2002 Microsoft acpi.inf Not Available
ACPI_HAL\PNP0C08\0
Not Available Not Available Not Available Not Available Not Available
Not Available Not Available Not Available ACPI\UNO4501\0
PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system
devices) machine.inf Not Available ACPI\PNP0A03\8
PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0
10/1/2002 (Standard system devices) machine.inf Not
Available
PCI\VEN_8086&DEV_0309&SUBSYS_00000000&REV_01\3&33B859B7&0&00
Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER
2.36.0.16 2/19/2003 Unisys Corporation oem4.inf
Not Available
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\4&1B316B8F&0&0000
Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM
2.36.0.5 2/25/2003 Unisys Corporation oem5.inf
SCSI\PROCESSORUNISYS_IFBA8888_V2_5&24C648AC&0&F104560B00
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Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER
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Not Available
PCI\VEN_11AB&DEV_4620&SUBSYS_C0FC1018&REV_12\4&13664542&0&0008

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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
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080010  
PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\9  
PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available PCI\VEN\_8086&DEV\_0309&SUBSYS\_00000000&REV\_01\3&AD74055&0&08

Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
SCSI\PROCESSORUNISYS\_IFBA8888\_V2\_\5&49FE43B&0&A004560B000  
80010  
PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\A  
Intel 82371AB/EB PCI to ISA bridge (ISA mode) No SYSTEM  
5.2.3788.0 10/1/2002 Intel machine.inf Not Available  
PCI\VEN\_8086&DEV\_7110&SUBSYS\_00000000&REV\_01\3&23C0707C&0&00

ISAPNP Read Data Port No SYSTEM 5.2.3788.0 10/1/2002  
(Standard system devices) machine.inf Not Available  
ISAPNP\READDATAPORT\0

Direct memory access controller No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available ACPI\PNP0200\21

Programmable interrupt controller No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available ACPI\PNP0000\21

System CMOS/real time clock No SYSTEM 5.2.3788.0 10/1/2002  
(Standard system devices) machine.inf Not Available  
ACPI\PNP0B00\21

System timer No SYSTEM 5.2.3788.0 10/1/2002 (Standard  
system devices) machine.inf Not Available ACPI\PNP0100\21

System speaker No SYSTEM 5.2.3788.0 10/1/2002 (Standard  
system devices) machine.inf Not Available ACPI\PNP0800\21

Generic Bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard  
system devices) machine.inf Not Available ACPI\PNP0A05\21

ECP Printer Port No PORTS 5.2.3788.0 10/1/2002  
(Standard port types) msports.inf Not Available  
ACPI\PNP0401\21

Printer Port Logical Interface No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available LPTENUM\MICROSOFTRAWPORT\6&5DE924D&0&LPT1

PS/2 Compatible Mouse No MOUSE 5.2.3788.0 10/1/2002  
Microsoft msmouse.inf Not Available ACPI\PNP0F13\21

Standard 101/102-Key or Microsoft Natural PS/2 Keyboard No  
KEYBOARD 5.2.3788.0 10/1/2002 (Standard keyboards)  
keyboard.inf Not Available ACPI\PNP0303\21

Standard floppy disk controller No FDC 5.2.3788.0  
10/1/2002 (Standard floppy disk controllers) fdc.inf Not  
Available ACPI\PNP0700\21

Floppy disk drive No FLOPPYDISK 5.2.3788.0 10/1/2002  
(Standard floppy disk drives) fpydisk.inf Not Available  
FDC\GENERIC\_FLOPPY\_DRIVE\6&23181F3B&0&0

Intel(r) 82371AB/EB PCI Bus Master IDE Controller No HDC  
5.2.3788.0 10/1/2002 Intel mshdc.inf Not Available  
PCI\VEN\_8086&DEV\_7111&SUBSYS\_00000000&REV\_01\3&23C0707C&0&01

Primary IDE Channel No HDC 5.2.3788.0 10/1/2002  
(Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available  
PCIIDE\IDECHANNEL\4&232EABD1&0&0

Disk drive No DISKDRIVE 5.2.3788.0 10/1/2002  
(Standard disk drives) disk.inf Not Available  
IDE\DISKFUJITSU\_MHS2030AT\_\_\_\_\_8004\_\_\_\_\_\5&289FC03  
2&0&0.0.0

Secondary IDE Channel No HDC 5.2.3788.0 10/1/2002  
(Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available  
PCIIDE\IDECHANNEL\4&232EABD1&0&1

CD-ROM Drive No CDROM 5.2.3788.0 10/1/2002 (Standard CD-  
ROM drives) cdrom.inf Not Available IDE\CDROMTEAC\_CD-  
224E\_\_\_\_\_1.9A\_\_\_\_\_\5&15E60F8D&0&0.0.0

Intel(r) 82371AB/EB PCI to USB Universal Host Controller No USB  
5.2.3788.0 10/1/2002 Intel usbport.inf Not Available  
PCI\VEN\_8086&DEV\_7112&SUBSYS\_00000000&REV\_01\3&23C0707C&0&02

USB Root Hub No USB 5.2.3788.0 10/1/2002 (Standard USB  
Host Controller) usbport.inf Not Available  
USB\ROOT\_HUB\4&1491ADA7&0

DEC 21152 PCI to PCI bridge No SYSTEM 5.2.3788.0 10/1/2002  
DEC machine.inf Not Available  
PCI\VEN\_1011&DEV\_0024&SUBSYS\_00000000&REV\_03\3&23C0707C&0&08

PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available  
PCI\VEN\_8086&DEV\_0960&SUBSYS\_00000000&REV\_05\4&A40E83F&0&0008

Console Manager control device No SYSTEM 6.0.3.29  
9/19/2002 Unisys Corporation oem1.inf Not Available  
PCI\VEN\_8086&DEV\_1960&SUBSYS\_C2001018&REV\_05\4&A40E83F&0&0108

Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI No SCSIADAPTER  
5.2.3788.0 10/1/2002 Adaptec pnp SCSI.inf Not Available  
PCI\VEN\_9005&DEV\_005F&SUBSYS\_080F9005&REV\_00\4&A40E83F&0&0808

Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI No SCSIADAPTER  
5.2.3788.0 10/1/2002 Adaptec pnpscsl.inf Not Available  
PCI\VEN\_9005&DEV\_005F&SUBSYS\_080F9005&REV\_00\4&A40E83F&0&0908

Console Manager Video Driver No DISPLAY 6.0.3.29 9/19/2002  
Unisys Corporation oem2.inf Not Available  
PCI\VEN\_1013&DEV\_00D6&SUBSYS\_80D61018&REV\_03\4&A40E83F&0&1008

Default Monitor No MONITOR 5.1.2001.0 6/6/2001  
(Standard monitor types) monitor.inf Not Available  
DISPLAY\DEFAULT\_MONITOR\5&38F88F28&0&11223344&02&02

Intel(R) 8255xER PCI Adapter No NET 1.0.0.1 4/3/2001 Intel  
net559er.inf Not Available  
PCI\VEN\_8086&DEV\_1209&SUBSYS\_10180D88&REV\_09\3&23C0707C&0&10

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\B  
PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
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PCI\VEN\_8086&DEV\_0309&SUBSYS\_00000000&REV\_01\3&1106BFD7&0&08

Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
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PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\C

cLAN Host Adapter No NET 4.2.0.75 10/5/2000  
Giganet oem8.inf Not Available  
PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1B2F0CE&0&00

cLAN Host Adapter No NET 4.2.0.75 10/5/2000  
Giganet oem8.inf Not Available  
PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1B2F0CE&0&08

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\D

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\14

PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available  
PCI\VEN\_8086&DEV\_0309&SUBSYS\_00000000&REV\_01\3&19E45801&0&00

Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
SCSI\PROCESSORUNISYS\_\_IFBA8888\_\_\_\_\_V2\_\_\5&1181D662&0&9D04560B00  
080010

Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
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Not Available  
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PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\15

PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available  
PCI\VEN\_8086&DEV\_0309&SUBSYS\_00000000&REV\_01\3&2C9E08A6&0&00

Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
2.36.0.16 2/19/2003 Unisys Corporation oem4.inf  
Not Available  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&102FA53&0&0000

Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
2.36.0.5 2/25/2003 Unisys Corporation oem5.inf  
Not Available  
SCSI\PROCESSORUNISYS\_\_IFBA8888\_\_\_\_\_V2\_\_\5&3081098B&0&5506560B00  
080010

Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
2.36.0.5 2/25/2003 Unisys Corporation oem5.inf  
Not Available  
SCSI\PROCESSORUNISYS\_\_IFBA8888\_\_\_\_\_V2\_\_\5&3081098B&0&5406560B00  
080010

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\16

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\17

PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
10/1/2002 (Standard system devices) machine.inf Not  
Available  
PCI\VEN\_8086&DEV\_0309&SUBSYS\_00000000&REV\_01\3&36B90202&0&08

Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
2.36.0.16 2/19/2003 Unisys Corporation oem4.inf  
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PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&142EC5AD&0&0008

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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
2.36.0.5 2/25/2003 Unisys Corporation oem5.inf  
Not Available  
SCSI\PROCESSORUNISYS\_\_IFBA8888\_\_\_\_\_V2\_\_\5&88AA775&0&B804560B00  
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PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
devices) machine.inf Not Available ACPI\PNP0A03\18

cLAN Host Adapter No NET 4.2.0.75 10/5/2000  
 Giganet oem8.inf Not Available  
 PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&23FF515D&0&00

cLAN Host Adapter No NET 4.2.0.75 10/5/2000  
 Giganet oem8.inf Not Available  
 PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&23FF515D&0&08

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system devices)  
 machine.inf Not Available ACPI\PNP0A03\19

Logical Disk Manager No SYSTEM 5.2.3788.0 10/1/2002  
 (Standard system devices) machine.inf Not Available  
 ROOT\DMIO\0000

Volume Manager No SYSTEM 5.2.3788.0 10/1/2002 (Standard system devices)  
 machine.inf Not Available ROOT\FTDISK\0000

Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATUREBEE2BEE2OFFSET7E00LENGTH6FBFE

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE2FF4F404OFFSET8000LENGTH69AFC

F8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E7EOFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E7EOFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E7EOFFSET339100000LENGTH

10EA00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E7EOFFSET447B00000LENGTH

155AC00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E61OFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E61OFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E61OFFSET339100000LENGTH

10EA00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E61OFFSET447B00000LENGTH

155AC00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available

STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E60OFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E60OFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E60OFFSET339100000LENGTH

10EA00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E60OFFSET447B00000LENGTH

155AC00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E63OFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E63OFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E63OFFSET339100000LENGTH

10EA00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E63OFFSET447B00000LENGTH

155AC00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E65OFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E65OFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E65OFFSET339100000LENGTH

10EA00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E65OFFSET447B00000LENGTH

155AC00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E64OFFSET8000LENGTH1374F

8000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E64OFFSET137500000LENGTH

201C00000  
 Generic volume No VOLUME 5.2.3788.0 10/1/2002 Microsoft  
 volume.inf Not Available  
 STORAGE\VOLUME\1&30A96598&0&SIGNATURE70783E64OFFSET339100000LENGTH

10EA00000





















Fips Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_FIPS\0000  
 cLAN VIA Driver Not Available LEGACYDRIVER Not Available Not Available  
 Available Not Available Not Available Not Available  
 ROOT\LEGACY\_GNIVIA\0000  
 Generic Packet Classifier Not Available LEGACYDRIVER Not Available  
 Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_GPC\0000  
 IPSEC driver Not Available LEGACYDRIVER Not Available Not Available  
 Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_IPSEC\0000  
 ksecdd Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_KSECDD\0000  
 mmmdd Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_MMMDD\0000  
 mountmgr Not Available LEGACYDRIVER Not Available Not Available  
 Not Available Not Available Not Available  
 ROOT\LEGACY\_MOUNTMGR\0000  
 NDIS System Driver Not Available LEGACYDRIVER Not Available Not Available  
 Available Not Available Not Available Not Available  
 ROOT\LEGACY\_NDIS\0000  
 Remote Access NDIS TAPI Driver Not Available LEGACYDRIVER Not Available  
 Available Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_NDISTAPI\0000  
 NDIS Usermode I/O Protocol Not Available LEGACYDRIVER Not Available  
 Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_NDISUIO\0000  
 NDProxy Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_NDPROXY\0000  
 NetBios over Tcpi Not Available LEGACYDRIVER Not Available Not Available  
 Available Not Available Not Available Not Available  
 ROOT\LEGACY\_NETBT\0000  
 Null Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_NULL\0000  
 Partition Manager Not Available LEGACYDRIVER Not Available Not Available  
 Available Not Available Not Available Not Available  
 ROOT\LEGACY\_PARTMGR\0000  
 Parvdm Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_PARVDM\0000  
 Remote Access Auto Connection Driver Not Available LEGACYDRIVER Not Available  
 Available Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_RASACD\0000  
 RDPCCD Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_RDPCCD\0000  
 RDPWD Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_RDPWD\0000  
 TCP/IP Protocol Driver Not Available LEGACYDRIVER Not Available Not Available  
 Available Not Available Not Available Not Available  
 ROOT\LEGACY\_TCPIP\0000  
 TDTCP Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_TDTCP\0000  
 VGA Display Controller. Not Available LEGACYDRIVER Not Available  
 Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_VGASAVE\0000

volsnap Not Available LEGACYDRIVER Not Available Not Available Not Available  
 Available Not Available Not Available ROOT\LEGACY\_VOLSNAP\0000  
 Remote Access IP ARP Driver Not Available LEGACYDRIVER Not Available  
 Not Available Not Available Not Available Not Available  
 ROOT\LEGACY\_WANARP\0000  
 Audio Codecs No MEDIA 5.2.3788.0 10/1/2002 (Standard  
 system devices) wave.inf Not Available ROOT\MEDIA\MS\_MMACM  
 Legacy Audio Drivers No MEDIA 5.2.3788.0 10/1/2002  
 (Standard system devices) wave.inf Not Available  
 ROOT\MEDIA\MS\_MMDRV  
 Media Control Devices No MEDIA 5.2.3788.0 10/1/2002  
 (Standard system devices) wave.inf Not Available  
 ROOT\MEDIA\MS\_MMMCI  
 Legacy Video Capture Devices No MEDIA 5.2.3788.0 10/1/2002  
 (Standard system devices) wave.inf Not Available  
 ROOT\MEDIA\MS\_MVCD  
 Video Codecs No MEDIA 5.2.3788.0 10/1/2002 (Standard  
 system devices) wave.inf Not Available ROOT\MEDIA\MS\_MMVID  
 WAN Miniport (L2TP) No NET 5.2.3788.0 10/1/2002  
 Microsoft netrasa.inf Not Available  
 ROOT\MS\_L2TPMINIPORT\0000  
 WAN Miniport (IP) No NET 5.2.3788.0 10/1/2002  
 Microsoft netrasa.inf Not Available  
 ROOT\MS\_NDISWANIP\0000  
 WAN Miniport (PPPOE) No NET 5.2.3788.0 10/1/2002  
 Microsoft netrasa.inf Not Available  
 ROOT\MS\_PPPOEMINIPORT\0000  
 WAN Miniport (PPTP) No NET 5.2.3788.0 10/1/2002  
 Microsoft netrasa.inf Not Available  
 ROOT\MS\_PPTPMINIPORT\0000  
 Direct Parallel No NET 5.2.3788.0 10/1/2002  
 Microsoft netrasa.inf Not Available  
 ROOT\MS\_PTMINIPORT\0000  
 Terminal Server Device Redirector No SYSTEM 5.2.3788.0  
 10/1/2002 (Standard system devices) machine.inf Not  
 Available ROOT\RDPDR\0000  
 Terminal Server Keyboard Driver No SYSTEM 5.2.3788.0  
 10/1/2002 (Standard system devices) machine.inf Not  
 Available ROOT\RDP\_KBD\0000  
 Terminal Server Mouse Driver No SYSTEM 5.2.3788.0 10/1/2002  
 (Standard system devices) machine.inf Not Available  
 ROOT\RDP\_MOU\0000  
 Plug and Play Software Device Enumerator No SYSTEM 5.2.3788.0  
 10/1/2002 (Standard system devices) machine.inf Not  
 Available ROOT\SYSTEM\0000  
 Microcode Update Device No SYSTEM 5.2.3788.0 10/1/2002  
 (Standard system devices) machine.inf Not Available  
 ROOT\SYSTEM\0001  
 Unisys Intelligent Fibre Channel Fabric Bus Enumerator No SYSTEM  
 2.36.0.34 2/19/2003 Unisys Corporation oem7.inf  
 Not Available ROOT\SYSTEM\0002  
 Unisys Intelligent Fibre Channel Fabric Disk Driver No DISKDRIVE  
 2.36.0.5 2/19/2003 Unisys Corporation oem6.inf  
 Not Available  
 SCSI\DISK&VEN\_DGC\_\_RAID\_10\_\_\_\_\_0099\1&1A590E2C&0&A724201060  
 0106500000000000000000









[Environment Variables]

Variable	Value	User Name
ClusterLog	C:\WINDOWS\Cluster\cluster.log	<SYSTEM>
ComSpec	%SystemRoot%\system32\cmd.exe	<SYSTEM>
NUMBER_OF_PROCESSORS	32	<SYSTEM>
OS	Windows_NT	<SYSTEM>
Path	%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;C:\Program Files\Microsoft SQL Server\80\Tools\BINN;c:\sql80\MSSQL\BINN	<SYSTEM>
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH	<SYSTEM>
PROCESSOR_ARCHITECTURE	x86	<SYSTEM>
PROCESSOR_IDENTIFIER	x86 Family 15 Model 2 Stepping 2, GenuineIntel	<SYSTEM>
PROCESSOR_LEVEL	15	<SYSTEM>
PROCESSOR_REVISION	0202	<SYSTEM>
TEMP	%SystemRoot%\TEMP	<SYSTEM>
TMP	%SystemRoot%\TEMP	<SYSTEM>
windir	%SystemRoot%	<SYSTEM>
TEMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\SYSTEM
TMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\SYSTEM
TEMP	%USERPROFILE%\Local Settings\Temp	NT AUTHORITY\LOCAL SERVICE
TEMP	%USERPROFILE%\Local Settings\Temp	MV-BOBDYLAN\Administrator
TEMP	%USERPROFILE%\Local Settings\Temp	MV-BOBDYLAN\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
Y:	\\usmv-host2\shared\systems analysis	Disk	Persistent	Connection
Z:	\\192.59.13.16\nas4	Disk	Persistent	Connection
	BOBDYLAN\Administrator			

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Max Working Set
system	idle process	Not Available	0	0	Not Available
Available	Not Available	Not Available	Not Available	Not Available	Not Available
system	Not Available	4	8	0	1413120
Available	Not Available	Not Available	Not Available	Not Available	Not Available
smss.exe	Not Available	428	11	204800	1413120
PM	Not Available	Not Available	Not Available	Not Available	Not Available

csrss.exe	Not Available	476	13	Not Available	Not Available
	4/29/2003 2:24 PM	Not Available	Not Available	Not Available	Not Available
winlogon.exe	c:\windows\system32\winlogon.exe	500	13	204800	
	1413120 4/29/2003 2:24 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	536.50 KB (549,376 bytes)	3/18/2003 4:00 AM			
services.exe	c:\windows\system32\services.exe	544	9	204800	
	1413120 4/29/2003 2:24 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	102.00 KB (104,448 bytes)	3/18/2003 4:00 AM			
lsass.exe	c:\windows\system32\lsass.exe	556	9	204800	
	1413120 4/29/2003 2:24 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	13.00 KB (13,312 bytes)	3/18/2003 4:00 AM			
svchost.exe	c:\windows\system32\svchost.exe	700	8	204800	
	1413120 4/29/2003 2:24 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	13.00 KB (13,312 bytes)	3/18/2003 4:00 AM			
svchost.exe	c:\windows\system32\svchost.exe	764	8	204800	
	1413120 4/29/2003 2:24 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	13.00 KB (13,312 bytes)	3/18/2003 4:00 AM			
gnconmgr.exe	c:\windows\system32\gnconmgr.exe	928	8	204800	
	1413120 4/29/2003 2:24 PM	4.2.0.75	168.05 KB (172,079 bytes)	3/25/2003 9:02 AM	
svchost.exe	Not Available	1056	8	Not Available	Not Available
	4/29/2003 2:27 PM	Not Available	Not Available	Not Available	Not Available
svchost.exe	c:\windows\system32\svchost.exe	1084	8	204800	
	1413120 4/29/2003 2:27 PM	5.2.3788.0	(srv03_rtm.030317-2234)		
	13.00 KB (13,312 bytes)	3/18/2003 4:00 AM			
esconmgr.exe	c:\windows\system32\esconmgr.exe	1148	24	204800	
	1413120 4/29/2003 2:27 PM	6.0.3.29	265.02 KB (271,376 bytes)	2/6/2003 6:43 PM	
svchost.exe	Not Available	1188	8	Not Available	Not Available
	4/29/2003 2:27 PM	Not Available	Not Available	Not Available	Not Available
explorer.exe	c:\windows\explorer.exe	1696	8	204800	
	1413120 4/29/2003 2:27 PM	6.00.3788.0	(srv03_rtm.030317-2234)		
	1,008.50 KB (1,032,704 bytes)	3/18/2003 4:00 AM			
wmiprvse.exe	Not Available	1840	8	Not Available	Not Available
	4/29/2003 2:28 PM	Not Available	Not Available	Not Available	Not Available
cmd.exe	c:\windows\system32\cmd.exe	1440	8	204800	1413120
	4/29/2003 7:22 PM	5.2.3788.0	(srv03_rtm.030317-2234)	374.00 KB (382,976 bytes)	3/18/2003 4:00 AM
sqlservr.exe	c:\sql80\sqlbuilds\02_07_03_gfe_128awe\sqlservr.exe	1640	13	204800	1413120
	4/29/2003 7:22 PM	2000.080.0761.00	7.10 MB (7,446,568 bytes)	3/25/2003 1:39 PM	
isqlw.exe	c:\program files\microsoft sql server\80\tools\bin\isqlw.exe	1692	8	204800	1413120
	4/30/2003 9:14 AM	2000.080.0760.00	344.56 KB (352,828 bytes)	3/25/2003 1:53 PM	
helpctr.exe	c:\windows\pchealth\helpctr\binaries\helpctr.exe	1512	8	204800	1413120
	4/30/2003 12:06 PM	5.2.3788.0	(srv03_rtm.030317-2234)	764.00 KB (782,336 bytes)	3/21/2003 2:58 PM
helpsvc.exe	c:\windows\pchealth\helpctr\binaries\helpsvc.exe	2068	8	204800	1413120
	4/30/2003 12:07 PM	5.2.3788.0	(srv03_rtm.030317-2234)	720.00 KB (737,280 bytes)	3/21/2003 2:58 PM

wmiprvse.exe	Not Available	2116	8	Not Available	Not Available	Not Available
	4/30/2003 12:07 PM	Not Available	Not Available	Not Available	Not Available	Not Available

[Loaded Modules]

Name	Version	Size	File Date	Manufacturer	Path
winlogon	5.2.3788.0	(srv03_rtm.030317-2234)	536.50 KB (549,376 bytes)	Microsoft Corporation	c:\windows\system32\winlogon.exe
ntdll	5.2.3788.0	(srv03_rtm.030317-2234)	722.50 KB (739,840 bytes)	Microsoft Corporation	c:\windows\system32\ntdll.dll
kernel32	5.2.3788.0	(srv03_rtm.030317-2234)	965.00 KB (988,160 bytes)	Microsoft Corporation	c:\windows\system32\kernel32.dll
msvcrt	7.0.3788.0	(srv03_rtm.030317-2234)	319.50 KB (327,168 bytes)	Microsoft Corporation	c:\windows\system32\msvcrt.dll
advapi32	5.2.3788.0	(srv03_rtm.030317-2234)	559.50 KB (572,928 bytes)	Microsoft Corporation	c:\windows\system32\advapi32.dll
rpcrt4	5.2.3788.0	(srv03_rtm.030317-2234)	644.00 KB (659,456 bytes)	Microsoft Corporation	c:\windows\system32\rpcrt4.dll
user32	5.2.3788.0	(srv03_rtm.030317-2234)	562.00 KB (575,488 bytes)	Microsoft Corporation	c:\windows\system32\user32.dll
gdi32	5.2.3788.0	(srv03_rtm.030317-2234)	263.00 KB (269,312 bytes)	Microsoft Corporation	c:\windows\system32\gdi32.dll
userenv	5.2.3788.0	(srv03_rtm.030317-2234)	732.50 KB (750,080 bytes)	Microsoft Corporation	c:\windows\system32\userenv.dll
nddeapi	5.2.3788.0	(srv03_rtm.030317-2234)	16.00 KB (16,384 bytes)	Microsoft Corporation	c:\windows\system32\nddeapi.dll
crypt32	5.131.3788.0	(srv03_rtm.030317-2234)	598.00 KB (612,352 bytes)	Microsoft Corporation	c:\windows\system32\crypt32.dll
msasn1	5.2.3788.0	(srv03_rtm.030317-2234)	58.00 KB (59,392 bytes)	Microsoft Corporation	c:\windows\system32\msasn1.dll
secur32	5.2.3788.0	(srv03_rtm.030317-2234)	63.00 KB (64,512 bytes)	Microsoft Corporation	c:\windows\system32\secur32.dll
winsta	5.2.3788.0	(srv03_rtm.030317-2234)	51.00 KB (52,224 bytes)	Microsoft Corporation	c:\windows\system32\winsta.dll
netapi32	5.2.3788.0	(srv03_rtm.030317-2234)	317.00 KB (324,608 bytes)	Microsoft Corporation	c:\windows\system32\netapi32.dll
profmap	5.2.3788.0	(srv03_rtm.030317-2234)	22.00 KB (22,528 bytes)	Microsoft Corporation	c:\windows\system32\profmap.dll
regapi	5.2.3788.0	(srv03_rtm.030317-2234)	48.50 KB (49,664 bytes)	Microsoft Corporation	c:\windows\system32\regapi.dll

ws2_32	5.2.3788.0	(srv03_rtm.030317-2234)	87.50 KB (89,600 bytes)	Microsoft Corporation	c:\windows\system32\ws2_32.dll
ws2help	5.2.3788.0	(srv03_rtm.030317-2234)	19.50 KB (19,968 bytes)	Microsoft Corporation	c:\windows\system32\ws2help.dll
psapi	5.2.3788.0	(srv03_rtm.030317-2234)	21.50 KB (22,016 bytes)	Microsoft Corporation	c:\windows\system32\psapi.dll
version	5.2.3788.0	(srv03_rtm.030317-2234)	17.00 KB (17,408 bytes)	Microsoft Corporation	c:\windows\system32\version.dll
setupapi	5.2.3788.0	(srv03_rtm.030317-2234)	1,014.50 KB (1,038,848 bytes)	Microsoft Corporation	c:\windows\system32\setupapi.dll
msgina	5.2.3788.0	(srv03_rtm.030317-2234)	1.14 MB (1,191,936 bytes)	Microsoft Corporation	c:\windows\system32\msgina.dll
shsvcs	6.00.3788.0	(srv03_rtm.030317-2234)	121.50 KB (124,416 bytes)	Microsoft Corporation	c:\windows\system32\shsvcs.dll
shlwapi	6.00.3788.0	(srv03_rtm.030317-2234)	281.00 KB (287,744 bytes)	Microsoft Corporation	c:\windows\system32\shlwapi.dll
sfc	5.2.3788.0	(srv03_rtm.030317-2234)	4.50 KB (4,608 bytes)	Microsoft Corporation	c:\windows\system32\sfc.dll
sfc_os	5.2.3788.0	(srv03_rtm.030317-2234)	133.00 KB (136,192 bytes)	Microsoft Corporation	c:\windows\system32\sfc_os.dll
wintrust	5.131.3788.0	(srv03_rtm.030317-2234)	161.50 KB (165,376 bytes)	Microsoft Corporation	c:\windows\system32\wintrust.dll
ole32	5.2.3788.0	(srv03_rtm.030317-2234)	1.13 MB (1,187,328 bytes)	Microsoft Corporation	c:\windows\system32\ole32.dll
imagehlp	5.2.3788.0	(srv03_rtm.030317-2234)	142.50 KB (145,920 bytes)	Microsoft Corporation	c:\windows\system32\imagehlp.dll
comctl32	6.0	(srv03_rtm.030317-2234)	907.00 KB (928,768 bytes)	Microsoft Corporation	c:\windows\winsxs\x86_microsoft.windows.common-controls_6595b64144ccf1df_6.0.100.0_x-ww_8417450b\comctl32.dll
winscard	5.2.3788.0	(srv03_rtm.030317-2234)	98.50 KB (100,864 bytes)	Microsoft Corporation	c:\windows\system32\winscard.dll
wtsapi32	5.2.3788.0	(srv03_rtm.030317-2234)	17.50 KB (17,920 bytes)	Microsoft Corporation	c:\windows\system32\wtsapi32.dll
sxs	5.2.3788.0	(srv03_rtm.030317-2234)	733.00 KB (750,592 bytes)	Microsoft Corporation	c:\windows\system32\sxs.dll
winmm	5.2.3788.0	(srv03_rtm.030317-2234)	166.00 KB (169,984 bytes)	Microsoft Corporation	c:\windows\system32\winmm.dll
shell32	6.00.3788.0	(srv03_rtm.030317-2234)	7.79 MB (8,166,400 bytes)	Microsoft Corporation	c:\windows\system32\shell32.dll

wldap32 5.2.3788.0 (srv03\_rtm.030317-2234) 158.00 KB (161,792 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\wldap32.dll

rsaenh 5.2.3788.0 (srv03\_rtm.030317-2234) 176.83 KB (181,072 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\rsaenh.dll

cscdll 5.2.3788.0 (srv03\_rtm.030317-2234) 99.00 KB (101,376 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\cscdll.dll

wlnotify 5.2.3788.0 (srv03\_rtm.030317-2234) 87.50 KB (89,600 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\wlnotify.dll

winspool 5.2.3788.0 (srv03\_rtm.030317-2234) 140.00 KB (143,360 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\winspool.drv

mpr 5.2.3788.0 (srv03\_rtm.030317-2234) 56.00 KB (57,344 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\mpr.dll

comctl32 5.82 (srv03\_rtm.030317-2234) 561.00 KB (574,464 bytes)  
3/21/2003 6:34 AM Microsoft Corporation  
c:\windows\winsxs\x86\_microsoft.windows.common-controls\_6595b64144ccf1df\_5.82.0.0\_x-ww\_8a69ba05\comctl32.dll

uxtheme 6.00.3788.0 (srv03\_rtm.030317-2234) 196.00 KB (200,704 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\uxtheme.dll

mprapi 5.2.3788.0 (srv03\_rtm.030317-2234) 81.00 KB (82,944 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\mprapi.dll

activeds 5.2.3788.0 (srv03\_rtm.030317-2234) 189.00 KB (193,536 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\activeds.dll

adslsdp 5.2.3788.0 (srv03\_rtm.030317-2234) 142.50 KB (145,920 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\adslsdp.dll

credui 5.2.3788.0 (srv03\_rtm.030317-2234) 159.00 KB (162,816 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\credui.dll

atl 3.05.2283 83.00 KB (84,992 bytes) 3/18/2003 4:00 AM  
Microsoft Corporation c:\windows\system32\atl.dll

oleaut32 5.2.3788.0 486.00 KB (497,664 bytes) 3/18/2003 4:00 AM  
Microsoft Corporation c:\windows\system32\oleaut32.dll

rtutils 5.2.3788.0 (srv03\_rtm.030317-2234) 32.00 KB (32,768 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\rtutils.dll

samlib 5.2.3788.0 (srv03\_rtm.030317-2234) 49.00 KB (50,176 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\samlib.dll

cscui 5.2.3788.0 (srv03\_rtm.030317-2234) 305.00 KB (312,320 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\cscui.dll

drprov 5.2.3788.0 (srv03\_rtm.030317-2234) 12.50 KB (12,800 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\drprov.dll

ntlanman 5.2.3788.0 (srv03\_rtm.030317-2234) 41.00 KB (41,984 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\ntlanman.dll

netui0 5.2.3788.0 (srv03\_rtm.030317-2234) 75.50 KB (77,312 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\netui0.dll

netui1 5.2.3788.0 (srv03\_rtm.030317-2234) 184.00 KB (188,416 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\netui1.dll

davclnt 5.2.3788.0 (srv03\_rtm.030317-2234) 23.50 KB (24,064 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\davclnt.dll

mprui 5.2.3788.0 (srv03\_rtm.030317-2234) 49.00 KB (50,176 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\mprui.dll

netui2 5.2.3788.0 (srv03\_rtm.030317-2234) 309.50 KB (316,928 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\netui2.dll

comdlg32 6.00.3788.0 (srv03\_rtm.030317-2234) 261.00 KB (267,264 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\comdlg32.dll

netmsg 5.2.3788.0 (srv03\_rtm.030317-2234) 178.00 KB (182,272 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\netmsg.dll

clbcatq 2001.12.4718.0 (srv03\_rtm.030317-2234) 481.00 KB (492,544 bytes)  
3/21/2003 2:53 PM Microsoft Corporation  
c:\windows\system32\clbcatq.dll

comres 2001.12.4718.0 (srv03\_rtm.030317-2234) 778.00 KB (796,672 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\comres.dll

ntmarta 5.2.3788.0 (srv03\_rtm.030317-2234) 114.00 KB (116,736 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\ntmarta.dll

wbemprox 5.2.3788.0 (srv03\_rtm.030317-2234) 17.50 KB (17,920 bytes)  
3/21/2003 2:53 PM Microsoft Corporation  
c:\windows\system32\wbem\wbemprox.dll

wbemcomn 5.2.3788.0 (srv03\_rtm.030317-2234) 211.50 KB (216,576 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\wbem\wbemcomn.dll

wbemsvc 5.2.3788.0 (srv03\_rtm.030317-2234) 42.50 KB (43,520 bytes)  
3/21/2003 2:53 PM Microsoft Corporation  
c:\windows\system32\wbem\wbemsvc.dll

fastprox 5.2.3788.0 (srv03\_rtm.030317-2234) 443.00 KB (453,632 bytes)  
3/21/2003 2:53 PM Microsoft Corporation  
c:\windows\system32\wbem\fastprox.dll

msvcpx60 6.05.2144.0 388.00 KB (397,312 bytes) 3/18/2003 4:00 AM  
Microsoft Corporation c:\windows\system32\msvcpx60.dll

ntdsapi 5.2.3788.0 (srv03\_rtm.030317-2234) 76.00 KB (77,824 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\ntdsapi.dll

dnsapi 5.2.3788.0 (srv03\_rtm.030317-2234) 147.50 KB (151,040 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\dnsapi.dll

services 5.2.3788.0 (srv03\_rtm.030317-2234) 102.00 KB (104,448 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\services.exe

scesrv 5.2.3788.0 (srv03\_rtm.030317-2234) 316.50 KB (324,096 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\scesrv.dll

authz 5.2.3788.0 (srv03\_rtm.030317-2234) 67.00 KB (68,608 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\authz.dll

umpnpgmr 5.2.3788.0 (srv03\_rtm.030317-2234) 121.50 KB (124,416 bytes)  
3/18/2003 4:00 AM Microsoft Corporation  
c:\windows\system32\umpnpgmr.dll

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ncobjapi 5.2.3788.0 (srv03_rtm.030317-2234) 34.50 KB (35,328
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\ncobjapi.dll
eventlog 5.2.3788.0 (srv03_rtm.030317-2234) 60.50 KB (61,952
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\eventlog.dll
lsass 5.2.3788.0 (srv03_rtm.030317-2234) 13.00 KB (13,312 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\lsass.exe
lsasrv 5.2.3788.0 (srv03_rtm.030317-2234) 780.50 KB (799,232 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\lsasrv.dll
samsrv 5.2.3788.0 (srv03_rtm.030317-2234) 452.00 KB (462,848 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\samsrv.dll
cryptdll 5.2.3788.0 (srv03_rtm.030317-2234) 34.00 KB (34,816
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\cryptdll.dll
msprivs 5.2.3788.0 (srv03_rtm.030317-2234) 46.50 KB (47,616 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\msprivs.dll
kerberos 5.2.3788.0 (srv03_rtm.030317-2234) 332.50 KB (340,480
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\kerberos.dll
msv1_0 5.2.3788.0 (srv03_rtm.030317-2234) 127.00 KB (130,048 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\msv1_0.dll
netlogon 5.2.3788.0 (srv03_rtm.030317-2234) 409.00 KB (418,816
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\netlogon.dll
w32time 5.2.3788.0 (srv03_rtm.030317-2234) 216.00 KB (221,184 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\w32time.dll
iphlpapi 5.2.3788.0 (srv03_rtm.030317-2234) 82.50 KB (84,480
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\iphlpapi.dll
schannel 5.2.3788.0 (srv03_rtm.030317-2234) 149.50 KB (153,088
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\schannel.dll
wdigest 5.2.3788.0 (srv03_rtm.030317-2234) 61.00 KB (62,464 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\wdigest.dll
rassfm 5.2.3788.0 (srv03_rtm.030317-2234) 20.50 KB (20,992 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\rassfm.dll
kdcsvc 5.2.3788.0 (srv03_rtm.030317-2234) 221.00 KB (226,304 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\kdcsvc.dll
ntdsa 5.2.3788.0 (srv03_rtm.030317-2234) 1.45 MB (1,520,640 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\ntdsa.dll
ntdsatq 5.2.3788.0 (srv03_rtm.030317-2234) 32.00 KB (32,768 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\ntdsatq.dll
mswsock 5.2.3788.0 (srv03_rtm.030317-2234) 254.00 KB (260,096 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\mswsock.dll

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esent 5.2.3788.0 (srv03_rtm.030317-2234) 1.01 MB (1,056,256 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\esent.dll
scecli 5.2.3788.0 (srv03_rtm.030317-2234) 179.50 KB (183,808 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\scecli.dll
wshtcpip 5.2.3788.0 (srv03_rtm.030317-2234) 18.00 KB (18,432
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\wshtcpip.dll
pstorsvc 5.2.3788.0 (srv03_rtm.030317-2234) 24.00 KB (24,576
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\pstorsvc.dll
psbase 5.2.3788.0 (srv03_rtm.030317-2234) 81.00 KB (82,944 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\psbase.dll
dssenh 5.2.3788.0 (srv03_rtm.030317-2234) 131.33 KB (134,480 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\dssenh.dll
svchost 5.2.3788.0 (srv03_rtm.030317-2234) 13.00 KB (13,312 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\svchost.exe
rpcss 5.2.3788.0 (srv03_rtm.030317-2234) 276.50 KB (283,136 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\rpcss.dll
termsrv 5.2.3788.0 (srv03_rtm.030317-2234) 216.50 KB (221,696 bytes)
3/21/2003 2:53 PM Microsoft Corporation
c:\windows\system32\termsrv.dll
icaapi 5.2.3788.0 (srv03_rtm.030317-2234) 10.50 KB (10,752 bytes)
3/21/2003 2:53 PM Microsoft Corporation
c:\windows\system32\icaapi.dll
mstlsapi 5.2.3788.0 (srv03_rtm.030317-2234) 104.50 KB (107,008
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\mstlsapi.dll
rdpwsx 5.2.3788.0 (srv03_rtm.030317-2234) 80.13 KB (82,056 bytes)
3/21/2003 2:53 PM Microsoft Corporation
c:\windows\system32\rdpwsx.dll
gnconmgr 4.2.0.75 168.05 KB (172,079 bytes) 3/25/2003 9:02
AM Giganet Incorporated c:\windows\system32\gnconmgr.exe
vipl 4.2.0.75 80.00 KB (81,920 bytes) 4/28/2003 3:41 AM
Giganet Incorporated c:\windows\system32\vipl.dll
wkssvc 5.2.3788.0 (srv03_rtm.030317-2234) 125.00 KB (128,000 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\wkssvc.dll
dmserver 5.2.3788.0 (srv03_rtm.030317-2234) 24.00 KB (24,576
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\dmserver.dll
es 2001.12.4718.0 (srv03_rtm.030317-2234) 221.50 KB (226,816
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\es.dll
srvsvc 5.2.3788.0 (srv03_rtm.030317-2234) 89.00 KB (91,136 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\srvsvc.dll
seclogon 5.2.3788.0 (srv03_rtm.030317-2234) 16.50 KB (16,896
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\seclogon.dll
wmisvc 5.2.3788.0 (srv03_rtm.030317-2234) 131.00 KB (134,144 bytes)
3/21/2003 2:53 PM Microsoft Corporation
c:\windows\system32\wbem\wmisvc.dll

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vssapi 5.2.3788.0 (srv03\_rtm.030317-2234) 528.00 KB (540,672 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\vssapi.dll

sens 5.2.3788.0 (srv03\_rtm.030317-2234) 35.50 KB (36,352 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\sens.dll

winrnr 5.2.3788.0 (srv03\_rtm.030317-2234) 15.00 KB (15,360 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\winrnr.dll

netman 5.2.3788.0 (srv03\_rtm.030317-2234) 209.00 KB (214,016 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\netman.dll

rasapi32 5.2.3788.0 (srv03\_rtm.030317-2234) 227.50 KB (232,960 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\rasapi32.dll

rasman 5.2.3788.0 (srv03\_rtm.030317-2234) 56.50 KB (57,856 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\rasman.dll

tapi32 5.2.3788.0 (srv03\_rtm.030317-2234) 175.00 KB (179,200 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\tapi32.dll

wzcsvc 5.2.3788.0 (srv03\_rtm.030317-2234) 272.50 KB (279,040 bytes)  
 3/18/2003 9:00 AM Microsoft Corporation  
 c:\windows\system32\wzcsvc.dll

wmi 5.2.3788.0 (srv03\_rtm.030317-2234) 6.50 KB (6,656 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\wmi.dll

dhcpcsvc 5.2.3788.0 (srv03\_rtm.030317-2234) 101.50 KB (103,936 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\dhcpcsvc.dll

wzcsapi 5.2.3788.0 (srv03\_rtm.030317-2234) 24.50 KB (25,088 bytes)  
 3/18/2003 9:00 AM Microsoft Corporation  
 c:\windows\system32\wzcsapi.dll

comsvcs 2001.12.4718.0 (srv03\_rtm.030317-2234) 1.14 MB (1,199,616 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\comsvcs.dll

wiarpc 5.2.3788.0 (srv03\_rtm.030317-2234) 30.00 KB (30,720 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\wiarpc.dll

netshell 5.2.3788.0 (srv03\_rtm.030317-2234) 1.67 MB (1,747,456 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\netshell.dll

clusapi 5.2.3788.0 (srv03\_rtm.030317-2234) 56.00 KB (57,344 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\clusapi.dll

hnetcfg 5.2.3788.0 (srv03\_rtm.030317-2234) 243.50 KB (249,344 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\hnetcfg.dll

wininet 6.00.3788.0 (srv03\_rtm.030317-2234) 609.00 KB (623,616 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\wininet.dll

wbemcore 5.2.3788.0 (srv03\_rtm.030317-2234) 457.00 KB (467,968 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\wbemcore.dll

esscli 5.2.3788.0 (srv03\_rtm.030317-2234) 235.50 KB (241,152 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\esscli.dll

wmiutils 5.2.3788.0 (srv03\_rtm.030317-2234) 90.50 KB (92,672 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\wmiutils.dll

repdrvfs 5.2.3788.0 (srv03\_rtm.030317-2234) 165.00 KB (168,960 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\repdrvfs.dll

wmiprvsd 5.2.3788.0 (srv03\_rtm.030317-2234) 405.50 KB (415,232 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\wmiprvsd.dll

wbemess 5.2.3788.0 (srv03\_rtm.030317-2234) 256.50 KB (262,656 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\wbemess.dll

msi 2.0.3788.0 2.06 MB (2,160,128 bytes) 3/18/2003 4:00 AM  
 Microsoft Corporation c:\windows\system32\msi.dll

rasdlg 5.2.3788.0 (srv03\_rtm.030317-2234) 642.00 KB (657,408 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\rasdlg.dll

ncprov 5.2.3788.0 (srv03\_rtm.030317-2234) 43.00 KB (44,032 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\ncprov.dll

rasadhlp 5.2.3788.0 (srv03\_rtm.030317-2234) 6.50 KB (6,656 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\rasadhlp.dll

netcfgx 5.2.3788.0 (srv03\_rtm.030317-2234) 726.00 KB (743,424 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\netcfgx.dll

winipsec 5.2.3788.0 (srv03\_rtm.030317-2234) 34.50 KB (35,328 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\winipsec.dll

ntlsapi 5.2.3788.0 (srv03\_rtm.030317-2234) 8.00 KB (8,192 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\ntlsapi.dll

pchsvc 5.2.3788.0 (srv03\_rtm.030317-2234) 31.50 KB (32,256 bytes)  
 3/21/2003 2:58 PM Microsoft Corporation  
 c:\windows\pchealth\helpctr\binaries\pchsvc.dll

wbemcons 5.2.3788.0 (srv03\_rtm.030317-2234) 69.00 KB (70,656 bytes)  
 3/21/2003 2:53 PM Microsoft Corporation  
 c:\windows\system32\wbem\wbemcons.dll

esconmgr 6.0.3.29 265.02 KB (271,376 bytes) 2/6/2003 6:43 PM  
 Unisys Corporation c:\windows\system32\esconmgr.exe

explorer 6.00.3788.0 (srv03\_rtm.030317-2234) 1,008.50 KB (1,032,704 bytes) 3/18/2003 4:00 AM  
 Microsoft Corporation c:\windows\explorer.exe

browseui 6.00.3788.0 (srv03\_rtm.030317-2234) 1.01 MB (1,057,280 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\browseui.dll

shdocvw 6.00.3788.0 (srv03\_rtm.030317-2234) 1.33 MB (1,393,664 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\shdocvw.dll

apphelp 5.2.3788.0 (srv03\_rtm.030317-2234) 122.00 KB (124,928 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\apphelp.dll

themeui 6.00.3788.0 (srv03\_rtm.030317-2234) 360.50 KB (369,152 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\themeui.dll

msimg32 5.2.3788.0 (srv03\_rtm.030317-2234) 4.50 KB (4,608 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\msimg32.dll

linkinfo 5.2.3788.0 (srv03\_rtm.030317-2234) 16.50 KB (16,896 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\linkinfo.dll

ntshrui 6.00.3788.0 (srv03\_rtm.030317-2234) 136.00 KB (139,264 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\ntshrui.dll

webcheck 6.00.3788.0 (srv03\_rtm.030317-2234) 261.50 KB (267,776 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\webcheck.dll

wsock32 5.2.3788.0 (srv03\_rtm.030317-2234) 22.00 KB (22,528 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\wsock32.dll

stobject 5.2.3788.0 (srv03\_rtm.030317-2234) 117.50 KB (120,320 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\stobject.dll

batmeter 6.00.3788.0 (srv03\_rtm.030317-2234) 28.50 KB (29,184 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\batmeter.dll

powrprof 6.00.3788.0 (srv03\_rtm.030317-2234) 14.50 KB (14,848 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\powrprof.dll

printui 5.2.3788.0 (srv03\_rtm.030317-2234) 536.50 KB (549,376 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\printui.dll

cfgmgr32 5.2.3788.0 (srv03\_rtm.030317-2234) 17.50 KB (17,920 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\cfgmgr32.dll

urlmon 6.00.3788.0 (srv03\_rtm.030317-2234) 501.50 KB (513,536 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\urlmon.dll

browsecl 6.00.3788.0 (srv03\_rtm.030317-2234) 62.00 KB (63,488 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\browsecl.dll

shdoclc 6.00.3788.0 (srv03\_rtm.030317-2234) 588.50 KB (602,624 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\shdoclc.dll

mmcshext 5.2.3788.0 (srv03\_rtm.030317-2234) 50.00 KB (51,200 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\mmcshext.dll

hhsetup 5.2.3788.0 (srv03\_rtm.030317-2234) 38.00 KB (38,912 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\hhsetup.dll

cmd 5.2.3788.0 (srv03\_rtm.030317-2234) 374.00 KB (382,976 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\cmd.exe

sqlservr 2000.080.0761.00 7.10 MB (7,446,568 bytes) 3/25/2003 1:39 PM Microsoft Corporation c:\sql80\sqlbuilds\02\_07\_03\_qfe\_128aw\sqlservr.exe

opends60 2000.080.0194.00 24.06 KB (24,639 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\opends60.dll

ums 2000.080.0760.00 52.55 KB (53,808 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\ums.dll

sqlsort 2000.080.0760.00 576.56 KB (590,396 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\sqlsort.dll

msvcirt 7.0.3788.0 (srv03\_rtm.030317-2234) 50.00 KB (51,200 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\msvcirt.dll

sqllevn70 2000.080.0760.00 28.00 KB (28,672 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\resources\1033\sqllevn70.rll

xolehlp 2001.12.4718.0 (srv03\_rtm.030317-2234) 8.50 KB (8,704 bytes) 3/21/2003 2:53 PM Microsoft Corporation c:\windows\system32\xolehlp.dll

msdtcprx 2001.12.4718.0 (srv03\_rtm.030317-2234) 427.50 KB (437,760 bytes) 3/21/2003 2:53 PM Microsoft Corporation c:\windows\system32\msdtcprx.dll

mtxclu 2001.12.4718.0 (srv03\_rtm.030317-2234) 74.50 KB (76,288 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\mtxclu.dll

resutils 5.2.3788.0 (srv03\_rtm.030317-2234) 59.00 KB (60,416 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\resutils.dll

mfc42u 6.05.3014.0 960.00 KB (983,040 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\mfc42u.dll

ssnetlib 2000.080.0760.00 80.56 KB (82,492 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\ssnetlib.dll

ssnmpn70 2000.080.0534.00 24.56 KB (25,148 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\ssnmpn70.dll

security 5.2.3788.0 (srv03\_rtm.030317-2234) 5.50 KB (5,632 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\security.dll

ssmslpcn 2000.080.0760.00 28.56 KB (29,244 bytes) 3/25/2003 1:52 PM Microsoft Corporation c:\sql80\mssql\bin\ssmslpcn.dll

ssmsgnet 2000.080.0382.00 32.56 KB (33,340 bytes) 3/25/2003 1:53 PM Microsoft Corporation c:\sql80\mssql\bin\ssmsgnet.dll

sqloledb 2000.085.1022.00 (srv03\_rtm.030317-2234) 536.00 KB (548,864 bytes) 3/21/2003 2:58 PM Microsoft Corporation c:\program files\common files\system\ole db\sqloledb.dll

msdart 2.80.1022.0 (srv03\_rtm.030317-2234) 164.00 KB (167,936 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\msdart.dll

msdat13 2.80.1022.0 (srv03\_rtm.030317-2234) 96.00 KB (98,304 bytes) 3/21/2003 2:58 PM Microsoft Corporation c:\program files\common files\system\ole db\msdat13.dll

oledb32 2.80.1022.0 (srv03\_rtm.030317-2234) 500.00 KB (512,000 bytes) 3/21/2003 2:58 PM Microsoft Corporation c:\program files\common files\system\ole db\oledb32.dll

oledb32r 2.80.1022.0 (srv03\_rtm.030317-2234) 68.00 KB (69,632 bytes) 3/21/2003 2:58 PM Microsoft Corporation c:\program files\common files\system\ole db\oledb32r.dll

isqlw 2000.080.0760.00 344.56 KB (352,828 bytes) 3/25/2003 1:53 PM Microsoft Corporation c:\program files\microsoft sql server\80\tools\bin\isqlw.exe

sqlunirl 2000.080.0728.00 176.56 KB (180,800 bytes) 3/18/2003 4:00 AM Microsoft Corporation c:\windows\system32\sqlunirl.dll

sqlresld 2000.080.0382.00 28.56 KB (29,248 bytes) 3/25/2003 1:53 PM Microsoft Corporation c:\program files\microsoft sql server\80\tools\bin\sqlresld.dll

sqlgui 2000.080.0760.00 444.56 KB (455,232 bytes) 3/25/2003 1:53 PM Microsoft Corporation c:\program files\microsoft sql server\80\tools\bin\sqlgui.dll



w95scm	2000.080.0760.00	48.56 KB (49,728 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw95scm.dll
odbc32	3.525.1022.0 (srv03_rtm.030317-2234)	232.00 KB (237,568 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\odbc32.dll
sqlsvc	2000.080.0760.00	92.56 KB (94,784 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\sqlsvc.dll
odbcbcnp	2000.085.1022.00 (srv03_rtm.030317-2234)	24.00 KB (24,576 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\odbcbcnp.dll
imm32	5.2.3788.0 (srv03_rtm.030317-2234)	105.50 KB (108,032 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\imm32.dll
sqlqry	2000.080.0760.00	392.56 KB (401,984 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\sqlqry.dll
pfutil80	2000.080.0760.00	272.56 KB (279,104 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\pfutil80.dll
semsfc	2000.080.0760.00	228.56 KB (234,048 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\semsfc.dll
pfclnt80	2000.080.0760.00	404.56 KB (414,272 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\pfclnt80.dll
odbcint	3.525.1022.0 (srv03_rtm.030317-2234)	92.00 KB (94,208 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\odbcint.dll
sqlsvc	2000.080.0194.00	24.00 KB (24,576 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\sqlsvc.rll
sqlgui	2000.080.0194.00	56.00 KB (57,344 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\sqlgui.rll
semsfc	2000.080.0194.00	24.00 KB (24,576 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\semsfc.rll
pfclnt80	2000.080.0194.00	28.00 KB (28,672 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\pfclnt80.rll
pfutil80	2000.080.0382.00	144.00 KB (147,456 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\pfutil80.rll
sqlqry	2000.080.0194.00	180.00 KB (184,320 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\sqlqry.rll
isqlw	2000.080.0382.00	240.00 KB (245,760 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\resources\1033\isqlw.rll
odbc32	3.525.1022.0 (srv03_rtm.030317-2234)	100.00 KB (102,400 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\odbc32.dll
sqllex	2000.080.0194.00	148.06 KB (151,616 bytes)	3/25/2003 1:53 PM	Microsoft Corporation	c:\program files\microsoft sql server\80\tools\binnw\sqllex.dll
sqlsrv32	2000.085.1022.00 (srv03_rtm.030317-2234)	404.00 KB (413,696 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\sqlsrv32.dll
sqlsrv32	2000.085.1022.00 (srv03_rtm.030317-2234)	88.00 KB (90,112 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\sqlsrv32.rll
dbnetlib	2000.085.1022 (srv03_rtm.030317-2234)	76.00 KB (77,824 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\dbnetlib.dll
dbmslpcn	2000.080.0760.00	28.56 KB (29,244 bytes)	3/25/2003 1:52 PM	Microsoft Corporation	c:\windows\system32\dbmslpcn.dll
helpctr	5.2.3788.0 (srv03_rtm.030317-2234)	764.00 KB (782,336 bytes)	3/21/2003 2:58 PM	Microsoft Corporation	c:\windows\pchealth\helpctr\binaries\helpctr.exe
hcappres	5.2.3788.0 (srv03_rtm.030317-2234)	6.50 KB (6,656 bytes)	3/21/2003 2:58 PM	Microsoft Corporation	c:\windows\pchealth\helpctr\binaries\hcappres.dll
itss	5.2.3788.0 (srv03_rtm.030317-2234)	119.50 KB (122,368 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\itss.dll
msxml3	8.40.9419.0	1.28 MB (1,337,344 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\msxml3.dll
pchshell	5.2.3788.0 (srv03_rtm.030317-2234)	100.50 KB (102,912 bytes)	3/21/2003 2:58 PM	Microsoft Corporation	c:\windows\pchealth\helpctr\binaries\pchshell.dll
mlang	6.00.3788.0 (srv03_rtm.030317-2234)	570.00 KB (583,680 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\mlang.dll
mshtml	6.00.3788.0 (srv03_rtm.030317-2234)	2.78 MB (2,916,352 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\mshtml.dll
msimtf	5.2.3788.0 (srv03_rtm.030317-2234)	149.00 KB (152,576 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\msimtf.dll
msctf	5.2.3788.0 (srv03_rtm.030317-2234)	287.00 KB (293,888 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\msctf.dll
jscrip	5.6.0.8515	436.00 KB (446,464 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\jscrip.dll
msls31	3.10.349.0	147.00 KB (150,528 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\msls31.dll
mshtml	6.00.3788.0 (srv03_rtm.030317-2234)	443.50 KB (454,144 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\mshtml.dll
vbscript	5.6.0.8515	404.00 KB (413,696 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\vbscript.dll
mfc42	6.05.3014.0	960.00 KB (983,040 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\mfc42.dll
msinfo	5.2.3788.0 (srv03_rtm.030317-2234)	358.50 KB (367,104 bytes)	3/21/2003 2:58 PM	Microsoft Corporation	c:\windows\pchealth\helpctr\binaries\msinfo.dll
riched32	5.2.3788.0 (srv03_rtm.030317-2234)	3.50 KB (3,584 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\riched32.dll
riched20	5.31.23.1218	406.00 KB (415,744 bytes)	3/18/2003 4:00 AM	Microsoft Corporation	c:\windows\system32\riched20.dll

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helpsvc 5.2.3788.0 (srv03_rtm.030317-2234) 720.00 KB (737,280 bytes)
3/21/2003 2:58 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				
Alerter	Alerter	Stopped	Disabled	Share Process		
	c:\windows\system32\svchost.exe -k localservice Normal NT					
AUTHORITY\LocalService	0					
Application Layer Gateway Service	ALG	Stopped	Manual	Own Process		
	c:\windows\system32\alg.exe Normal NT AUTHORITY\LocalService 0					
Application Management AppMgmt	Stopped	Manual	Share Process			
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
Windows Audio	AudioSrv	Stopped	Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
Background Intelligent Transfer Service	BITS	Stopped	Manual	Share Process		
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					
COM+ System Application	COMSysApp	Stopped	Manual	Own Process		
	c:\windows\system32\dlhst.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					
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	dmservice	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	Disabled	Share Process		
	c:\windows\system32\svchost.exe -k winerr Ignore LocalSystem 0					
Console Manager	Network Connection Co-Installer	ESCOINST				
	Stopped Manual Own Process c:\windows\system32\escoinst.dll Normal LocalSystem 0					

Console Manager	ESCONMGR	Running	Auto	Own Process		
	c:\windows\system32\esconmgr.exe Normal LocalSystem 0					
Event Log	Eventlog	Running	Auto	Share Process		
	c:\windows\system32\services.exe Normal LocalSystem 0					
COM+ Event System	EventSystem	Running	Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
cLAN Connection Manager	GniConMgr	Running	Auto	Own Process		
	c:\windows\system32\gnconmgr.exe Normal LocalSystem 0					
Help and Support	helpsvc	Running	Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
Human Interface Device Access	HidServ	Stopped	Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
HTTP SSL	HTTPFilter	Stopped	Manual	Share Process		
	c:\windows\system32\lsass.exe Normal LocalSystem 0					
IMAPI CD-Burning COM Service	ImapiService	Stopped	Disabled	Own Process		
Process	c:\windows\system32\imapi.exe Normal LocalSystem 0					
Intersite Messaging	IsmServ	Stopped	Disabled	Own Process		
	c:\windows\system32\ismserv.exe Normal LocalSystem 0					
Kerberos Key Distribution Center	kdc	Stopped	Disabled	Share Process		
	c:\windows\system32\lsass.exe Normal LocalSystem 0					
Server lanmanserver	Running	Auto	Share Process			
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
Workstation	lanmanworkstation	Running	Auto	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
License Logging	LicenseService	Stopped	Disabled	Own Process		
	c:\windows\system32\llssrv.exe Normal NT					
AUTHORITY\NetworkService	0					
TCP/IP NetBIOS Helper	LmHosts	Running	Auto	Share Process		
	c:\windows\system32\svchost.exe -k localservice Normal NT					
AUTHORITY\LocalService	0					
Messenger	Messenger	Stopped	Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0					
NetMeeting Remote Desktop Sharing	mnmsrvc	Stopped	Disabled	Own Process		
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					
MSSQLSERVER	MSSQLSERVER	Stopped	Manual	Own Process		
	c:\sql80\mssql\bin\sqlservr.exe Normal LocalSystem 0					
MSSQLServerADHelper	MSSQLServerADHelper	Stopped	Manual	Own Process		
	c:\program files\microsoft sql server\80\tools\bin\sqladhlp.exe 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			
Network Location Awareness (NLA)	Nla	Running Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
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			
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			
Remote Access Connection Manager	RasMan	Stopped Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
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			
Remote Registry	RemoteRegistry	Running Auto	Share Process		
	c:\windows\system32\svchost.exe -k regsvc	Normal NT			
AUTHORITY\LocalService					
Remote Procedure Call (RPC) Locator	RpcLocator	Stopped Manual	Own Process		
	c:\windows\system32\locator.exe	Normal NT			
AUTHORITY\NetworkService					
Remote Procedure Call (RPC)	RpcSs	Running Auto	Share Process		
	c:\windows\system32\svchost -k rpcss	Normal LocalSystem	0		
Resultant Set of Policy Provider	RSOPProv	Stopped Manual	Share Process		
	c:\windows\system32\rsopprov.exe	Normal LocalSystem	0		
Special Administration Console Helper	sacsrv	Stopped Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
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					
Task Scheduler	Schedule	Stopped Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
Secondary Logon	seclogon	Running Auto	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Ignore LocalSystem			
System Event Notification	SENS	Running Auto	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
Shell Hardware Detection	ShellHWDetection	Running Auto	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Ignore LocalSystem			
Print Spooler	Spooler	Stopped Manual	Own Process		
	c:\windows\system32\spoolsv.exe	Normal LocalSystem	0		
SQLSERVERAGENT	SQLSERVERAGENT	Stopped Manual	Own Process		
	c:\sql80\mssql\bin\sqlagent.exe	Normal LocalSystem	0		
Windows Image Acquisition (WIA)	stisvc	Stopped Disabled	Share Process		
	c:\windows\system32\svchost.exe -k imgsvc	Normal NT			
AUTHORITY\LocalService					
Microsoft Software Shadow Copy Provider	swprv	Stopped Manual	Own Process		
	c:\windows\system32\svchost.exe -k swprv	Normal LocalSystem			
Performance Logs and Alerts	SysmonLog	Stopped Manual	Own Process		
	c:\windows\system32\smlogsvc.exe	Normal NT			
Authority\NetworkService					
Telephony	TapiSrv	Stopped Manual	Share Process		
	c:\windows\system32\svchost.exe -k tapisrv	Normal LocalSystem			
Terminal Services	TermService	Running Manual	Share Process		
	c:\windows\system32\svchost.exe -k termsvcs	Normal LocalSystem			
Themes	Themes	Stopped Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
Telnet	TlntSvr	Stopped Disabled	Own Process		
	c:\windows\system32\tlntsvr.exe	Normal NT			
AUTHORITY\LocalService					
Distributed Link Tracking Server	TrkSvr	Stopped Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
Distributed Link Tracking Client	TrkWks	Stopped Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			
Terminal Services Session Directory	Tssdis	Stopped Disabled	Own Process		
	c:\windows\system32\tssdis.exe	Normal LocalSystem	0		
UnisysIFDiscover	UnisysIFDiscover	Stopped Manual	Own Process		
	"c:\program files\unisys\intelligent fibre\unisysifdiscover.exe"	Normal LocalSystem	0		
Upload Manager	uploadmgr	Stopped Disabled	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal LocalSystem			

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Uninterruptible Power Supply UPS      Stopped Manual Own Process
c:\windows\system32\ups.exe           Normal NT AUTHORITY\LocalService
0
Virtual Disk Service vds              Stopped Manual Own Process
c:\windows\system32\vds.exe           Normal LocalSystem 0
Volume Shadow Copy VSS                Stopped Manual Own Process
c:\windows\system32\vssvc.exe         Normal LocalSystem 0
Windows Time W32Time Running Auto     Share Process
c:\windows\system32\svchost.exe -k netsvcs 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 wuauclt            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

[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

GigaNet All Users:GigaNet All Users
Microsoft SQL Server All Users:Microsoft SQL Server All Users

```

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Microsoft SQL Server - Switch All Users:Microsoft SQL Server - Switch
All Users
Startup All Users:Startup All Users
Unisys Administrative Tools All Users:Unisys Administrative Tools All
Users
Unisys Administrative Tools\Intelligent Fibre Channel Adapter All
Users:Unisys Administrative Tools\Intelligent Fibre Channel Adapter 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 MV-BOBDYLAN\Administrator:Accessories MV-
BOBDYLAN\Administrator
Accessories\Accessibility MV-
BOBDYLAN\Administrator:Accessories\Accessibility MV-
BOBDYLAN\Administrator
Accessories\Entertainment MV-
BOBDYLAN\Administrator:Accessories\Entertainment MV-
BOBDYLAN\Administrator
Administrative Tools MV-BOBDYLAN\Administrator:Administrative Tools
MV-BOBDYLAN\Administrator
Startup MV-BOBDYLAN\Administrator:Startup MV-BOBDYLAN\Administrator

[Startup Programs]

Program Command User Name Location
desktop desktop.ini NT AUTHORITY\SYSTEM Startup
desktop desktop.ini MV-BOBDYLAN\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 6.0.3788.0  
 Build 63788  
 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	6.0.3788.0	95 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
advpack.dll	6.0.3788.0	94 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
asctrls.ocx	6.0.3788.0	90 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
browseui.dll	6.0.3788.0	1,033 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
cdview.dll	6.0.3788.0	144 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
comctl32.dll	5.82.3788.0	561 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
dxtrans.dll	6.3.3788.0	198 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
dxtmsft.dll	6.3.3788.0	344 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
iecont.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iecontlc.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iedkcs32.dll	16.0.3788.0	300 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
iepeers.dll	6.0.3788.0	230 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
iesetup.dll	6.0.3788.0	59 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
ieuinit.inf	Not Available	20 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Not Available
iexplore.exe	6.0.3788.0	90 KB	3/18/2003 5:00:00 AM	C:\Program Files\Internet Explorer	Microsoft Corporation
imgutil.dll	5.2.3788.0	35 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
inetcpl.cpl	6.0.3788.0	303 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
inetcplc.dll	6.0.3788.0	109 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
inseng.dll	6.0.3788.0	72 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation

mlang.dll	6.0.3788.0	570 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msencode.dll	2002.10.4.0	112 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Not Available
mshta.exe	6.0.3788.0	26 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.dll	6.0.3788.0	2,848 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.tlb	6.0.3788.0	1,319 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mshtml.ed.dll	6.0.3788.0	444 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mshtmlr.dll	6.0.3788.0	55 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msident.dll	6.0.3788.0	47 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msidntld.dll	6.0.3788.0	15 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msieftp.dll	6.0.3788.0	230 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
msrating.dll	6.0.3788.0	132 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
mstime.dll	6.0.3788.0	491 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
occache.dll	6.0.3788.0	89 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
proctexe.ocx	6.3.3788.0	78 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Intel Corporation
sendmail.dll	6.0.3788.0	52 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shdoclc.dll	6.0.3788.0	589 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shdocvw.dll	6.0.3788.0	1,361 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shfolder.dll	6.0.3788.0	23 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
shlwapi.dll	6.0.3788.0	281 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
tdc.ocx	1.3.0.3130	58 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
url.dll	6.0.3788.0	36 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
urlmon.dll	6.0.3788.0	502 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
webcheck.dll	6.0.3788.0	262 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
wininet.dll	6.0.3788.0	609 KB	3/18/2003 5:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation

[Connectivity]

Item Value  
 Connection Preference Never dial

LAN Settings

AutoConfigProxy Not Available  
 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\LocalService\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	Medium-low
Trusted sites	Medium
Internet	High
Restricted sites	High

## Windows Datacenter Server Registry Information

### Software\GigaNet

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\cLAN Management  
Console  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 3:12 PM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\cLAN Management  
Console\1.00.000  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 3:12 PM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\BeginModify  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM  
Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:10

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\Fabric  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\LastModified  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM  
Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:10

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\NodeList  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\NodeList\Node0  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: MV-BOBDYLAN

Value 1  
Name: NICName  
Type: REG\_SZ  
Data: gnivia0

Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA0014BC

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort  
Type: REG\_SZ  
Data: n1

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x2

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\0\NodeList\Node1  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: CLIENT1

Value 1  
Name: NICName  
Type: REG\_SZ  
Data: nic0

Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA00136E

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort  
Type: REG\_SZ  
Data: n2

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\BeginModify  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:09

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\Fabric  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\LastModified  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:09

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\NodeList  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\NodeList\Node0  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: MV-BOBDYLAN

Value 1  
Name: NICName  
Type: REG\_SZ  
Data: gnivial

Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA00159A

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort  
Type: REG\_SZ  
Data: n2

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x1

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\1\NodeList\Node2  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: CLIENT2

Value 1  
Name: NICName  
Type: REG\_SZ  
Data: nic0

Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA001CBB

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort  
Type: REG\_SZ  
Data: n1

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x2

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\BeginModify  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:09

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\Fabric  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\LastModified  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:09

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\NodeList  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\NodeList\Node0  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: MV-BOBDYLAN



Value 1  
 Name: NICName  
 Type: REG\_SZ  
 Data: gnivvia2

Value 2  
 Name: Address  
 Type: REG\_SZ  
 Data: 0090FA001C8C

Value 3  
 Name: MediaType  
 Type: REG\_SZ  
 Data:

Value 4  
 Name: State  
 Type: REG\_DWORD  
 Data: 0x1

Value 5  
 Name: SwitchPort  
 Type: REG\_SZ  
 Data: n2

Value 6  
 Name: NodeNumber  
 Type: REG\_DWORD  
 Data: 0x1

Key Name:  
 HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\2\NodeList\Node2  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
 Name: Name  
 Type: REG\_SZ  
 Data: CLIENT3

Value 1  
 Name: NICName  
 Type: REG\_SZ  
 Data: nic0

Value 2  
 Name: Address  
 Type: REG\_SZ  
 Data: 0090FA001CB5

Value 3  
 Name: MediaType  
 Type: REG\_SZ  
 Data:

Value 4  
 Name: State  
 Type: REG\_DWORD  
 Data:

Data: 0x1

Value 5  
 Name: SwitchPort  
 Type: REG\_SZ  
 Data: n1

Value 6  
 Name: NodeNumber  
 Type: REG\_DWORD  
 Data: 0x2

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\BeginModify  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
 Name: <NO NAME>  
 Type: REG\_SZ  
 Data: 04:38:09

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\Fabric  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\LastModified  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
 Name: <NO NAME>  
 Type: REG\_SZ  
 Data: 04:38:09

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\NodeList  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\NodeList\Node0  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
 Name: Name  
 Type: REG\_SZ  
 Data: MV-BOBDYLAN

Value 1  
 Name: NICName  
 Type: REG\_SZ  
 Data:

Data: gnivia3  
Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA001C15

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort  
Type: REG\_SZ  
Data: n2

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2\3\NodeList\Node2  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM

Value 0  
Name: Name  
Type: REG\_SZ  
Data: CLIENT4

Value 1  
Name: NICName  
Type: REG\_SZ  
Data: nic0

Value 2  
Name: Address  
Type: REG\_SZ  
Data: 0090FA001D14

Value 3  
Name: MediaType  
Type: REG\_SZ  
Data:

Value 4  
Name: State  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: SwitchPort

Type: REG\_SZ  
Data: n1

Value 6  
Name: NodeNumber  
Type: REG\_DWORD  
Data: 0x2

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Giganet\GniConMgrMgmt2>LastModified  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:38 AM  
Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: 04:38:08

### Software\Microsoft\MSSQLServer

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client  
Class Name: <NO CLASS>  
Last Write Time: 3/29/2003 - 8:00 PM  
Value 0  
Name: SharedMemoryOn  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\ConnectTo  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:53 PM  
Value 0  
Name: DSQUERY  
Type: REG\_SZ  
Data: DBNETLIB

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\DB-Lib  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AutoAnsiToOem  
Type: REG\_SZ  
Data: ON

Value 1  
Name: UseIntlSettings

Type: REG\_SZ  
Data: ON

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
Class Name: <NO CLASS>  
Last Write Time: 3/30/2003 - 11:11 AM  
Value 0  
Name: ProtocolOrder  
Type: REG\_MULTI\_SZ  
Data: np

Value 1  
Name: Encrypt  
Type: REG\_DWORD  
Data: 0

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
\LastConnect  
Class Name: <NO CLASS>  
Last Write Time: 3/26/2003 - 9:28 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
\Np  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: DefaultPipe  
Type: REG\_SZ  
Data: sql\query

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
\rpc  
Class Name: <NO CLASS>  
Last Write Time: 3/26/2003 - 9:52 AM  
Value 0  
Name: RPCProtocols  
Type: REG\_MULTI\_SZ  
Data: nlrpc  
nacn\_np  
nacn\_ip\_tcp  
nacn\_spx

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
\Tcp  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: DefaultPort  
Type: REG\_DWORD  
Data: 0x599

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\SuperSocketNetLib  
\VIA  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:57 PM  
Value 0  
Name: RecognizedVendors  
Type: REG\_SZ  
Data: Gigaset,QLogic,ServerNet II

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:41 AM  
Value 0  
Name: ListenOn  
Type: REG\_MULTI\_SZ  
Data: SSMSSH70  
SSNETLIB

Value 1  
Name: ResourceMgrID  
Type: REG\_SZ  
Data: {55932B90-2F87-416D-909A-33E45AE38443}

Value 2  
Name: SetHostName  
Type: REG\_DWORD  
Data: 0

Value 3  
Name: AuditLevel  
Type: REG\_DWORD  
Data: 0

Value 4  
Name: LoginMode  
Type: REG\_DWORD  
Data: 0x2

Value 5  
Name: Tapeloadwaittime  
Type: REG\_DWORD  
Data: 0xffffffff

Value 6  
Name: DefaultLogin  
Type: REG\_SZ  
Data: guest

Value 7  
Name: Map  
Type: REG\_SZ  
Data: \

Value 8

```

Name:      Map#
Type:      REG_SZ
Data:      -

Value 9
Name:      Map$
Type:      REG_SZ
Data:

Value 10
Name:      BackupDirectory
Type:      REG_SZ
Data:      c:\sql80\MSSQL\BACKUP

Value 11
Name:      DefaultDomain
Type:      REG_SZ
Data:      MV-BOBDYLAN

Value 12
Name:      DefaultCollationName
Type:      REG_SZ
Data:      Latin1_General_BIN

Value 13
Name:      uptime_pid
Type:      REG_DWORD
Data:      0x778

Value 14
Name:      uptime_time_utc
Type:      REG_BINARY
Data:      6e 78 ce c7 7a 02 c3 01 -
                                     nxİÇz.Ã.

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\CurrentVersion
Class Name:      <NO CLASS>
Last Write Time: 3/25/2003 - 3:04 PM
Value 0
Name:      checksum
Type:      REG_BINARY
Data:      00000000 38 30 32 32 63 31 35 38 - 61 65 37 64 34 63 64 37
8022c158ae7d4cd7
00000010 35 30 64 61 30 33 34 62 - 36 30 31 34 32 39 66 61
50da034b601429fa
00000020 61 64 65 32 65 61 63 36 - 36 34 66 32 34 35 65 64
ade2eac664f245ed
00000030 66 35 66 62 33 35 65 62 - 32 30 61 35 39 61 63 62
f5fb35eb20a59acb
00000040 32 65 64 64 66 63 35 66 - 35 39 33 37 64 35 39 36
2eddfc5f5937d596
00000050 38 63 35 65 63 35 30 37 - 62 36 31 39 63 31 36 66
8c5ec507b619c16f
00000060 62 62 39 63 66 32 32 31 - 31 30 65 63 62 38 66 30
bb9cf22110ecb8f0

```

```

00000070 39 37 65 38 35 63 30 38 - 64 32 64 63 33 36 38 30
97e85c08d2dc3680
00000080 33 36 30 30 38 39 36 39 - 33 61 38 39 37 61 39 32
360089693a897a92
00000090 36 33 32 38 35 63 32 30 - 64 31 38 61 34 34 30 36
63285c20d18a4406
31 61 00
1a.

```

```

Value 1
Name:      RegisteredOwner
Type:      REG_SZ
Data:      TRACKS

```

```

Value 2
Name:      SerialNumber
Type:      REG_DWORD
Data:      0x81fd0040

```

```

Value 3
Name:      CurrentVersion
Type:      REG_SZ
Data:      8.00.194

```

```

Value 4
Name:      Language
Type:      REG_DWORD
Data:      0x409

```

```

Value 5
Name:      CSDVersionNumber
Type:      REG_DWORD
Data:      0x300

```

```

Value 6
Name:      CSDVersion
Type:      REG_SZ
Data:      8.00.760

```

```

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\Parameters
Class Name:      <NO CLASS>
Last Write Time: 3/25/2003 - 2:53 PM

```

```

Value 0
Name:      SQLArg0
Type:      REG_SZ
Data:      -dc:\sql80\MSSQL\data\master.mdf

```

```

Value 1
Name:      SQLArg1
Type:      REG_SZ
Data:      -ec:\sql80\MSSQL\log\ERRORLOG

```

```

Value 2
Name:      SQLArg2
Type:      REG_SZ
Data:      -lc:\sql80\MSSQL\data\mastlog.ldf

```

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\RPCNetLib  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:53 PM  
Value 0  
Name: Security  
Type: REG\_SZ  
Data:

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketNetLib  
Class Name: <NO CLASS>  
Last Write Time: 3/30/2003 - 11:11 AM  
Value 0  
Name: ProtocolList  
Type: REG\_MULTI\_SZ  
Data: np  
via

Value 1  
Name: Encrypt  
Type: REG\_DWORD  
Data: 0

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketNetLib\Np  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:53 PM  
Value 0  
Name: PipeName  
Type: REG\_SZ  
Data: \\.\pipe\sql\query

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketNetLib\Tcp  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:57 PM  
Value 0  
Name: TcpHideFlag  
Type: REG\_DWORD  
Data: 0

Value 1  
Name: TcpPort  
Type: REG\_SZ  
Data: 1433

Value 2  
Name: TcpDynamicPorts  
Type: REG\_SZ  
Data:

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\SuperSocketNetLib\VIA  
Class Name: <NO CLASS>  
Last Write Time: 4/12/2003 - 9:09 PM  
Value 0  
Name: Vendor  
Type: REG\_SZ  
Data: Giganet

Value 1  
Name: ListenInfo  
Type: REG\_SZ  
Data: 0:1421[0x000f000f],1:1422[0x00f000f0],2:1423[0x0f000f00],3:1424[0xf000f000]

Value 2  
Name: RecognizedVendors  
Type: REG\_MULTI\_SZ  
Data: Giganet  
ServerNet II  
QLogic

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProcess  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\ADSDSOObject  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProcess  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\DB2OLEDB  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProcess  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\Microsoft.Jet.OLEDB.4.0

Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSDAORA  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSDASQL  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSIDXS  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSQLImpProv  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSSEARCHSQL  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\SQLOLEDB  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProgress  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: DisallowAdhocAccess  
Type: REG\_DWORD  
Data: 0

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Setup  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 3:04 PM  
Value 0  
Name: SQLPath  
Type: REG\_SZ  
Data: c:\sql80\MSSQL

Value 1  
Name: SQLDataRoot  
Type: REG\_SZ  
Data: c:\sql80\MSSQL

Value 2  
Name: SourcePath  
Type: REG\_SZ  
Data: \\usmv-host2\shared\systems  
analysis\Microsoft\sql\_2k\_sp3\Sql2ksp3

Value 3  
Name: firststart  
Type: REG\_DWORD  
Data: 0

Value 4  
Name: Scripts  
Type: REG\_MULTI\_SZ  
Data: sp1\_serv\_uni.sql  
80sp1-tools.sql  
sp2\_serv\_uni.sql  
80sp2-tools.sql  
sp3\_serv\_uni.sql  
80sp3-tools.sql  
replsys.sql  
replcom.sql  
repltran.sql  
replmerg.sql  
remove\_old\_msx\_accounts.sql

sp\_vupgrade\_replication:@login=N'sa',@password=N'',@ver\_old=194

Value 5  
Name: EnableErrorReporting

Type: REG\_DWORD  
Data: 0

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\SQLServerAgent  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM

Value 0  
Name: JobHistoryMaxRowsPerJob  
Type: REG\_DWORD  
Data: 0x64

Value 1  
Name: RestartServer  
Type: REG\_DWORD  
Data: 0x1

Value 2  
Name: DownloadedMaxRows  
Type: REG\_DWORD  
Data: 0x64

Value 3  
Name: JobHistoryMaxRows  
Type: REG\_DWORD  
Data: 0x3e8

Value 4  
Name: ErrorLoggingLevel  
Type: REG\_DWORD  
Data: 0x3

Value 5  
Name: NonAlertableErrors  
Type: REG\_SZ  
Data: 1204,4002

Value 6  
Name: MSXServerName  
Type: REG\_SZ  
Data:

Value 7  
Name: ServerHost  
Type: REG\_SZ  
Data:

Value 8  
Name: WorkingDirectory  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\JOBS

Value 9  
Name: ErrorLogFile  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\LOG\SQLAGENT.OUT

Value 10

Name: SysAdminOnly  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\SQLServerAgent\Subsystems  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM

Value 0  
Name: CmdExec  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLCMDSS.DLL,NULL,CmdExecStart,CmdEvent,CmdExecStop,10

Value 1  
Name: Snapshot  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLREPSS.DLL,C:\Program Files\Microsoft SQL Server\80\COM\SNAPSHOT.EXE,ReplStart,ReplEvent,ReplStop,100

Value 2  
Name: Distribution  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLREPSS.DLL,C:\Program Files\Microsoft SQL Server\80\COM\DISTRIB.EXE,ReplStart,ReplEvent,ReplStop,100

Value 3  
Name: Merge  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLREPSS.DLL,C:\Program Files\Microsoft SQL Server\80\COM\REPLMERG.EXE,ReplStart,ReplEvent,ReplStop,100

Value 4  
Name: ActiveScripting  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLATXSS.DLL,NULL,ActiveScriptStart,ActiveScriptEvent,ActiveScriptStop,10

Value 5  
Name: QueueReader  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLREPSS.DLL,C:\Program Files\Microsoft SQL Server\80\COM\QRDRSVC.EXE,ReplStart,ReplEvent,ReplStop,100

Value 6  
Name: LogReader  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLREPSS.DLL,C:\Program Files\Microsoft SQL Server\80\COM\LOGREAD.EXE,ReplStart,ReplEvent,ReplStop,25

```

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Tracking
Class Name: <NO CLASS>
Last Write Time: 3/25/2003 - 2:54 PM
Value 0
  Name: {E07FDDA4-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 1
  Name: {E07FDDA5-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 2
  Name: {E07FDDA8-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 3
  Name: {E07FDDAA-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 4
  Name: {E07FDDAC-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 5
  Name: {E07FDDAD-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 6
  Name: {E07FDDAF-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 7
  Name: {E07FDDBE-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 8
  Name: {E07FDDC0-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:
Value 9
  Name: {E07FDDBF-5A21-11d2-9DAD-00C04F79D434}
  Type: REG_SZ
  Data:

Key Name:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Tracking\Shortcuts
Class Name: <NO CLASS>
Last Write Time: 3/25/2003 - 2:54 PM

```

```

Value 0
  Name: Enterprise Manager
  Type: REG_SZ
  Data:
Value 1
  Name: Query Analyzer
  Type: REG_SZ
  Data:
Value 2
  Name: Client Network Utility
  Type: REG_SZ
  Data:
Value 3
  Name: Configure SQL XML Support in IIS
  Type: REG_SZ
  Data:
Value 4
  Name: Import and Export Data
  Type: REG_SZ
  Data:
Value 5
  Name: Service Manager
  Type: REG_SZ
  Data:
Value 6
  Name: Server Network Utility
  Type: REG_SZ
  Data:
Value 7
  Name: Books Online
  Type: REG_SZ
  Data:

```

### Software\Microsoft\Microsoft SQL Server

```

Key Name: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server
Class Name: <NO CLASS>
Last Write Time: 3/25/2003 - 2:54 PM
Value 0
  Name: SsrpActiveServer
  Type: REG_SZ
  Data: MSSQLServer
Value 1
  Name: InstalledInstances
  Type: REG_MULTI_SZ
  Data: MSSQLSERVER

```



```

Value 2
  Name:      SqlMdacRegRefCount
  Type:      REG_DWORD
  Data:      0x1

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\8.00.000
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 2:52 PM

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 3:04 PM
Value 0
  Name:      SharedCode
  Type:      REG_SZ
  Data:      C:\Program Files\Microsoft SQL Server\80\COM\

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\DTS
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 3:04 PM

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\DTS\Settings
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 3:04 PM
Value 0
  Name:      EnableSaveToRepository
  Type:      REG_DWORD
  Data:      0

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\MSSQLLicenseInfo
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 2:52 PM

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\MSSQLLicenseInfo\MSSQL8.00
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 2:52 PM
Value 0
  Name:      FlipAllow
  Type:      REG_DWORD
  Data:      0

Value 1
  Name:      ConcurrentLimit
  Type:      REG_DWORD
  Data:      0x20

Value 2
  Name:      DisplayName
  Type:      REG_SZ

```

```

Data:      SQL Server 2000

Value 3
  Name:      FamilyDisplayName
  Type:      REG_SZ
  Data:      Microsoft SQL Server

Value 4
  Name:      Mode
  Type:      REG_DWORD
  Data:      0x2

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\Registration
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 2:52 PM
Value 0
  Name:      DigitalProductID
  Type:      REG_BINARY
  Data:
00000000 a4 00 00 00 03 00 00 00 - 35 33 39 33 34 2d 30 30
0.....53934-00
00000010 30 2d 30 30 30 30 39 - 35 2d 30 35 30 31 37 00 0-00000095-
05017.
00000020 0a 00 00 00 38 31 30 2d - 30 30 35 36 30 00 00 00 ...810-
00560...
00000030 00 00 00 00 12 00 00 00 - 00 a6 0a 0f 5e 9d 9e ef
.....|..^..i
00000040 0d 05 00 00 00 00 00 00 - 8d 5e 80 3e 5b dc 23 00
.....^..>[Ü#.
00000050 00 00 00 00 00 00 00 00 - 00 00 00 00 00 00 00 00
.....
00000060 00 00 00 00 00 00 00 00 - 37 31 35 32 36 00 00 00
.....71526...
00000070 00 00 00 00 52 0f 00 00 - 12 72 22 00 00 08 00 00
....R....r".....
00000080 5b 11 00 00 00 00 00 00 - 00 00 00 00 00 00 00 00
[.....
00000090 00 00 00 00 00 00 00 00 - 00 00 00 00 00 00 00 00
.....
2c f6 3c 35 ,ö<5

Value 1
  Name:      ProductID
  Type:      REG_SZ
  Data:      53934-000-0000095-05017

Value 2
  Name:      CD_KEY
  Type:      REG_SZ
  Data:      BC6JV-WVYQ9-PC8H6-W938R-8BWJD

Key Name:    HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL
Server\80\Replication
Class Name:  <NO CLASS>
Last Write Time: 3/25/2003 - 2:54 PM

```

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Replication\MergeReplicationProvider  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 3:04 PM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Replication\MergeReplicationProvider\MsJet  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 3:04 PM  
Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data: {f159cf30-0db4-11d1-b272-00aa00b8de95}

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\ClientSetup  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:53 PM  
Value 0  
Name: SQLPath  
Type: REG\_SZ  
Data: C:\Program Files\Microsoft SQL Server\80\Tools

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\ClientSetup\CurrentVersion  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:53 PM  
Value 0  
Name: CurrentVersion  
Type: REG\_SZ  
Data: 8.00.194

Value 1  
Name: Language  
Type: REG\_DWORD  
Data: 0x409

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\Help  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: RefCount  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: HelpFile  
Type: REG\_SZ  
Data: C:\Program Files\Microsoft SQL Server\80\Tools\Books\SQL80.col

Value 2  
Name: HelpLCID  
Type: REG\_SZ  
Data: 1033

Value 3  
Name: HelpPath  
Type: REG\_SZ  
Data: C:\Program Files\Microsoft SQL Server\80\Tools\Books

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\Service Manager  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: Action Verify  
Type: REG\_DWORD  
Data: 0

Value 1  
Name: Default  
Type: REG\_SZ  
Data: MSSQLSERVER

Value 2  
Name: Remote  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: Services  
Type: REG\_MULTI\_SZ  
Data: MSDTC

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\SQLLEW  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: CustomizableAlertBaseURL  
Type: REG\_SZ  
Data:

Value 1  
Name: CustomizableAlertDefaultButtonText  
Type: REG\_SZ  
Data: &Send Feedback

Value 2  
Name: CustomizableAlertDefaultBtnShortText  
Type: REG\_SZ  
Data: Feedbac&k

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\80\Tools\SQLLEW\Replication

Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: PerfmonFile  
Type: REG\_SZ  
Data: C:\Program Files\Microsoft SQL  
Server\80\Tools\BINN\REPLMON.PMC

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL  
Server\80\Tools\SQLEW\Wizards  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: Web Assistant  
Type: REG\_SZ  
Data: C:\Program Files\Microsoft SQL  
Server\80\Tools\BINN\semwebwz.DLL^WebWizardEntry

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL  
Server\80\Tools\Tracking  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: {E07FDDA8-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: {E07FDDAA-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 2  
Name: {E07FDDAC-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: {E07FDDAD-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 4  
Name: {E07FDDAF-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: {E07FDDBE-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Value 6  
Name: {E07FDDBF-5A21-11d2-9DAD-00C04F79D434}  
Type: REG\_DWORD  
Data: 0x1

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL  
Server\80\Tools\Tracking\Shortcuts  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: Enterprise Manager  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: Query Analyzer  
Type: REG\_DWORD  
Data: 0x1

Value 2  
Name: Client Network Utility  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: Configure SQL XML Support in IIS  
Type: REG\_DWORD  
Data: 0x1

Value 4  
Name: Import and Export Data  
Type: REG\_DWORD  
Data: 0x1

Value 5  
Name: Service Manager  
Type: REG\_DWORD  
Data: 0x1

Value 6  
Name: Server Network Utility  
Type: REG\_DWORD  
Data: 0x1

Value 7  
Name: Books Online  
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: 3/25/2003 - 3:05 PM  
Value 0  
Name: CountOperations  
Type: REG\_DWORD  
Data: 0

## CurrentControlSet\Services\GniConMgr

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniConMgr  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM  
Value 0

Name: Type  
Type: REG\_DWORD  
Data: 0x10

Value 1  
Name: Start  
Type: REG\_DWORD  
Data: 0x2

Value 2  
Name: ErrorControl  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: ImagePath  
Type: REG\_EXPAND\_SZ  
Data: %SystemRoot%\system32\GnConMgr.exe

Value 4  
Name: DisplayName  
Type: REG\_SZ  
Data: cLAN Connection Manager

Value 5  
Name: Group  
Type: REG\_SZ  
Data: TDI

Value 6  
Name: DependOnService  
Type: REG\_MULTI\_SZ  
Data: GniVIA

Value 7  
Name: DependOnGroup  
Type: REG\_MULTI\_SZ  
Data:

Value 8  
Name: ObjectName  
Type: REG\_SZ  
Data: LocalSystem

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniConMgr\Parameters  
Class Name: <NO CLASS>

Last Write Time: 3/25/2003 - 10:02 AM  
Value 0  
Name: NicName  
Type: REG\_SZ  
Data: GniVIA

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniConMgr\Security  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 10:02 AM  
Value 0

Name: Security  
Type: REG\_BINARY  
Data:

00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00  
.....  
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00  
0.....  
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00  
ÿ.....  
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00  
..`.....ÿ...  
00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00  
.....  
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ.....  
...  
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00  
.....  
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00  
.....ÿ...  
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....  
...#...  
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00  
.....  
00 00 00 05 12 00 00 00 - .....

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniConMgr\Enum  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM  
Value 0

Name: 0  
Type: REG\_SZ  
Data: Root\LEGACY\_GNICONMGR\0000

Value 1  
Name: Count  
Type: REG\_DWORD  
Data: 0x1

Value 2  
Name: NextInstance  
Type: REG\_DWORD  
Data: 0x1

## CurrentControlSet\Services\GNINDIS

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GNINDIS  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM

Value 0  
Name: Type  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: Start  
Type: REG\_DWORD  
Data: 0x2

Value 2  
Name: ErrorControl  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: Tag  
Type: REG\_DWORD  
Data: 0xd

Value 4  
Name: ImagePath  
Type: REG\_EXPAND\_SZ  
Data: system32\DRIVERS\gnindis.sys

Value 5  
Name: DisplayName  
Type: REG\_SZ  
Data: cLAN NDIS Driver

Value 6  
Name: Group  
Type: REG\_SZ  
Data: NDIS

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GNINDIS\Security  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 10:02 AM

Value 0  
Name: Security  
Type: REG\_BINARY  
Data:  
00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00  
.....  
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00  
0.....  
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00  
ÿ.....  
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00  
..`.....ÿ...

00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00  
.....  
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ.....  
...  
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00  
.....  
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00  
.....ÿ...  
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....  
...#...  
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00  
.....  
00 00 00 05 12 00 00 00 - .....

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GNINDIS\Enum  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM

Value 0  
Name: 0  
Type: REG\_SZ  
Data: PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&e44f86d&0&00

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\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&e44f86d&0&08

Value 4  
Name: 2  
Type: REG\_SZ  
Data: PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1b2f0ce&0&00

Value 5  
Name: 3  
Type: REG\_SZ  
Data: PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1b2f0ce&0&08

## CurrentControlSet\Services\GniVIA

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM

Value 0  
Name: Type  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: Start  
Type: REG\_DWORD  
Data: 0x2

Value 2  
Name: ErrorControl  
Type: REG\_DWORD  
Data: 0x1

Value 3  
Name: Tag  
Type: REG\_DWORD  
Data: 0x8

Value 4  
Name: ImagePath  
Type: REG\_EXPAND\_SZ  
Data: system32\DRIVERS\GniVIA.sys

Value 5  
Name: DisplayName  
Type: REG\_SZ  
Data: cLAN VIA Driver

Value 6  
Name: Group  
Type: REG\_SZ  
Data: PNP\_TDI

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA\Linkage  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 8:34 PM

Value 0  
Name: Bind  
Type: REG\_MULTI\_SZ  
Data: \Device\{2BAE7DE7-8C00-41F7-B62D-86F56649CA5C}  
\Device\{714BB0E3-7714-4B8B-901E-727276B5E731}  
\Device\{0B8AFFC2-5EEF-4F77-A611-A4448635C733}  
\Device\{F2963324-82E7-4E81-A26D-98B6EE49E440}

Value 1  
Name: Route  
Type: REG\_MULTI\_SZ  
Data: "{2BAE7DE7-8C00-41F7-B62D-86F56649CA5C}"

```
"{714BB0E3-7714-4B8B-901E-727276B5E731}"  
"{0B8AFFC2-5EEF-4F77-A611-A4448635C733}"  
"{F2963324-82E7-4E81-A26D-98B6EE49E440}"
```

Value 2  
Name: Export  
Type: REG\_MULTI\_SZ  
Data: \Device\GniVIA\_{2BAE7DE7-8C00-41F7-B62D-86F56649CA5C}  
\Device\GniVIA\_{714BB0E3-7714-4B8B-901E-727276B5E731}  
\Device\GniVIA\_{0B8AFFC2-5EEF-4F77-A611-A4448635C733}  
\Device\GniVIA\_{F2963324-82E7-4E81-A26D-98B6EE49E440}

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA\Parameters  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 10:04 AM

Value 0  
Name: <NO NAME>  
Type: REG\_SZ  
Data:

Value 1  
Name: MaxNumberNics  
Type: REG\_DWORD  
Data: 0x4

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA\Performance  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 10:04 AM

Value 0  
Name: Open  
Type: REG\_SZ  
Data: OpenNicPerformanceData

Value 1  
Name: Close  
Type: REG\_SZ  
Data: CloseNicPerformanceData

Value 2  
Name: Collect  
Type: REG\_SZ  
Data: CollectNicPerformanceData

Value 3  
Name: Library  
Type: REG\_SZ  
Data: gni\_perf.dll

Value 4  
Name: PerfIniFile  
Type: REG\_SZ  
Data: gni\_perf.ini

Value 5  
Name: Last Counter

```

Type:          REG_DWORD
Data:          0x9a4

Value 6
Name:          Last Help
Type:          REG_DWORD
Data:          0x9a5

Value 7
Name:          First Counter
Type:          REG_DWORD
Data:          0x966

Value 8
Name:          First Help
Type:          REG_DWORD
Data:          0x967

Value 9
Name:          WbemAdapFileSignature
Type:          REG_BINARY
Data:          00000000 72 b9 f5 07 e0 89 b7 ad - 6b a0 4e 41 53 fb b4 ba
r'õ.â.-k NASû°

Value 10
Name:          WbemAdapFileTime
Type:          REG_BINARY
Data:          ec 4b c6 4b ef f2 c2 01 -
                                     ìK&KiðÂ.

Value 11
Name:          WbemAdapFileSize
Type:          REG_DWORD
Data:          0xc000

Value 12
Name:          WbemAdapStatus
Type:          REG_DWORD
Data:          0

```

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA\Security
Class Name:    <NO CLASS>
Last Write Time: 3/25/2003 - 10:02 AM
Value 0
Name:          Security
Type:          REG_BINARY
Data:          00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00
.....
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0.....
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ.....
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00
..`.....ÿ...

```

```

00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
.....
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00
ÿ.....
...
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
.....
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00
.....ÿ...
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00
...#...
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00
.....
00 00 00 05 12 00 00 00 -
.....

```

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GniVIA\Enum
Class Name:    <NO CLASS>
Last Write Time: 4/14/2003 - 4:33 AM
Value 0
Name:          0
Type:          REG_SZ
Data:          Root\LEGACY_GNIVIA\0000

```

```

Value 1
Name:          Count
Type:          REG_DWORD
Data:          0x1

```

```

Value 2
Name:          NextInstance
Type:          REG_DWORD
Data:          0x1

```

### CurrentControlSet\Services\Ifba

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifba
Class Name:    <NO CLASS>
Last Write Time: 4/14/2003 - 4:35 AM
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: 3/25/2003 - 10:07 AM

Value 0  
 Name: Security  
 Type: REG\_BINARY  
 Data:  
 00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00  
 .....  
 00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00  
 0.....  
 00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00  
 Ÿ.....  
 00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00  
 ..\.....Ÿ...  
 00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00  
 .....  
 00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 Ÿ.....  
 ...  
 00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00  
 .....  
 00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00  
 .....Ÿ...  
 00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....  
 ...#...  
 00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00  
 .....  
 00 00 00 05 12 00 00 00 - .....

Key Name:  
 HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\ifba\Enum  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 4:35 AM

Value 0  
 Name: 0  
 Type: REG\_SZ

Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&3a90ebef&0&F104560B00080010

Value 1  
 Name: Count  
 Type: REG\_DWORD  
 Data: 0xe

Value 2  
 Name: NextInstance  
 Type: REG\_DWORD  
 Data: 0xe

Value 3  
 Name: 1  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&3a90ebef&0&F004560B00080010

Value 4  
 Name: 2  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&350a6b20&0&8804560B00080010

Value 5  
 Name: 3  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&350a6b20&0&8904560B00080010

Value 6  
 Name: 4  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&19fcce84&0&A004560B00080010

Value 7  
 Name: 5  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&19fcce84&0&A104560B00080010

Value 8  
 Name: 6  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&73c4b25&0&D104560B00080010

Value 9  
 Name: 7  
 Type: REG\_SZ  
 Data: SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&73c4b25&0&D004560B00080010

Value 10  
 Name: 8  
 Type: REG\_SZ



Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&24c648ac&0&9D04560B00080010

Value 11  
 Name: 9  
 Type: REG\_SZ  
 Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&24c648ac&0&9C04560B00080010

Value 12  
 Name: 10  
 Type: REG\_SZ  
 Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&55e65ef&0&5506560B00080010

Value 13  
 Name: 11  
 Type: REG\_SZ  
 Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&55e65ef&0&5406560B00080010

Value 14  
 Name: 12  
 Type: REG\_SZ  
 Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&2c587c75&0&B804560B00080010

Value 15  
 Name: 13  
 Type: REG\_SZ  
 Data:  
 SCSI\ProcessorUNISYS\_\_IFBA8888\_\_\_\_\_v2\_\_\5&2c587c75&0&B904560B00080010

### CurrentControlSet\Services\Ifdisk

Key Name:  
 HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk  
 Class Name: <NO CLASS>  
 Last Write Time: 3/25/2003 - 6:29 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: 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\Enum  
 Class Name: <NO CLASS>  
 Last Write Time: 4/14/2003 - 1:26 AM

Value 0  
 Name: Count  
 Type: REG\_DWORD  
 Data: 0x47

Value 1  
 Name: NextInstance  
 Type: REG\_DWORD  
 Data: 0x47

Value 2  
 Name: 27  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
 000000000001000

Value 3  
 Name: 26  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
 000000000002000

Value 4  
 Name: 25  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
 000000000003000

Value 5  
 Name: 24  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
 000000000004000

Value 6  
 Name: 23  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
 000000000005000

Value 7

Name:	22	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000002000
Type:	REG_SZ		
Data:			
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000006000			
Value 8			
Name:	21	Name:	39
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000003000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000007000			
Value 9			
Name:	20	Name:	38
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000004000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000008000			
Value 10			
Name:	19	Name:	37
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000005000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000009000			
Value 11			
Name:	18	Name:	36
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000006000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D40008610000010000000000000A000			
Value 12			
Name:	17	Name:	35
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000007000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D40008610000010000000000000B000			
Value 13			
Name:	16	Name:	34
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000008000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D40008610000010000000000000C000			
Value 14			
Name:	41	Name:	33
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000009000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D400086100000100000000000001000			
Value 15			
Name:	40	Name:	32
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D40008610000010000000000000A000

Value 24		Type:	REG_SZ
Name:	31	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Type:	REG_SZ		000000000007000
Data:		Value 33	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000		Name:	48
00000000000B000		Type:	REG_SZ
Value 25		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Name:	30		000000000008000
Type:	REG_SZ	Value 34	
Data:		Name:	47
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000		Type:	REG_SZ
00000000000C000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Value 26			000000000009000
Name:	55	Value 35	
Type:	REG_SZ	Name:	46
Data:		Type:	REG_SZ
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
000000000001000			00000000000A000
Value 27		Value 36	
Name:	54	Name:	45
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000			00000000000B000
000000000002000		Value 37	
Value 28		Name:	44
Name:	53	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Data:			00000000000C000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Value 38	
000000000003000		Name:	13
Value 29		Type:	REG_SZ
Name:	52	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Type:	REG_SZ		000000000000C000
Data:		Value 39	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Name:	12
000000000004000		Type:	REG_SZ
Value 30		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000
Name:	51		000000000001000
Type:	REG_SZ	Value 39	
Data:		Name:	12
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Type:	REG_SZ
000000000005000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000
Value 31			000000000002000
Name:	50	Value 40	
Type:	REG_SZ	Name:	11
Data:		Type:	REG_SZ
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000			
000000000006000			
Value 32			
Name:	49		

Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000003000	Value 49 Name: 2 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 00000000000C000
Value 41 Name: 10 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000004000	Value 50 Name: 66 Type: REG_SZ Data: SCSI\Disk&Ven_DGC_____RAID_10_____0099\1&1a590e2c&0&A72420106001065000 000000000000000
Value 42 Name: 9 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000005000	Value 51 Name: 70 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000009000
Value 43 Name: 8 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000006000	Value 52 Name: 69 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 00000000000A000
Value 44 Name: 7 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000007000	Value 53 Name: 68 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 00000000000B000
Value 45 Name: 6 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000008000	Value 54 Name: 28 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 00000000000B000
Value 46 Name: 5 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 000000000009000	Value 55 Name: 64 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000001000
Value 47 Name: 4 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 00000000000A000	Value 56 Name: 62 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000002000
Value 48 Name: 3 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000 00000000000B000	Value 57 Name: 60

Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000003000
Data:			0000000000001000
Value 58		Value 66	
Name:	59	Name:	42
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000004000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000002000
Data:	0000000000004000		
Value 59		Value 67	
Name:	65	Name:	29
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000005000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000003000
Data:	0000000000005000		
Value 60		Value 68	
Name:	63	Name:	0
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000006000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000004000
Data:	0000000000006000		
Value 61		Value 69	
Name:	61	Name:	43
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000007000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000005000
Data:	0000000000007000		
Value 62		Value 70	
Name:	67	Name:	14
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000008000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000006000
Data:	0000000000008000		
Value 63		Value 71	
Name:	57	Name:	1
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000009000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000007000
Data:	0000000000009000		
Value 64		Value 72	
Name:	58	Name:	56
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&4540008610000010000000000000A000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000008000
Data:	000000000000A000		
Value 65		Key Name:	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk\Security
Name:	15	Class Name:	<NO CLASS>
Type:	REG_SZ	Last Write Time:	3/25/2003 - 6:29 PM
		Value 0	

```

Name: Security
Type: REG_BINARY
Data:
00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00
.....
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0.....
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ.....
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00
..`.....ÿ...
00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
.....
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ.....
...
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
.....
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00
.....ÿ...
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....
...#...
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00
.....
00 00 00 05 12 00 00 00 - .....

```

### CurrentControlSet\Services\IfIp

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\IfIp
Class Name: <NO CLASS>
Last Write Time: 4/14/2003 - 4:33 AM
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: 0x6

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: 3/25/2003 - 10:10 AM

```

```

Value 0
Name: Security
Type: REG_BINARY
Data:
00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00
.....
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0.....
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ.....
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00
..`.....ÿ...
00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
.....
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ.....
...
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
.....
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00
.....ÿ...
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....
...#...
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00
.....
00 00 00 05 12 00 00 00 - .....

```

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\IfIp\Enum
Class Name: <NO CLASS>
Last Write Time: 4/14/2003 - 4:33 AM

```

```

Value 0
Name: 0
Type: REG_SZ
Data: Root\SYSTEM\0002

```

```

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: 4/14/2003 - 4:33 AM

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: 3/25/2003 - 10:01 AM

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Parameters\PnpIn  
terface  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 10:01 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: 3/25/2003 - 10:01 AM

Value 0  
Name: Security  
Type: REG\_BINARY  
Data:  
00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00  
.....  
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00  
0.....  
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00  
ÿ.....  
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00  
..`.....ÿ...  
00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00  
.....  
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00 ÿ.....  
...  
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00  
.....  
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00  
.....ÿ...  
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....  
...#...  
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00  
.....  
00 00 00 05 12 00 00 00 - .....

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\ifxp\Enum  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM

Value 0  
Name: 0  
Type: REG\_SZ  
Data: PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&25ea3ec6&0&0000

Value 1  
Name: Count  
Type: REG\_DWORD  
Data: 0x7

Value 2  
Name: NextInstance  
Type: REG\_DWORD  
Data: 0x7

Value 3  
Name: 1

Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&34487c5b&0&0008

Value 4  
Name: 2  
Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&1a0b7e4&0&0008

Value 5  
Name: 3  
Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&2421d46d&0&0008

Value 6  
Name: 4  
Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&1b316b8f&0&0000

Value 7  
Name: 5  
Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&101f93c3&0&0000

Value 8  
Name: 6  
Type: REG\_SZ  
Data:  
PCI\VEN\_11AB&DEV\_4620&SUBSYS\_C0FC1018&REV\_12\4&12e85e37&0&0008

## CurrentControlSet\Services\MSSQLSERVER

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER  
Class Name: <NO CLASS>  
Last Write Time: 4/14/2003 - 4:33 AM

Value 0  
Name: Type  
Type: REG\_DWORD  
Data: 0x110

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:\sql80\MSSQL\bin\sqlservr.exe

Value 4  
Name: DisplayName  
Type: REG\_SZ  
Data: MSSQLSERVER

Value 5  
Name: ObjectName  
Type: REG\_SZ  
Data: LocalSystem

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Linkage  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:57 PM

Value 0  
Name: Export  
Type: REG\_MULTI\_SZ  
Data: MSSQLSERVER

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Performance  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:57 PM

Value 0  
Name: Library  
Type: REG\_SZ  
Data: c:\sql80\MSSQL\BINN\SQLCTR80.DLL

Value 1  
Name: Collect  
Type: REG\_SZ  
Data: CollectSQLPerformanceData

Value 2  
Name: Open  
Type: REG\_SZ  
Data: OpenSQLPerformanceData

Value 3  
Name: Close  
Type: REG\_SZ  
Data: CloseSQLPerformanceData

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Security  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:57 PM

Value 0  
Name: Security  
Type: REG\_BINARY



```

Data:
00000000 01 00 14 80 90 00 00 00 - 9c 00 00 00 14 00 00 00
.....
00000010 30 00 00 00 02 00 1c 00 - 01 00 00 00 02 80 14 00
0.....
00000020 ff 01 0f 00 01 01 00 00 - 00 00 00 01 00 00 00 00
ÿ.....
00000030 02 00 60 00 04 00 00 00 - 00 00 14 00 fd 01 02 00
..`.....ÿ...
00000040 01 01 00 00 00 00 00 05 - 12 00 00 00 00 00 18 00
.....
00000050 ff 01 0f 00 01 02 00 00 - 00 00 00 05 20 00 00 00  ÿ.....
...
00000060 20 02 00 00 00 00 14 00 - 8d 01 02 00 01 01 00 00
.....
00000070 00 00 00 05 0b 00 00 00 - 00 00 18 00 fd 01 02 00
.....ÿ...
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00  .....
...#...
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00
.....
00 00 00 05 12 00 00 00 - .....

```

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER\Enum
Class Name: <NO CLASS>
Last Write Time: 4/14/2003 - 4:33 AM
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: 4/14/2003 - 4:33 AM
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: 0x6

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: 4/14/2003 - 4:35 AM
Value 0
  Name: 0
  Type: REG_SZ
  Data: Root\LEGACY_PARTMGR\0000

Value 1
  Name: Count
  Type: REG_DWORD
  Data: 0x49

Value 2
  Name: NextInstance
  Type: REG_DWORD
  Data: 0x49

Value 3
  Name: 1
  Type: REG_SZ
  Data: IDE\DiskFUJITSU_MHS2030AT_____8004____\5&28fc923b&0&0.0.
0

Value 4
  Name: 2
  Type: REG_SZ
  Data: SCSI\Disk&Ven_DGC_____RAID_10_____0099\1&1a590e2c&0&A72420106001065000
0000000000000000

Value 5

```

Name:	3	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000003000
Type:	REG_SZ		
Data:			
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&4540008610000010000000000000B000			
Value 6			
Name:	4	Name:	12
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000002000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&4540008610000010000000000000A000			
Value 7			
Name:	5	Name:	13
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000009000			
Value 8			
Name:	6	Name:	14
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F008610000010000000000000C000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000008000			
Value 9			
Name:	7	Name:	15
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F008610000010000000000000B000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000007000			
Value 10			
Name:	8	Name:	16
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F008610000010000000000000A000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000006000			
Value 11			
Name:	9	Name:	17
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000009000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000005000			
Value 12			
Name:	10	Name:	18
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000008000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000004000			
Value 13			
Name:	11	Name:	19
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000007000

Value 22		Type:	REG_SZ
Name:	20	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Type:	REG_SZ		00000000000A000
Data:		Value 31	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Name:	29
000000000006000		Type:	REG_SZ
Value 23		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Name:	21		000000000009000
Type:	REG_SZ	Value 32	
Data:		Name:	30
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Type:	REG_SZ
000000000005000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Value 24			000000000008000
Name:	22	Value 33	
Type:	REG_SZ	Name:	31
Data:		Type:	REG_SZ
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
000000000004000			000000000007000
Value 25		Value 34	
Name:	23	Name:	32
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000			000000000006000
000000000003000		Value 35	
Value 26		Name:	33
Name:	24	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Data:			000000000005000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Value 36	
000000000002000		Name:	34
Value 27		Type:	REG_SZ
Name:	25	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Type:	REG_SZ		000000000004000
Data:		Value 37	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Name:	35
000000000001000		Type:	REG_SZ
Value 28		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Name:	26		000000000003000
Type:	REG_SZ	Value 38	
Data:		Name:	36
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000		Type:	REG_SZ
000000000000C000			
Value 29			
Name:	27		
Type:	REG_SZ		
Data:			
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000			
000000000000B000			
Value 30			
Name:	28		

Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 000000000002000	Value 47 Name: 45 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000005000
Value 39 Name: 37 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 000000000001000	Value 48 Name: 46 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000004000
Value 40 Name: 38 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000C000	Value 49 Name: 47 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000003000
Value 41 Name: 39 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000B000	Value 50 Name: 48 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000002000
Value 42 Name: 40 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000A000	Value 51 Name: 49 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000001000
Value 43 Name: 41 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000009000	Value 52 Name: 50 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000 00000000000C000
Value 44 Name: 42 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000008000	Value 53 Name: 51 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000 00000000000B000
Value 45 Name: 43 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000007000	Value 54 Name: 52 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000 00000000000A000
Value 46 Name: 44 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000006000	Value 55 Name: 53

Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000009000
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000001000
Value 56		Value 64	
Name:	54	Name:	62
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000008000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1540008610000010000000000000B000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000000000000008000	Value 65	
Value 57		Name:	63
Name:	55	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1540008610000010000000000000A000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000007000	Value 66	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000007000	Name:	64
Value 58		Type:	REG_SZ
Name:	56	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000009000
Type:	REG_SZ	Value 67	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000006000	Name:	65
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000006000	Type:	REG_SZ
Value 59		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000008000
Name:	57	Value 68	
Type:	REG_SZ	Name:	66
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000005000	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000005000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000007000
Value 60		Value 69	
Name:	58	Name:	67
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000004000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000006000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000004000	Value 70	
Value 61		Name:	68
Name:	59	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000005000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000003000	Value 71	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000003000	Name:	69
Value 62		Type:	REG_SZ
Name:	60	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000004000
Type:	REG_SZ	Value 71	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000002000	Name:	69
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000002000	Type:	REG_SZ
Value 63		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000004000
Name:	61	Value 71	
Type:	REG_SZ	Name:	69
Type:	REG_SZ	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&15400086100000100000000000004000

Value 72  
 Name: 70  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&154000861000001000  
 000000000003000

Value 73  
 Name: 71  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&154000861000001000  
 000000000002000

Value 74  
 Name: 72  
 Type: REG\_SZ  
 Data:  
 SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&154000861000001000  
 000000000001000

## Windows 2000 Server Client Configuration Information

(Common to 4 clients except for System Name, IP Address & MAC Address)

System Information report written at: 04/30/2003 11:47:13 AM  
 [System Information]

[ Following are sub-categories of this main category ]

[System Summary]

Item	Value
OS Name	Microsoft Windows 2000 Server
Version	5.0.2195 Service Pack 3 Build 2195
OS Manufacturer	Microsoft Corporation
System Name	CLIENT1
System Manufacturer	UNISYS Corp.
System Model	ES3020L
System Type	X86-based PC
Processor	x86 Family 15 Model 2 Stepping 4 GenuineIntel ~2392 Mhz
Processor	x86 Family 15 Model 2 Stepping 4 GenuineIntel ~2392 Mhz
Processor	x86 Family 15 Model 2 Stepping 4 GenuineIntel ~2392 Mhz
Processor	x86 Family 15 Model 2 Stepping 4 GenuineIntel ~2392 Mhz
BIOS Version	02/14/03
Windows Directory	C:\WINNT
System Directory	C:\WINNT\System32
Boot Device	\Device\Harddisk0\Partition1
Locale	United States
User Name	CLIENT1\Administrator
Time Zone	Pacific Daylight Time
Total Physical Memory	2,096,624 KB
Available Physical Memory	1,757,368 KB
Total Virtual Memory	6,132,936 KB
Available Virtual Memory	5,607,952 KB

Page File Space 4,036,312 KB  
 Page File C:\pagefile.sys

[Hardware Resources]

[ Following are sub-categories of this main category ]

[Conflicts/Sharing]

Resource	Device
IRQ 7	PCI Device
IRQ 7	Standard OpenHCD USB Host Controller

[DMA]

Channel	Device	Status
4	Direct memory access controller	OK
2	Standard floppy disk controller	OK

[Forced Hardware]

Device	PNP Device ID
No Forced Hardware	

[I/O]

Address Range	Device	Status
0x0000-0x03AF	PCI bus	OK
0x0000-0x03AF	Direct memory access controller	OK
0x03B0-0x03DF	PCI bus	OK
0x03B0-0x03DF	ATI Technologies Inc. RAGE XL PCI	OK
0x03E0-0x0CF7	PCI bus	OK
0x0D00-0x0FFF	PCI bus	OK
0xE000-0xEFFF	PCI bus	OK
0xECF8-0xECFF	PCI Device	OK
0xECE8-0xECEF	PCI Device	OK
0xEC80-0xECBF	PCI Device	OK
0xECF4-0xECF7	PCI Device	OK
0xE800-0xE8FF	ATI Technologies Inc. RAGE XL PCI	OK
0x03C0-0x03DF	ATI Technologies Inc. RAGE XL PCI	OK
0x0080-0x009F	Direct memory access controller	OK
0x00C0-0x00DF	Direct memory access controller	OK
0x040B-0x040B	Direct memory access controller	OK
0x04D6-0x04D6	Direct memory access controller	OK
0x00F0-0x00FF	Numeric data processor	OK
0x0020-0x003F	Programmable interrupt controller	OK
0x00A0-0x00BF	Programmable interrupt controller	OK
0x04D0-0x04D1	Programmable interrupt controller	OK
0x0061-0x0061	System speaker	OK
0x0040-0x005F	System timer	OK
0x03F0-0x03F5	Standard floppy disk controller	OK
0x03F7-0x03F7	Standard floppy disk controller	OK
0x0060-0x0060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x0064-0x0064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	OK
0x03F8-0x03FF	Communications Port (COM1)	OK
0x02F8-0x02FF	Communications Port (COM2)	OK
0x0070-0x007F	System CMOS/real time clock	OK

```

0x0800-0x089F System board OK
0x08A0-0x08AF System board OK
0x0C00-0x0CD7 System board OK
0x0F50-0x0F58 System board OK
0x08E0-0x08E3 System board OK
0x00E0-0x00EF System board OK
0x08B0-0x08BF Standard Dual Channel PCI IDE Controller OK
0x01F0-0x01F7 Primary IDE Channel OK
0x03F6-0x03F6 Primary IDE Channel OK
0x0170-0x0177 Secondary IDE Channel OK
0x0376-0x0376 Secondary IDE Channel OK
0x0A79-0x0A79 ISAPNP Read Data Port OK
0x0279-0x0279 ISAPNP Read Data Port OK
0x02F4-0x02F7 ISAPNP Read Data Port OK
0xC000-0xCFFF PCI bus OK
0xC000-0xCFFF PCI standard PCI-to-PCI bridge OK
0xCC00-0xCCFF Adaptec AIC-7899 Ultra160/m PCI SCSI Card OK
0xC800-0xC8FF Adaptec AIC-7899 Ultra160/m PCI SCSI Card OK
0xD000-0xDFFF PCI bus OK

```

[IRQs]

```

IRQ Number Device
9 Microsoft ACPI-Compliant System
11 PCI Device
10 PCI Device
7 PCI Device
7 Standard OpenHCD USB Host Controller
13 Numeric data processor
6 Standard floppy disk controller
1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
12 PS/2 Compatible Mouse
4 Communications Port (COM1)
3 Communications Port (COM2)
8 System CMOS/real time clock
14 Primary IDE Channel
30 Adaptec AIC-7899 Ultra160/m PCI SCSI Card
31 Adaptec AIC-7899 Ultra160/m PCI SCSI Card
28 Broadcom NetXtreme Gigabit Ethernet #2
29 Broadcom NetXtreme Gigabit Ethernet
16 cLAN Host Adapter

```

[Memory]

```

Range Device Status
0xA0000-0xBFFFF PCI bus OK
0xA0000-0xBFFFF ATI Technologies Inc. RAGE XL PCI OK
0xD0000-0xE7FFF PCI bus OK
0xFD000000-0xFEBFFFFFF PCI bus OK
0xFD000000-0xFEBFFFFFF ATI Technologies Inc. RAGE XL PCI OK
0xFEB80000-0xFEB80FFF PCI Device OK
0xFE102000-0xFE102FFF PCI Device OK
0xFEB00000-0xFEB7FFF PCI Device OK
0xFE101000-0xFE101FFF ATI Technologies Inc. RAGE XL PCI OK
0x0000-0x9FFFF System board OK
0x100000-0x7FFFFFFF System board OK
0xF0000-0xFFFFF System board OK
0xFEC00000-0xFEC0FFFF System board OK
0xFEE00000-0xFEE0FFFF System board OK

```

```

0xFFE00000-0xFFFFFFFF System board OK
0xFE100000-0xFE100FFF Standard OpenHCD USB Host Controller OK
0xF9000000-0xFADFFFFF PCI bus OK
0xFAC00000-0xFADFFFFF PCI standard PCI-to-PCI bridge OK
0xFACFF000-0xFACFFFFFF Adaptec AIC-7899 Ultra160/m PCI SCSI Card OK
0xFACFE000-0xFACFEFFF Adaptec AIC-7899 Ultra160/m PCI SCSI Card OK
0xFAE00000-0xFAFFFFFFF PCI bus OK
0xFAF10000-0xFAF1FFFF Broadcom NetXtreme Gigabit Ethernet #2 OK
0xFAF00000-0xFAF0FFFF Broadcom NetXtreme Gigabit Ethernet OK
0xFB000000-0xFC3FFFFFF PCI bus OK
0xFB000000-0xFC3FFFFFF cLAN Host Adapter OK
0xFC300000-0xFC31FFFF cLAN Host Adapter OK
0xFC000000-0xFC1FFFFF cLAN Host Adapter OK
0xFC320000-0xFC32FFFF cLAN Host Adapter OK

```

[Components]

[ Following are sub-categories of this main category ]

[Multimedia]

[ Following are sub-categories of this main category ]

[Audio Codecs]

Codec	Manufacturer	Description	Status	File	Version	Size
		Creation Date				
c:\winnt\system32\iac25_32.ax	Intel Corporation	Indeo® audio software	OK	C:\WINNT\System32\IAC25_32.AX	2.05.53	195.00 KB (199,680 bytes)
c:\winnt\system32\msg723.acm	Microsoft Corporation		OK	C:\WINNT\System32\MSG723.ACM	4.4.3385	106.77 KB (109,328 bytes)
c:\winnt\system32\lhacm.acm	Microsoft Corporation		OK	C:\WINNT\System32\LHACM.ACM	4.4.3385	33.27 KB (34,064 bytes)
c:\winnt\system32\msgsm32.acm	Microsoft Corporation		OK	C:\WINNT\System32\MSGSM32.ACM	5.00.2134.1	22.27 KB (22,800 bytes)
c:\winnt\system32\msg711.acm	Microsoft Corporation		OK	C:\WINNT\System32\MSG711.ACM	5.00.2134.1	10.27 KB (10,512 bytes)
c:\winnt\system32\imaadp32.acm	Microsoft Corporation		OK	C:\WINNT\System32\IMAADP32.ACM	5.00.2134.1	16.27 KB (16,656 bytes)
c:\winnt\system32\tsoft32.acm	DSP GROUP, INC.		OK	C:\WINNT\System32\TSSOFT32.ACM	1.01	9.27 KB (9,488 bytes)
c:\winnt\system32\msadp32.acm	Microsoft Corporation		OK	C:\WINNT\System32\MSADP32.ACM	5.00.2134.1	14.77 KB (15,120 bytes)

[Video Codecs]

Codec	Manufacturer	Description	Status	File	Version	Size
		Creation Date				
c:\winnt\system32\ir50_32.dll	Intel Corporation	Indeo® video	5.10	OK	C:\WINNT\System32\IR50_32.DLL	R.5.10.15.2.55 737.50 KB (755,200 bytes)
		Creation Date				
		12/7/1999 4:00:00 AM				

```

c:\winnt\system32\msh261.drv Microsoft Corporation OK
C:\WINNT\System32\MSH261.DRV 4.4.3385 163.77 KB (167,696
bytes) 11/14/2002 8:47:09 PM
c:\winnt\system32\msh263.drv Microsoft Corporation OK
C:\WINNT\System32\MSH263.DRV 4.4.3385 252.27 KB (258,320
bytes) 11/14/2002 8:46:41 PM
c:\winnt\system32\ir32_32.dll Intel(R) Corporation OK
C:\WINNT\System32\IR32_32.DLL Not Available 194.50 KB (199,168
bytes) 12/7/1999 4:00:00 AM
c:\winnt\system32\msvidc32.dll Microsoft Corporation OK
C:\WINNT\System32\MSVIDC32.DLL 5.00.2134.1 27.27 KB
(27,920 bytes) 12/7/1999 4:00:00 AM
c:\winnt\system32\msrle32.dll Microsoft Corporation OK
C:\WINNT\System32\MSRLE32.DLL 5.00.2134.1 10.77 KB (11,024
bytes) 12/7/1999 4:00:00 AM
c:\winnt\system32\iccvld.dll Radius Inc. OK
C:\WINNT\System32\ICCVLD.DLL 1.10.0.6 108.00 KB (110,592
bytes) 12/7/1999 4:00:00 AM

```

[CD-ROM]

```

Item Value
Drive D:
Description CD-ROM Drive
Media Loaded False
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&3125DC91&0&0.0.0

```

[Sound Device]

```

Item Value
No sound devices

```

[Display]

```

Item Value
Name ATI Technologies Inc. RAGE XL PCI
PNP Device ID
PCI\VEN_1002&DEV_4752&SUBSYS_01211028&REV_27\3&13C0B0C5&0&70
Adapter Type ATI RAGE XL PCI, ATI Technologies Inc. compatible
Adapter Description ATI Technologies Inc. RAGE XL PCI
Adapter RAM 8.00 MB (8,388,608 bytes)
Installed Drivers atidrab.dll
Driver Version 5.00.2179.1
INF File display.inf (atirage3 section)
Color Planes 1
Color Table Entries 65536
Resolution 1024 x 768 x 60 hertz
Bits/Pixel 16

```

[Infrared]

```

Item Value
No infrared devices

```

[Input]

[ Following are sub-categories of this main category ]

[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&25F73A82&0
NumberOfFunctionKeys 12

```

[Pointing Device]

```

Item Value
Hardware Type PS/2 Compatible Mouse
Number of Buttons 5
Status OK
PNP Device ID ACPI\PNP0F13\4&25F73A82&0
Power Management Supported False
Double Click Threshold 6
Handedness Right Handed Operation

```

[Modem]

```

Item Value
No modems

```

[Network]

[ Following are sub-categories of this main category ]

[Adapter]

```

Item Value
Name [00000000] RAS Async Adapter
Adapter Type Not Available
Product Name RAS Async Adapter
Installed True
PNP Device ID Not Available
Last Reset 4/7/2003 3:46:33 AM
Index 0
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled False
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available
Service Name Not Available

```



Name [00000001] WAN Miniport (L2TP)  
Adapter Type Not Available  
Product Name WAN Miniport (L2TP)  
Installed True  
PNP Device ID ROOT\MS\_L2TPMINIPORT\0000  
Last Reset 4/7/2003 3:46:33 AM  
Index 1  
Service Name Rasl2tp  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available  
Service Name Rasl2tp  
Driver c:\winnt\system32\drivers\rasl2tp.sys (52112, 5.00.2195.4052)

Name [00000002] WAN Miniport (PPTP)  
Adapter Type Wide Area Network (WAN)  
Product Name WAN Miniport (PPTP)  
Installed True  
PNP Device ID ROOT\MS\_PPTPMINIPORT\0000  
Last Reset 4/7/2003 3:46:33 AM  
Index 2  
Service Name PptpMiniport  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address 50:50:54:50:30:30  
Service Name PptpMiniport  
Driver c:\winnt\system32\drivers\raspppt.sys (47888, 5.00.2195.4080)

Name [00000003] Direct Parallel  
Adapter Type Not Available  
Product Name Direct Parallel  
Installed True  
PNP Device ID ROOT\MS\_PTMINIPORT\0000  
Last Reset 4/7/2003 3:46:33 AM  
Index 3  
Service Name Raspti  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available  
Service Name Raspti  
Driver c:\winnt\system32\drivers\raspti.sys (16880, 5.00.2146.1)

Name [00000004] WAN Miniport (IP)

Adapter Type Not Available  
Product Name WAN Miniport (IP)  
Installed True  
PNP Device ID ROOT\MS\_NDISWANIP\0000  
Last Reset 4/7/2003 3:46:33 AM  
Index 4  
Service Name NdisWan  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available  
Service Name NdisWan  
Driver c:\winnt\system32\drivers\ndiswan.sys (93104, 5.00.2195.5241)

Name [00000005] Broadcom NetXtreme Gigabit Ethernet  
Adapter Type Ethernet 802.3  
Product Name Broadcom NetXtreme Gigabit Ethernet  
Installed True  
PNP Device ID  
PCI\VEN\_14E4&DEV\_1645&SUBSYS\_01211028&REV\_15\3&172E68DD&0&40  
Last Reset 4/7/2003 3:46:33 AM  
Index 5  
Service Name b57w2k  
IP Address 192.1.1.1  
IP Subnet 255.255.255.0  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address 00:06:5B:8C:9B:81  
Service Name b57w2k  
IRQ Number 29  
Driver c:\winnt\system32\drivers\b57w2k.sys (77438, 2.67.0.0)

Name [00000006] Broadcom NetXtreme Gigabit Ethernet  
Adapter Type Ethernet 802.3  
Product Name Broadcom NetXtreme Gigabit Ethernet  
Installed True  
PNP Device ID  
PCI\VEN\_14E4&DEV\_1645&SUBSYS\_01211028&REV\_15\3&172E68DD&0&30  
Last Reset 4/7/2003 3:46:33 AM  
Index 6  
Service Name b57w2k  
IP Address 192.168.91.1  
IP Subnet 255.255.255.0  
Default IP Gateway Not Available  
DHCP Enabled False  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address 00:06:5B:8C:9B:80  
Service Name b57w2k  
IRQ Number 28  
Driver c:\winnt\system32\drivers\b57w2k.sys (77438, 2.67.0.0)

Name [00000007] cLAN Host Adapter  
 Adapter Type Ethernet 802.3  
 Product Name cLAN Host Adapter  
 Installed True  
 PNP Device ID PCI\VEN\_135B&DEV\_0001&SUBSYS\_00000000&REV\_00\3&1070020&0&30  
 Last Reset 4/7/2003 3:46:33 AM  
 Index 7  
 Service Name GNINDIS  
 IP Address Not Available  
 IP Subnet Not Available  
 Default IP Gateway Not Available  
 DHCP Enabled True  
 DHCP Server Not Available  
 DHCP Lease Expires Not Available  
 DHCP Lease Obtained Not Available  
 MAC Address 00:90:FA:00:13:6E  
 Service Name GNINDIS  
 IRQ Number 16  
 Driver c:\winnt\system32\drivers\gnindis.sys (22726, 4.2.0.75)

[Protocol]

Item Value  
 Name MSAFD Tcpip [TCP/IP]  
 ConnectionlessService False  
 GuaranteesDelivery True  
 GuaranteesSequencing True  
 MaximumAddressSize 16 bytes  
 MaximumMessageSize 0 bytes  
 MessageOriented False  
 MinimumAddressSize 16 bytes  
 PseudoStreamOriented False  
 SupportsBroadcasting False  
 SupportsConnectData False  
 SupportsDisconnectData False  
 SupportsEncryption False  
 SupportsExpeditedData True  
 SupportsGracefulClosing True  
 SupportsGuaranteedBandwidth False  
 SupportsMulticasting False

Name MSAFD Tcpip [UDP/IP]  
 ConnectionlessService True  
 GuaranteesDelivery False  
 GuaranteesSequencing False  
 MaximumAddressSize 16 bytes  
 MaximumMessageSize 65467 bytes  
 MessageOriented True  
 MinimumAddressSize 16 bytes  
 PseudoStreamOriented False  
 SupportsBroadcasting True  
 SupportsConnectData False  
 SupportsDisconnectData False  
 SupportsEncryption False  
 SupportsExpeditedData False  
 SupportsGracefulClosing False  
 SupportsGuaranteedBandwidth False

SupportsMulticasting True  
 Name RSVP UDP Service Provider  
 ConnectionlessService True  
 GuaranteesDelivery False  
 GuaranteesSequencing False  
 MaximumAddressSize 16 bytes  
 MaximumMessageSize 65467 bytes  
 MessageOriented True  
 MinimumAddressSize 16 bytes  
 PseudoStreamOriented False  
 SupportsBroadcasting True  
 SupportsConnectData False  
 SupportsDisconnectData False  
 SupportsEncryption True  
 SupportsExpeditedData False  
 SupportsGracefulClosing False  
 SupportsGuaranteedBandwidth False  
 SupportsMulticasting True

Name RSVP TCP Service Provider  
 ConnectionlessService False  
 GuaranteesDelivery True  
 GuaranteesSequencing True  
 MaximumAddressSize 16 bytes  
 MaximumMessageSize 0 bytes  
 MessageOriented False  
 MinimumAddressSize 16 bytes  
 PseudoStreamOriented False  
 SupportsBroadcasting False  
 SupportsConnectData False  
 SupportsDisconnectData False  
 SupportsEncryption True  
 SupportsExpeditedData True  
 SupportsGracefulClosing True  
 SupportsGuaranteedBandwidth False  
 SupportsMulticasting False

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{592704BD-A8EF-4DEB-AC45-BE32F7F359C3}] SEQUENCE 4  
 ConnectionlessService False  
 GuaranteesDelivery True  
 GuaranteesSequencing True  
 MaximumAddressSize 20 bytes  
 MaximumMessageSize 64000 bytes  
 MessageOriented True  
 MinimumAddressSize 20 bytes  
 PseudoStreamOriented False  
 SupportsBroadcasting False  
 SupportsConnectData False  
 SupportsDisconnectData False  
 SupportsEncryption False  
 SupportsExpeditedData False  
 SupportsGracefulClosing False  
 SupportsGuaranteedBandwidth False  
 SupportsMulticasting False

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{592704BD-A8EF-4DEB-AC45-BE32F7F359C3}] DATAGRAM 4

```

ConnectionlessService True
GuaranteesDelivery False
GuaranteesSequencing False
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting True
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{3D55F2FD-CE2E-4072-8B10-42A97A6EA309}] SEQPACKET 3
ConnectionlessService False
GuaranteesDelivery True
GuaranteesSequencing True
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting False
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{3D55F2FD-CE2E-4072-8B10-42A97A6EA309}] DATAGRAM 3
ConnectionlessService True
GuaranteesDelivery False
GuaranteesSequencing False
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting True
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{9D20D885-9BA8-490D-AABB-1A03BEA0A5B9}] SEQPACKET 0
ConnectionlessService False
GuaranteesDelivery True

```

```

GuaranteesSequencing True
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting False
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{9D20D885-9BA8-490D-AABB-1A03BEA0A5B9}] DATAGRAM 0
ConnectionlessService True
GuaranteesDelivery False
GuaranteesSequencing False
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting True
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{429130B1-6084-46AD-A1DE-D9C2C11E8C8B}] SEQPACKET 1
ConnectionlessService False
GuaranteesDelivery True
GuaranteesSequencing True
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting False
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{429130B1-6084-46AD-A1DE-D9C2C11E8C8B}] DATAGRAM 1
ConnectionlessService True
GuaranteesDelivery False
GuaranteesSequencing False
MaximumAddressSize 20 bytes

```

```

MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting True
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{338997ED-371A-4B63-9093-
DFA4D717C2D5}] SEQPACKE 2
ConnectionlessService False
GuaranteesDelivery True
GuaranteesSequencing True
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting False
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

```

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{338997ED-371A-4B63-9093-
DFA4D717C2D5}] DATAGRAM 2
ConnectionlessService True
GuaranteesDelivery False
GuaranteesSequencing False
MaximumAddressSize 20 bytes
MaximumMessageSize 64000 bytes
MessageOriented True
MinimumAddressSize 20 bytes
PseudoStreamOriented False
SupportsBroadcasting True
SupportsConnectData False
SupportsDisconnectData False
SupportsEncryption False
SupportsExpeditedData False
SupportsGracefulClosing False
SupportsGuaranteedBandwidth False
SupportsMulticasting False

```

[WinSock]

```

Item Value
File c:\winnt\system32\winsock.dll
Version 3.10
Size 2.80 KB (2,864 bytes)

```

```

File c:\winnt\system32\wsock32.dll
Version 5.00.2195.4874
Size 21.27 KB (21,776 bytes)

```

[Ports]

[ Following are sub-categories of this main category ]

[Serial]

```

Item Value
Name COM1
Status OK
PNP Device ID ACPI\PNP0501\1
Maximum Input Buffer Size 0
Maximum Output Buffer Size False
Settable Baud Rate True
Settable Data Bits True
Settable Flow Control True
Settable Parity True
Settable Parity Check True
Settable Stop Bits True
Settable RLSD True
Supports RLSD True
Supports 16 Bit Mode False
Supports Special Characters False
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity None
Busy 0
Abort Read/Write on Error 0
Binary Mode Enabled -1
Continue XMit on XOff 0
CTS Outflow Control 0
Discard NULL Bytes 0
DSR Outflow Control 0
DSR Sensitivity 0
DTR Flow Control Type Enable
EOF Character 0
Error Replace Character 0
Error Replacement Enabled 0
Event Character 0
Parity Check Enabled 0
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
IRQ Number 4
I/O Port 0x03F8-0x03FF
Driver c:\winnt\system32\drivers\serial.sys (62512, 5.00.2195.5080)

```

```

Name COM2
Status OK
PNP Device ID ACPI\PNP0501\2

```

```

Maximum Input Buffer Size      0
Maximum Output Buffer Size     False
Settable Baud Rate            True
Settable Data Bits            True
Settable Flow Control         True
Settable Parity               True
Settable Parity Check         True
Settable Stop Bits           True
Settable RLSD                 True
Supports RLSD                 True
Supports 16 Bit Mode          False
Supports Special Characters    False
Baud Rate                     9600
Bits/Byte                     8
Stop Bits                     1
Parity None
Busy                           0
Abort Read/Write on Error     0
Binary Mode Enabled           -1
Continue XMit on XOff         0
CTS Outflow Control          0
Discard NULL Bytes           0
DSR Outflow Control          0
DSR Sensitivity              0
DTR Flow Control Type        Enable
EOF Character                 0
Error Replace Character       0
Error Replacement Enabled     0
Event Character               0
Parity Check Enabled         0
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
IRQ Number                   3
I/O Port                     0x02F8-0x02FF
Driver c:\winnt\system32\drivers\serial.sys (62512, 5.00.2195.5080)

```

[Parallel]

```

Item      Value
No parallel port information

```

[Storage]

[ Following are sub-categories of this main category ]

[Drives]

```

Item      Value
Drive A:
Description 3 1/2 Inch Floppy Drive

Drive C:
Description Local Fixed Disk

```

```

Compressed      False
File System     NTFS
Size            16.95 GB (18,202,509,312 bytes)
Free Space      13.57 GB (14,575,992,832 bytes)
Volume Name
Volume Serial Number C0E2039E
Partition      Disk #0, Partition #0
Partition Size 16.95 GB (18,202,512,384 bytes)
Starting Offset 32256 bytes
Drive Description Disk drive
Drive Manufacturer (Standard disk drives)
Drive Model      FUJITSU MAN3184MC SCSI Disk Device
Drive BytesPerSector 512
Drive MediaLoaded True
Drive MediaType  Fixed hard disk media
Drive Partitions 1
Drive SCSI Bus   0
Drive SCSI LogicalUnit 0
Drive SCSI Port  2
Drive SCSI TargetId 0
Drive SectorsPerTrack 63
Drive Size       18202544640 bytes
Drive TotalCylinders 2213
Drive TotalSectors 35551845
Drive TotalTracks 564315
Drive TracksPerCylinder 255

```

[SCSI]

```

Item      Value
Name      Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Caption   Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Driver    adpu160m
Status    OK
PNP Device ID
          PCI\VEN_9005&DEV_00CF&SUBSYS_01211028&REV_01\4&22300438&0&3040
Device ID
          PCI\VEN_9005&DEV_00CF&SUBSYS_01211028&REV_01\4&22300438&0&3040
Device Map Not Available
Index     Not Available
Max Number Controlled Not Available
IRQ Number 30
I/O Port  0xCC00-0xCCFF
Driver    c:\winnt\system32\drivers\adpu160m.sys (64432, v3.10a)

Name      Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Caption   Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Driver    adpu160m
Status    OK
PNP Device ID
          PCI\VEN_9005&DEV_00CF&SUBSYS_01211028&REV_01\4&22300438&0&3140
Device ID
          PCI\VEN_9005&DEV_00CF&SUBSYS_01211028&REV_01\4&22300438&0&3140
Device Map Not Available
Index     Not Available
Max Number Controlled Not Available
IRQ Number 31
I/O Port  0xC800-0xC8FF

```

Driver c:\winnt\system32\drivers\adpu160m.sys (64432, v3.10a)

[Printing]

Name Port Name Server Name  
No printing information

[Problem Devices]

Device PNP Device ID Error Code  
PCI Device  
PCI\VEN\_1028&DEV\_000C&SUBSYS\_000C1028&REV\_00\3&13C0B0C5&0&2028  
PCI Device  
PCI\VEN\_1028&DEV\_0008&SUBSYS\_00081028&REV\_00\3&13C0B0C5&0&2128  
PCI Device  
PCI\VEN\_1028&DEV\_000D&SUBSYS\_000D1028&REV\_00\3&13C0B0C5&0&2228

[USB]

Device PNP Device ID  
Standard OpenHCD USB Host Controller  
PCI\VEN\_1166&DEV\_0220&SUBSYS\_02201166&REV\_05\3&13C0B0C5&0&7A  
USB Root Hub USB\ROOT\_HUB\4&1A0F8909&0

[Software Environment]

[ Following are sub-categories of this main category ]

[Drivers]

Name	Description	File	Type	Started	Start Mode	State	Status
abiosdsk	Abiosdsk		Not Available	Kernel Driver	False	False	False
abp480n5	abp480n5		Not Available	Kernel Driver	False	False	False
acpi	Microsoft ACPI Driver	c:\winnt\system32\drivers\acpi.sys	Kernel Driver	True	Boot Running OK	Normal False True	Kernel
acpiec	ACPIEC	c:\winnt\system32\drivers\acpiec.sys	Kernel Driver	False	Disabled	Stopped OK Normal False False	False
adpu160m	adpu160m	c:\winnt\system32\drivers\adpu160m.sys	Kernel Driver	True	Boot Running OK	Normal False True	True
afd	AFD Networking Support Environment	c:\winnt\system32\drivers\afd.sys	Kernel Driver	True	Running OK	Normal False True	Auto
aha154x	Aha154x		Not Available	Kernel Driver	False	Disabled	Disabled
aic116x	aic116x		Not Available	Kernel Driver	False	Disabled	Disabled
aic78u2	aic78u2		Not Available	Kernel Driver	False	Disabled	Disabled
aic78xx	aic78xx		Not Available	Kernel Driver	False	Disabled	Disabled
ami0nt	ami0nt		Not Available	Kernel Driver	False	Disabled	Disabled

amsint	amsint		Not Available	Kernel Driver	False	Disabled	Disabled
asc	asc		Not Available	Kernel Driver	False	Disabled	Disabled
asc3350p	asc3350p		Not Available	Kernel Driver	False	False	False
asc3550	asc3550		Not Available	Kernel Driver	False	Disabled	Disabled
asynctac	RAS Asynchronous Media Driver	c:\winnt\system32\drivers\asynctac.sys	Kernel Driver	False	Manual Stopped OK	Normal False False	False
ataapi	Standard IDE/ESDI Hard Disk Controller	c:\winnt\system32\drivers\ataapi.sys	Kernel Driver	True	Running OK	Normal False True	Boot
atdisk	Atdisk		Not Available	Kernel Driver	False	Disabled	Disabled
atirage3	atirage3	c:\winnt\system32\drivers\atimpab.sys	Kernel Driver	True	Manual Running OK	Ignore False True	True
atmarpc	ATM ARP Client Protocol	c:\winnt\system32\drivers\atmarpc.sys	Kernel Driver	False	Manual Stopped OK	Normal False False	Manual
audstub	Audio Stub Driver	c:\winnt\system32\drivers\audstub.sys	Kernel Driver	True	Manual Running OK	Normal False True	True
b57w2k	Broadcom NetXtreme Gigabit Ethernet	c:\winnt\system32\drivers\b57w2k.sys	Kernel Driver	True	Running OK	Normal False True	Manual
beep	Beep	c:\winnt\system32\drivers\beep.sys	Kernel Driver	True	System Running OK	Normal False True	True
buslogic	BusLogic		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
cd20xrnt	cd20xrnt		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
cdaudio	Cdaudio	c:\winnt\system32\drivers\cdaudio.sys	Kernel Driver	False	System Stopped OK	Ignore False False	False
cdfs	Cdfs	c:\winnt\system32\drivers\cdfs.sys	File System Driver	True	Disabled	Running OK	Normal False True
cdrom	CD-ROM Driver	c:\winnt\system32\drivers\cdrom.sys	Kernel Driver	True	System Running OK	Normal False True	True
changer	Changer		Not Available	Kernel Driver	False	System Stopped OK	Stopped OK
cpqarray	Cpqarray		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
cpqarray2	cpqarray2		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
cpqfcalm	cpqfcalm		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
cpqfws2e	cpqfws2e		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
dac960nt	dac960nt		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
deckzpsx	deckzpsx		Not Available	Kernel Driver	False	Disabled	Stopped OK Normal False False
dfsdriver	DfsDriver	c:\winnt\system32\drivers\dfs.sys	File System Driver	True	Boot Running OK	Normal False True	True
disk	Disk Driver	c:\winnt\system32\drivers\disk.sys	Kernel Driver	True	Boot Running OK	Normal False True	True
diskperf	Diskperf	c:\winnt\system32\drivers\diskperf.sys	Kernel Driver	True	Boot Running OK	Normal False True	True

dmboot	dmboot	c:\winnt\system32\drivers\dmboot.sys	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	lbrtfdc	lbrtfdc	Not Available	Kernel Driver	False	System	Stopped OK
dmio	Logical Disk Manager Driver	c:\winnt\system32\drivers\dmio.sys	Kernel Driver	True	Boot	Running OK	Normal	False	True	lp6nds35	lp6nds35	Not Available	Kernel Driver	False		
dmload	dmload	c:\winnt\system32\drivers\dmload.sys	Kernel Driver	True	Boot	Running OK	Normal	False	True	mnmdd	mnmdd	c:\winnt\system32\drivers\mnmdd.sys	Kernel Driver	True		
efs	EFS	c:\winnt\system32\drivers\efs.sys	File System Driver		True	Running OK	Normal	False	True	modem	Modem	c:\winnt\system32\drivers\modem.sys	Kernel Driver	False		
fastfat	Fastfat	c:\winnt\system32\drivers\fastfat.sys	File System Driver		True	Running OK	Normal	False	True	mouclass	Mouse Class Driver					
fdl6_700	Fdl6_700		Kernel Driver	False	Disabled	Stopped OK	Normal	False	False							
fdc	Floppy Disk Controller Driver	c:\winnt\system32\drivers\fdc.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	mountmgr	MountMgr	c:\winnt\system32\drivers\mountmgr.sys				
fips	Fips	c:\winnt\system32\drivers\fips.sys	Kernel Driver	True	Auto	Running OK	Normal	False	True	mraid35x	mraid35x	Not Available	Kernel Driver	False		
fireport	fireport		Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	mrx smb	MRXSMB	c:\winnt\system32\drivers\mrx smb.sys	File System Driver			
flashpnt	flashpnt		Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	msfs	Msfs	c:\winnt\system32\drivers\msfs.sys	File System Driver			
flpydisk	Floppy Disk Driver									mskssrv	Microsoft Streaming Service Proxy	c:\winnt\system32\drivers\mskssrv.sys	Kernel Driver	False	Manual	
ftdisk	Volume Manager Driver	c:\winnt\system32\drivers\ftdisk.sys	Kernel Driver	True	Boot	Running OK	Normal	False	True	mspclock	Microsoft Streaming Clock Proxy	c:\winnt\system32\drivers\mspclock.sys	Kernel Driver	False		
gnindis	cLAN NDIS Driver	c:\winnt\system32\drivers\gnindis.sys	Kernel Driver	True	Auto	Running OK	Normal	False	True	mspqm	Microsoft Streaming Quality Manager Proxy	c:\winnt\system32\drivers\mspqm.sys	Kernel Driver	False	Manual	
gnivia	cLAN VIA Driver	c:\winnt\system32\drivers\gnivia.sys	Kernel Driver	True	Auto	Running OK	Normal	False	True	mup	Mup	c:\winnt\system32\drivers\mup.sys	File System Driver			
gpc	Generic Packet Classifier	c:\winnt\system32\drivers\msgpc.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	ncrc710	Ncrc710	Not Available	Kernel Driver	False	Disabled	
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver		Kernel Driver	True						ndis	NDIS System Driver	c:\winnt\system32\drivers\ndis.sys	Kernel Driver	True		
ini910u	ini910u		Kernel Driver	False	Stopped OK	Normal	False	False	Disabled	ndistapi	Remote Access NDIS TAPI Driver	c:\winnt\system32\drivers\ndistapi.sys	Kernel Driver	True		
intelide	IntelIde		Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	ndiswan	Remote Access NDIS WAN Driver	c:\winnt\system32\drivers\ndiswan.sys	Kernel Driver	True	Manual	
ipfilterdriver	IP Traffic Filter Driver		Kernel Driver	False						ndproxy	NDIS Proxy	c:\winnt\system32\drivers\ndproxy.sys	Kernel Driver	True		
ipinip	IP in IP Tunnel Driver	c:\winnt\system32\drivers\ipinip.sys	Kernel Driver	False	Manual	Stopped OK	Normal	False	False	netbios	NetBIOS Interface	c:\winnt\system32\drivers\netbios.sys	File System Driver	True		
ipnat	IP Network Address Translator	c:\winnt\system32\drivers\ipnat.sys	Kernel Driver	False	Manual	Stopped OK	Normal	False	False	netbt	NetBios over Tcpip	c:\winnt\system32\drivers\netbt.sys	Kernel Driver	True		
ipsec	IPSEC driver	c:\winnt\system32\drivers\ipsec.sys	Kernel Driver	False	Manual	Stopped OK	Normal	False	False	netdetect	NetDetect	c:\winnt\system32\drivers\netdetect.sys				
ipsraidn	ipsraidn		Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	npfs	Npfs	c:\winnt\system32\drivers\npfs.sys	File System Driver	True		
irenum	IR Enumerator Service	c:\winnt\system32\drivers\irenum.sys	Kernel Driver	False	Manual	Stopped OK	Normal	False	False	ntfs	Ntfs	c:\winnt\system32\drivers\ntfs.sys	File System Driver	True		
isapnp	PnP ISA/EISA Bus Driver	c:\winnt\system32\drivers\isapnp.sys	Kernel Driver	True	Boot	Running OK	Critical	False	True	null	Null	c:\winnt\system32\drivers\null.sys	Kernel Driver	True		
kbdclass	Keyboard Class Driver		Kernel Driver	True						nwlkflt	IPX Traffic Filter Driver	c:\winnt\system32\drivers\nwlkflt.sys	Kernel Driver	False		
ksecdd	KSecDD	c:\winnt\system32\drivers\ksecdd.sys	Kernel Driver	True	Boot	Running OK	Normal	False	True							

```

nwlkfwf IPX Traffic Forwarder Driver
c:\winnt\system32\drivers\nwlkfwf.sys Kernel Driver False
Manual Stopped OK Normal False False
openhci Microsoft USB Open Host Controller Driver
c:\winnt\system32\drivers\openhci.sys Kernel Driver True Manual
Running OK Normal False True
parallel Parallel c:\winnt\system32\drivers\parallel.sys
Kernel Driver False Auto Stopped OK Ignore False False
parport Parport c:\winnt\system32\drivers\parport.sys Kernel Driver False
Auto Stopped OK Ignore False False
partmgr PartMgr c:\winnt\system32\drivers\partmgr.sys Kernel Driver True
Boot Running OK Normal False True
parvdm ParVdm c:\winnt\system32\drivers\parvdm.sys Kernel Driver False
Auto Stopped OK Ignore False False
pci PCI Bus Driver c:\winnt\system32\drivers\pci.sys Kernel Driver
True Boot Running OK Critical False True
pcidump PCIDump Not Available Kernel Driver False System Stopped OK
Ignore False False
pciide PCIIde c:\winnt\system32\drivers\pciide.sys Kernel Driver True
Boot Running OK Normal False True
pcmcia Pcmcia c:\winnt\system32\drivers\pcmcia.sys Kernel Driver False
Disabled Stopped OK Normal False False
pdcomp PDCOMP Not Available Kernel Driver False Manual Stopped OK
Ignore False False
pdframe PDFRAME Not Available Kernel Driver False Manual Stopped OK
Ignore False False
pdreli PDRELI Not Available Kernel Driver False Manual Stopped OK
Ignore False False
pdrframe PDRFRAME Not Available Kernel Driver False Manual
Stopped OK Ignore False False
pptpminiport WAN Miniport (PPTP)
c:\winnt\system32\drivers\raspttp.sys Kernel Driver True Manual
Running OK Normal False True
ptilink Direct Parallel Link Driver
c:\winnt\system32\drivers\ptilink.sys Kernel Driver True Manual
Running OK Normal False True
ql1080 ql1080 Not Available Kernel Driver False Disabled
Stopped OK Normal False False
ql10wnt Ql10wnt Not Available Kernel Driver False Disabled
Stopped OK Normal False False
ql1240 ql1240 Not Available Kernel Driver False Disabled
Stopped OK Normal False False
ql2100 ql2100 Not Available Kernel Driver False Disabled
Stopped OK Normal False False
ql2300 ql2300 c:\winnt\system32\drivers\ql2300.sys Kernel Driver False
Boot Stopped OK Normal False False
qlvika qlvika Not Available Kernel Driver False Auto Stopped OK
Normal False False
rasacd Remote Access Auto Connection Driver
c:\winnt\system32\drivers\rasacd.sys Kernel Driver True System
Running OK Normal False True
rasl2tp WAN Miniport (L2TP) c:\winnt\system32\drivers\rasl2tp.sys Kernel
Driver True Manual Running OK Normal False True
raspti Direct Parallel c:\winnt\system32\drivers\raspti.sys Kernel
Driver True Manual Running OK Normal False True
rca Microsoft Streaming Network Raw Channel Access
c:\winnt\system32\drivers\rca.sys Kernel Driver False Manual
Stopped OK Normal False False

```

```

rdbss Rdbss c:\winnt\system32\drivers\rdbss.sys File System Driver
True System Running OK Normal False True
rdpdr Terminal Server Device Redirector Driver
c:\winnt\system32\drivers\rdpdr.sys Kernel Driver True Manual
Running OK Normal False True
rdpwd RDPWD c:\winnt\system32\drivers\rdpwd.sys Kernel Driver True
Manual Running OK Ignore False True
redbook Digital CD Audio Playback Filter Driver
c:\winnt\system32\drivers\redbook.sys Kernel Driver False System
Stopped OK Normal False False
serenum Serenum Filter Driver c:\winnt\system32\drivers\serenum.sys Kernel
Driver True Manual Running OK Normal False True
serial Serial port driver c:\winnt\system32\drivers\serial.sys Kernel
Driver True System Running OK Ignore False True
sfloppy Sfloppy c:\winnt\system32\drivers\sfloppy.sys Kernel Driver False
System Stopped OK Ignore False False
sglfb sglfb Not Available Kernel Driver False System Stopped OK
Normal False False
simbad Simbad Not Available Kernel Driver False Disabled
Stopped OK Normal False False
sparrow Sparrow Not Available Kernel Driver False Disabled
Stopped OK Normal False False
spud Special Purpose Utility Driver
c:\winnt\system32\drivers\spud.sys Kernel Driver True Manual
Running OK Normal False True
srv Srv c:\winnt\system32\drivers\srv.sys File System Driver
True Manual Running OK Normal False True
swenum Software Bus Driver c:\winnt\system32\drivers\swenum.sys Kernel
Driver True Manual Running OK Normal False True
symc810 symc810 Not Available Kernel Driver False Disabled
Stopped OK Normal False False
symc8xx symc8xx Not Available Kernel Driver False Disabled
Stopped OK Normal False False
sym_hi sym_hi Not Available Kernel Driver False Disabled
Stopped OK Normal False False
tcpip TCP/IP Protocol Driver c:\winnt\system32\drivers\tcpip.sys Kernel
Driver True System Running OK Normal False True
tdasync TDASYNC c:\winnt\system32\drivers\tdasync.sys Kernel Driver False
Manual Stopped OK Ignore False False
tdipx TDIPX c:\winnt\system32\drivers\tdipx.sys Kernel Driver False
Manual Stopped OK Ignore False False
tdnetb TDNETB c:\winnt\system32\drivers\tdnetb.sys Kernel Driver False
Manual Stopped OK Ignore False False
tdpipe TDPIPE c:\winnt\system32\drivers\tdpipe.sys Kernel Driver False
Manual Stopped OK Ignore False False
tdspx TDSPIX c:\winnt\system32\drivers\tdspx.sys Kernel Driver False
Manual Stopped OK Ignore False False
tdtcp TDTCP c:\winnt\system32\drivers\tdtcp.sys Kernel Driver True
Manual Running OK Ignore False True
termdd Terminal Device Driver c:\winnt\system32\drivers\termdd.sys Kernel
Driver True Auto Running OK Normal False True
tga tga Not Available Kernel Driver False System Stopped OK
Ignore False False
udfs Udfs c:\winnt\system32\drivers\udfs.sys File System Driver
False Disabled Stopped OK Normal False False
ultra66 ultra66 Not Available Kernel Driver False Disabled
Stopped OK Normal False False
update Microcode Update Driver c:\winnt\system32\drivers\update.sys
Kernel Driver True Manual Running OK Normal False True

```



```

usbhub Microsoft USB Standard Hub Driver
c:\winnt\system32\drivers\usbhub.sys Kernel Driver True Manual
Running OK Normal False True
vgasave VgaSave c:\winnt\system32\drivers\vga.sys Kernel Driver True
System Running OK Ignore False True
wanarp Remote Access IP ARP Driver c:\winnt\system32\drivers\wanarp.sys
Kernel Driver True Manual Running OK Normal False True
wdica WDICA Not Available Kernel Driver False Manual Stopped OK
Ignore False False

```

[Environment Variables]

```

Variable Value User Name
ComSpec %SystemRoot%\system32\cmd.exe <SYSTEM>
Os2LibPath %SystemRoot%\system32\os2\dll; <SYSTEM>
Path %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;C:\P
rogram Files\Microsoft SQL Server\80\Tools\BINN <SYSTEM>
windir %SystemRoot% <SYSTEM>
OS Windows NT <SYSTEM>
PROCESSOR_ARCHITECTURE x86 <SYSTEM>
PROCESSOR_LEVEL 15 <SYSTEM>
PROCESSOR_IDENTIFIER x86 Family 15 Model 2 Stepping 4, GenuineIntel
<SYSTEM>
PROCESSOR_REVISION 0204 <SYSTEM>
NUMBER_OF_PROCESSORS 4 <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 CLIENT1\Administrator
TMP %USERPROFILE%\Local Settings\Temp CLIENT1\Administrator

```

[Jobs]

[ Following are sub-categories of this main category ]

[Print]

Document	Size	Owner	Notify	Status	Time Submitted	Start Time			
Until Time	Elapsed Time	Pages Printed	Job ID	Priority	Parameters	Driver Name	Print Processor	Host Print	
Queue	Data Type	Name							
Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	

[Network Connections]

Local Name	Remote Name	Type	Status	User Name
No network connections information				

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Max Working Set
Working Set	Start Time	Version	Size	File Date	
system idle process	Not Available	0	0	Not Available	Not Available
Available	Not Available	Unknown	Unknown	Unknown	
system	Not Available	8	8	1413120	Not Available
Unknown	Unknown	Unknown			

```

smss.exe c:\winnt\system32\smss.exe 188 11 204800
1413120 4/7/2003 10:44:16 AM 5.00.2195.5382 44.77 KB (45,840
bytes) 12/7/1999 4:00:00 AM
csrss.exe Not Available 216 13 Not Available Not Available
4/7/2003 10:44:18 AM Unknown Unknown Unknown
winlogon.exe c:\winnt\system32\winlogon.exe 212 13 204800
1413120 4/7/2003 10:44:20 AM 5.00.2195.5386 174.77 KB (178,960
bytes) 11/14/2002 9:53:44 PM
services.exe c:\winnt\system32\services.exe 268 9 204800
1413120 4/7/2003 10:44:20 AM 5.00.2195.3940 86.77 KB (88,848
bytes) 12/7/1999 4:00:00 AM
lsass.exe c:\winnt\system32\lsass.exe 280 9 204800
1413120 4/7/2003 10:44:20 AM 5.00.2195.5430 32.77 KB (33,552
bytes) 12/7/1999 4:00:00 AM
termsrv.exe c:\winnt\system32\termsrv.exe 388 10 204800
1413120 4/7/2003 10:44:21 AM 5.00.2195.5276 138.77 KB (142,096
bytes) 11/14/2002 9:53:42 PM
gnconmgr.exe c:\winnt\system32\gnconmgr.exe 452 8 204800
1413120 4/7/2003 10:44:22 AM 4.2.0.75 168.05 KB (172,079
bytes) 2/18/2003 9:21:16 AM
svchost.exe c:\winnt\system32\svchost.exe 492 8 204800
1413120 4/7/2003 10:44:22 AM 5.00.2134.1 7.77 KB (7,952 bytes)
12/7/1999 4:00:00 AM
msdtc.exe c:\winnt\system32\msdtc.exe 524 8 204800
1413120 4/7/2003 10:44:23 AM 1999.9.3421.3 6.77 KB (6,928 bytes)
11/14/2002 12:44:42 PM
svchost.exe c:\winnt\system32\svchost.exe 684 8 204800
1413120 4/7/2003 10:44:24 AM 5.00.2134.1 7.77 KB (7,952 bytes)
12/7/1999 4:00:00 AM
mnmsrvc.exe c:\winnt\system32\mnmsrvc.exe 708 8 204800
1413120 4/7/2003 10:44:24 AM 4.4.3385 21.27 KB (21,776
bytes) 11/14/2002 8:47:09 PM
regsvc.exe c:\winnt\system32\regsvc.exe 724 8 204800
1413120 4/7/2003 10:44:24 AM 5.00.2195.3649 65.27 KB (66,832
bytes) 11/14/2002 9:53:37 PM
mstask.exe c:\winnt\system32\mstask.exe 744 8 204800
1413120 4/7/2003 10:44:24 AM 4.71.2195.1 115.77 KB (118,544
bytes) 11/14/2002 9:53:29 PM
winmgmt.exe c:\winnt\system32\wbem\winmgmt.exe 844 8 204800
1413120 4/7/2003 10:44:25 AM 1.50.1085.0070 192.08 KB (196,685
bytes) 11/14/2002 9:53:50 PM
dllhost.exe Not Available 1236 8 Not Available Not Available
4/7/2003 10:46:50 AM Unknown Unknown Unknown
csrss.exe Not Available 1372 13 Not Available Not Available
4/12/2003 6:03:37 PM Unknown Unknown Unknown
winlogon.exe c:\winnt\system32\winlogon.exe 2172 13 204800
1413120 4/12/2003 6:03:37 PM 5.00.2195.5386 174.77 KB (178,960
bytes) 11/14/2002 9:53:44 PM
rdpclip.exe c:\winnt\system32\rdpclip.exe 2456 8 204800
1413120 4/12/2003 6:03:40 PM 5.00.2174.1 39.77 KB (40,720
bytes) 11/14/2002 12:44:44 PM
explorer.exe c:\winnt\explorer.exe 2392 8 204800 1413120
4/12/2003 6:03:40 PM 5.00.3502.5321 237.27 KB (242,960 bytes)
11/14/2002 9:53:45 PM
explorer.exe c:\winnt\explorer.exe 1856 8 204800 1413120
4/12/2003 6:16:59 PM 5.00.3502.5321 237.27 KB (242,960 bytes)
11/14/2002 9:53:45 PM

```

```

rhostsvr.exe c:\rhost\rhostsvr.exe 2584 8 204800 1413120
4/12/2003 6:16:59 PM Not Available 54.50 KB (55,808 bytes)
10/8/2002 4:29:32 PM
rsvp.exe c:\winnt\system32\rsvp.exe 2780 8 204800
1413120 4/14/2003 1:16:57 AM 5.00.2167.1 172.77 KB (176,912
bytes) 12/7/1999 4:00:00 AM
msinfo32.exe c:\program files\common files\microsoft
shared\msinfo\msinfo32.exe 2204 8 204800 1413120 4/30/2003
11:46:44 AM 5.00.2134.1 15.77 KB (16,144 bytes) 11/14/2002
8:47:06 PM

```

[Loaded Modules]

Name	Version	Size	File Date	Manufacturer	Path
wbemprox.dll	1.50.1085.0045	40.08 KB (41,040 bytes)			11/14/2002
9:53:50 PM	Microsoft Corporation	c:\winnt\system32\wbem\wbemprox.dll			
cabinet.dll	5.00.2147.1	54.77 KB (56,080 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\cabinet.dll			
msinfo32.dll	5.00.2195.4601	312.27 KB (319,760 bytes)			11/14/2002
9:53:51 PM	Microsoft Corporation	c:\program files\common files\microsoft shared\msinfo\msinfo32.dll			
mfc42u.dll	6.00.8665.0	972.05 KB (995,384 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\mfc42u.dll			
msinfo32.exe	5.00.2134.1	15.77 KB (16,144 bytes)			11/14/2002
8:47:06 PM	Microsoft Corporation	c:\program files\common files\microsoft shared\msinfo\msinfo32.exe			
traffic.dll	5.00.2139.1	30.77 KB (31,504 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\traffic.dll			
rsvp.exe	5.00.2167.1	172.77 KB (176,912 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\rsvp.exe			
rhostsvr.exe	Not Available	54.50 KB (55,808 bytes)			10/8/2002
4:29:32 PM	Not Available	c:\rhost\rhostsvr.exe			
wininet.dll	5.00.3502.4619	450.77 KB (461,584 bytes)			11/14/2002
9:53:44 PM	Microsoft Corporation	c:\winnt\system32\wininet.dll			
urlmon.dll	5.00.3502.5400	442.27 KB (452,880 bytes)			11/14/2002
9:53:43 PM	Microsoft Corporation	c:\winnt\system32\urlmon.dll			
browser.dll	5.00.3502.4373	34.50 KB (35,328 bytes)			11/14/2002
9:53:10 PM	Microsoft Corporation	c:\winnt\system32\browser.dll			
mydocs.dll	5.00.3315.4065	55.27 KB (56,592 bytes)			11/14/2002
9:53:31 PM	Microsoft Corporation	c:\winnt\system32\mydocs.dll			
ntshrui.dll	5.00.2134.1	46.77 KB (47,888 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\ntshrui.dll			
linkinfo.dll	5.00.2134.1	15.77 KB (16,144 bytes)			12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\linkinfo.dll			
msi.dll	2.0.2600.1	1.90 MB (1,991,168 bytes)			11/14/2002 9:53:27 PM
	Microsoft Corporation	c:\winnt\system32\msi.dll			
powrprof.dll	5.00.3502.5305	13.27 KB (13,584 bytes)			11/14/2002
9:53:36 PM	Microsoft Corporation	c:\winnt\system32\powrprof.dll			
batmeter.dll	5.00.3502.5305	20.27 KB (20,752 bytes)			11/14/2002
9:53:10 PM	Microsoft Corporation	c:\winnt\system32\batmeter.dll			
stobject.dll	5.00.2195.4455	79.27 KB (81,168 bytes)			11/14/2002
9:53:41 PM	Microsoft Corporation	c:\winnt\system32\stobject.dll			
webcheck.dll	5.00.3315.3727	250.77 KB (256,784 bytes)			11/14/2002
9:53:44 PM	Microsoft Corporation	c:\winnt\system32\webcheck.dll			
browseui.dll	5.00.3502.4373	791.27 KB (810,256 bytes)			11/14/2002
9:53:10 PM	Microsoft Corporation	c:\winnt\system32/browseui.dll			
shdocvw.dll	5.00.3502.5400	1.05 MB (1,105,168 bytes)			11/14/2002
9:53:39 PM	Microsoft Corporation	c:\winnt\system32\shdocvw.dll			

```

explorer.exe 5.00.3502.5321 237.27 KB (242,960 bytes) 11/14/2002
9:53:45 PM Microsoft Corporation c:\winnt\explorer.exe
rdpclip.exe 5.00.2174.1 39.77 KB (40,720 bytes) 11/14/2002
12:44:44 PM Microsoft Corporation c:\winnt\system32\rdpclip.exe
rapilib.dll 5.00.2195.4874 24.77 KB (25,360 bytes) 11/14/2002
9:53:36 PM Microsoft Corporation c:\winnt\system32\rapilib.dll
rsvpsp.dll 5.00.2195.4874 75.27 KB (77,072 bytes) 11/14/2002
9:53:38 PM Microsoft Corporation c:\winnt\system32\rsvpsp.dll
provthrd.dll 1.50.1085.0000 68.07 KB (69,708 bytes) 11/14/2002
8:46:58 PM Microsoft Corporation c:\winnt\system32\wbem\provthrd.dll
ntevt.dll 1.50.1085.0072 192.06 KB (196,671 bytes) 11/14/2002
9:53:49 PM Microsoft Corporation c:\winnt\system32\wbem\ntevt.dll
perfos.dll 5.00.2155.1 21.27 KB (21,776 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\perfos.dll
psapi.dll 5.00.2134.1 28.27 KB (28,944 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\psapi.dll
framedyn.dll 1.50.1085.0076 164.07 KB (168,009 bytes) 11/14/2002
9:53:48 PM Microsoft Corporation c:\winnt\system32\wbem\framedyn.dll
cimwin32.dll 1.50.1085.0073 1.04 MB (1,085,520 bytes) 11/14/2002
9:53:48 PM Microsoft Corporation c:\winnt\system32\wbem\cimwin32.dll
wbemsvc.dll 1.50.1085.0007 40.07 KB (41,036 bytes) 11/14/2002
9:53:50 PM Microsoft Corporation c:\winnt\system32\wbem\wbemsvc.dll
wbemess.dll 1.50.1085.0074 364.07 KB (372,804 bytes) 11/14/2002
9:53:50 PM Microsoft Corporation c:\winnt\system32\wbem\wbemess.dll
wbemcore.dll 1.50.1085.0085 628.07 KB (643,146 bytes) 11/14/2002
9:53:49 PM Microsoft Corporation c:\winnt\system32\wbem\wbemcore.dll
wshnetbs.dll 5.00.2134.1 7.77 KB (7,952 bytes) 12/7/1999 4:00:00 AM
Microsoft Corporation c:\winnt\system32\wshnetbs.dll
ntmarta.dll 5.00.2195.4836 99.77 KB (102,160 bytes) 11/14/2002
9:53:33 PM Microsoft Corporation c:\winnt\system32\ntmarta.dll
fastprox.dll 1.50.1085.0056 144.08 KB (147,536 bytes) 11/14/2002
9:53:48 PM Microsoft Corporation c:\winnt\system32\wbem\fastprox.dll
wbemcomn.dll 1.50.1085.0077 692.07 KB (708,675 bytes) 11/14/2002
9:53:49 PM Microsoft Corporation c:\winnt\system32\wbem\wbemcomn.dll
winmgmt.exe 1.50.1085.0070 192.08 KB (196,685 bytes) 11/14/2002
9:53:50 PM Microsoft Corporation c:\winnt\system32\wbem\winmgmt.exe
msidle.dll 5.00.2920.0000 6.27 KB (6,416 bytes) 12/7/1999 4:00:00 AM
Microsoft Corporation c:\winnt\system32\msidle.dll
mstask.exe 4.71.2195.1 115.77 KB (118,544 bytes) 11/14/2002
9:53:29 PM Microsoft Corporation c:\winnt\system32\mstask.exe
regsvc.exe 5.00.2195.3649 65.27 KB (66,832 bytes) 11/14/2002
9:53:37 PM Microsoft Corporation c:\winnt\system32\regsvc.exe
dcap32.dll 4.4.3385 35.77 KB (36,624 bytes) 11/14/2002
8:47:09 PM Microsoft Corporation c:\program
files\netmeeting\dcap32.dll
msvfw32.dll 5.00.2134.1 113.77 KB (116,496 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\msvfw32.dll
msacm32.dll 5.00.2134.1 65.27 KB (66,832 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\msacm32.dll
nac.dll 4.4.3385 196.77 KB (201,488 bytes) 11/14/2002 8:47:08 PM
Microsoft Corporation c:\program files\netmeeting\nac.dll
callcont.dll 4.4.3385 383.77 KB (392,976 bytes) 11/14/2002
9:53:56 PM Microsoft Corporation c:\program
files\netmeeting\callcont.dll
h323cc.dll 4.4.3385 39.27 KB (40,208 bytes) 11/14/2002
8:47:08 PM Microsoft Corporation c:\program
files\netmeeting\h323cc.dll
nmasnt.dll 4.4.3385 8.77 KB (8,976 bytes) 11/14/2002 8:47:08 PM
Microsoft Corporation c:\program files\netmeeting\nmasnt.dll

```

nmas.dll 4.4.3385 207.27 KB (212,240 bytes) 11/14/2002  
8:47:08 PM Microsoft Corporation c:\program files\netmeeting\nmas.dll  
mst120.dll 4.4.3385 241.77 KB (247,568 bytes) 11/14/2002  
9:53:57 PM Microsoft Corporation c:\program files\netmeeting\nmst120.dll  
nmcom.dll 4.4.3385 60.77 KB (62,224 bytes) 11/14/2002  
9:53:57 PM Microsoft Corporation c:\program files\netmeeting\nmcom.dll  
mnmshrvc.exe 4.4.3385 21.27 KB (21,776 bytes) 11/14/2002  
8:47:09 PM Microsoft Corporation c:\winnt\system32\mnmshrvc.exe  
rasdlg.dll 5.00.2195.5438 515.77 KB (528,144 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\rasdlg.dll  
netcfgx.dll 5.00.2195.4874 534.77 KB (547,600 bytes) 11/14/2002  
9:53:31 PM Microsoft Corporation c:\winnt\system32\netcfgx.dll  
rasmans.dll 5.00.2195.5436 149.27 KB (152,848 bytes) 11/14/2002  
9:53:36 PM Microsoft Corporation c:\winnt\system32\rasmans.dll  
wmi.dll 5.00.2191.1 6.27 KB (6,416 bytes) 12/7/1999 4:00:00 AM  
Microsoft Corporation c:\winnt\system32\wmi.dll  
netshell.dll 5.00.2195.5431 457.77 KB (468,752 bytes) 11/14/2002  
9:53:32 PM Microsoft Corporation c:\winnt\system32\netshell.dll  
netman.dll 5.00.2195.5282 89.27 KB (91,408 bytes) 11/14/2002  
9:53:32 PM Microsoft Corporation c:\winnt\system32\netman.dll  
sens.dll 5.00.2163.1 36.77 KB (37,648 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\sens.dll  
es.dll 2000.2.3497.0 225.27 KB (230,672 bytes) 11/14/2002 9:53:17 PM  
Microsoft Corporation c:\winnt\system32\es.dll  
mtxoci.dll 2000.2.3497.0 103.77 KB (106,256 bytes) 11/14/2002  
9:53:31 PM Microsoft Corporation c:\winnt\system32\mtxoci.dll  
resutils.dll 5.00.2195.5339 39.77 KB (40,720 bytes) 11/14/2002  
9:53:37 PM Microsoft Corporation c:\winnt\system32\resutils.dll  
clusapi.dll 5.00.2195.4678 54.27 KB (55,568 bytes) 11/14/2002  
9:53:12 PM Microsoft Corporation c:\winnt\system32\clusapi.dll  
msvcp50.dll 5.00.7051 552.50 KB (565,760 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\msvcp50.dll  
xolehlp.dll 1999.9.3421.3 17.27 KB (17,680 bytes) 11/14/2002  
12:44:42 PM Microsoft Corporation c:\winnt\system32\xolehlp.dll  
msdtclog.dll 2000.2.3497.0 86.77 KB (88,848 bytes) 11/14/2002  
9:53:25 PM Microsoft Corporation c:\winnt\system32\msdtclog.dll  
mtxclu.dll 2000.2.3497.0 51.27 KB (52,496 bytes) 11/14/2002  
9:53:31 PM Microsoft Corporation c:\winnt\system32\mtxclu.dll  
msdtcprx.dll 2000.2.3497.0 683.77 KB (700,176 bytes) 11/14/2002  
9:53:25 PM Microsoft Corporation c:\winnt\system32\msdtcprx.dll  
txfaux.dll 2000.2.3497.0 383.27 KB (392,464 bytes) 11/14/2002  
9:53:42 PM Microsoft Corporation c:\winnt\system32\txfaux.dll  
msdtctm.dll 2000.2.3497.0 1.08 MB (1,128,208 bytes) 11/14/2002  
9:53:25 PM Microsoft Corporation c:\winnt\system32\msdtctm.dll  
msdtc.exe 1999.9.3421.3 6.77 KB (6,928 bytes) 11/14/2002 12:44:42 PM  
Microsoft Corporation c:\winnt\system32\msdtc.exe  
rasadhlp.dll 5.00.2168.1 7.27 KB (7,440 bytes) 12/7/1999 4:00:00 AM  
Microsoft Corporation c:\winnt\system32\rasadhlp.dll  
winrnr.dll 5.00.2160.1 18.77 KB (19,216 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\winrnr.dll  
dhcpcsvc.dll 5.00.2195.4874 87.77 KB (89,872 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\dhcpcsvc.dll  
tapi32.dll 5.00.2182.1 123.27 KB (126,224 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\tapi32.dll  
rasman.dll 5.00.2195.5292 54.77 KB (56,080 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\rasman.dll

rasapi32.dll 5.00.2195.5438 191.77 KB (196,368 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\rasapi32.dll  
icmp.dll 5.00.2134.1 7.27 KB (7,440 bytes) 12/7/1999 4:00:00 AM  
Microsoft Corporation c:\winnt\system32\icmp.dll  
iphlpapi.dll 5.00.2195.2 68.27 KB (69,904 bytes) 11/14/2002  
9:53:20 PM Microsoft Corporation c:\winnt\system32\iphlpapi.dll  
rnr20.dll 5.00.2195.4874 35.77 KB (36,624 bytes) 11/14/2002  
9:53:37 PM Microsoft Corporation c:\winnt\system32\rnr20.dll  
wshtcpip.dll 5.00.2195.4874 17.27 KB (17,680 bytes) 11/14/2002  
9:53:45 PM Microsoft Corporation c:\winnt\system32\wshtcpip.dll  
msafd.dll 5.00.2195.4874 103.27 KB (105,744 bytes) 11/14/2002  
9:53:24 PM Microsoft Corporation c:\winnt\system32\msafd.dll  
rpcss.dll 5.00.2195.5429 231.27 KB (236,816 bytes) 11/14/2002  
9:53:38 PM Microsoft Corporation c:\winnt\system32\rpcss.dll  
svchost.exe 5.00.2134.1 7.77 KB (7,952 bytes) 12/7/1999 4:00:00 AM  
Microsoft Corporation c:\winnt\system32\svchost.exe  
vipl.dll 4.2.0.75 80.00 KB (81,920 bytes) 2/18/2003  
9:21:16 AM Giganet Incorporated c:\winnt\system32\vipl.dll  
gnconmgr.exe 4.2.0.75 168.05 KB (172,079 bytes) 2/18/2003  
9:21:16 AM Giganet Incorporated c:\winnt\system32\gnconmgr.exe  
rdpwsx.dll 5.00.2195.5243 97.90 KB (100,248 bytes) 11/14/2002  
9:53:37 PM Microsoft Corporation c:\winnt\system32\rdpwsx.dll  
mstlsapi.dll 5.00.2195.3895 25.77 KB (26,384 bytes) 11/14/2002  
9:53:30 PM Microsoft Corporation c:\winnt\system32\mstlsapi.dll  
icaapi.dll 5.00.2195.3895 122.77 KB (125,712 bytes) 11/14/2002  
9:53:19 PM Microsoft Corporation c:\winnt\system32\icaapi.dll  
regapi.dll 5.00.2195.5201 35.27 KB (36,112 bytes) 11/14/2002  
9:53:37 PM Microsoft Corporation c:\winnt\system32\regapi.dll  
termsrv.exe 5.00.2195.5276 138.77 KB (142,096 bytes) 11/14/2002  
9:53:42 PM Microsoft Corporation c:\winnt\system32\termsrv.exe  
iissuba.dll 5.00.0984 9.77 KB (10,000 bytes) 12/7/1999 4:00:00 AM  
Microsoft Corporation c:\winnt\system32\iissuba.dll  
dssenh.dll 5.00.2195.3665 142.77 KB (146,192 bytes) 11/14/2002  
9:53:59 PM Microsoft Corporation c:\winnt\system32\dssenh.dll  
scecli.dll 5.00.2195.4874 109.27 KB (111,888 bytes) 11/14/2002  
9:53:38 PM Microsoft Corporation c:\winnt\system32\scecli.dll  
atl.dll 3.00.9435 73.06 KB (74,810 bytes) 11/14/2002 9:53:09 PM  
Microsoft Corporation c:\winnt\system32\atl.dll  
certcli.dll 5.00.2195.3649 130.27 KB (133,392 bytes) 11/14/2002  
9:53:11 PM Microsoft Corporation c:\winnt\system32\certcli.dll  
esent.dll 6.0.3940.25 1.09 MB (1,137,936 bytes) 11/14/2002  
9:53:17 PM Microsoft Corporation c:\winnt\system32\esent.dll  
mswsock.dll 5.00.2195.4874 62.77 KB (64,272 bytes) 11/14/2002  
9:53:30 PM Microsoft Corporation c:\winnt\system32\mswsock.dll  
ntdsatq.dll 5.00.2195.5246 31.27 KB (32,016 bytes) 11/14/2002  
9:53:32 PM Microsoft Corporation c:\winnt\system32\ntdsatq.dll  
ntdsa.dll 5.00.2195.5438 1002.27 KB (1,026,320 bytes) 11/14/2002  
9:53:32 PM Microsoft Corporation c:\winnt\system32\ntdsa.dll  
kdcsvc.dll 5.00.2195.5246 141.77 KB (145,168 bytes) 11/14/2002  
9:53:22 PM Microsoft Corporation c:\winnt\system32\kdcsvc.dll  
sfmapi.dll 5.00.2134.1 38.77 KB (39,696 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\sfmapi.dll  
rtutils.dll 5.00.2168.1 43.77 KB (44,816 bytes) 12/7/1999  
4:00:00 AM Microsoft Corporation c:\winnt\system32\rtutils.dll  
adslrpc.dll 5.00.2195.5400 127.77 KB (130,832 bytes) 11/14/2002  
9:53:08 PM Microsoft Corporation c:\winnt\system32\adslrpc.dll  
activeds.dll 5.00.2195.5312 175.27 KB (179,472 bytes) 11/14/2002  
9:53:04 PM Microsoft Corporation c:\winnt\system32\activeds.dll

mprapi.dll 5.00.2181.1 79.27 KB (81,168 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\mprapi.dll  
 rassfm.dll 5.00.2195.4874 21.27 KB (21,776 bytes) 11/14/2002  
 9:53:37 PM Microsoft Corporation c:\winnt\system32\rassfm.dll  
 rsabase.dll 5.00.2195.3839 128.27 KB (131,344 bytes) 7/22/2002  
 1:05:04 PM Microsoft Corporation c:\winnt\system32\rsabase.dll  
 schannel.dll 5.00.2195.5284 139.27 KB (142,608 bytes) 5/4/2001  
 1:05:02 PM Microsoft Corporation c:\winnt\system32\schannel.dll  
 netlogon.dll 5.00.2195.5400 362.77 KB (371,472 bytes) 11/14/2002  
 9:53:31 PM Microsoft Corporation c:\winnt\system32\netlogon.dll  
 msvl\_0.dll 5.00.2195.4745 112.27 KB (114,960 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\msvl\_0.dll  
 kerberos.dll 5.00.2195.5246 202.77 KB (207,632 bytes) 11/14/2002  
 9:53:22 PM Microsoft Corporation c:\winnt\system32\kerberos.dll  
 msprivs.dll 5.00.2154.1 41.50 KB (42,496 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\msprivs.dll  
 samsrv.dll 5.00.2195.5201 374.27 KB (383,248 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\samsrv.dll  
 lsasrv.dll 5.00.2195.5430 500.27 KB (512,272 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\lsasrv.dll  
 lsass.exe 5.00.2195.5430 32.77 KB (33,552 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\lsass.exe  
 ntlsap.dll 5.00.2195.4907 6.77 KB (6,928 bytes) 12/7/1999 4:00:00 AM  
 Microsoft Corporation c:\winnt\system32\ntlsapi.dll  
 wmicore.dll 5.00.2195.3649 72.27 KB (74,000 bytes) 11/14/2002  
 9:53:44 PM Microsoft Corporation c:\winnt\system32\wmicore.dll  
 browser.dll 5.00.2195.4874 48.77 KB (49,936 bytes) 11/14/2002  
 9:53:10 PM Microsoft Corporation c:\winnt\system32\browser.dll  
 seclogon.dll 5.00.2195.5201 17.27 KB (17,680 bytes) 11/14/2002  
 9:53:38 PM Microsoft Corporation c:\winnt\system32\seclogon.dll  
 psbase.dll 5.00.2195.4822 111.77 KB (114,448 bytes) 11/14/2002  
 9:53:36 PM Microsoft Corporation c:\winnt\system32\psbase.dll  
 cryptsvc.dll 5.00.2195.4368 73.27 KB (75,024 bytes) 11/14/2002  
 9:53:13 PM Microsoft Corporation c:\winnt\system32\cryptsvc.dll  
 cryptdll.dll 5.00.2135.1 41.27 KB (42,256 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\cryptdll.dll  
 wkssvc.dll 5.00.2195.4874 95.27 KB (97,552 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\wkssvc.dll  
 srsvsvc.dll 5.00.2195.5400 81.77 KB (83,728 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\srsvsvc.dll  
 cfgmgr32.dll 5.00.2134.1 16.77 KB (17,168 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\cfgmgr32.dll  
 dmserver.dll 2195.3649.297.3 12.27 KB (12,560 bytes)  
 11/14/2002 9:53:15 PM VERITAS Software Corp.  
 c:\winnt\system32\dmserver.dll  
 eventlog.dll 5.00.2195.5336 44.27 KB (45,328 bytes) 11/14/2002  
 9:53:17 PM Microsoft Corporation c:\winnt\system32\eventlog.dll  
 ntdsapi.dll 5.00.2195.4827 56.27 KB (57,616 bytes) 11/14/2002  
 9:53:32 PM Microsoft Corporation c:\winnt\system32\ntdsapi.dll  
 scesrv.dll 5.00.2195.5316 242.77 KB (248,592 bytes) 11/14/2002  
 9:53:38 PM Microsoft Corporation c:\winnt\system32\scesrv.dll  
 umpnpgmgr.dll 5.00.2182.1 86.27 KB (88,336 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\umpnpgmgr.dll  
 services.exe 5.00.2195.3940 86.77 KB (88,848 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\services.exe  
 cscui.dll 5.00.2195.4104 233.77 KB (239,376 bytes) 11/14/2002  
 9:53:13 PM Microsoft Corporation c:\winnt\system32\cscui.dll  
 netui1.dll 5.00.2134.1 210.27 KB (215,312 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\netui1.dll

netui0.dll 5.00.2195.4874 70.77 KB (72,464 bytes) 11/14/2002  
 9:53:32 PM Microsoft Corporation c:\winnt\system32\netui0.dll  
 ntlanman.dll 5.00.2195.5428 35.27 KB (36,112 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\ntlanman.dll  
 sclgntfy.dll 5.00.2191.1 20.27 KB (20,752 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\sclgntfy.dll  
 cryptnet.dll 5.131.2195.3992 41.77 KB (42,768 bytes)  
 11/14/2002 9:53:13 PM Microsoft Corporation  
 c:\winnt\system32\cryptnet.dll  
 clbcatq.dll 2000.2.3497.0 497.77 KB (509,712 bytes) 11/14/2002  
 9:53:12 PM Microsoft Corporation c:\winnt\system32\clbcatq.dll  
 oleaut32.dll 2.40.4518 612.27 KB (626,960 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\oleaut32.dll  
 lz32.dll 5.00.2134.1 9.77 KB (10,000 bytes) 12/7/1999 4:00:00 AM  
 Microsoft Corporation c:\winnt\system32\lz32.dll  
 version.dll 5.00.2134.1 15.77 KB (16,144 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\version.dll  
 rsaenh.dll 5.00.2195.3839 130.77 KB (133,904 bytes) 11/14/2002  
 9:53:59 PM Microsoft Corporation c:\winnt\system32\rsaenh.dll  
 mscat32.dll 5.131.2134.1 7.77 KB (7,952 bytes) 12/7/1999 4:00:00 AM  
 Microsoft Corporation c:\winnt\system32\mscat32.dll  
 ole32.dll 5.00.2195.5400 968.27 KB (991,504 bytes) 11/14/2002  
 9:53:35 PM Microsoft Corporation c:\winnt\system32\ole32.dll  
 imagehlp.dll 5.00.2195.5242 125.77 KB (128,784 bytes) 5/4/2001  
 1:05:02 PM Microsoft Corporation c:\winnt\system32\imagehlp.dll  
 wintrust.dll 5.131.2195.3775 162.27 KB (166,160 bytes)  
 11/14/2002 9:53:44 PM Microsoft Corporation  
 c:\winnt\system32\wintrust.dll  
 winspool.drv 5.00.2195.5225 111.27 KB (113,936 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\winspool.drv  
 msasn1.dll 5.00.2195.4067 51.27 KB (52,496 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\msasn1.dll  
 crypt32.dll 5.131.2195.4558 464.27 KB (475,408 bytes)  
 11/14/2002 9:53:13 PM Microsoft Corporation  
 c:\winnt\system32\crypt32.dll  
 winscard.dll 5.00.2134.1 77.27 KB (79,120 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\winscard.dll  
 wlnotify.dll 5.00.2195.5377 54.27 KB (55,568 bytes) 11/14/2002  
 9:53:44 PM Microsoft Corporation c:\winnt\system32\wlnotify.dll  
 csddl.dll 5.00.2195.5434 98.77 KB (101,136 bytes) 11/14/2002  
 9:53:13 PM Microsoft Corporation c:\winnt\system32\csddl.dll  
 mpr.dll 5.00.2195.3649 53.77 KB (55,056 bytes) 11/14/2002 9:53:24 PM  
 Microsoft Corporation c:\winnt\system32\mpr.dll  
 shlwapi.dll 5.00.3502.5332 283.27 KB (290,064 bytes) 11/14/2002  
 9:53:40 PM Microsoft Corporation c:\winnt\system32\shlwapi.dll  
 shell32.dll 5.00.3502.5436 2.26 MB (2,374,416 bytes) 11/14/2002  
 9:53:39 PM Microsoft Corporation c:\winnt\system32\shell32.dll  
 msgina.dll 5.00.2195.4733 324.77 KB (332,560 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\msgina.dll  
 comctl32.dll 5.81 539.27 KB (552,208 bytes) 12/7/1999 4:00:00 AM  
 Microsoft Corporation c:\winnt\system32\comctl32.dll  
 setupapi.dll 5.00.2195.5400 553.77 KB (567,056 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\setupapi.dll  
 winmm.dll 5.00.2161.1 184.77 KB (189,200 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\winmm.dll  
 winsta.dll 5.00.2195.4655 36.77 KB (37,648 bytes) 11/14/2002  
 9:53:44 PM Microsoft Corporation c:\winnt\system32\winsta.dll  
 wsock32.dll 5.00.2195.4874 21.27 KB (21,776 bytes) 11/14/2002  
 9:53:45 PM Microsoft Corporation c:\winnt\system32\wsock32.dll

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dnsapi.dll 5.00.2195.5354 131.27 KB (134,416 bytes) 11/14/2002
9:53:15 PM Microsoft Corporation c:\winnt\system32\dnsapi.dll
wldap32.dll 5.00.2195.5400 158.77 KB (162,576 bytes) 11/14/2002
9:53:44 PM Microsoft Corporation c:\winnt\system32\wldap32.dll
ws2help.dll 5.00.2134.1 17.77 KB (18,192 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\ws2help.dll
ws_32.dll 5.00.2195.4874 66.77 KB (68,368 bytes) 11/14/2002
9:53:44 PM Microsoft Corporation c:\winnt\system32\ws_32.dll
samlib.dll 5.00.2195.4827 49.77 KB (50,960 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\samlib.dll
netrap.dll 5.00.2134.1 11.27 KB (11,536 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\netrap.dll
netapi32.dll 5.00.2195.5427 305.27 KB (312,592 bytes) 11/14/2002
9:53:31 PM Microsoft Corporation c:\winnt\system32\netapi32.dll
profmap.dll 5.00.2181.1 29.27 KB (29,968 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\profmap.dll
secur32.dll 5.00.2195.4587 47.27 KB (48,400 bytes) 11/14/2002
9:53:38 PM Microsoft Corporation c:\winnt\system32\secur32.dll
sfc.dll 5.00.2195.3649 92.11 KB (94,320 bytes) 11/14/2002 9:53:38 PM
Microsoft Corporation c:\winnt\system32\sfc.dll
nddeapi.dll 5.00.2195.4509 15.77 KB (16,144 bytes) 11/14/2002
9:53:31 PM Microsoft Corporation c:\winnt\system32\nddeapi.dll
userenv.dll 5.00.2195.5425 363.77 KB (372,496 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\userenv.dll
user32.dll 5.00.2195.4314 395.77 KB (405,264 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\user32.dll
gdi32.dll 5.00.2195.5252 228.77 KB (234,256 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\gdi32.dll
rpcrt4.dll 5.00.2195.5419 440.27 KB (450,832 bytes) 11/14/2002
9:53:37 PM Microsoft Corporation c:\winnt\system32\rpcrt4.dll
advapi32.dll 5.00.2195.5385 358.77 KB (367,376 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\advapi32.dll
kernel32.dll 5.00.2195.5400 716.77 KB (733,968 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\kernel32.dll
msvcrt.dll 6.10.9359.0 284.05 KB (290,869 bytes) 7/22/2002
1:05:04 PM Microsoft Corporation c:\winnt\system32\msvcrt.dll
winlogon.exe 5.00.2195.5386 174.77 KB (178,960 bytes) 11/14/2002
9:53:44 PM Microsoft Corporation c:\winnt\system32\winlogon.exe
sfcfiles.dll 5.00.2195.5426 951.27 KB (974,096 bytes) 11/14/2002
9:53:38 PM Microsoft Corporation c:\winnt\system32\sfcfiles.dll
ntdll.dll 5.00.2195.5400 479.27 KB (490,768 bytes) 5/4/2001
1:05:02 PM Microsoft Corporation c:\winnt\system32\ntdll.dll
smss.exe 5.00.2195.5382 44.77 KB (45,840 bytes) 12/7/1999
4:00:00 AM Microsoft Corporation c:\winnt\system32\smss.exe

```

[Services]

Display Name	Name	State	Start Mode	Service Type	Path	Error
Control Start	Name	Tag ID				
Alerter	Alerter	Stopped	Manual	Share Process		
Application Management	AppMgmt	Stopped	Manual	Share Process		
Background Intelligent Transfer Service		Running	Auto	Share Process		
Computer Browser	Browser	Running	Auto	Share Process		
File Replication	NtFrs	Stopped	Manual	Own Process		
Indexing Service	cisvc	Stopped	Manual	Share Process		
Logical Disk Manager	dmserver	Running	Auto	Share Process		
Logical Disk Manager Administrative Service	dmadmin	Stopped	Manual	Share Process		
Net Logon	Netlogon	Stopped	Manual	Share Process		
Network Connections	Netman	Running	Manual	Share Process		
Network DDE	NetDDE	Stopped	Manual	Share Process		
Network DDE DSDM	NetDDEdsdm	Stopped	Manual	Share Process		
Server	lanmanserver	Running	Auto	Share Process		
TCP/IP NetBIOS Helper Service	LmHosts	Stopped	Manual	Share Process		
Windows Installer	MSIServer	Stopped	Manual	Share Process		
Workstation	lanmanworkstation	Running	Auto	Share Process		

```

Indexing Service cisvc Stopped Manual Share Process
c:\winnt\system32\cisvc.exe Normal LocalSystem 0
ClipBook ClipSrv Stopped Manual Own Process
c:\winnt\system32\clipsrv.exe Normal LocalSystem 0
Distributed File System Dfs Stopped Manual Own Process
c:\winnt\system32\dfssvc.exe Normal LocalSystem 0
DHCP Client Dhcp Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Logical Disk Manager Administrative Service dmadmin Stopped Manual Share
Process c:\winnt\system32\dmadmin.exe /com Normal LocalSystem 0
Logical Disk Manager dmserver Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
DNS Client Dnscache Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Event Log Eventlog Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
COM+ Event System EventSystem Running Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Fax Service Fax Stopped Manual Own Process
c:\winnt\system32\faxsvc.exe Normal LocalSystem 0
cLAN Connection Manager GniConMgr Running Auto Own Process
c:\winnt\system32\gnconmgr.exe Normal LocalSystem 0
IIS Admin Service IISADMIN Stopped Auto Share Process
c:\winnt\system32\inetinfo.exe Normal LocalSystem
0
Intersite Messaging IsmServ Stopped Disabled Own Process
c:\winnt\system32\ismserv.exe Normal LocalSystem 0
Kerberos Key Distribution Center kdc Stopped Disabled Share
Process c:\winnt\system32\lsass.exe Normal LocalSystem 0
Server lanmanserver Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Workstation lanmanworkstation Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
License Logging Service LicenseService Stopped Manual Own Process
c:\winnt\system32\llssrv.exe Normal LocalSystem 0
TCP/IP NetBIOS Helper Service LmHosts Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Messenger Messenger Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
NetMeeting Remote Desktop Sharing mnmsrvc Running Auto Own Process
c:\winnt\system32\mnmsrvc.exe Normal LocalSystem 0
Distributed Transaction Coordinator MSDTC Running Auto Own Process
c:\winnt\system32\msdtc.exe Normal LocalSystem 0
Windows Installer MSIServer Stopped Manual Share Process
c:\winnt\system32\msiexec.exe /v Normal LocalSystem 0
Network DDE NetDDE Stopped Manual Share Process
c:\winnt\system32\netdde.exe Normal LocalSystem 0
Network DDE DSDM NetDDEdsdm Stopped Manual Share Process
c:\winnt\system32\netdde.exe Normal LocalSystem 0
Net Logon Netlogon Stopped Manual Share Process
c:\winnt\system32\lsass.exe Normal LocalSystem 0
Network Connections Netman Running Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
File Replication NtFrs Stopped Manual Own Process
c:\winnt\system32\ntfrs.exe Ignore LocalSystem 0
NT LM Security Support Provider NtLmSsp Stopped Manual Share Process
c:\winnt\system32\lsass.exe Normal LocalSystem 0

```

```

Removable Storage      NtmsSvc Stopped Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Plug and Play          PlugPlay Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
IPSEC Policy Agent     PolicyAgent Stopped Manual Share Process
c:\winnt\system32\lsass.exe Normal LocalSystem 0
Protected Storage      ProtectedStorage Running Auto Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Remote Access Auto Connection Manager RasAuto Stopped Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Remote Access Connection Manager RasMan Stopped Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Routing and Remote Access RemoteAccess Stopped Disabled Share
Process c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Remote Registry Service RemoteRegistry Running Auto Own Process
c:\winnt\system32\regsvc.exe Normal LocalSystem 0
Remote Procedure Call (RPC) Locator RpcLocator Stopped Manual Own
Process c:\winnt\system32\locator.exe Normal LocalSystem 0
Remote Procedure Call (RPC) RpcSs Running Auto Share Process
c:\winnt\system32\svchost -k rpcss Normal LocalSystem 0
QoS RSVP              RSVP Running Manual Own Process
c:\winnt\system32\rsvp.exe -s Normal LocalSystem 0
Security Accounts Manager SamSs Running Auto Share Process
c:\winnt\system32\lsass.exe Normal LocalSystem 0
Smart Card Helper     SCardDrv Stopped Manual Share Process
c:\winnt\system32\scardsvr.exe Ignore LocalSystem 0
Smart Card            SCardSvr Stopped Manual Share Process
c:\winnt\system32\scardsvr.exe Ignore LocalSystem 0
Task Scheduler Schedule Running Auto Share Process
c:\winnt\system32\mstask.exe Normal LocalSystem 0
RunAs Service         seclogon Running Auto Share Process
c:\winnt\system32\services.exe Ignore LocalSystem 0
System Event Notification SENS Running Auto Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Internet Connection Sharing SharedAccess Stopped Manual Share Process
c:\winnt\system32\svchost.exe -k netsvcs Normal LocalSystem
0
Print Spooler         Spooler Stopped Manual Own Process
c:\winnt\system32\spoolsv.exe Normal LocalSystem 0
Performance Logs and Alerts SysmonLog Stopped Manual Own Process
c:\winnt\system32\smlogsvc.exe Normal LocalSystem 0
Telephony             TapiSrv Stopped Disabled Share Process
c:\winnt\system32\svchost.exe -k tapisrv Normal LocalSystem
0
Terminal Services     TermService Running Auto Own Process
c:\winnt\system32\termsrv.exe Normal LocalSystem 0
Telnet                TlntSvr Stopped Manual Own Process c:\winnt\system32\tlntsvr.exe
Normal LocalSystem 0
Distributed Link Tracking Server TrkSvr Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Distributed Link Tracking Client TrkWks Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
Uninterruptible Power Supply UPS Stopped Manual Own Process
c:\winnt\system32\ups.exe Normal LocalSystem 0

```

```

Utility Manager       UtilMan Stopped Manual Own Process
c:\winnt\system32\utilman.exe Normal LocalSystem 0
Windows Time         W32Time Stopped Manual Share Process
c:\winnt\system32\services.exe Normal LocalSystem 0
World Wide Web Publishing Service W3SVC Stopped Manual Share Process
c:\winnt\system32\inetresrv\inetinfo.exe Normal LocalSystem
0
Windows Management Instrumentation WinMgmt Running Auto Own Process
c:\winnt\system32\wbem\winmgmt.exe Ignore LocalSystem 0
Windows Management Instrumentation Driver Extensions Wmi Running Manual
Share Process c:\winnt\system32\services.exe Normal
LocalSystem 0
Automatic Updates    wuauerv Stopped Manual Share Process
c:\winnt\system32\svchost.exe -k wugroup 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
Accessories\System Tools Default User:Accessories\System Tools
Default User
Startup Default User:Startup Default User
Accessories All Users:Accessories 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 All Users:Microsoft SQL Server All Users
Startup All Users:Startup All Users
Accessories CLIENT1\Administrator:Accessories CLIENT1\Administrator
Accessories\Accessibility
CLIENT1\Administrator:Accessories\Accessibility
CLIENT1\Administrator
Accessories\Entertainment
CLIENT1\Administrator:Accessories\Entertainment
CLIENT1\Administrator
Accessories\System Tools CLIENT1\Administrator:Accessories\System
Tools CLIENT1\Administrator
Administrative Tools CLIENT1\Administrator:Administrative Tools
CLIENT1\Administrator
QLogic Corporation CLIENT1\Administrator:QLogic Corporation
CLIENT1\Administrator
QLogic Corporation\SANblade Control VIX CLIENT1\Administrator:QLogic
Corporation\SANblade Control VIX CLIENT1\Administrator
Startup CLIENT1\Administrator:Startup CLIENT1\Administrator

```

[Startup Programs]

```

Program Command User Name Location
rhostsvr.exe c:\rhost\rhostsvr.exe -d\rhost -crhosthdlr.exe
CLIENT1\Administrator 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  
 Image Document "C:\Program Files\Windows NT\Accessories\ImageVue\KodakImg.exe"  
 WordPad Document "%ProgramFiles%\Windows NT\Accessories\WORDPAD.EXE"  
 Windows Media Services DRM Storage object Not Available  
 Bitmap Image mspaint.exe

[Internet Explorer 5]

[ Following are sub-categories of this main category ]

[Summary]

Item Value  
 Version 5.00.3502.1000  
 Build 53502.1000  
 Product ID 51876-270-3062037-05739  
 Application Path C:\Program Files\Internet Explorer  
 Language English (United States)  
 Active Printer Not Available

Cipher Strength 168-bit  
 Content Advisor Disabled  
 IEAK Install No

[File Versions]

File	Version	Size	Date	Path	Company
advapi32.dll	5.0.2195.5385	359 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
advpack.dll	5.0.3502.4373	87 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
browseui.dll	5.0.3502.4373	35 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
browseui.dll	5.0.3502.4373	791 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
ckcnv.exe	5.0.2189.1	9 KB	12/7/1999 5:00:00 AM	C:\WINNT\system32	Microsoft Corporation
comctl32.dll	5.81.3315.3727	539 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
crypt32.dll	5.131.2195.4558	464 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
enhsg.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iemigrat.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
iesetup.dll	5.0.3502.4373	57 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
iexplore.exe	5.0.2920.0	59 KB	12/7/1999 5:00:00 AM	C:\Program Files\Internet Explorer	Microsoft Corporation

imagehlp.dll	5.0.2195.5242	126 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
imghelp.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
inseng.dll	5.0.3502.4373	72 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
jobexec.dll	5.0.0.147 KB	12/7/1999 5:00:00 AM		C:\WINNT\system32	Microsoft Corporation
jscrip.dll	5.1.0.5907	476 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
jsproxy.dll	5.0.2920.0	13 KB	12/7/1999 5:00:00 AM	C:\WINNT\system32	Microsoft Corporation
msaahtml.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
mshtml.dll	5.0.3502.5390	2284 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
msjava.dll	5.0.3805.0	924 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
msoss.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
msxml.dll	8.0.6730.0	494 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
occache.dll	5.0.3315.3727	86 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
ole32.dll	5.0.2195.5400	968 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
oleaut32.dll	2.40.4518.0	612 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
olepro32.dll	5.0.4518.0	160 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
rsabase.dll	5.0.2195.3839	128 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
rsaenh.dll	5.0.2195.3839	131 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
rsapi32.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
rsasig.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
schannel.dll	5.1.2195.0	139 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
shdoc401.dll	<File Missing>	Not Available	Not Available	Not Available	Not Available
shdocvw.dll	5.0.3502.5400	1079 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
shell32.dll	5.0.3502.5436	2319 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
shlwapi.dll	5.0.3502.5332	283 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
url.dll	5.0.3502.4510	82 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
urlmon.dll	5.0.3502.5400	442 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
vbscript.dll	5.1.0.7426	428 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
webcheck.dll	5.0.3315.3727	251 KB	7/22/2002 1:05:04 PM	C:\WINNT\system32	Microsoft Corporation
win.com	5.0.2134.1	24 KB	12/7/1999 5:00:00 AM	C:\WINNT\system32	Microsoft Corporation

```

wininet.dll 5.0.3502.4619 451 KB 7/22/2002 1:05:04 PM
C:\WINNT\system32 Microsoft Corporation
winsock.dll 3.10.0.103 3 KB 12/7/1999 5:00:00 AM
C:\WINNT\system32 Microsoft Corporation
wintrust.dll 5.131.2195.3775 162 KB 7/22/2002 1:05:04 PM
C:\WINNT\system32 Microsoft Corporation
wsock.vxd <File Missing> Not Available Not Available Not Available
Not Available
wsock32.dll 5.0.2195.4874 21 KB 7/22/2002 1:05:04 PM
C:\WINNT\system32 Microsoft Corporation
wsock32n.dll <File Missing> Not Available Not Available Not Available
Not Available

```

[Connectivity]

```

Item Value
Connection Preference Never dial
EnableHttp1.1 1
ProxyHttp1.1 0

```

LAN Settings

```

AutoConfigProxy wininet.dll
AutoProxyDetectMode Enabled
AutoConfigURL
Proxy Disabled
ProxyServer
ProxyOverride

```

[Cache]

[ Following are sub-categories of this main category ]

[Summary]

```

Item Value
Page Refresh Type Automatic
Temporary Internet Files Folder C:\Documents and
Settings\Administrator\CLIENT\Local Settings\Temporary Internet Files
Total Disk Space 17359 MB
Available Disk Space 13900 MB
Maximum Cache Size 542 MB
Available Cache Size 542 MB

```

[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
Administrator Administrator 11/14/2002 to 10/21/2102 sha1RSA

```

[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
Local intranet Medium-low
Trusted sites Low
Internet Medium
Restricted sites High

```

### Client Hyperthreading Information (Common to 4 clients)

```

Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

```

```

C:\DetectHyperthreading>detecthyperthreading
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.

```

C:\DetectHyperthreading>

### Windows 2000 IP Configuration Information

(Common to 4 clients except for Host Name, Physical Address, and IP Address)

```

Windows 2000 IP Configuration
Host Name . . . . . : client1
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
Ethernet adapter Admin:

Connection-specific DNS Suffix . . :
Description . . . . . : Broadcom NetXtreme Gigabit
Ethernet #2
Physical Address. . . . . : 00-06-5B-8C-9B-80 DHCP
Enabled. . . . . : No IP Address. . . . . :
192.168.91.1 Subnet Mask . . . . . : 255.255.255.0

```



```

    . . . : Default Gateway . . . . . : DNS Servers . . . . .
    . . . : NetBIOS over Tcpip. . . . . : Disabled
Ethernet adapter RTE:      Connection-specific DNS Suffix  . :
    Description . . . . . : Broadcom NetXtreme Gigabit

Ethernet
Physical Address. . . . . : 00-06-5B-8C-9B-81      DHCP
Enabled. . . . . : No      IP Address. . . . . :
192.1.1.1      Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : DNS Servers . . . . .
    . . . : NetBIOS over Tcpip. . . . . : Disabled
Volume in drive C
has no label.
Volume Serial Number is C0E2-039E

Directory of C:\inetpub\wwwroot

10/17/2000  01:17p                101,376 tpcc.dll
            1 File(s)              101,376 bytes
            0 Dir(s)  14,434,951,168 bytes free
Volume in drive C has no label.
Volume Serial Number is C0E2-039E

Directory of C:\inetpub\wwwroot

10/17/2000  01:15p                92,672 tpcc_com_all.dll
            1 File(s)              92,672 bytes
            0 Dir(s)  14,434,951,168 bytes free
Volume in drive C has no label.
Volume Serial Number is C0E2-039E

Directory of C:\inetpub\wwwroot

10/17/2000  01:14p                4,608 tpcc_com_ps.dll
            1 File(s)              4,608 bytes
            0 Dir(s)  14,434,951,168 bytes free

```

## Component Services Configuration

```

COM+ Component TPCC.AllTxns Settings:
Transactions not supported
Enable object pooling
Minimum pool size 120
Maximum pool size 120
Creation timeout 120,000
Enable object construction
Enable just in time activation
Concurrency required

```

## Internet Information Server Registry Parameters

```

\registry\machine\system\currentcontrolset\services\inetinfo
Parameters
ListenBackLog = REG_DWORD 0x00000019
DispatchEntries = REG_MULTI_SZ "LDAPSVCS"
PoolThreadLimit = REG_DWORD 0x000000c8
ThreadTimeout = REG_DWORD 0x00015180
BandwidthLevel = REG_DWORD 0xffffffff
DisableMemoryCache = REG_DWORD 0x00000001
MemoryCacheSize = REG_DWORD 0x00000000
ObjectCacheTTL = REG_DWORD 0xffffffff
Performance
Library = infoctrs.dll
Open = OpenINFOPerformanceData
Close = CloseINFOPerformanceData
Collect = CollectINFOPerformanceData
WbemAdapFileTime = REG_BINARY 0x00000008 0x1160d800 0x01c231bb
WbemAdapFileSize = REG_DWORD 0x00002510
WbemAdapStatus = REG_DWORD 0x00000000
Last Counter = REG_DWORD 0x00000b7c
Last Help = REG_DWORD 0x00000b7d
First Counter = REG_DWORD 0x00000b3c
First Help = REG_DWORD 0x00000b3d
Library Validation Code = REG_BINARY 0x00000010 0x4d3ef59a
0x01c28c6b 0x00002510 0x00000000

```

## MSSQL Server Registry Parameters

```

\registry\machine\software\microsoft\microsoftserver\client\connectto
DSQUERY = DBMSSOCS
DBSERVER = DBNETLIB,via:MV-BOBDYLAN,1421,0

```

## Start World Wide Web Server Registry Parameters

```

\registry\machine\system\currentcontrolset\services\w3svc
Type = REG_DWORD 0x00000020
Start = REG_DWORD 0x00000003
ErrorControl = REG_DWORD 0x00000001
ImagePath = REG_EXPAND_SZ C:\WINNT\System32\inetssrv\inetinfo.exe
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.
ASP
NOTE = This is for backward compatibility only.
Parameters
Parameters
MajorVersion = REG_DWORD 0x00000005
MinorVersion = REG_DWORD 0x00000000
InstallPath = C:\WINNT\System32\inetssrv
CertMapList = C:\WINNT\System32\inetssrv\iisrmap.dll
AccessDeniedMessage = Error: Access is Denied.

```

```

Filter DLLs =
LogFileDirectory = C:\WINNT\System32\LogFiles
AcceptExOutstanding = REG_DWORD 0x00000028
ADCLaunch
  AdvancedDataFactory
  RDSSEServer.DataFactory
Script Map
Virtual Roots
  / = c:\inetpub\wwwroot,,207
  /Scripts = c:\inetpub\scripts,,204
  /IISHelp = c:\winnt\help\iishelp,,201
  /IISAdmin = C:\WINNT\System32\inetsrv\iisadmin,,201
  /IISSamples = c:\inetpub\iissamples,,201
  /MSADC = c:\program files\common files\system\msadc,,205
  /Printers = C:\WINNT\web\printers,,201
Performance
Library = w3ctrs.dll
Open = OpenW3PerformanceData
Close = CloseW3PerformanceData
Collect = CollectW3PerformanceData
WbemAdapFileTime = REG_BINARY 0x00000008 0x1160d800 0x01c231bb
WbemAdapFileSize = REG_DWORD 0x00001d10
WbemAdapStatus = REG_DWORD 0x00000000
Last Counter = REG_DWORD 0x000008e6
Last Help = REG_DWORD 0x000008e7
First Counter = REG_DWORD 0x00000844
First Help = REG_DWORD 0x00000845

```

```

Library Validation Code = REG_BINARY 0x00000010 0xc18a727c
0x01c026d2 0x00003d10 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

```

\registry\machine\software\unisis
  TPCC
    MAXTERMS = 60000
    DELIVERYTHREADS = 15
    SERVERNAME = DBSERVER
    DATABASE = tpcc

```

# Appendix D - RTE Code

## Admin Environment

```
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
INITRSSCALE 1200
INITTSCALE 100
INITRWID 1,13000
INITFIXEDWID 1
INITCCLAST 208
INITCCID 208
INITCITEMID 208
//
//Configuration Driver 1
//
1 INITIPADDR 192.168.93.1
1 INITIISADDR 192.1.1.1
1 INITIISPORT 80
1 INITBROWSERS 1000
```

```
1 INITMYWID 1,100
//
//Configuration Driver 2
//
2 INITIPADDR 192.168.93.1
2 INITIISADDR 192.1.1.1
2 INITIISPORT 80
2 INITBROWSERS 1000
2 INITMYWID 101,200
//
//Configuration Driver 3
//
3 INITIPADDR 192.168.93.1
3 INITIISADDR 192.1.1.1
3 INITIISPORT 80
3 INITBROWSERS 1000
3 INITMYWID 201,300
//
//Configuration Driver 4
//
4 INITIPADDR 192.168.93.1
4 INITIISADDR 192.1.1.1
4 INITIISPORT 80
4 INITBROWSERS 1000
4 INITMYWID 301,400
//
//Configuration Driver 5
//
5 INITIPADDR 192.168.93.1
5 INITIISADDR 192.1.1.1
5 INITIISPORT 80
5 INITBROWSERS 1000
5 INITMYWID 401,500
//
//Configuration Driver 6
//
6 INITIPADDR 192.168.93.1
6 INITIISADDR 192.1.1.1
6 INITIISPORT 80
6 INITBROWSERS 1000
6 INITMYWID 501,600
//
//Configuration Driver 7
//
7 INITIPADDR 192.168.93.1
7 INITIISADDR 192.1.1.1
7 INITIISPORT 80
7 INITBROWSERS 1000
7 INITMYWID 601,700
//
//Configuration Driver 8
//
8 INITIPADDR 192.168.93.1
8 INITIISADDR 192.1.1.1
```

```

8 INITIISPORT 80
8 INITBROWSERS 1000
8 INITMYWID 701,800
//
//Configuration Driver 9
//
9 INITIPADDR 192.168.93.1
9 INITIISADDR 192.1.1.1
9 INITIISPORT 80
9 INITBROWSERS 1000
9 INITMYWID 801,900
//
//Configuration Driver 10
//
10 INITIPADDR 192.168.93.1
10 INITIISADDR 192.1.1.1
10 INITIISPORT 80
10 INITBROWSERS 1000
10 INITMYWID 901,1000
//
//Configuration Driver 11
//
11 INITIPADDR 192.168.93.1
11 INITIISADDR 192.1.1.1
11 INITIISPORT 80
11 INITBROWSERS 1000
11 INITMYWID 1001,1100
//
//Configuration Driver 12
//
12 INITIPADDR 192.168.93.1
12 INITIISADDR 192.1.1.1
12 INITIISPORT 80
12 INITBROWSERS 1000
12 INITMYWID 1101,1200
//
//Configuration Driver 13
//
13 INITIPADDR 192.168.93.1
13 INITIISADDR 192.1.1.1
13 INITIISPORT 80
13 INITBROWSERS 1000
13 INITMYWID 1201,1300
//
//Configuration Driver 14
//
14 INITIPADDR 192.168.93.1
14 INITIISADDR 192.1.1.1
14 INITIISPORT 80
14 INITBROWSERS 1000
14 INITMYWID 1301,1400
//
//Configuration Driver 15
//
15 INITIPADDR 192.168.93.1
15 INITIISADDR 192.1.1.1
15 INITIISPORT 80
15 INITBROWSERS 1000
15 INITMYWID 1401,1500

```

```

//
//Configuration Driver 16
//
16 INITIPADDR 192.168.93.1
16 INITIISADDR 192.1.1.1
16 INITIISPORT 80
16 INITBROWSERS 1000
16 INITMYWID 1501,1600
//
//Configuration Driver 17
//
17 INITIPADDR 192.168.93.2
17 INITIISADDR 192.1.1.1
17 INITIISPORT 80
17 INITBROWSERS 1000
17 INITMYWID 1601,1700
//
//Configuration Driver 18
//
18 INITIPADDR 192.168.93.2
18 INITIISADDR 192.1.1.1
18 INITIISPORT 80
18 INITBROWSERS 1000
18 INITMYWID 1701,1800
//
//Configuration Driver 19
//
19 INITIPADDR 192.168.93.2
19 INITIISADDR 192.1.1.1
19 INITIISPORT 80
19 INITBROWSERS 1000
19 INITMYWID 1801,1900
//
//Configuration Driver 20
//
20 INITIPADDR 192.168.93.2
20 INITIISADDR 192.1.1.1
20 INITIISPORT 80
20 INITBROWSERS 1000
20 INITMYWID 1901,2000
//
//Configuration Driver 21
//
21 INITIPADDR 192.168.93.2
21 INITIISADDR 192.1.1.1
21 INITIISPORT 80
21 INITBROWSERS 1000
21 INITMYWID 2001,2100
//
//Configuration Driver 22
//
22 INITIPADDR 192.168.93.2
22 INITIISADDR 192.1.1.1
22 INITIISPORT 80
22 INITBROWSERS 1000
22 INITMYWID 2101,2200
//
//Configuration Driver 23
//

```

```

23 INITIPADDR 192.168.93.2
23 INITIISADDR 192.1.1.1
23 INITIISPORT 80
23 INITBROWSERS 1000
23 INITMYWID 2201,2300
//
//Configuration Driver 24
//
24 INITIPADDR 192.168.93.2
24 INITIISADDR 192.1.1.1
24 INITIISPORT 80
24 INITBROWSERS 1000
24 INITMYWID 2301,2400
//
//Configuration Driver 25
//
25 INITIPADDR 192.168.93.2
25 INITIISADDR 192.1.1.1
25 INITIISPORT 80
25 INITBROWSERS 1000
25 INITMYWID 2401,2500
//
//Configuration Driver 26
//
26 INITIPADDR 192.168.93.2
26 INITIISADDR 192.1.1.1
26 INITIISPORT 80
26 INITBROWSERS 1000
26 INITMYWID 2501,2600
//
//Configuration Driver 27
//
27 INITIPADDR 192.168.93.2
27 INITIISADDR 192.1.1.1
27 INITIISPORT 80
27 INITBROWSERS 1000
27 INITMYWID 2601,2700
//
//Configuration Driver 28
//
28 INITIPADDR 192.168.93.2
28 INITIISADDR 192.1.1.1
28 INITIISPORT 80
28 INITBROWSERS 1000
28 INITMYWID 2701,2800
//
//Configuration Driver 29
//
29 INITIPADDR 192.168.93.2
29 INITIISADDR 192.1.1.1
29 INITIISPORT 80
29 INITBROWSERS 1000
29 INITMYWID 2801,2900
//
//Configuration Driver 30
//
30 INITIPADDR 192.168.93.2
30 INITIISADDR 192.1.1.1
30 INITIISPORT 80

```

```

30 INITBROWSERS 1000
30 INITMYWID 2901,3000
//
//Configuration Driver 31
//
31 INITIPADDR 192.168.93.2
31 INITIISADDR 192.1.1.1
31 INITIISPORT 80
31 INITBROWSERS 1000
31 INITMYWID 3001,3100
//
//Configuration Driver 32
//
32 INITIPADDR 192.168.93.2
32 INITIISADDR 192.1.1.1
32 INITIISPORT 80
32 INITBROWSERS 1000
32 INITMYWID 3101,3200
//
//Configuration Driver 33
//
33 INITIPADDR 192.168.93.3
33 INITIISADDR 192.2.1.1
33 INITIISPORT 80
33 INITBROWSERS 1030
33 INITMYWID 3201,3303
//
//Configuration Driver 34
//
34 INITIPADDR 192.168.93.3
34 INITIISADDR 192.2.1.1
34 INITIISPORT 80
34 INITBROWSERS 1030
34 INITMYWID 3304,3406
//
//Configuration Driver 35
//
35 INITIPADDR 192.168.93.3
35 INITIISADDR 192.2.1.1
35 INITIISPORT 80
35 INITBROWSERS 1030
35 INITMYWID 3407,3509
//
//Configuration Driver 36
//
36 INITIPADDR 192.168.93.3
36 INITIISADDR 192.2.1.1
36 INITIISPORT 80
36 INITBROWSERS 1030
36 INITMYWID 3510,3612
//
//Configuration Driver 37
//
37 INITIPADDR 192.168.93.3
37 INITIISADDR 192.2.1.1
37 INITIISPORT 80
37 INITBROWSERS 1030
37 INITMYWID 3613,3715
//

```

```
//Configuration Driver 38
//
38 INITIPADDR 192.168.93.3
38 INITIISADDR 192.2.1.1
38 INITIISPORT 80
38 INITBROWSERS 1030
38 INITMYWID 3716,3818
//
//Configuration Driver 39
//
39 INITIPADDR 192.168.93.3
39 INITIISADDR 192.2.1.1
39 INITIISPORT 80
39 INITBROWSERS 1030
39 INITMYWID 3819,3921
//
//Configuration Driver 40
//
40 INITIPADDR 192.168.93.3
40 INITIISADDR 192.2.1.1
40 INITIISPORT 80
40 INITBROWSERS 1030
40 INITMYWID 3922,4024
//
//Configuration Driver 41
//
41 INITIPADDR 192.168.93.3
41 INITIISADDR 192.2.1.1
41 INITIISPORT 80
41 INITBROWSERS 1030
41 INITMYWID 4025,4127
//
//Configuration Driver 42
//
42 INITIPADDR 192.168.93.3
42 INITIISADDR 192.2.1.1
42 INITIISPORT 80
42 INITBROWSERS 1030
42 INITMYWID 4128,4230
//
//Configuration Driver 43
//
43 INITIPADDR 192.168.93.3
43 INITIISADDR 192.2.1.1
43 INITIISPORT 80
43 INITBROWSERS 1030
43 INITMYWID 4231,4333
//
//Configuration Driver 44
//
44 INITIPADDR 192.168.93.3
44 INITIISADDR 192.2.1.1
44 INITIISPORT 80
44 INITBROWSERS 1030
44 INITMYWID 4334,4436
//
//Configuration Driver 45
//
45 INITIPADDR 192.168.93.3
```

```
45 INITIISADDR 192.2.1.1
45 INITIISPORT 80
45 INITBROWSERS 1030
45 INITMYWID 4437,4539
//
//Configuration Driver 46
//
46 INITIPADDR 192.168.93.3
46 INITIISADDR 192.2.1.1
46 INITIISPORT 80
46 INITBROWSERS 1030
46 INITMYWID 4540,4642
//
//Configuration Driver 47
//
47 INITIPADDR 192.168.93.3
47 INITIISADDR 192.2.1.1
47 INITIISPORT 80
47 INITBROWSERS 1030
47 INITMYWID 4643,4745
//
//Configuration Driver 48
//
48 INITIPADDR 192.168.93.3
48 INITIISADDR 192.2.1.1
48 INITIISPORT 80
48 INITBROWSERS 1030
48 INITMYWID 4746,4848
//
//Configuration Driver 49
//
49 INITIPADDR 192.168.93.4
49 INITIISADDR 192.2.1.1
49 INITIISPORT 80
49 INITBROWSERS 1030
49 INITMYWID 4849,4951
//
//Configuration Driver 50
//
50 INITIPADDR 192.168.93.4
50 INITIISADDR 192.2.1.1
50 INITIISPORT 80
50 INITBROWSERS 1030
50 INITMYWID 4952,5054
//
//Configuration Driver 51
//
51 INITIPADDR 192.168.93.4
51 INITIISADDR 192.2.1.1
51 INITIISPORT 80
51 INITBROWSERS 1030
51 INITMYWID 5055,5157
//
//Configuration Driver 52
//
52 INITIPADDR 192.168.93.4
52 INITIISADDR 192.2.1.1
52 INITIISPORT 80
52 INITBROWSERS 1030
```

```
52 INITMYWID 5158,5260
//
//Configuration Driver 53
//
53 INITIPADDR 192.168.93.4
53 INITIISADDR 192.2.1.1
53 INITIISPORT 80
53 INITBROWSERS 1030
53 INITMYWID 5261,5363
//
//Configuration Driver 54
//
54 INITIPADDR 192.168.93.4
54 INITIISADDR 192.2.1.1
54 INITIISPORT 80
54 INITBROWSERS 1030
54 INITMYWID 5364,5466
//
//Configuration Driver 55
//
55 INITIPADDR 192.168.93.4
55 INITIISADDR 192.2.1.1
55 INITIISPORT 80
55 INITBROWSERS 1030
55 INITMYWID 5467,5569
//
//Configuration Driver 56
//
56 INITIPADDR 192.168.93.4
56 INITIISADDR 192.2.1.1
56 INITIISPORT 80
56 INITBROWSERS 1030
56 INITMYWID 5570,5672
//
//Configuration Driver 57
//
57 INITIPADDR 192.168.93.4
57 INITIISADDR 192.2.1.1
57 INITIISPORT 80
57 INITBROWSERS 1030
57 INITMYWID 5673,5775
//
//Configuration Driver 58
//
58 INITIPADDR 192.168.93.4
58 INITIISADDR 192.2.1.1
58 INITIISPORT 80
58 INITBROWSERS 1030
58 INITMYWID 5776,5878
//
//Configuration Driver 59
//
59 INITIPADDR 192.168.93.4
59 INITIISADDR 192.2.1.1
59 INITIISPORT 80
59 INITBROWSERS 1030
59 INITMYWID 5879,5981
//
//Configuration Driver 60
```

```
//
60 INITIPADDR 192.168.93.4
60 INITIISADDR 192.2.1.1
60 INITIISPORT 80
60 INITBROWSERS 1030
60 INITMYWID 5982,6084
//
//Configuration Driver 61
//
61 INITIPADDR 192.168.93.4
61 INITIISADDR 192.2.1.1
61 INITIISPORT 80
61 INITBROWSERS 1030
61 INITMYWID 6085,6187
//
//Configuration Driver 62
//
62 INITIPADDR 192.168.93.4
62 INITIISADDR 192.2.1.1
62 INITIISPORT 80
62 INITBROWSERS 1030
62 INITMYWID 6188,6290
//
//Configuration Driver 63
//
63 INITIPADDR 192.168.93.4
63 INITIISADDR 192.2.1.1
63 INITIISPORT 80
63 INITBROWSERS 1030
63 INITMYWID 6291,6393
//
//Configuration Driver 64
//
64 INITIPADDR 192.168.93.4
64 INITIISADDR 192.2.1.1
64 INITIISPORT 80
64 INITBROWSERS 1030
64 INITMYWID 6394,6496
//
//Configuration Driver 65
//
65 INITIPADDR 192.168.93.5
65 INITIISADDR 192.3.1.1
65 INITIISPORT 80
65 INITBROWSERS 1010
65 INITMYWID 6497,6597
//
//Configuration Driver 66
//
66 INITIPADDR 192.168.93.5
66 INITIISADDR 192.3.1.1
66 INITIISPORT 80
66 INITBROWSERS 1010
66 INITMYWID 6598,6698
//
//Configuration Driver 67
//
67 INITIPADDR 192.168.93.5
67 INITIISADDR 192.3.1.1
```

```
67 INITIISPORT 80
67 INITBROWSERS 1010
67 INITMYWID 6699,6799
//
//Configuration Driver 68
//
68 INITIPADDR 192.168.93.5
68 INITIISADDR 192.3.1.1
68 INITIISPORT 80
68 INITBROWSERS 1010
68 INITMYWID 6800,6900
//
//Configuration Driver 69
//
69 INITIPADDR 192.168.93.5
69 INITIISADDR 192.3.1.1
69 INITIISPORT 80
69 INITBROWSERS 1010
69 INITMYWID 6901,7001
//
//Configuration Driver 70
//
70 INITIPADDR 192.168.93.5
70 INITIISADDR 192.3.1.1
70 INITIISPORT 80
70 INITBROWSERS 1010
70 INITMYWID 7002,7102
//
//Configuration Driver 71
//
71 INITIPADDR 192.168.93.5
71 INITIISADDR 192.3.1.1
71 INITIISPORT 80
71 INITBROWSERS 1010
71 INITMYWID 7103,7203
//
//Configuration Driver 72
//
72 INITIPADDR 192.168.93.5
72 INITIISADDR 192.3.1.1
72 INITIISPORT 80
72 INITBROWSERS 1010
72 INITMYWID 7204,7304
//
//Configuration Driver 73
//
73 INITIPADDR 192.168.93.5
73 INITIISADDR 192.3.1.1
73 INITIISPORT 80
73 INITBROWSERS 1010
73 INITMYWID 7305,7405
//
//Configuration Driver 74
//
74 INITIPADDR 192.168.93.5
74 INITIISADDR 192.3.1.1
74 INITIISPORT 80
74 INITBROWSERS 1010
74 INITMYWID 7406,7506
```

```
//
//Configuration Driver 75
//
75 INITIPADDR 192.168.93.5
75 INITIISADDR 192.3.1.1
75 INITIISPORT 80
75 INITBROWSERS 1010
75 INITMYWID 7507,7607
//
//Configuration Driver 76
//
76 INITIPADDR 192.168.93.5
76 INITIISADDR 192.3.1.1
76 INITIISPORT 80
76 INITBROWSERS 1010
76 INITMYWID 7608,7708
//
//Configuration Driver 77
//
77 INITIPADDR 192.168.93.5
77 INITIISADDR 192.3.1.1
77 INITIISPORT 80
77 INITBROWSERS 1010
77 INITMYWID 7709,7809
//
//Configuration Driver 78
//
78 INITIPADDR 192.168.93.5
78 INITIISADDR 192.3.1.1
78 INITIISPORT 80
78 INITBROWSERS 1010
78 INITMYWID 7810,7910
//
//Configuration Driver 79
//
79 INITIPADDR 192.168.93.5
79 INITIISADDR 192.3.1.1
79 INITIISPORT 80
79 INITBROWSERS 1010
79 INITMYWID 7911,8011
//
//Configuration Driver 80
//
80 INITIPADDR 192.168.93.5
80 INITIISADDR 192.3.1.1
80 INITIISPORT 80
80 INITBROWSERS 1010
80 INITMYWID 8012,8112
//
//Configuration Driver 81
//
81 INITIPADDR 192.168.93.6
81 INITIISADDR 192.3.1.1
81 INITIISPORT 80
81 INITBROWSERS 1010
81 INITMYWID 8113,8213
//
//Configuration Driver 82
//
```



```
82 INITIPADDR 192.168.93.6
82 INITIISADDR 192.3.1.1
82 INITIISPORT 80
82 INITBROWSERS 1010
82 INITMYWID 8214,8314
//
//Configuration Driver 83
//
83 INITIPADDR 192.168.93.6
83 INITIISADDR 192.3.1.1
83 INITIISPORT 80
83 INITBROWSERS 1010
83 INITMYWID 8315,8415
//
//Configuration Driver 84
//
84 INITIPADDR 192.168.93.6
84 INITIISADDR 192.3.1.1
84 INITIISPORT 80
84 INITBROWSERS 1010
84 INITMYWID 8416,8516
//
//Configuration Driver 85
//
85 INITIPADDR 192.168.93.6
85 INITIISADDR 192.3.1.1
85 INITIISPORT 80
85 INITBROWSERS 1010
85 INITMYWID 8517,8617
//
//Configuration Driver 86
//
86 INITIPADDR 192.168.93.6
86 INITIISADDR 192.3.1.1
86 INITIISPORT 80
86 INITBROWSERS 1010
86 INITMYWID 8618,8718
//
//Configuration Driver 87
//
87 INITIPADDR 192.168.93.6
87 INITIISADDR 192.3.1.1
87 INITIISPORT 80
87 INITBROWSERS 1010
87 INITMYWID 8719,8819
//
//Configuration Driver 88
//
88 INITIPADDR 192.168.93.6
88 INITIISADDR 192.3.1.1
88 INITIISPORT 80
88 INITBROWSERS 1010
88 INITMYWID 8820,8920
//
//Configuration Driver 89
//
89 INITIPADDR 192.168.93.6
89 INITIISADDR 192.3.1.1
89 INITIISPORT 80
```

```
89 INITBROWSERS 1010
89 INITMYWID 8921,9021
//
//Configuration Driver 90
//
90 INITIPADDR 192.168.93.6
90 INITIISADDR 192.3.1.1
90 INITIISPORT 80
90 INITBROWSERS 1010
90 INITMYWID 9022,9122
//
//Configuration Driver 91
//
91 INITIPADDR 192.168.93.6
91 INITIISADDR 192.3.1.1
91 INITIISPORT 80
91 INITBROWSERS 1010
91 INITMYWID 9123,9223
//
//Configuration Driver 92
//
92 INITIPADDR 192.168.93.6
92 INITIISADDR 192.3.1.1
92 INITIISPORT 80
92 INITBROWSERS 1010
92 INITMYWID 9224,9324
//
//Configuration Driver 93
//
93 INITIPADDR 192.168.93.6
93 INITIISADDR 192.3.1.1
93 INITIISPORT 80
93 INITBROWSERS 1010
93 INITMYWID 9325,9425
//
//Configuration Driver 94
//
94 INITIPADDR 192.168.93.6
94 INITIISADDR 192.3.1.1
94 INITIISPORT 80
94 INITBROWSERS 1010
94 INITMYWID 9426,9526
//
//Configuration Driver 95
//
95 INITIPADDR 192.168.93.6
95 INITIISADDR 192.3.1.1
95 INITIISPORT 80
95 INITBROWSERS 1010
95 INITMYWID 9527,9627
//
//Configuration Driver 96
//
96 INITIPADDR 192.168.93.6
96 INITIISADDR 192.3.1.1
96 INITIISPORT 80
96 INITBROWSERS 1010
96 INITMYWID 9628,9728
//
```

```

//Configuration Driver 97
//
97 INITIPADDR 192.168.93.7
97 INITIISADDR 192.4.1.1
97 INITIISPORT 80
97 INITBROWSERS 1030
97 INITMYWID 9729,9831
//
//Configuration Driver 98
//
98 INITIPADDR 192.168.93.7
98 INITIISADDR 192.4.1.1
98 INITIISPORT 80
98 INITBROWSERS 1030
98 INITMYWID 9832,9934
//
//Configuration Driver 99
//
99 INITIPADDR 192.168.93.7
99 INITIISADDR 192.4.1.1
99 INITIISPORT 80
99 INITBROWSERS 1030
99 INITMYWID 9935,10037
//
//Configuration Driver 100
//
100 INITIPADDR 192.168.93.7
100 INITIISADDR 192.4.1.1
100 INITIISPORT 80
100 INITBROWSERS 1030
100 INITMYWID 10038,10140
//
//Configuration Driver 101
//
101 INITIPADDR 192.168.93.7
101 INITIISADDR 192.4.1.1
101 INITIISPORT 80
101 INITBROWSERS 1030
101 INITMYWID 10141,10243
//
//Configuration Driver 102
//
102 INITIPADDR 192.168.93.7
102 INITIISADDR 192.4.1.1
102 INITIISPORT 80
102 INITBROWSERS 1030
102 INITMYWID 10244,10346
//
//Configuration Driver 103
//
103 INITIPADDR 192.168.93.7
103 INITIISADDR 192.4.1.1
103 INITIISPORT 80
103 INITBROWSERS 1030
103 INITMYWID 10347,10449
//
//Configuration Driver 104
//
104 INITIPADDR 192.168.93.7

```

```

104 INITIISADDR 192.4.1.1
104 INITIISPORT 80
104 INITBROWSERS 1030
104 INITMYWID 10450,10552
//
//Configuration Driver 105
//
105 INITIPADDR 192.168.93.7
105 INITIISADDR 192.4.1.1
105 INITIISPORT 80
105 INITBROWSERS 1030
105 INITMYWID 10553,10655
//
//Configuration Driver 106
//
106 INITIPADDR 192.168.93.7
106 INITIISADDR 192.4.1.1
106 INITIISPORT 80
106 INITBROWSERS 1030
106 INITMYWID 10656,10758
//
//Configuration Driver 107
//
107 INITIPADDR 192.168.93.7
107 INITIISADDR 192.4.1.1
107 INITIISPORT 80
107 INITBROWSERS 1030
107 INITMYWID 10759,10861
//
//Configuration Driver 108
//
108 INITIPADDR 192.168.93.7
108 INITIISADDR 192.4.1.1
108 INITIISPORT 80
108 INITBROWSERS 1030
108 INITMYWID 10862,10964
//
//Configuration Driver 109
//
109 INITIPADDR 192.168.93.7
109 INITIISADDR 192.4.1.1
109 INITIISPORT 80
109 INITBROWSERS 1030
109 INITMYWID 10965,11067
//
//Configuration Driver 110
//
110 INITIPADDR 192.168.93.7
110 INITIISADDR 192.4.1.1
110 INITIISPORT 80
110 INITBROWSERS 1030
110 INITMYWID 11068,11170
//
//Configuration Driver 111
//
111 INITIPADDR 192.168.93.7
111 INITIISADDR 192.4.1.1
111 INITIISPORT 80
111 INITBROWSERS 1030

```

```

111 INITMYWID 11171,11273
//
//Configuration Driver 112
//
112 INITIPADDR 192.168.93.7
112 INITIISADDR 192.4.1.1
112 INITIISPORT 80
112 INITBROWSERS 1030
112 INITMYWID 11274,11376
//
//Configuration Driver 113
//
113 INITIPADDR 192.168.93.8
113 INITIISADDR 192.4.1.1
113 INITIISPORT 80
113 INITBROWSERS 1030
113 INITMYWID 11377,11479
//
//Configuration Driver 114
//
114 INITIPADDR 192.168.93.8
114 INITIISADDR 192.4.1.1
114 INITIISPORT 80
114 INITBROWSERS 1030
114 INITMYWID 11480,11582
//
//Configuration Driver 115
//
115 INITIPADDR 192.168.93.8
115 INITIISADDR 192.4.1.1
115 INITIISPORT 80
115 INITBROWSERS 1030
115 INITMYWID 11583,11685
//
//Configuration Driver 116
//
116 INITIPADDR 192.168.93.8
116 INITIISADDR 192.4.1.1
116 INITIISPORT 80
116 INITBROWSERS 1030
116 INITMYWID 11686,11788
//
//Configuration Driver 117
//
117 INITIPADDR 192.168.93.8
117 INITIISADDR 192.4.1.1
117 INITIISPORT 80
117 INITBROWSERS 1030
117 INITMYWID 11789,11891
//
//Configuration Driver 118
//
118 INITIPADDR 192.168.93.8
118 INITIISADDR 192.4.1.1
118 INITIISPORT 80
118 INITBROWSERS 1030
118 INITMYWID 11892,11994
//
//Configuration Driver 119

```

```

//
119 INITIPADDR 192.168.93.8
119 INITIISADDR 192.4.1.1
119 INITIISPORT 80
119 INITBROWSERS 1030
119 INITMYWID 11995,12097
//
//Configuration Driver 120
//
120 INITIPADDR 192.168.93.8
120 INITIISADDR 192.4.1.1
120 INITIISPORT 80
120 INITBROWSERS 1030
120 INITMYWID 12098,12200
//
//Configuration Driver 121
//
121 INITIPADDR 192.168.93.8
121 INITIISADDR 192.4.1.1
121 INITIISPORT 80
121 INITBROWSERS 1030
121 INITMYWID 12201,12303
//
//Configuration Driver 122
//
122 INITIPADDR 192.168.93.8
122 INITIISADDR 192.4.1.1
122 INITIISPORT 80
122 INITBROWSERS 1030
122 INITMYWID 12304,12406
//
//Configuration Driver 123
//
123 INITIPADDR 192.168.93.8
123 INITIISADDR 192.4.1.1
123 INITIISPORT 80
123 INITBROWSERS 1030
123 INITMYWID 12407,12509
//
//Configuration Driver 124
//
124 INITIPADDR 192.168.93.8
124 INITIISADDR 192.4.1.1
124 INITIISPORT 80
124 INITBROWSERS 1030
124 INITMYWID 12510,12612
//
//Configuration Driver 125
//
125 INITIPADDR 192.168.93.8
125 INITIISADDR 192.4.1.1
125 INITIISPORT 80
125 INITBROWSERS 1030
125 INITMYWID 12613,12715
//
//Configuration Driver 126
//
126 INITIPADDR 192.168.93.8
126 INITIISADDR 192.4.1.1

```

```

126 INITIISPORT 80
126 INITBROWSERS 1030
126 INITMYWID 12716,12818
//
//Configuration Driver 127
//
127 INITIPADDR 192.168.93.8
127 INITIISADDR 192.4.1.1
127 INITIISPORT 80
127 INITBROWSERS 1030
127 INITMYWID 12819,12921
//
//Configuration Driver 128
//
128 INITIPADDR 192.168.93.8
128 INITIISADDR 192.4.1.1
128 INITIISPORT 80
128 INITBROWSERS 790
128 INITMYWID 12922,13000

```

## Driver Environment

```

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 WEBTNEWORDER=12030
set WEBTPPAYMENT=12030
set WEBTDELIVERY=5060
set WEBTORDERSTATUS=10070
set WEBTSTOCKLEVEL=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

(common to 4 RTEs except for Host Name, Physical Address and IP Address)

```
C:\rhost>if 'ipconfig' == ' ' goto usage
```

```
C:\rhost>c:
```

```
C:\rhost>cd \webdriver
```

```
C:\webdriver>call ipconfig /all
```

Windows 2000 IP Configuration

```

Host Name . . . . . : RTE1
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast

IP Routing Enabled. . . . . : No

WINS Proxy Enabled. . . . . : No

```

Ethernet adapter Client:

```

Connection-specific DNS Suffix . . :
Description . . . . . : Broadcom NetXtreme Gigabit Ethernet
Physical Address. . . . . : 00-06-5B-39-9A-83

DHCP Enabled. . . . . : No

IP Address. . . . . : 192.1.1.2

Subnet Mask . . . . . : 255.255.255.0

Default Gateway . . . . . :

DNS Servers . . . . . :
NetBIOS over Tcpi. . . . . : Disabled

```

Ethernet adapter Admin:

```

Connection-specific DNS Suffix . . :
Description . . . . . : Intel 8255x-based PCI Ethernet Adapter (10/100)
Physical Address. . . . . : 00-06-5B-39-9A-82

DHCP Enabled. . . . . : No

```

```
IP Address. . . . . : 192.168.93.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
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 2000 IP Configuration

```
Host Name . . . . . : RTE2
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
```

Ethernet adapter RTE:

```
Media State . . . . . : Cable Disconnected
Description . . . . . : Intel(R) PRO/100+ Server
Adapter (PILA8470B)
Physical Address. . . . . : 00-D0-B7-BF-FE-BE
```

Ethernet adapter Client:

```
Ethernet
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit
Physical Address. . . . . : 00-06-5B-39-9B-F0
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.1.1.22
Subnet Mask . . . . . : 255.255.255.0
IP Address. . . . . : 192.2.1.2
```

```
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
NetBIOS over Tcpip. . . . . : Disabled
```

Ethernet adapter Admin:

```
Adapter (10/100)
Connection-specific DNS Suffix . :
Description . . . . . : Intel 8255x-based PCI Ethernet
Physical Address. . . . . : 00-06-5B-39-9B-EF
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.168.93.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
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 2000 IP Configuration

```
Host Name . . . . . : RTE3
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
```

Ethernet adapter Client:

```
Ethernet
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit
Physical Address. . . . . : 00-06-5B-39-9C-DC
```

```
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.2.1.23
Subnet Mask . . . . . : 255.255.255.0
IP Address. . . . . : 192.3.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
```

Ethernet adapter Admin:

```
Connection-specific DNS Suffix . :
Description . . . . . : Intel 8255x-based PCI Ethernet
Adapter (10/100)
Physical Address. . . . . : 00-06-5B-39-9C-DB

DHCP Enabled. . . . . : No
IP Address. . . . . : 192.168.93.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
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 2000 IP Configuration

```
Host Name . . . . . : RTE4
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast

IP Routing Enabled. . . . . : No

WINS Proxy Enabled. . . . . : No
```

Ethernet adapter Client:

```
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit
Ethernet
Physical Address. . . . . : 00-06-5B-39-9E-FE

DHCP Enabled. . . . . : No
IP Address. . . . . : 192.2.1.24
Subnet Mask . . . . . : 255.255.255.0
IP Address. . . . . : 192.4.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
NetBIOS over Tcpip. . . . . : Disabled
```

Ethernet adapter Admin:

```
Connection-specific DNS Suffix . :
Description . . . . . : Intel 8255x-based PCI Ethernet
Adapter (10/100)
Physical Address. . . . . : 00-06-5B-39-9E-FD

DHCP Enabled. . . . . : No
IP Address. . . . . : 192.168.93.4
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
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 2000 IP Configuration

```
Host Name . . . . . : RTE5
Primary DNS Suffix . . . . . :
```

```

Node Type . . . . . : Broadcast
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Client:

    Connection-specific DNS Suffix  . :
    Description . . . . . : Broadcom NetXtreme Gigabit Ethernet
    Physical Address. . . . . : 00-06-5B-39-9C-D8

    DHCP Enabled. . . . . : No

    IP Address. . . . . : 192.3.1.25
    Subnet Mask . . . . . : 255.255.255.0
    IP Address. . . . . : 192.5.1.2
    Subnet Mask . . . . . : 255.255.255.0

    Default Gateway . . . . . :

    DNS Servers . . . . . :
    NetBIOS over Tcpip. . . . . : Disabled

Ethernet adapter Admin:

    Connection-specific DNS Suffix  . :
    Description . . . . . : Intel 8255x-based PCI Ethernet Adapter (10/100)
    Physical Address. . . . . : 00-06-5B-39-9C-D7

    DHCP Enabled. . . . . : No

    IP Address. . . . . : 192.168.93.5
    Subnet Mask . . . . . : 255.255.255.0

    Default Gateway . . . . . :

    DNS Servers . . . . . :
    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 2000 IP Configuration

    Host Name . . . . . : RTE6
    Primary DNS Suffix  . . . . . :
    Node Type . . . . . : Broadcast

    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No

Ethernet adapter Client:

    Connection-specific DNS Suffix  . :
    Description . . . . . : Broadcom NetXtreme Gigabit Ethernet
    Physical Address. . . . . : 00-06-5B-39-96-6E

    DHCP Enabled. . . . . : No

    IP Address. . . . . : 192.3.1.26
    Subnet Mask . . . . . : 255.255.255.0
    IP Address. . . . . : 192.6.1.2
    Subnet Mask . . . . . : 255.255.255.0

    Default Gateway . . . . . :

    DNS Servers . . . . . :
    NetBIOS over Tcpip. . . . . : Disabled

Ethernet adapter Admin:

    Connection-specific DNS Suffix  . :
    Description . . . . . : Intel 8255x-based PCI Ethernet Adapter (10/100)
    Physical Address. . . . . : 00-06-5B-39-96-6D

    DHCP Enabled. . . . . : No

    IP Address. . . . . : 192.168.93.6
    Subnet Mask . . . . . : 255.255.255.0

    Default Gateway . . . . . :

    DNS Servers . . . . . :
    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 2000 IP Configuration

```
Host Name . . . . . : RTE7
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast

IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
```

Ethernet adapter Client:

```
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit Ethernet
Physical Address. . . . . : 00-06-5B-39-9E-DB
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.4.1.27
Subnet Mask . . . . . : 255.255.255.0
IP Address. . . . . : 192.7.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
NetBIOS over Tcpip. . . . . : Disabled
```

Ethernet adapter Admin:

```
Connection-specific DNS Suffix . :
Description . . . . . : Intel 8255x-based PCI Ethernet Adapter (10/100)
Physical Address. . . . . : 00-06-5B-39-9E-DA
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.168.93.7
```

```
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
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 2000 IP Configuration

```
Host Name . . . . . : RTE8
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast

IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
```

Ethernet adapter Client:

```
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit Ethernet
Physical Address. . . . . : 00-06-5B-39-1E-65
DHCP Enabled. . . . . : No
IP Address. . . . . : 192.4.1.28
Subnet Mask . . . . . : 255.255.255.0
IP Address. . . . . : 192.8.1.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
DNS Servers . . . . . :
NetBIOS over Tcpip. . . . . : Disabled
```

Ethernet adapter Admin:

```
Connection-specific DNS Suffix . :
```



```

Adapter Description . . . . . : Intel 8255x-based PCI Ethernet
(10/100)
Physical Address. . . . . : 00-06-5B-39-1E-64

DHCP Enabled. . . . . : No

IP Address. . . . . : 192.168.93.8

Subnet Mask . . . . . : 255.255.255.0

Default Gateway . . . . . :

DNS Servers . . . . . :
NetBIOS over Tcpip. . . . . : Disabled

```

```

C:\webdriver>goto end
Volume in drive \\rte1\c$ is Server
Volume Serial Number is F4CA-F2E9

Directory of \\rte1\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,855,693,312 bytes free
Volume in drive \\rte2\c$ is Server
Volume Serial Number is F4CA-F2E9

Directory of \\rte2\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,701,859,840 bytes free
Volume in drive \\rte3\c$ is Server
Volume Serial Number is F4CA-F2E9

Directory of \\rte3\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,749,725,696 bytes free
Volume in drive \\rte4\c$ is Server
Volume Serial Number is F4CA-F2E9

Directory of \\rte4\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,721,201,152 bytes free
Volume in drive \\rte5\c$ is Server
Volume Serial Number is F4CA-F2E9

Directory of \\rte5\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,738,600,960 bytes free
Volume in drive \\rte6\c$ is Server
Volume Serial Number is F4CA-F2E9

```

```

Directory of \\rte6\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,738,306,048 bytes free
Volume in drive \\rte7\c$ is Server
Volume Serial Number is F4CA-F2E9

```

```

Directory of \\rte7\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,756,910,080 bytes free
Volume in drive \\rte8\c$ is Server
Volume Serial Number is F4CA-F2E9

```

```

Directory of \\rte8\c$\webdriver

03/05/2002  09:34p                104,960  webdriver.exe
             1 File(s)            104,960  bytes
             0 Dir(s)  12,765,462,528 bytes free
Volume in drive C is Local Disk
Volume Serial Number is 4045-54DA

```

```

Directory of c:\webdriver

10/17/2000  02:36p                69,632  rapic.exe
             1 File(s)            69,632  bytes
             0 Dir(s)  7,344,635,904 bytes free

```

### Start RTE Cmd

```

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 " D2 RTE17 " /MIN webdriver.cmd 17
start " D2 RTE18 " /MIN webdriver.cmd 18
start " D2 RTE19 " /MIN webdriver.cmd 19
start " D2 RTE20 " /MIN webdriver.cmd 20
start " D2 RTE21 " /MIN webdriver.cmd 21
start " D2 RTE22 " /MIN webdriver.cmd 22
start " D2 RTE23 " /MIN webdriver.cmd 23

```

start " D2 RTE24 " /MIN webdriver.cmd 24  
start " D2 RTE25 " /MIN webdriver.cmd 25  
start " D2 RTE26 " /MIN webdriver.cmd 26  
start " D2 RTE27 " /MIN webdriver.cmd 27  
start " D2 RTE28 " /MIN webdriver.cmd 28  
start " D2 RTE29 " /MIN webdriver.cmd 29  
start " D2 RTE30 " /MIN webdriver.cmd 30  
start " D2 RTE31 " /MIN webdriver.cmd 31  
start " D2 RTE32 " /MIN webdriver.cmd 32  
  
start " D3 RTE33 " /MIN webdriver.cmd 33  
start " D3 RTE34 " /MIN webdriver.cmd 34  
start " D3 RTE35 " /MIN webdriver.cmd 35  
start " D3 RTE36 " /MIN webdriver.cmd 36  
start " D3 RTE37 " /MIN webdriver.cmd 37  
start " D3 RTE38 " /MIN webdriver.cmd 38  
start " D3 RTE39 " /MIN webdriver.cmd 39  
start " D3 RTE40 " /MIN webdriver.cmd 40  
start " D3 RTE41 " /MIN webdriver.cmd 41  
start " D3 RTE42 " /MIN webdriver.cmd 42  
start " D3 RTE43 " /MIN webdriver.cmd 43  
start " D3 RTE44 " /MIN webdriver.cmd 44  
start " D3 RTE45 " /MIN webdriver.cmd 45  
start " D3 RTE46 " /MIN webdriver.cmd 46  
start " D3 RTE47 " /MIN webdriver.cmd 47  
start " D3 RTE48 " /MIN webdriver.cmd 48  
  
start " D4 RTE49 " /MIN webdriver.cmd 49  
start " D4 RTE50 " /MIN webdriver.cmd 50  
start " D4 RTE51 " /MIN webdriver.cmd 51  
start " D4 RTE52 " /MIN webdriver.cmd 52  
start " D4 RTE53 " /MIN webdriver.cmd 53  
start " D4 RTE54 " /MIN webdriver.cmd 54  
start " D4 RTE55 " /MIN webdriver.cmd 55  
start " D4 RTE56 " /MIN webdriver.cmd 56  
start " D4 RTE57 " /MIN webdriver.cmd 57  
start " D4 RTE58 " /MIN webdriver.cmd 58  
start " D4 RTE59 " /MIN webdriver.cmd 59  
start " D4 RTE60 " /MIN webdriver.cmd 60  
start " D4 RTE61 " /MIN webdriver.cmd 61  
start " D4 RTE62 " /MIN webdriver.cmd 62  
start " D4 RTE63 " /MIN webdriver.cmd 63  
start " D4 RTE64 " /MIN webdriver.cmd 64  
  
start " D5 RTE65 " /MIN webdriver.cmd 65  
start " D5 RTE66 " /MIN webdriver.cmd 66  
start " D5 RTE67 " /MIN webdriver.cmd 67  
start " D5 RTE68 " /MIN webdriver.cmd 68  
start " D5 RTE69 " /MIN webdriver.cmd 69  
start " D5 RTE70 " /MIN webdriver.cmd 70  
start " D5 RTE71 " /MIN webdriver.cmd 71  
start " D5 RTE72 " /MIN webdriver.cmd 72  
start " D5 RTE73 " /MIN webdriver.cmd 73  
start " D5 RTE74 " /MIN webdriver.cmd 74  
start " D5 RTE75 " /MIN webdriver.cmd 75  
start " D5 RTE76 " /MIN webdriver.cmd 76  
start " D5 RTE77 " /MIN webdriver.cmd 77  
start " D5 RTE78 " /MIN webdriver.cmd 78  
start " D5 RTE79 " /MIN webdriver.cmd 79

start " D5 RTE80 " /MIN webdriver.cmd 80  
  
start " D6 RTE81 " /MIN webdriver.cmd 81  
start " D6 RTE82 " /MIN webdriver.cmd 82  
start " D6 RTE83 " /MIN webdriver.cmd 83  
start " D6 RTE84 " /MIN webdriver.cmd 84  
start " D6 RTE85 " /MIN webdriver.cmd 85  
start " D6 RTE86 " /MIN webdriver.cmd 86  
start " D6 RTE87 " /MIN webdriver.cmd 87  
start " D6 RTE88 " /MIN webdriver.cmd 88  
start " D6 RTE89 " /MIN webdriver.cmd 89  
start " D6 RTE90 " /MIN webdriver.cmd 90  
start " D6 RTE91 " /MIN webdriver.cmd 91  
start " D6 RTE92 " /MIN webdriver.cmd 92  
start " D6 RTE93 " /MIN webdriver.cmd 93  
start " D6 RTE94 " /MIN webdriver.cmd 94  
start " D6 RTE95 " /MIN webdriver.cmd 95  
start " D6 RTE96 " /MIN webdriver.cmd 96  
  
start " D7 RTE97 " /MIN webdriver.cmd 97  
start " D7 RTE98 " /MIN webdriver.cmd 98  
start " D7 RTE99 " /MIN webdriver.cmd 99  
start " D7 RTE100 " /MIN webdriver.cmd 100  
start " D7 RTE101 " /MIN webdriver.cmd 101  
start " D7 RTE102 " /MIN webdriver.cmd 102  
start " D7 RTE103 " /MIN webdriver.cmd 103  
start " D7 RTE104 " /MIN webdriver.cmd 104  
start " D7 RTE105 " /MIN webdriver.cmd 105  
start " D7 RTE106 " /MIN webdriver.cmd 106  
start " D7 RTE107 " /MIN webdriver.cmd 107  
start " D7 RTE108 " /MIN webdriver.cmd 108  
start " D7 RTE109 " /MIN webdriver.cmd 109  
start " D7 RTE110 " /MIN webdriver.cmd 110  
start " D7 RTE111 " /MIN webdriver.cmd 111  
start " D7 RTE112 " /MIN webdriver.cmd 112  
  
start " D8 RTE113 " /MIN webdriver.cmd 113  
start " D8 RTE114 " /MIN webdriver.cmd 114  
start " D8 RTE115 " /MIN webdriver.cmd 115  
start " D8 RTE116 " /MIN webdriver.cmd 116  
start " D8 RTE117 " /MIN webdriver.cmd 117  
start " D8 RTE118 " /MIN webdriver.cmd 118  
start " D8 RTE119 " /MIN webdriver.cmd 119  
start " D8 RTE120 " /MIN webdriver.cmd 120  
start " D8 RTE121 " /MIN webdriver.cmd 121  
start " D8 RTE122 " /MIN webdriver.cmd 122  
start " D8 RTE123 " /MIN webdriver.cmd 123  
start " D8 RTE124 " /MIN webdriver.cmd 124  
start " D8 RTE125 " /MIN webdriver.cmd 125  
start " D8 RTE126 " /MIN webdriver.cmd 126  
start " D8 RTE127 " /MIN webdriver.cmd 127  
start " D8 RTE128 " /MIN webdriver.cmd 128

# Appendix E - Disk Storage

TPC-C 60-Day Disk Space Requirements					
Warehouses	<b>14,600</b>	tpmC	<b>161,542.04</b>	tpmC/W	11.06
<b>Table</b>	<b>Initial Rows</b>	<b>Data KB</b>	<b>Index KB</b>	<b>Extra 5% KB</b>	<b>Total With 5% KB</b>
Warehouse	14,600	1,560	272	92	1,924
District	146,000	16,224	600	841	17,665
Customer	438,000,000	89,846,160	18,542,008	5,419,408	113,807,576
Customer.Text	438,000,000	261,981,880		13,099,094	275,080,974
History (D)	438,000,000	24,333,352	89,296		24,422,648
Order (D)	438,000,000	13,425,312	27,840		13,453,152
New-Order	131,400,000	2,305,272	6,216	115,574	2,427,062
Order-Line (D)	4,379,990,719	273,749,448	579,888		274,329,336
Item	100,000	8,744	584	466	9,794
Stock	1,460,000,000	450,005,616	840,696	22,542,316	473,388,628
<b>Totals KB</b>		1,115,673,568	20,087,400	41,177,792	1,176,938,760
<b>Db/Filegroup</b>	<b>Count</b>	<b>Size MB</b>	<b>MB Allocated</b>	<b>MB Loaded +5%</b>	<b>MB for 8 Hours</b>
master, model & msdb		22	22	22	22
tempdb		10	10	10	10
mssql70_tpcc_root	1	10	10	10	10
mssql70_ord_fg	70	4,970	347,900	283,408	339,601
mssql70_cs_fg	70	8,210	574,700	573,434	573,434
mssql70_misc_fg	70	4,320	302,400	292,513	296,899
<b>Total Allocated MB</b>			<b>1,225,042</b>	<b>1,149,396</b>	<b>1,209,976</b>
		<b>MB</b>			
Dynamic Space MB	304,207	Sum of data for orders, order_line & history			
Static Space	845,147	Sum of data+index+5% - Dynamic Space			
Free Space	75,688	Total allocated space - (Dynamic & Static Spaces)			
Daily Growth	53,855	(Dynamic Space / (W * 62.5)) * tpmC			
Daily Spread	0	Free space - 1.5 * Daily growth (zero if negative)			
	0	SQL Server can be configured to eliminate Daily Spread			
60 Day Space MB	4,076,418	Static Space + 60 * (Daily Growth + Daily Spread)			
60 Day Space GB	<b>3,980.88</b>				
8 hr log GB	<b>335.18</b>	(need double for mirroring)			
Disk Capacity MB	61842	<b>60.392 GB</b>	Capacity of 73GB disks (10,000 RPM)		
	16744	<b>16.352 GB</b>	Capacity of 18GB disks (15,000 RPM)		
<b>Space Usage</b>	<b>GB Needed</b>	<b>Disks Priced</b>	<b>GB Priced</b>		
60-day space DB	3980.88 GB	412	6736.84 GB	18GB drives	
Total DB		<b>412</b>	6736.84 GB		
8-hr log+mirror	670.36 GB	14	845.49 GB	73GB drives	
OS, SQL Server	3.10 GB	1	16.35 GB	18GB drive	
<b>Total space</b>	<b>4654.34 GB</b>	<b>427</b>	<b>7598.69 GB</b>	<b>7.4 TB</b>	

<b>TPC-C Dynamic Table Growth Rates for 8 Hours</b>					<b>161,542.04 tpmC</b>	
<b>Tables</b>	<b>Warm (KB)</b>	<b>Final (KB)</b>	<b>Change(KB)</b>	<b>KB / New-Order</b>	<b>8-Hr MB</b>	
History	24,422,648	27,799,984	3,377,336	0.0579	28,236.17	
Orders	13,453,152	17,044,200	3,591,048	0.0616	17,801.31	
Order_line	274,329,336	313,102,304	38,772,968	0.6650	318,251.74	
<b>Dynamic</b>	<b>312,205,136</b>	<b>357,946,488</b>	<b>45,741,352</b>	<b>0.7845</b>	<b>364,289.23</b>	
New_order	2,311,488	3,305,656	994,168	0.0170	3,548.38	
<b>Static</b>						
<b>Log</b>	30,994,529	271,984,569	240,990,040	<b>4.1329</b>	343,226.61	335.18 GB
<b>SUM(d_next_o_id)</b>	438,146,007	496,455,486	58,309,479			

# ***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**

April 15, 2003

Unisys Corporation  
Glenn Weeks  
MS237  
25725 Jeronimo Road  
Mission Viejo, CA 92691

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
C11-00821	<b>Windows 2000 Server</b> <i>Server license only - No CALs</i> <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 8% discount from the</i> <i>retail unit price of \$799.</i>	\$738	4	\$2,952
254-00170	<b>Visual C++ Standard</b> <i>No discounts applied</i>	\$109	1	\$109
PRO-PRORS-16U-01	<b>Database Server Support Package</b> <i>1 Year Term</i>	\$1,950	3	\$5,850

All products are currently orderable through Microsoft's normal distribution channels.

This quote is valid for the next 90 days.

If we can be of any further assistance, please contact Jamie Reding at (425) 703-0510 or [jamiere@microsoft.com](mailto:jamiere@microsoft.com).

Reference ID: PCglwe0315049854  
Please include this Reference ID in any correspondence regarding this price quote.



Phone: 800-848-7185  
 Fax: 203-384-0473  
 35 Benham Avenue  
 Bridgeport, CT 06605  
 www.cri1.com

SALES QUOTE	
SQ-15525	May 08, 2003

Customer	Contact	Ship To
COMPUTER RESOLUTIONS, INC CARL PALMIERI 35 BENHAM AVENUE BRIDGEPORT CT 06605 UNITED STATES		UNISYS CORPORATION UNISYS WAY BLUE BELL PA 19424 UNITED STATES

Account	Terms	Due Date	Account Rep	Schedule Dat
CRI	NET 30	Jun 07, 2003	Dave Loewenbaum	
Quotation	PO #	Reference	Ship VIA	Pag Printed
SQ-15525			UPS GROUND	1 05/08/0312:02

L	Item	Description	Qty	Ship	Price	M	Discount	Amount
1		ES7000-540 Server						
2	ES7540161-640	ES7000-540, 16X 1.5GHZ,128MB CACHE	1		166250.00	EA		166250.00
3	FC76222-P64	CTRL: 2 GB FC, INTELLIFIBRE	7		2850.00	EA		19950.00
4	PCI10001-CXG	COMM HW:GIGANET CLUSTER XCNT ADPT	4		755.00	EA		3020.00
5	ES70003-UIF	RCK:105 KBRD/MOUSE/MON	1		570.00	EA		570.00
6	WND2316-TSP	O/S:WINDOWS 2003 SERVER, DC, 16P,1YR	1		35112.0	EA		35112.00
7	DUS200316-TSP	O/S:DC 16X LTD. SUB 1 YR	2		3192.00	EA		6384.00
8	GTS7523416-SSA	OSWindows 2003 Srv DC Support 24x7x4	3		12574.0	EA		37722.00
9	DQL200316-LX	SW:16X SQL+NO SUBCRIP	1		212800.00	EA		212800.00
10		USS200/RS2000 STORAGE						
11	JBD201815-2F	DISK: 18GB 15K RPM	454		578.00	EA		262412.00
12	CXR7310-2GF	EMC DISK:73 GB, 10K DRIVE, FACT	16		1748.00	EA		27968.00
13	JBD2002-SA	DISK:NON-HA ENCLOSURE WITH 14 DRIVE	18		3197.00	EA		57546.00
14	JBD2011-SA	DISK:NON-HA ENCLOSURE WITH 14 DRIVE	12		3413.00	EA		40956.00
15	RMM20103-ELS	SAN:SYMM DISK VIRT SRVR II-ELS	6		5502.00	EA		33012.00
16	RMM20701-TAR	SAN:HBA,ATTO PCI3300	18		2209.00	EA		39762.00
17	USS10300-SW	SAN:USS2100 SW & PROD INF	1		8550.00	EA		8550.00
18	USS20310-LIC	SAN:USS2200 10 TBYTE LIC	1		46313.0	EA		46313.00
19	JBD20003-CCL	DISK:.3 METER 2GB FIBRE CHANNEL	18		54.00	EA		972.00
20	JBD2010-OCCL	DISK:10 METER 2GB FIBRE CHANNEL	19		172.00	EA		3268.00
21	JBD2000-RMK	RCK:RACK MOUNT KIT, DISK ENCLOSURE	30		182.00	EA		5460.00
22	CX200-DPE	EMCDISK:3U DPE, HA, W/SPS, FIELD	1		19000.0	EA		19000.00
23	CXN200-T3	EMC SW:NAVISPHERE MANAGER BASE -	1		3800.00	EA		3800.00
24	CXN600-WIN	EMC SW:NAVISPHERE AGENT NT/W2K	1		950.00	EA		950.00
25	GS516-T16	LAN HW:GIGABIT SWITCH, 16P	1		2850.00	EA		2850.00
26	SWC81-SXR	ADPTR:8 PORT SWITCH UNIT	2		1520.00	EA		3040.00

							Page 1	
							SubTotal	1037667.00



Phone: 800-848-7185  
 Fax: 203-384-0473  
 35 Benham Avenue  
 Bridgeport, CT 06605  
 www.cri1.com

SALES QUOTE	
SQ-15525	May 08, 2003

<b>Customer</b>		<b>Contact</b>		<b>Ship To</b>						
COMPUTER RESOLUTIONS, INC CARL PALMIERI 35 BENHAM AVENUE BRIDGEPORT CT 06605 UNITED STATES				UNISYS CORPORATION UNISYS WAY BLUE BELL PA 19424 UNITED STATES						
<b>Account</b>		<b>Terms</b>		<b>Due Date</b>		<b>Account Rep</b>		<b>Schedule Dat</b>		
CRI		NET 30		Jun 07, 2003		Dave Loewenbaum				
<b>Quotation</b>		<b>PO #</b>		<b>Reference</b>		<b>Ship VIA</b>		<b>Pag</b>	<b>Printed</b>	
SQ-15525						UPS GROUND		2	05/08/0312:02	
<b>L</b>	<b>Item</b>	<b>Description</b>	<b>Qty</b>	<b>Ship</b>	<b>Price</b>	<b>M</b>	<b>Discount</b>	<b>Amount</b>		
27	CBL121-SWC	CABLE:12FT SYS TO ADJ RK	10		143.00	EA		1430.00		
28	KBR28301-SXR	KEYBD:RACK MOUNT KYBD	2		333.00	EA		666.00		
29	MON2145-LCD	DISPLAY: 1U LCD MONITOR	2		2565.00	EA		5130.00		
30	SFR9-PWR	ACC: 9-PLUG POWER STRIP	12		162.00	EA		1944.00		
31	USE1936-LC6	PWR CORD:C20/NEMA L6-20P	12		86.00	EA		1032.00		
32	HRT3619-RDR	ACC:36U X19" REAR DOOR, HRT COLOR	4		475.00	EA		1900.00		
33	HRT361941-OFT	ACC:36U 19X41 OPEN FRT CAB, HRT	4		1425.00	EA		5700.00		
34	HRT3641-SDS	ACC:SIDE SKINS, HRT COLOR	4		475.00	EA		1900.00		
35	RM1936-FOT	INSTL:STABILIZER FOOT	4		162.00	EA		648.00		
36		ES3020L SERVERS								
37	ESL30201-240	SVR:ESL3020 2.4GHZ DUAL	4		1557.00	EA		6228.00		
38	CPL3020241-512	ACC: ESL3020 2.4GHZ 512K 1	4		665.00	EA		2660.00		
39	DIM3000022-2GB	MEM:2GB 2X1GB 8K	4		1598.00	EA		6392.00		
40	HBP3020101-51	DISK:ESL3020 HSBP 1X4 1"	4		265.00	EA		1060.00		
41	HDM18110-DC4	DISK:18GB U160 10K CAR	4		333.00	EA		1332.00		
42	PCI10001-CXG	COMM HW:GIGANET CLUSTER XCNT ADPT	4		755.00	EA		3020.00		
43	ESL3020-VRL	ACC:ESL3020 V-RAILS	4		333.00	EA		1332.00		
44	DISCOUNT	LARGE VOLUME CASH DISCOUNT	1		-162006.00	EA		-162006.00		
45										
46		Disk comes with a 3 year return to								
47		factory warranty, 7 day								
48		quote valid for 90 days								
							<b>Taxable</b>	0.00		
							<b>Tax</b>	0.00		
							<b>Exempt</b>	918035.00		
							<b>Total</b>	918035.00		
							<b>Paid</b>	0.00		
							<b>Tr Disc</b>	0.00		
							<b>Balance</b>	918035.00		
							Amount shown in Rate :0.00 of			