



# 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 2, 2003**

Unisys Part Number 4500 5253-000

## 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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Printed in USA, May 2003.

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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.

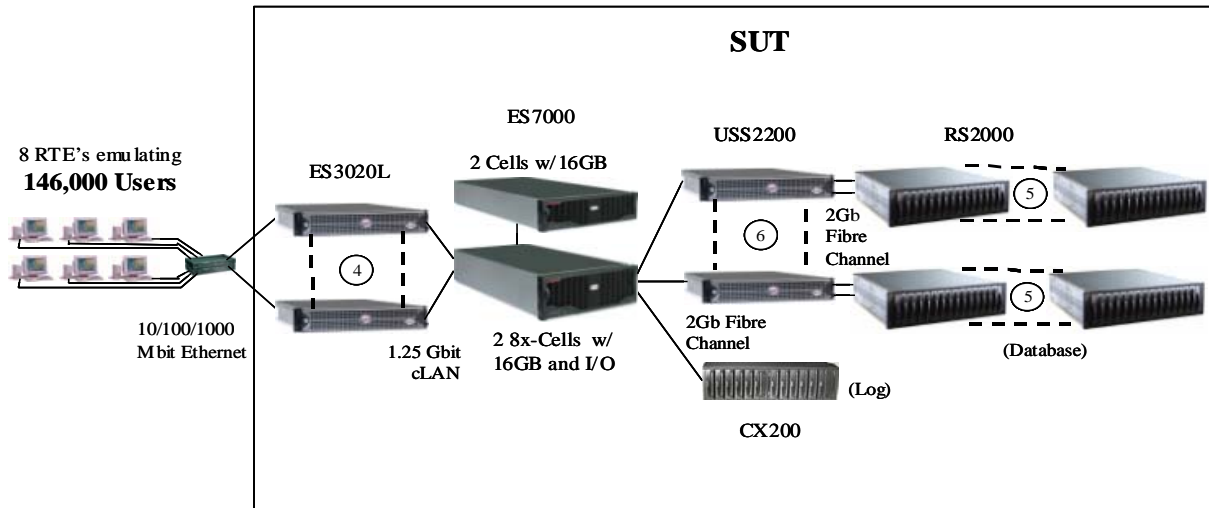
## **Executive Summary**

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 2, 2003
<b>Total System Cost</b>	<b>TPC-C Throughput</b>	<b>Price Performance</b>	<b>Availability Date</b>
<b>\$1,059,297</b>	<b>181,280.45 tpmC</b>	<b>\$5.85 / 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>Number of Users</b>
			<b>146,000</b>



- |  |  |  |
|--|--|--|
| <p><b>Clients (each of 4)</b><br/> <b>ES3020L Server</b><br/> 2 x 2.4GHz Intel® Xeon™<br/> w/ 512KB L2 cache,<br/> 2 GB memory,<br/> 1 x 18GB internal disk,<br/> 2 Inbuilt 10/100/1000Mb<br/> Ethernet (1 used),<br/> 1 x PCI cLAN controller</p> | <p><b>ES7000 Orion 540</b><br/> <b>Enterprise Server</b><br/> 16 x 2.0GHz Intel® Xeon™ MP<br/> w/ 2MB L3 cache,<br/> 64 GB memory,<br/> 1 internal disk controller,<br/> 1 x 30GB internal disk,<br/> 7 x PCI Fibre Channel controllers,<br/> 4 x PCI cLAN controllers</p> | <p><b>Storage</b><br/> <b>USS2200/RS2000 &amp; CX200</b><br/> 412 x 18GB + 14 x 73GB<br/> Hot-Pluggable,<br/> External Fibre Channel disks,<br/> 8 x FC RAID controllers</p> |
|--|--|--|

System Components	Server		Clients (each of 4)	
	Quantity		Quantity	
Processors/Cores/Threads Cache	16/16/32	2.0GHz Intel® Xeon™ MP with 2MB 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 2, 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 2.0GHz, 128MB Cch, 64GB Mem.	ES7540163-640		1	\$251,750	1	\$251,750	\$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>\$529,586</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>\$1,103,108</b>	<b>\$131,020</b>
Computer Resolutions Large Volume Discount						(\$174,831)	
<b>Notes:</b>					<b>Three Year Cost of Ownership: \$1,059,297</b> <b>tpmC Rating: 181,280.45</b> <b>\$ / tpmC: \$5.85</b>		
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.							
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. Thank You.							

## Numerical Quantities Summary

**MQTh, Computed Maximum Qualified Throughput: 181,280.45 tpmC**

### Response Times, in seconds

Transaction	90th %ile	Average	Maximum
New-Order	0.62	0.41	6.55
Payment	0.56	0.36	6.56
Order-Status	0.57	0.37	5.75
Delivery (interactive portion)	0.48	0.29	3.72
Delivery (deferred portion)	0.33	0.23	5.31
Stock-Level	1.17	0.83	4.69
Menu	0.48	0.29	3.73

### 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	44.94%
Payment	43.02%
Order-Status	4.01%
Delivery (interactive portion)	4.00%
Stock-Level	4.01%

### Keying / Think Time Times, in seconds

Transaction	Minimum	Average	Maximum
New Order	18.01 / 0.00	18.01 / 12.03	18.03 / 120.31
Payment	3.01 / 0.00	3.01 / 12.03	3.03 / 120.31
Order-Status	2.01 / 0.00	2.01 / 10.07	2.03 / 100.70
Delivery (interactive portion)	2.01 / 0.00	2.01 / 5.07	2.02 / 50.61
Stock-Level	2.01 / 0.00	2.01 / 5.06	2.03 / 50.61

### Test Duration

Ramp up time	60 minutes
Measurement interval (M)	120 minutes
Transactions (all types) completed during measurement interval	48,404,471
Ramp-down time	306 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

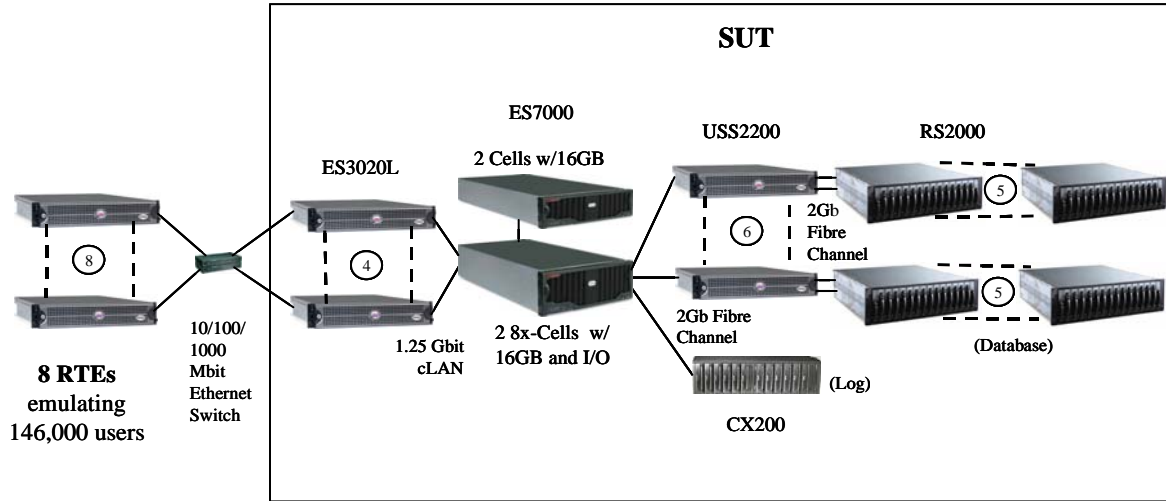
*Diagrams of both measured and priced configurations must be provided, accompanied by a description of the differences. This includes, but is not limited to: (8.1.1.7)*

- *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**

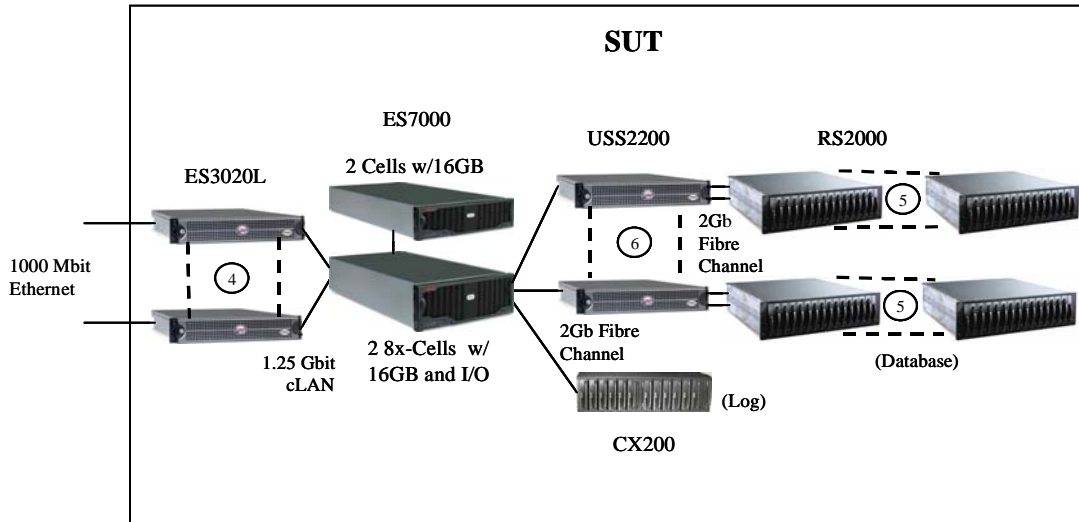
16 x 2.0GHz Intel® Xeon™ MP  
w/ 2MB L3 cache,  
64 GB memory,  
1 internal disk controller,  
1 x 30GB internal disk,  
7 x PCI Fibre Channel controllers,  
4 x PCI cLAN controllers

**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 2.0GHz Intel® Xeon™ MP  
w/ 2MB 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

No rows of the warehouse table were inactive while executing the measurement runs.

### 4.2. Constant Values

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

**Table 4.2: Constant C for NURand**

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

### 4.3. Database Layout

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

Tables 4.3 and 4.5 list the distribution of the database over 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

<b>8x 2.0GHz Intel® Xeon™ MP</b>	<b>16GB</b>			<b>16GB</b>	<b>8x 2.0GHz Intel® Xeon™ MP</b>											
	<b>16GB</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>cLan to Client#2</td></tr> <tr><td>cLan to Client#1</td></tr> <tr><td>FC HBA to DB Data 3</td></tr> <tr><td>FC HBA to DB Data 2</td></tr> <tr><td>FC HBA to DB Data 1</td></tr> <tr><td>FC HBA to DB Log</td></tr> <tr><td>Uniscreen</td></tr> <tr><td>CPH</td></tr> </table> <p style="text-align: center;"><b>PCIBus-0</b></p>	cLan to Client#2	cLan to Client#1		FC HBA to DB Data 3	FC HBA to DB Data 2	FC HBA to DB Data 1	FC HBA to DB Log	Uniscreen	CPH	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>cLan to Client#4</td></tr> <tr><td>cLan to Client#3</td></tr> <tr><td>FC HBA to DB Data 6</td></tr> <tr><td>FC HBA to DB Data 5</td></tr> <tr><td>FC HBA to DB Data 4</td></tr> </table> <p style="text-align: center;"><b>PCIBus-1</b></p>	cLan to Client#4	cLan to Client#3	FC HBA to DB Data 6	FC HBA to DB Data 5
cLan to Client#2																
cLan to Client#1																
FC HBA to DB Data 3																
FC HBA to DB Data 2																
FC HBA to DB Data 1																
FC HBA to DB Log																
Uniscreen																
CPH																
cLan to Client#4																
cLan to Client#3																
FC HBA to DB Data 6																
FC HBA to DB Data 5																
FC HBA to DB Data 4																

**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 181,280.45.

### 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	6.55	0.62
Payment	0.36	6.56	0.56
Order Status	0.37	5.75	0.57
Delivery (interactive)	0.29	3.72	0.48
Delivery (deferred)	0.23	5.31	0.33
Stock-Level	0.83	4.69	1.17
Menu	0.29	3.73	0.48

### 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	2.02
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

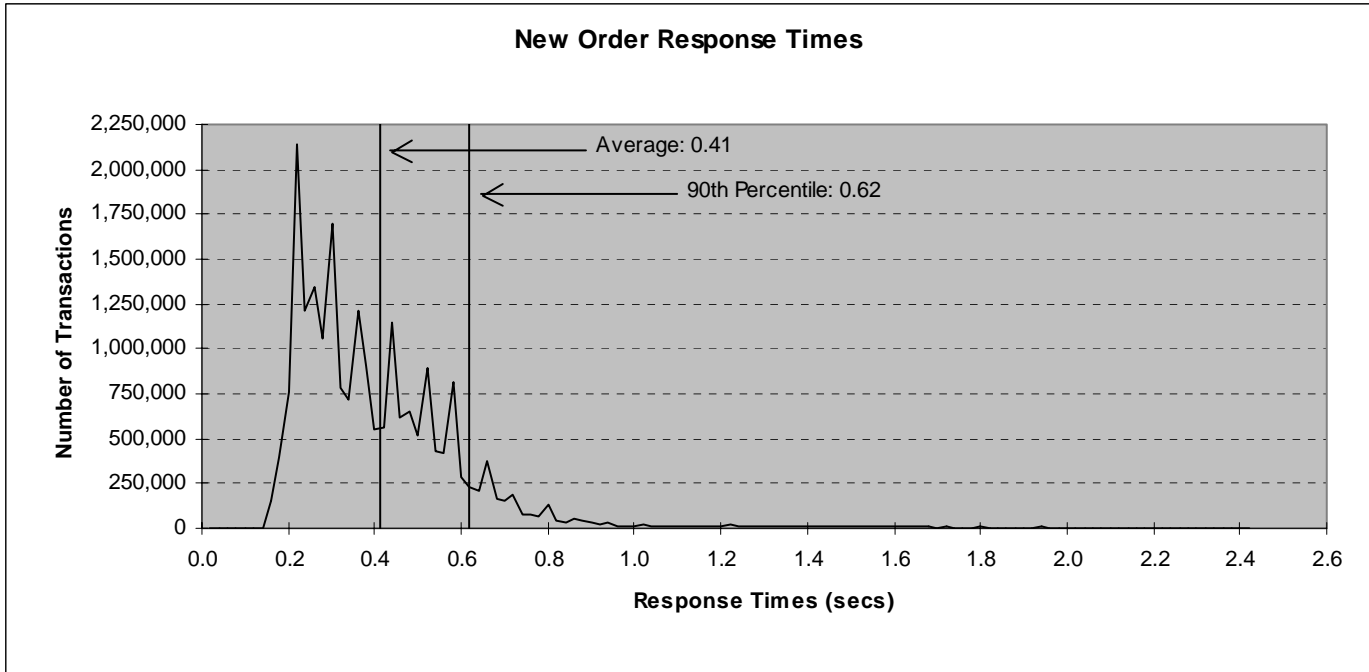
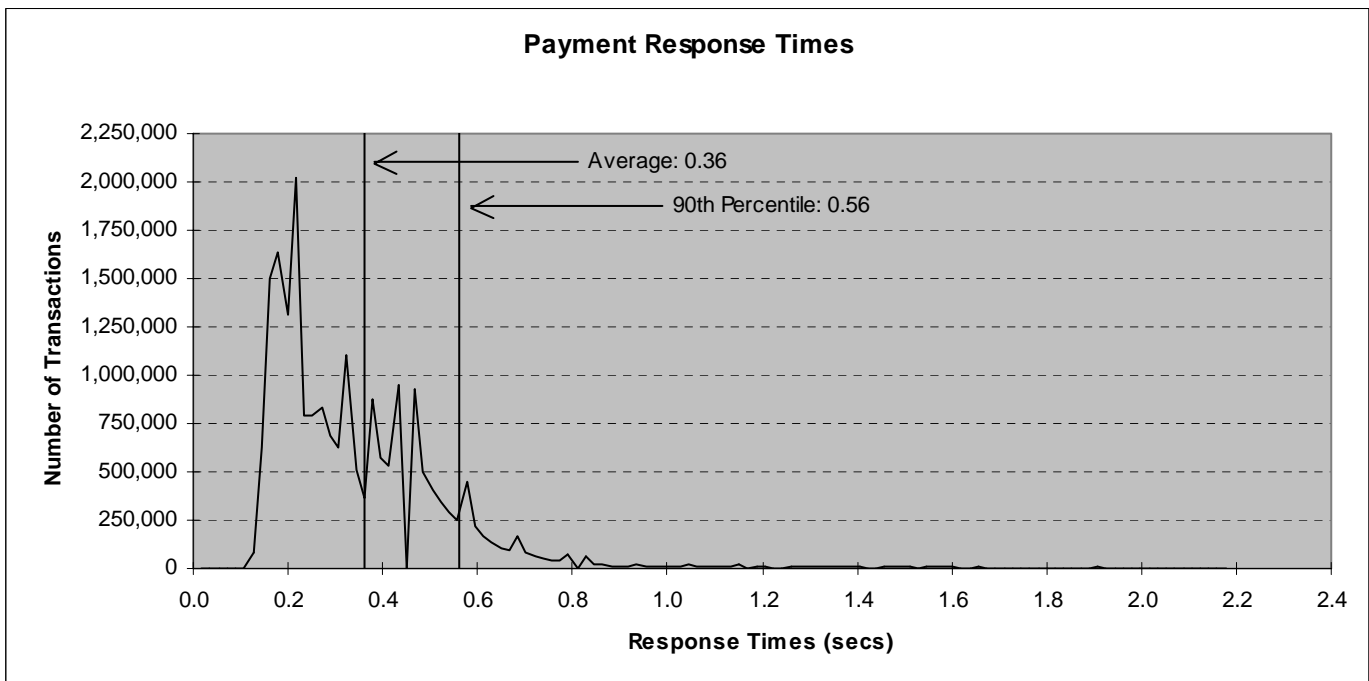
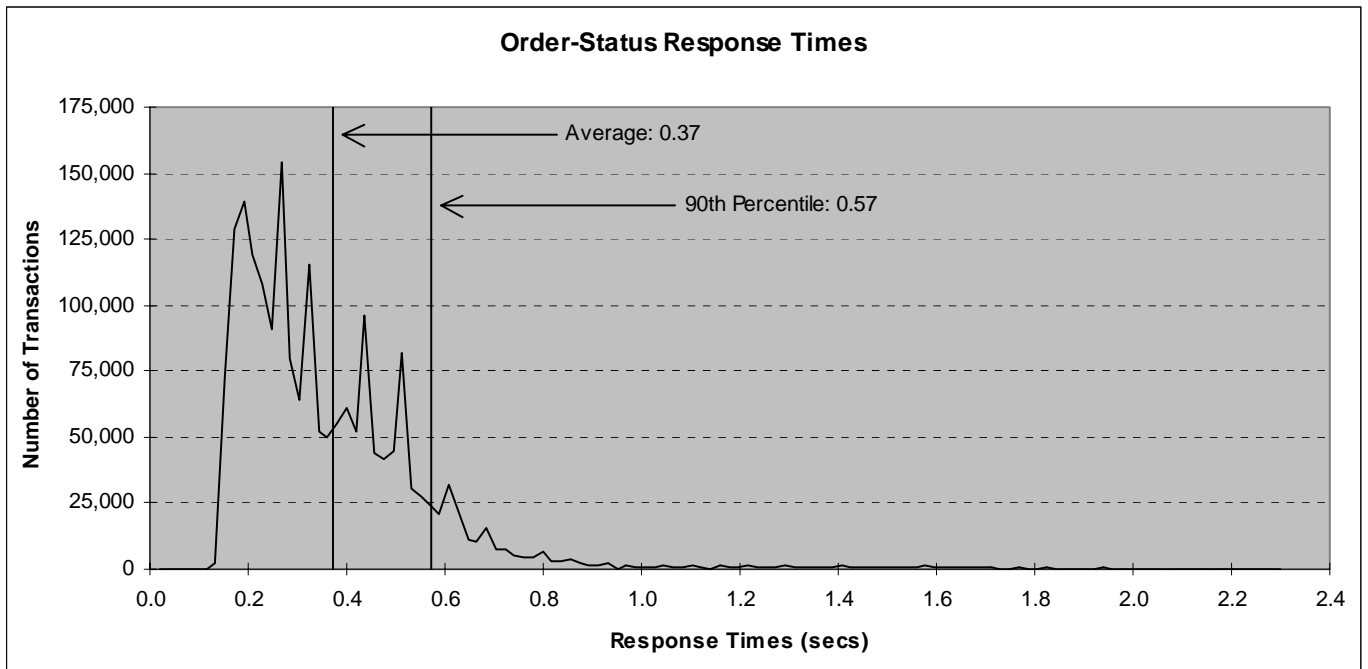


Figure 5.2: Payment Response Time Distribution





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



**Figure 5.4: Delivery Response Time Distribution**

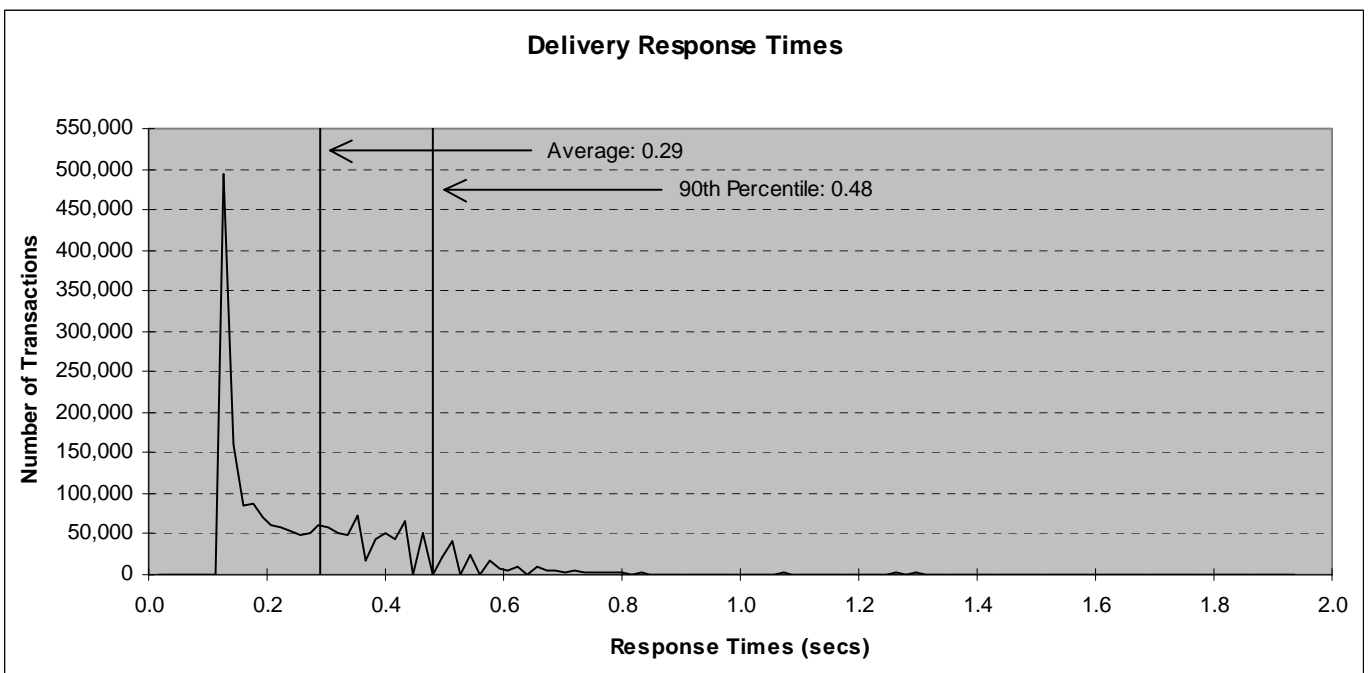
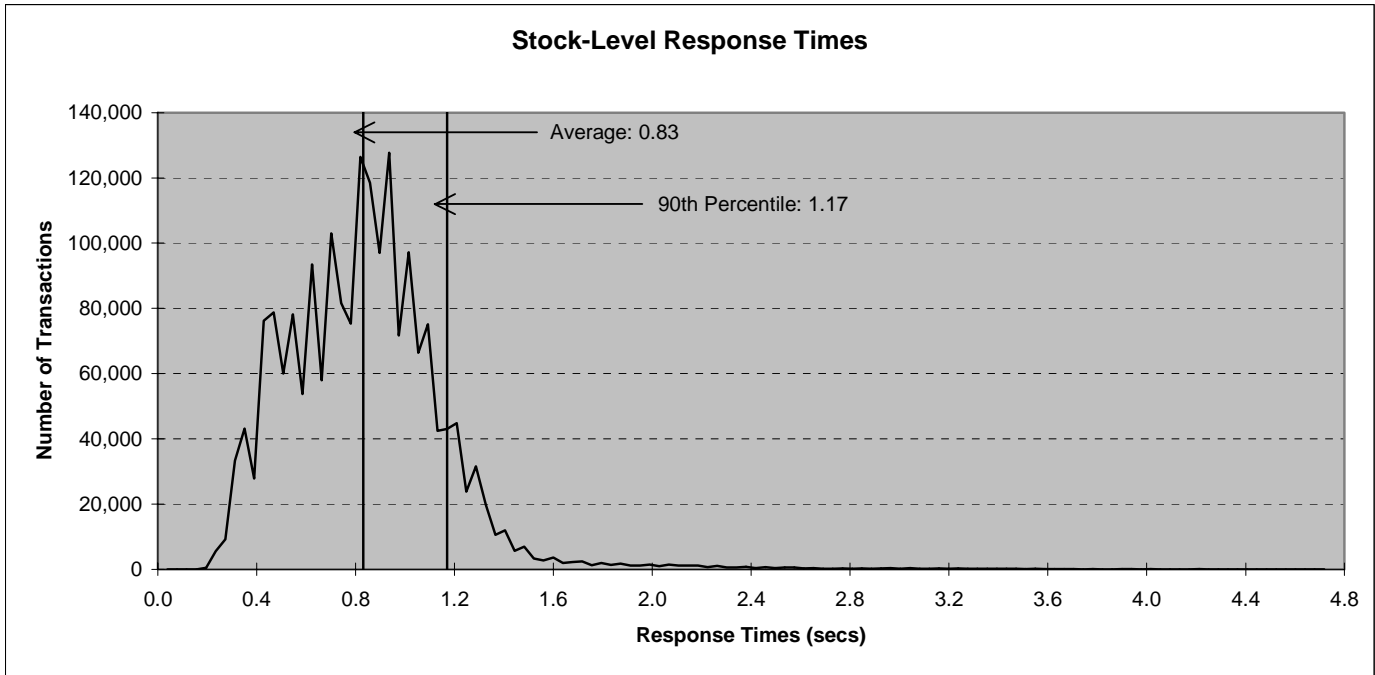


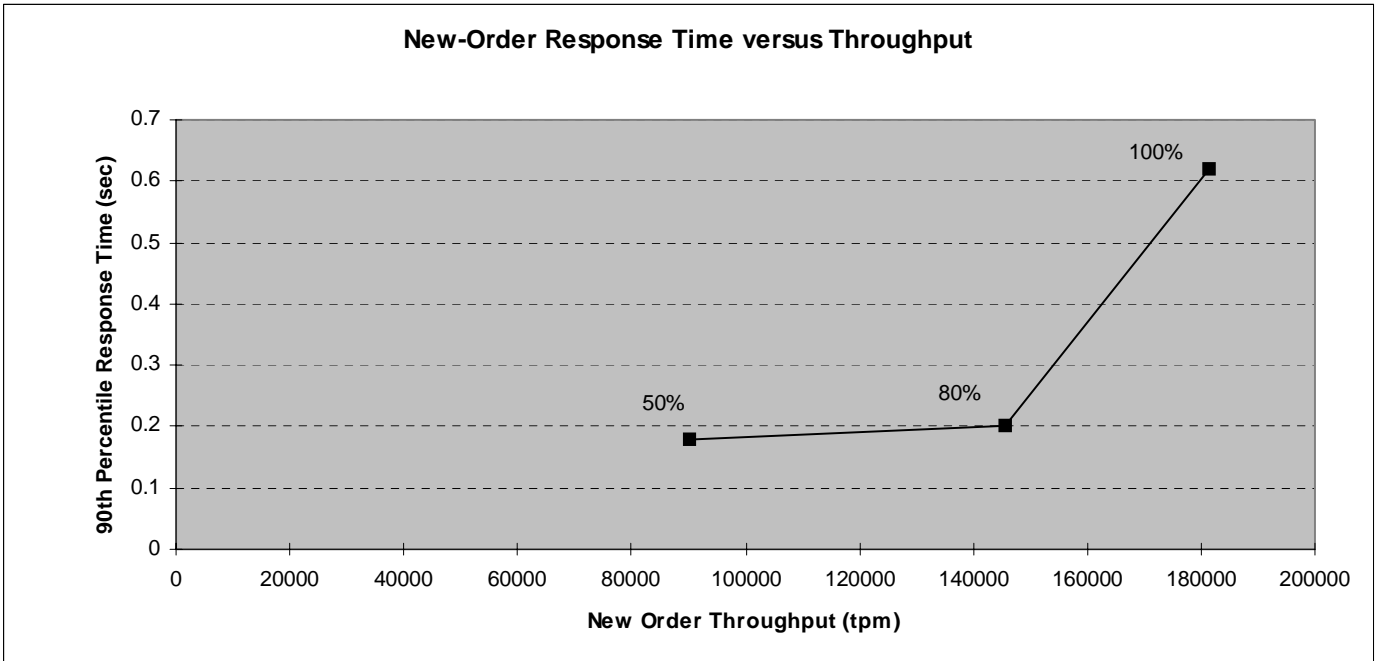
Figure 5.5: Stock Level Response Time Distribution



### 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)

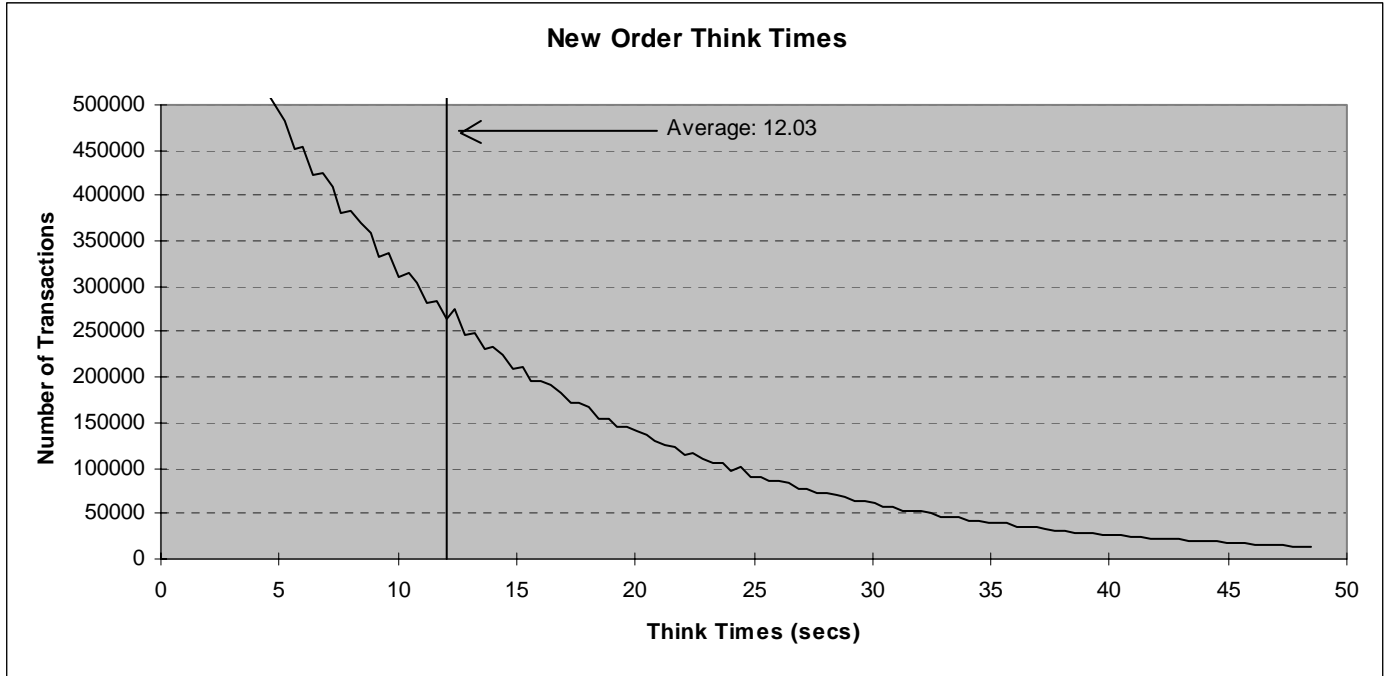
Figure 5.6: New Order Response Time versus Throughput



## 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)

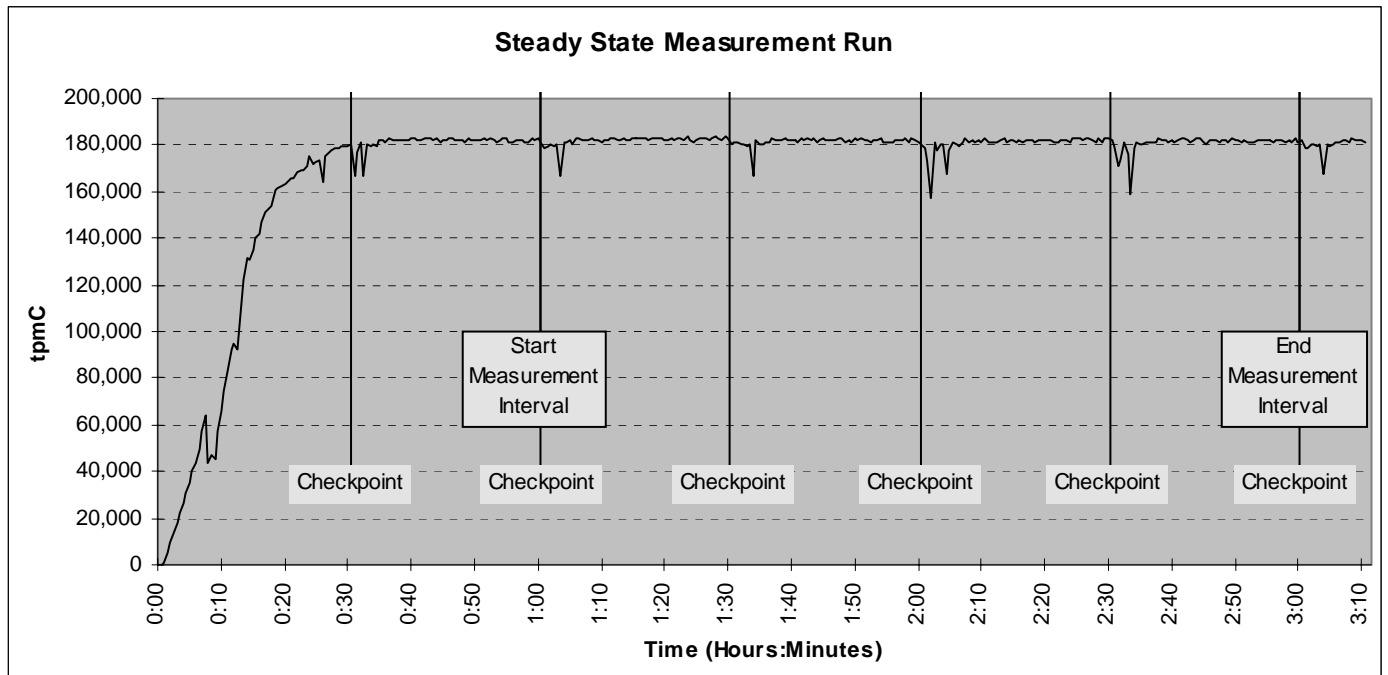
Figure 5.7: New Order Think Time Distribution



## 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	84.99%
	Remote warehouse	15.01%
	Non-primary key access	60.01%
Order Status	Non-primary key access	59.99%
Delivery	Skipped transactions (Interactive)	0
	Skipped transaction counts (Deferred)	0
	Skipped District counts (Deferred)	0
Transaction Mix	New Order	44.94%
	Payment	43.02%
	Order-Status	4.01%
	Delivery	4.00%
	Stock-Level	4.01%

### 5.13. Checkpoint Statistics

*The number of checkpoints in the measurement interval, the time in seconds from the start of the measurement interval to the first checkpoint, and the Checkpoint Interval must be disclosed. (8.1.6.21)*

There are four checkpoints in the measurement interval. The first checkpoint starts approximately 8 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	1:00:14	3:00:14	7200
1st Checkpoint	1:00:22	1:30:08	1786
2nd Checkpoint	1:30:21	2:00:07	1786
3rd Checkpoint	2:00:20	2:30:06	1786
4th Checkpoint	2:30:18	3:00:05	1787

## 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**

Unisys provides a standard pre-pay discount for maintenance service of the client, server and storage components of the priced configuration.

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**

May 1, 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  
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				
CPU's	Memory	Disks	90% Response	TpmC
16 Intel Xeon MP @ 2.0 GHz	Main: 64 GB Cache: 2MB each	412 @ 18GB 14 @ 73GB 1@30GB	<b>0.62 sec</b>	<b>181,280.45</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 all were active during the Measured Interval.

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- The ACID properties were successfully demonstrated.
- The durability data loss and log loss tests were performed on the fully scaled database with 15,390 users and 1,539 active warehouses.
- 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 146,000 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 (TMInit(&pTPCC->tsTMon))
        {
            wsprintf(pDiag, "ThrAtt(%ld): TMInit %s\n",
                GetCurrentThreadId(), pTPCC->ErrTxt);
            DiagIoWrite(pDiag, DIAG_ERROR);
            return(TRUE);
        };
    }
    finally
    {
        LeaveCriticalSection(&csDllMain);
    };
    return(FALSE);
}; // ThreadAttach

//=====
//
// Function name: ThreadDetach
//
//=====
VOID ThreadDetach(TPCC_STATE * pTPCC)
{
    EnterCriticalSection(&csDllMain);
    try
    {
        pTPCC = (TPCC_STATE *) TlsGetValue(dwTlsInx);
        if (pTPCC != NULL)
        {
            TMDone(&pTPCC->tsTMon);
            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, szTMInitError, pTPCC->szHeader);
    TPCCclear(pTPCC);
    pTPCC->ConnID = pECB->ConnID;
    pTPCC->RecvMsg = pECB->lpszQueryString;
    uRslt = TPCCHandler(pTPCC);
    switch (uRslt)
    {
        case TPCCSEND:
            SendResponse(pECB, pTPCC->SendMsg, pTPCC->szHeader);
            dwRslt = HSE_STATUS_SUCCESS_AND_KEEP_CONN;
    }
}

```

```

        break;
    case TPCCSENDEND:
        SendResponse(pECB, pTPCC->SendMsg, pTPCC->szHeader);
        break;
    case TPCCENDNOW:
    default:
        break;
}; // switch (TPCCHandler result)

Httpxit:

        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

```

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

```

```

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

CTPCC_Common();
~CTPCC_Common();

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

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

// IObjectConstruct
STDMETHODIMP Construct(IDispatch * pUnk);

// state
private:
bool m_bCanBePooled;
long m_lRefId;
int m_iMaxRetry;
int m_iTryCount;
bool m_bTPRslt;
int m_iTPRslt;
union
{
NEW_ORDER_DATA NOData;
PAYMENT_DATA PYData;
DELIVERY_DATA DLData;
ORDER_STATUS_DATA OSData;
STOCK_LEVEL_DATA SLData;
} m_TData;
SQLHDBC m_hdbc;
SQLHSTMT m_hstmt;
SQLHSTMT m_hstmtNewOrder;
SQLHSTMT m_hstmtPayment;
SQLHSTMT m_hstmtDelivery;
SQLHSTMT m_hstmtOrderStatus;
SQLHSTMT m_hstmtStockLevel;
SQLHDESC m_descNewOrderCols1;
SQLHDESC m_descNewOrderCols2;
SQLHDESC m_descOrderStatusCols1;
SQLHDESC m_descOrderStatusCols2;
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 (InitNOPParams())
        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::InitNOPParams(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,"InitNOPParams(%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,"InitNOPParams(%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,"InitNOPParams(%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];
            wsprintf(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];
            wsprintf(szDiag,"Payment(%ld): Fetch\n",m_lRefId);
            if (CheckDBError(szDiag))
            {
                m_iTPRslt = SVCERR_ODBC;
                break;
            };
            continue;
        };
        SQLFreeStmt(m_hstmt,SQL_CLOSE);
        if (m_TData.PYData.c_id == 0)
            m_iTPRslt = SVCERR_NOCUSTOMER;
        else
        {
            m_bTPRslt = FALSE;
            m_iTPRslt = SVC_NOERROR;
        }
        break;
    }; // for m_iMaxRetry
    memcpy(ppd,&m_TData.PYData,sizeof(PAYMENT_DATA));
    ppd->bTPRslt = m_bTPRslt;
    ppd->iTPRslt = m_iTPRslt;
    if (!m_bTPRslt)
    {
        strcpy(ppd->execution_status,"Transaction 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)

```

```

        wsprintf(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];
    wsprintf(szDiag,"Payment(%ld): Unhandled exception\n",m_lRefId);
    WriteEventLog(szDiag,TRUE);
    m_bCanBePooled = FALSE;
    ppd->bTPRslt = TRUE;
    ppd->iTPRslt = SVCERR_EXCEPTION;
    strcpy(ppd->execution_status,"Error, Unhandled exception");
    return(S_OK);
}; // Payment
bool CTPCC_Common::InitDLParams(void)
{
    int i;
    char szDiag[300];
    if (SQLAllocHandle(SQL_HANDLE_STMT,m_hdbc,&m_hstmtDelivery) !=
SQL_SUCCESS)
    {
        wsprintf(szDiag,"InitDLParams(%ld): Allocate Stmt Handle
failed\n",m_lRefId);
        CheckDBError(szDiag);
        return(TRUE);
    };
    m_hstmt = m_hstmtDelivery;
    i = 0;
    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
)
    {
        wsprintf(szDiag,"InitDLParams(%ld): Bind Param
failed\n",m_lRefId);
        CheckDBError(szDiag);
        return(TRUE);
    };
    for (i = 0; i < 10; i++)
    {
        if
(SQLBindCol(m_hstmt,(UWORD)(i+1),SQL_C_SLONG,&m_TData.DLData.o_id[i],
0,NULL) != SQL_SUCCESS)
        {
            wsprintf(szDiag,"InitPYParams(%ld): Bind Col (%d)
failed\n",m_lRefId,(i+1));
            CheckDBError(szDiag);
            return(TRUE);
        };
    };
    return(FALSE);
}; // InitDLParams
HRESULT CTPCC_Common::Delivery(int * iSize,UCHAR ** pTData)

```

```

{
    DELIVERY_DATA * pdd;
    RETCODE rc;
    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);
    sprintf(szHeader,"%s (%d)\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",
```



```

( NAME = MSSQL_miscC13,
  FILENAME = "C:\Bigdb\cabC\misc13\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscC14,
  FILENAME = "C:\Bigdb\cabC\misc14\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD1,
  FILENAME = "C:\Bigdb\cabD\misc1\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD2,
  FILENAME = "C:\Bigdb\cabD\misc2\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD3,
  FILENAME = "C:\Bigdb\cabD\misc3\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD4,
  FILENAME = "C:\Bigdb\cabD\misc4\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD5,
  FILENAME = "C:\Bigdb\cabD\misc5\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD6,
  FILENAME = "C:\Bigdb\cabD\misc6\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD7,
  FILENAME = "C:\Bigdb\cabD\misc7\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD8,
  FILENAME = "C:\Bigdb\cabD\misc8\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD9,
  FILENAME = "C:\Bigdb\cabD\misc9\",
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  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD11,
  FILENAME = "C:\Bigdb\cabD\misc11\",
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( NAME = MSSQL_miscD12,
  FILENAME = "C:\Bigdb\cabD\misc12\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD13,
  FILENAME = "C:\Bigdb\cabD\misc13\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscD14,
  FILENAME = "C:\Bigdb\cabD\misc14\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE1,
  FILENAME = "C:\Bigdb\cabE\misc1\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE2,
  FILENAME = "C:\Bigdb\cabE\misc2\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE3,
  FILENAME = "C:\Bigdb\cabE\misc3\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE4,
  FILENAME = "C:\Bigdb\cabE\misc4\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE5,

```

```

  FILENAME = "C:\Bigdb\cabE\misc5\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE6,
  FILENAME = "C:\Bigdb\cabE\misc6\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE7,
  FILENAME = "C:\Bigdb\cabE\misc7\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE8,
  FILENAME = "C:\Bigdb\cabE\misc8\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE9,
  FILENAME = "C:\Bigdb\cabE\misc9\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE10,
  FILENAME = "C:\Bigdb\cabE\misc10\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE11,
  FILENAME = "C:\Bigdb\cabE\misc11\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE12,
  FILENAME = "C:\Bigdb\cabE\misc12\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE13,
  FILENAME = "C:\Bigdb\cabE\misc13\",
  SIZE = 4320MB, FILEGROWTH = 0),
( NAME = MSSQL_miscE14,
  FILENAME = "C:\Bigdb\cabE\misc14\",
  SIZE = 4320MB, FILEGROWTH = 0),
FILEGROUP MSSQL_cs_fg
( NAME = MSSQL_csA1,
  FILENAME = "C:\Bigdb\cabA\cs1\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA2,
  FILENAME = "C:\Bigdb\cabA\cs2\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA3,
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( NAME = MSSQL_csA4,
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  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA5,
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( NAME = MSSQL_csA6,
  FILENAME = "C:\Bigdb\cabA\cs6\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA7,
  FILENAME = "C:\Bigdb\cabA\cs7\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA8,
  FILENAME = "C:\Bigdb\cabA\cs8\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA9,
  FILENAME = "C:\Bigdb\cabA\cs9\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA10,
  FILENAME = "C:\Bigdb\cabA\cs10\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csA11,

```



```

( NAME = MSSQL_csD10,
  FILENAME = "C:\Bigdb\cabD\cs10\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csD11,
  FILENAME = "C:\Bigdb\cabD\cs11\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csD12,
  FILENAME = "C:\Bigdb\cabD\cs12\",
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( NAME = MSSQL_csD13,
  FILENAME = "C:\Bigdb\cabD\cs13\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csD14,
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  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csE1,
  FILENAME = "C:\Bigdb\cabE\cs1\",
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( NAME = MSSQL_csE2,
  FILENAME = "C:\Bigdb\cabE\cs2\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csE3,
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( NAME = MSSQL_csE8,
  FILENAME = "C:\Bigdb\cabE\cs8\",
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( NAME = MSSQL_csE12,
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( NAME = MSSQL_csE13,
  FILENAME = "C:\Bigdb\cabE\cs13\",
  SIZE = 8210MB, FILEGROWTH = 0),
( NAME = MSSQL_csE14,
  FILENAME = "C:\Bigdb\cabE\cs14\",
  SIZE = 8210MB, FILEGROWTH = 0),
FILEGROUP MSSQL_ord_fg
( NAME = MSSQL_ordA1,
  FILENAME = "C:\Bigdb\cabA\ord1\",
  SIZE = 4970MB, FILEGROWTH = 0),

```

```

( NAME = MSSQL_ordA2,
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( NAME = MSSQL_ordA3,
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( NAME = MSSQL_ordA4,
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  FILENAME = "C:\Bigdb\cabA\ord5\",
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  FILENAME = "C:\Bigdb\cabA\ord7\",
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( NAME = MSSQL_ordA8,
  FILENAME = "C:\Bigdb\cabA\ord8\",
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( NAME = MSSQL_ordA9,
  FILENAME = "C:\Bigdb\cabA\ord9\",
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( NAME = MSSQL_ordA13,
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( NAME = MSSQL_ordA14,
  FILENAME = "C:\Bigdb\cabA\ord14\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB1,
  FILENAME = "C:\Bigdb\cabB\ord1\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB2,
  FILENAME = "C:\Bigdb\cabB\ord2\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB3,
  FILENAME = "C:\Bigdb\cabB\ord3\",
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  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB5,
  FILENAME = "C:\Bigdb\cabB\ord5\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB6,
  FILENAME = "C:\Bigdb\cabB\ord6\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB7,
  FILENAME = "C:\Bigdb\cabB\ord7\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_ordB8,

```





```

( NAME = MSSQL_orde7,
  FILENAME = "C:\Bigdb\cabE\ord7\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_orde8,
  FILENAME = "C:\Bigdb\cabE\ord8\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_orde9,
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( NAME = MSSQL_orde10,
  FILENAME = "C:\Bigdb\cabE\ord10\",
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( NAME = MSSQL_orde11,
  FILENAME = "C:\Bigdb\cabE\ord11\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_orde12,
  FILENAME = "C:\Bigdb\cabE\ord12\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_orde13,
  FILENAME = "C:\Bigdb\cabE\ord13\",
  SIZE = 4970MB, FILEGROWTH = 0),
( NAME = MSSQL_orde14,
  FILENAME = "C:\Bigdb\cabE\ord14\",
  SIZE = 4970MB, FILEGROWTH = 0)
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 TPCC 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 -
dscrip\%2.war\ddl -c0
@if errorlevel 1 goto END
@if '%4'=='normal' loader\bin\tpccldr -S%1 -W%2 -flogs\bulkload.log -
dscrip\%2.war\ddl -c0
@if errorlevel 1 goto END
@if '%4'=='scale_down' loader\bin\tpccldr -S%1 -W%2 -flogs\bulkload.log -
dscrip\%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
= 0, @ol_qty1  smallint = 0,
@i_id2 int = 0, @s_w_id2 smallint
= 0, @ol_qty2  smallint = 0,
@i_id3 int = 0, @s_w_id3 smallint
= 0, @ol_qty3  smallint = 0,
@i_id4 int = 0, @s_w_id4 smallint
= 0, @ol_qty4  smallint = 0,
@i_id5 int = 0, @s_w_id5 smallint
= 0, @ol_qty5  smallint = 0,
@i_id6 int = 0, @s_w_id6 smallint
= 0, @ol_qty6  smallint = 0,
@i_id7 int = 0, @s_w_id7 smallint
= 0, @ol_qty7  smallint = 0,
@i_id8 int = 0, @s_w_id8 smallint
= 0, @ol_qty8  smallint = 0,
@i_id9 int = 0, @s_w_id9 smallint
= 0, @ol_qty9  smallint = 0,
@i_id10 int = 0, @s_w_id10 smallint
= 0, @ol_qty10 smallint = 0,
@i_id11 int = 0, @s_w_id11 smallint
= 0, @ol_qty11 smallint = 0,
@i_id12 int = 0, @s_w_id12 smallint
= 0, @ol_qty12 smallint = 0,
@i_id13 int = 0, @s_w_id13 smallint
= 0, @ol_qty13 smallint = 0,
@i_id14 int = 0, @s_w_id14 smallint
= 0, @ol_qty14 smallint = 0,
@i_id15 int = 0, @s_w_id15 smallint

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
        if (@@rowcount > 0)
        begin

-- insert order_line data (using data from item and stock)

                insert into order_line values(@o_id,
                                               @d_id,
                                               @w_id,

```

```

                                               @li_no,
                                               @li_id,
                                               @li_s_w_id,
                                               "dec 31, 1899",
                                               @li_qty,
                                               @i_price * @li_qty,
                                               @s_dist)

-- send line-item data to client

                select @i_name,
                       @s_quantity,
                       b_g = case when (
(patindex("%ORIGINAL%",@i_data) > 0) and
(patindex("%ORIGINAL%",@s_data) > 0) )
                then "B" else "G" end,
                       @i_price,
                       @i_price * @li_qty
                end
            else
            begin

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

                select "",0,"",0,0
                select @commit_flag = 0

            end
        end

-- get customer last name, discount, and credit rating

        select @c_last      = c_last,
               @c_discount = c_discount,
               @c_credit    = c_credit,
               @c_id_local  = c_id
        from   customer (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
```

```
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[] =
"0123456789ABCDEFGHIJKLMNPOQRSTUVWXYZabcdefghijklmnopqrstuvwxy";
    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 != SUCCEED)
    HandleErrorDBC(i_hdbc1);

if ((aptr->build_index == 1) && (aptr->index_order == 1))
{
    sprintf(bcphint, "tablock, order (i_id), ROWS_PER_BATCH =
100000");
    rc = bcp_control(i_hdbc1, BCPHINTS, (void*) bcphint);
    if (rc != SUCCEED)
        HandleErrorDBC(i_hdbc1);
}

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

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

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

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

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

time_start = (TimeNow() / MILLI);

item_rows_loaded = 0;

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

```

```

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

    MakeAlphaString(14, 24, I_NAME_LEN, i_name);

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

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

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

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

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

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

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

// if build index after load
if ((aptr->build_index == 1) && (aptr->index_order == 0))
    BuildIndex("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    bcphint[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 != SUCCEEDED)
    HandleErrorDBC(w_hdbc1);

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

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

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

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

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

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

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

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

```

```

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

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

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

time_start = (TimeNow() / MILLI);

warehouse_rows_loaded = 0;

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

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

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

    w_ytd = 300000.00;

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

    warehouse_rows_loaded++;
    CheckForCommit(w_hdbc1, i_hstmt1, warehouse_rows_loaded,
"warehouse", &time_start);
}

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

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

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

17);
    rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0, S_DATA_LEN, NULL, 0, 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 14 2003  6:01:50:750AM
```

(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 14 2003 6:01:51:560AM
```

(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	544	544	

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	4	4
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

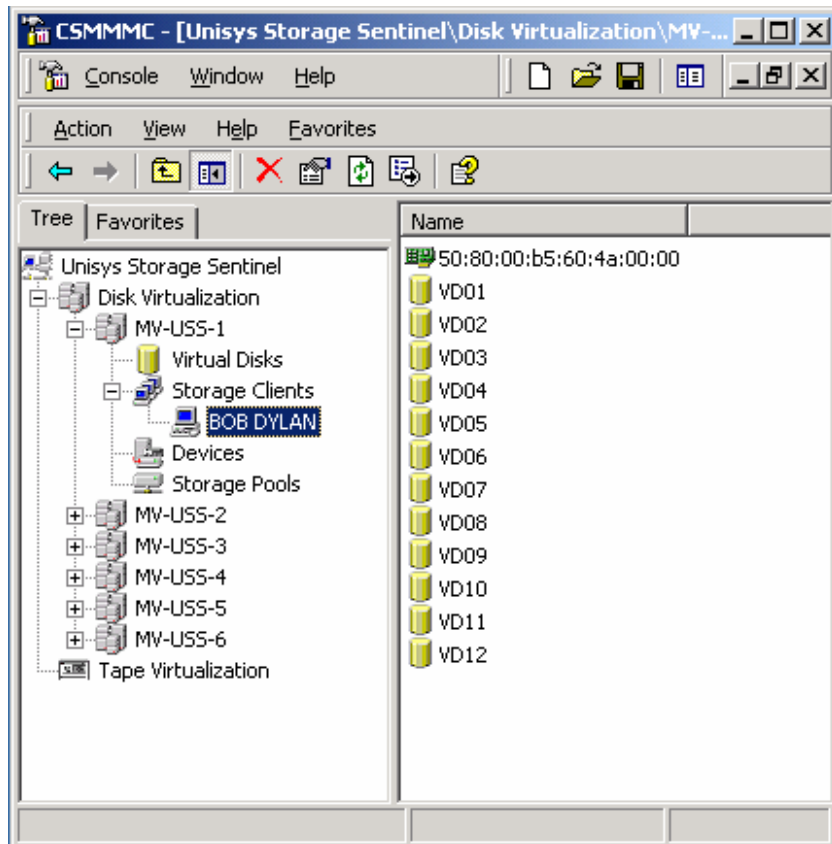
```

```

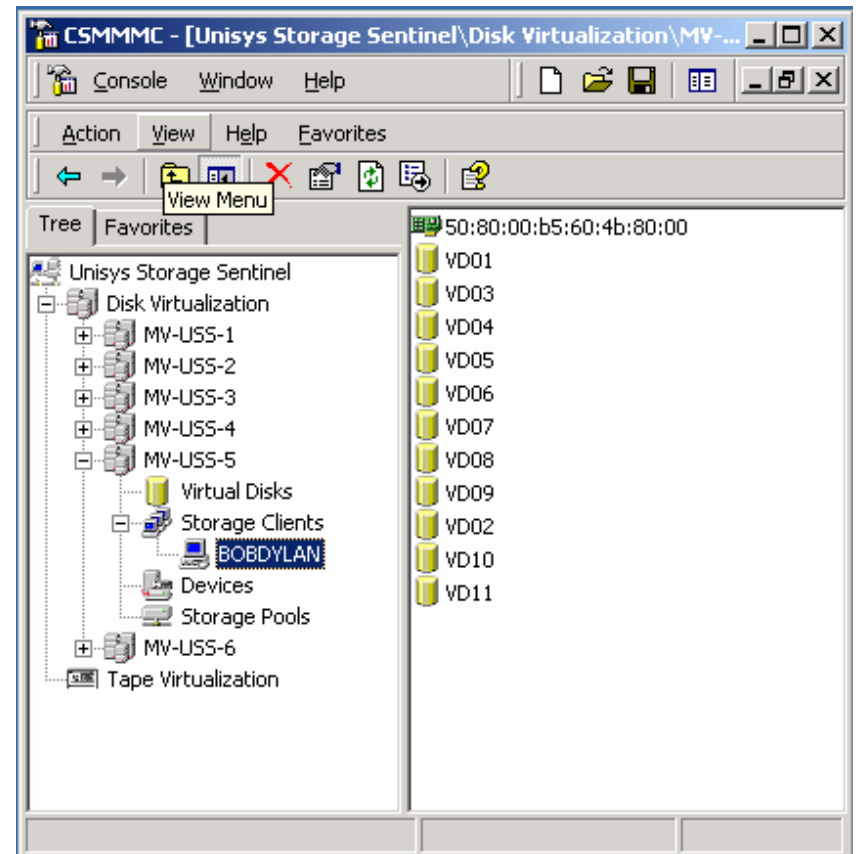
Bus 0 Enclosure 0 Disk 9 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 11 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 13 Soft Read Errors: 0
Bus 0 Enclosure 0 Disk 0 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 2 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 4 Soft Write Errors: 0
Bus 0 Enclosure 0 Disk 6 Soft 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 #3

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

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 #2

Memory Address 0xEC000000-0xEE7FFFFF PCI bus  
Memory Address 0xEC000000-0xEE7FFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEC000000-0xEE7FFFFF 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 0xEC100000-0xEC1FFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEC100000-0xEC1FFFFF 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 0xEE000000-0xEE7FFFFF PCI standard PCI-to-PCI bridge

Memory Address 0xEE000000-0xEE7FFFFF 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
0x0000027A-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 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	OK
IRQ 25	Unisys Intelligent Fibre Channel Fabric Bus Adapter	OK
IRQ 28	cLAN Host Adapter #2	OK
IRQ 29	cLAN Host Adapter	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 #3	OK
IRQ 77	cLAN Host Adapter #4	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	OK
0xE4020000-0xE403FFFF	Intel(R) 8255xER PCI Adapter	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 #2	OK
0xF2020000-0xF203FFFF	cLAN Host Adapter #2	OK
0xF2200000-0xF23FFFFF	cLAN Host Adapter #2	OK
0xF3000000-0xF3FFFFFFF	cLAN Host Adapter #2	OK
0xF2040000-0xF205FFFF	cLAN Host Adapter	OK
0xF2400000-0xF25FFFFF	cLAN Host Adapter	OK
0xF4000000-0xF4FFFFFFF	cLAN Host Adapter	OK
0xF2010000-0xF201FFFF	cLAN Host Adapter	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 #3 OK
0xF9020000-0xF903FFFF cLAN Host Adapter #3 OK
0xF9200000-0xF93FFFFF cLAN Host Adapter #3 OK
0xFA000000-0xFAFFFFFF cLAN Host Adapter #3 OK
0xF9040000-0xF905FFFF cLAN Host Adapter #4 OK
0xF9400000-0xF95FFFFF cLAN Host Adapter #4 OK
0xFB000000-0xFBFFFFFF cLAN Host Adapter #4 OK
0xF9010000-0xF901FFFF cLAN Host Adapter #4 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\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				
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\tsoft32.acm	DSP GROUP, INC.		OK			
	C:\WINDOWS\system32\TSOFT32.ACM	1.01		9.50 KB (9,728 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

```

[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\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				
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\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\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\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				

[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&1B78D9&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&32BB70A2&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\D
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\D
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 4/14/2003 4:32 AM
Index 1
Service Name AsyncMac
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

```

```

Name [00000002] WAN Miniport (L2TP)
Adapter Type Not Available
Product Type WAN Miniport (L2TP)
Installed Yes
PNP Device ID ROOT\MS_L2TPMINIPOINT\0000
Last Reset 4/14/2003 4:32 AM
Index 2
Service Name Rasl2tp
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address Not Available

```

```

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 4/14/2003 4:32 AM
Index 3
Service Name PptpMiniport
IP Address Not Available
IP Subnet Not Available
Default IP Gateway Not Available
DHCP Enabled No
DHCP Server Not Available
DHCP Lease Expires Not Available
DHCP Lease Obtained Not Available
MAC Address 50:50:54:50:30:30

```

```

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 4/14/2003 4:32 AM
Index 4

```

Service Name RasPppoe  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled No  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address 33:50:6F:45:30:30

Name [00000005] Direct Parallel  
Adapter Type Not Available  
Product Type Direct Parallel  
Installed Yes  
PNP Device ID ROOT\MS\_PTMINIPOINT\0000  
Last Reset 4/14/2003 4:32 AM  
Index 5  
Service Name Raspti  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled No  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available

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 4/14/2003 4:32 AM  
Index 6  
Service Name NdisWan  
IP Address Not Available  
IP Subnet Not Available  
Default IP Gateway Not Available  
DHCP Enabled No  
DHCP Server Not Available  
DHCP Lease Expires Not Available  
DHCP Lease Obtained Not Available  
MAC Address Not Available

Name [00000007] 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&172E68DD&0&10

Last Reset 4/14/2003 4:32 AM  
Index 7  
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 [00000008] 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&E44F86D&0&00

Last Reset 4/14/2003 4:32 AM  
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 00:90:FA:00:14:BC  
Memory Address 0xF2020000-0xF203FFFF  
Memory Address 0xF2200000-0xF23FFFFF  
Memory Address 0xF3000000-0xF3FFFFFFF  
Memory Address 0xF2000000-0xF4FFFFFFF  
IRQ Channel IRQ 28

Name [00000009] 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&E44F86D&0&08

Last Reset 4/14/2003 4:32 AM  
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 00:90:FA:00:15:9A  
Memory Address 0xF2040000-0xF205FFFF  
Memory Address 0xF2400000-0xF25FFFFFFF  
Memory Address 0xF4000000-0xF4FFFFFFF  
Memory Address 0xF2010000-0xF201FFFF  
IRQ Channel IRQ 29

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 4/14/2003 4:32 AM  
 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:00:1C:8C  
 Memory Address 0xF9020000-0xF903FFFF  
 Memory Address 0xF9200000-0xF93FFFFF  
 Memory Address 0xFA000000-0xFAFFFFFFF  
 Memory Address 0xF9000000-0xFBFFFFFFF  
 IRQ Channel IRQ 76

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 4/14/2003 4:32 AM  
 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:00:1C:15  
 Memory Address 0xF9040000-0xF905FFFF  
 Memory Address 0xF9400000-0xF95FFFFF  
 Memory Address 0xFB000000-0xFBFFFFFFF  
 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\_{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}] SEQPACKET 1  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes  
Minimum Address Size 20 bytes  
Pseudo Stream Oriented No  
Supports Broadcasting No  
Supports Connect Data No  
Supports Disconnect Data No  
Supports Encryption No  
Supports Expedited Data No  
Supports Graceful Closing No  
Supports Guaranteed Bandwidth No  
Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT\_Tcpip\_{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}] SEQPACKET 2  
Connectionless Service No  
Guarantees Delivery Yes  
Guarantees Sequencing Yes  
Maximum Address Size 20 bytes  
Maximum Message Size 62.50 KB (64,000 bytes)  
Message Oriented Yes

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

Name MSAFD NetBIOS [\\Device\NetBT\_Tcpip\_{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

[Parallel]

Item Value  
Name LPT1  
PNP Device ID ACPI\PNP0401\D  
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 21.88 GB (23,490,785,280 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&25EA3EC6&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&34487C5B&0&0008

Memory Address 0xEE000000-0xEE7FFFFFFF  
Memory Address 0xEC100000-0xEC1FFFFFFF  
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&1A0B7E4&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&32BB70A2&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&32BB70A2&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&2421D46D&0&0008

Memory Address 0xF1800000-0xF1FFFFFFF  
Memory Address 0xF0000000-0xF1FFFFFFF  
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&1B316B8F&0&0000

Memory Address 0xF5800000-0xF5FFFFFFF  
Memory Address 0xF5400000-0xF5FFFFFFF  
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&101F93C3&0&0000

Memory Address 0xF7800000-0xF7FFFFFFF  
Memory Address 0xF6000000-0xF7FFFFFFF  
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&12E85E37&0&0008

Memory Address 0xF8800000-0xF8FFFFFFF  
Memory Address 0xF8400000-0xF8FFFFFFF  
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&172E68DD&0&01

I/O Port 0x00001060-0x0000106F

Name Primary IDE Channel  
Manufacturer (Standard IDE ATA/ATAPI controllers)  
Status OK  
PNP Device ID PCI\IDE\IDECHANNEL\4&100E6A2D&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 PCI\IDE\IDECHANNEL\4&100E6A2D&0&1  
I/O Port 0x00000170-0x00000177  
I/O Port 0x00000376-0x00000376  
IRQ Channel IRQ 13

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code  
Not Available ACPI\UNO4501\0 The drivers for this device are not installed.

[USB]

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Device PNP Device ID
Intel(r) 82371AB/EB PCI to USB Universal Host Controller
    PCI\VEN_8086&DEV_7112&SUBSYS_00000000&REV_01\3&172E68DD&0&02

USB Root Hub    USB\ROOT_HUB\4&27B1EF4B&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
Disabled   Stopped OK      Ignore  No       No
acpi      Microsoft ACPI Driver  c:\windows\system32\drivers\acpi.sys  Kernel
Driver   Yes      Boot    Running OK      Normal  No       Yes
acpiec   ACPIEC          c:\windows\system32\drivers\acpiec.sys  Kernel Driver
No       Disabled   Stopped OK      Normal  No       No
adpu160m adpu160m        Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
adpu320  adpu320 Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
afcnt    afcnt Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
afd      AFD Networking Support Environment
c:\windows\system32\drivers\afd.sys  Kernel Driver  Yes      Auto
Running OK      Normal  No       Yes
aha154x  Aha154x Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
aic78u2  aic78u2 c:\windows\system32\drivers\aic78u2.sys  Kernel Driver
Yes      Boot    Running OK      Normal  No       Yes
aic78xx  aic78xx Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
aliide   AliIde Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
asynmac  RAS Asynchronous Media Driver
c:\windows\system32\drivers\asynmac.sys  Kernel Driver  No
Manual Stopped OK      Normal  No       No
ataapi   Standard IDE/ESDI Hard Disk Controller
c:\windows\system32\drivers\ataapi.sys  Kernel Driver  Yes      Boot
Running OK      Normal  No       Yes
atdisk   Atdisk Not Available  Kernel Driver  No      Disabled
Stopped OK      Ignore  No       No
atmarpc  ATM ARP Client Protocol
c:\windows\system32\drivers\atmarpc.sys  Kernel Driver  No
Manual Stopped OK      Normal  No       No
audstub  Audio Stub Driver      c:\windows\system32\drivers\audstub.sys
Kernel Driver  Yes      Manual Running OK      Normal  No       Yes
beep     Beep      c:\windows\system32\drivers\beep.sys  Kernel Driver  Yes
System Running OK      Normal  No       Yes
cbidf2k  cbidf2k c:\windows\system32\drivers\cbidf2k.sys  Kernel Driver
No       Disabled   Stopped OK      Normal  No       No
cdfs     Cdfs     c:\windows\system32\drivers\cdfs.sys  File System Driver
Yes      Disabled   Running OK      Normal  No       Yes

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cdrom    CD-ROM Driver      c:\windows\system32\drivers\cdrom.sys  Kernel Driver
Yes      System Running OK      Normal  No       Yes
changer  Changer Not Available  Kernel Driver  No      System Stopped OK
Ignore   No       No
clusdisk Cluster Disk Driver
c:\windows\system32\drivers\clusdisk.sys  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
cmdide   CmdIde Not Available  Kernel Driver  No      Disabled
Stopped OK      Normal  No       No
cpqarray Cpqarray          Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
cpqarry2 cpqarry2          Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
cpqcissm cpqcissm          Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
cpqfcalm cpqfcalm          Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
crcdisk  CRC Disk Filter Driver  c:\windows\system32\drivers\crcdisk.sys
Kernel Driver  Yes      Boot    Running OK      Normal  No       Yes
dac960nt dac960nt          Not Available  Kernel Driver  No
Disabled   Stopped OK      Normal  No       No
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 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

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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	Manual	Running OK	Normal	No	Yes
hpn	hpn	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	No
hpt3xx	hpt3xx	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	No
http	HTTP	c:\windows\system32\drivers\http.sys	Kernel Driver	No	Manual	Stopped OK	Normal	No	No
i2omgmt	i2omgmt	Not Available	Kernel Driver	No	System	Stopped OK	Normal	No	No
i2omp	i2omp	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	No
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver	c:\windows\system32\drivers\i8042prt.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes
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
mmdd	mmdd	c:\windows\system32\drivers\mmdd.sys	Kernel Driver	Yes	System	Running OK	Ignore	No	Yes
modem	Modem	c:\windows\system32\drivers\modem.sys	Kernel Driver	No	Manual	Stopped OK	Ignore	No	No
mouclass	Mouse Class Driver	c:\windows\system32\drivers\mouclass.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes
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
mrxsm	MRXSMB	c:\windows\system32\drivers\mrxsm.sys	File System Driver	Yes	System	Running OK	Normal	No	Yes
msfs	Msfs	c:\windows\system32\drivers\msfs.sys	File System Driver	Yes	System	Running OK	Normal	No	Yes
mup	Mup	c:\windows\system32\drivers\mup.sys	File System Driver	Yes	Boot	Running OK	Normal	No	Yes
ndis	NDIS System Driver	c:\windows\system32\drivers\ndis.sys	Kernel Driver	Yes	Boot	Running OK	Normal	No	Yes
ndistapi	Remote Access NDIS TAPI Driver	c:\windows\system32\drivers\ndistapi.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
ndisuio	NDIS Usermode I/O Protocol	c:\windows\system32\drivers\ndisuio.sys	Kernel Driver	No	Manual	Stopped OK	Normal	No	No
ndiswan	Remote Access NDIS WAN Driver	c:\windows\system32\drivers\ndiswan.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
ndproxy	NDIS Proxy	c:\windows\system32\drivers\ndproxy.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
netbios	NetBIOS Interface	c:\windows\system32\drivers\netbios.sys	File System Driver	Yes	System	Running OK	Normal	No	Yes
netbt	NetBios over Tcpip	c:\windows\system32\drivers\netbt.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes
nfrd960	nfrd960	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	No
npfs	Npfs	c:\windows\system32\drivers\npfs.sys	File System Driver	Yes	System	Running OK	Normal	No	Yes
ntfs	Ntfs	c:\windows\system32\drivers\ntfs.sys	File System Driver	Yes	Disabled	Running OK	Normal	No	Yes
null	Null	c:\windows\system32\drivers\null.sys	Kernel Driver	Yes	System	Running OK	Normal	No	Yes

parport	Parallel port driver	c:\windows\system32\drivers\parport.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
partmgr	Partition Manager	c:\windows\system32\drivers\partmgr.sys	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	Disabled
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	Manual	Stopped OK	Manual
pdframe	PDFRAME	Not Available	Kernel Driver	No	Ignore	No	Manual	Stopped OK	Manual
pdreli	PDRELI	Not Available	Kernel Driver	No	Ignore	No	Manual	Stopped OK	Manual
pdrframe	PDRFRAME	Not Available	Kernel Driver	No	Stopped OK	Ignore	No	No	Manual
perc2	perc2	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
perc2hib	perc2hib	Not Available	Kernel Driver	No	Disabled	Stopped OK	Normal	No	Disabled
pptpminiport	WAN Miniport (PPTP)	c:\windows\system32\drivers\raspttp.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	Disabled
ql10wnt	Ql10wnt	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql12160	ql12160	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql1240	ql1240	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql1280	ql1280	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql2100	ql2100	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql2200	ql2200	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
ql2300	ql2300	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
rasacd	Remote Access Auto Connection Driver	c:\windows\system32\drivers\rasacd.sys	Kernel Driver	Yes	System Running OK	Normal	No	Yes	Yes
rasl2tp	WAN Miniport (L2TP)	c:\windows\system32\drivers\rasl2tp.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
rasppoe	Remote Access PPPOE Driver	c:\windows\system32\drivers\rasppoe.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
raspti	Direct Parallel	c:\windows\system32\drivers\raspti.sys	Kernel Driver	Yes	Manual	Running OK	Normal	No	Yes
rdbss	Rdbss	c:\windows\system32\drivers\rdbss.sys	File System Driver	Yes	System Running OK	Normal	No	Yes	Yes
rdpcdd	RDPCDD	c:\windows\system32\drivers\rdpcdd.sys	Kernel Driver	Yes	System Running OK	Ignore	No	Yes	Yes
rdpdr	Terminal Server Device Redirector Driver	c:\windows\system32\drivers\rdpdr.sys	Kernel Driver	Yes	Running OK	Normal	No	Yes	Manual
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	Yes
secdrv	Secdrv	c:\windows\system32\drivers\secdrv.sys	Kernel Driver	No	Manual	Stopped OK	Normal	No	No
serenum	Serenum Filter Driver	c:\windows\system32\drivers\serenum.sys	Kernel Driver	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	Stopped OK	Normal	No	No	Disabled
sparrow	Sparrow	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
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	Stopped OK	Normal	No	No	Disabled
symc8xx	symc8xx	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
symmpi	symmpi	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
sym_hi	sym_hi	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
sym_u3	sym_u3	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
tcpip	TCP/IP Protocol Driver	c:\windows\system32\drivers\tcpip.sys	Kernel Driver	Yes	System Running OK	Normal	No	Yes	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	Yes
toside	TosIde	Not Available	Kernel Driver	No	Stopped OK	Normal	No	No	Disabled
udfs	Udfs	c:\windows\system32\drivers\udfs.sys	File System Driver	No	Disabled	Stopped OK	Normal	No	No



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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

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

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[Signed Drivers]

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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\2
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&1070020&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&25EA3EC6&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&3A90EBEF&0&F104560B00
080010

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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&3A90EBEF&0&F004560B00
080010
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&1070020&0&08
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&34487C5B&0&0008
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&350A6B20&0&8804560B00
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM
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PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system
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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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Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER
2.36.0.16 2/19/2003 Unisys Corporation oem4.inf
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2.36.0.5 2/25/2003 Unisys Corporation oem5.inf
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\4
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&172B68DD&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\D

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Programmable interrupt controller No SYSTEM 5.2.3788.0
10/1/2002 (Standard system devices) machine.inf Not
Available ACPI\PNP0000\D
System CMOS/real time clock No SYSTEM 5.2.3788.0 10/1/2002
(Standard system devices) machine.inf Not Available
ACPI\PNP0B00\D
System timer No SYSTEM 5.2.3788.0 10/1/2002 (Standard
system devices) machine.inf Not Available ACPI\PNP0100\D
System speaker No SYSTEM 5.2.3788.0 10/1/2002 (Standard
system devices) machine.inf Not Available ACPI\PNP0800\D
Generic Bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard
system devices) machine.inf Not Available ACPI\PNP0A05\D
ECP Printer Port No PORTS 5.2.3788.0 10/1/2002
(Standard port types) msports.inf Not Available ACPI\PNP0401\D

Printer Port Logical Interface No SYSTEM 5.2.3788.0
10/1/2002 (Standard system devices) machine.inf Not
Available LPTENUM\MICROSOFTRAWPORT\6&2DCCF168&0&LPT1
PS/2 Compatible Mouse No MOUSE 5.2.3788.0 10/1/2002
Microsoft msmouse.inf Not Available ACPI\PNP0F13\D
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\D
Standard floppy disk controller No FDC 5.2.3788.0
10/1/2002 (Standard floppy disk controllers) fdc.inf Not
Available ACPI\PNP0700\D
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&1E621CEF&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&172E68DD&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&100E6A2D&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&28FC923
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Secondary IDE Channel No HDC 5.2.3788.0 10/1/2002
(Standard IDE ATA/ATAPI controllers) mshdc.inf Not Available
PCIIDE\IDECHANNEL\4&100E6A2D&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&1B78D9&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&172E68DD&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&27B1EF4B&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&172E68DD&0&08

PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0
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PCI\VEN_8086&DEV_0960&SUBSYS_00000000&REV_05\4&32BB70A2&0&0008

Console Manager control device No SYSTEM 6.0.3.29
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Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI No SCSIADAPTER
5.2.3788.0 10/1/2002 Adaptec pnp SCSI.inf Not Available
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Adaptec AIC-7896/AIC-7897 - Ultra2 SCSI No SCSIADAPTER
5.2.3788.0 10/1/2002 Adaptec pnp SCSI.inf Not Available
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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&32BB70A2&0&1008

Default Monitor No MONITOR 5.1.2001.0 6/6/2001
(Standard monitor types) monitor.inf Not Available
DISPLAY\DEFAULT_MONITOR\5&10CA584C&0&11223344&02&02
Intel(R) 825xER PCI Adapter No NET 1.0.0.1 4/3/2001 Intel
oem3.inf Not Available
PCI\VEN_8086&DEV_1209&SUBSYS_10180D88&REV_09\3&172E68DD&0&10

PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system
devices) machine.inf Not Available ACPI\PNP0A03\5
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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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&2421D46D&0&0008

Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM
2.36.0.5 2/25/2003 Unisys Corporation oem5.inf
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM
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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&E44F86D&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&E44F86D&0&08
PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system
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PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system
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PCI standard PCI-to-PCI bridge No SYSTEM 5.2.3788.0  
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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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080010  
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 10/1/2002 (Standard system devices) machine.inf Not  
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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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80010  
 PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
 devices) machine.inf Not Available ACPI\PNP0A03\A  
 PCI bus No SYSTEM 5.2.3788.0 10/1/2002 (Standard system  
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Unisys Intelligent Fibre Channel Fabric Bus Adapter No SCSIADAPTER  
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Unisys Intelligent Fibre Channel Adapter SCSI Processor No SYSTEM  
 2.36.0.5 2/25/2003 Unisys Corporation oem5.inf  
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080010 SCSI\PROCESSORUNISYS\_IFBA8888\_V2\_\5&2C587C75&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\C  
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 Giganet oem8.inf 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\D  
 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  
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10EA00000





















Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	dmload	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_DMLOAD\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECCOFFSET8000LENGTH1374F8000										
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Console Manager Network Connection	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_ESVUART\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECCOFFSET137500000LENGTH201C00000				Fips	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Available	Not Available	Not Available	Not Available	ROOT\LEGACY_FIPS\0000		
volume.inf	Not Available			cLAN VIA Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
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Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Generic Packet Classifier	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_GPC\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECCOFFSET447B00000LENGTH155AC00000				IPSEC driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_IPSEC\0000		
volume.inf	Not Available			ksecdd	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
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Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	mnmdd	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_MNMDD\0000		
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Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_MOUNTMGR\0000		
volume.inf	Not Available			NDIS System Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC3OFFSET339100000LENGTH10EA00000				Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NDIS\0000		
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Remote Access NDIS TAPI Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NDISTAPI\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC3OFFSET447B00000LENGTH155AC00000				NDIS Usermode I/O Protocol	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Not Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NDISUIO\0000		
volume.inf	Not Available			NDProxy	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC2OFFSET8000LENGTH1374F8000				Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NDPROXY\0000		
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	NetBios over Tcpip	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NETBT\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC2OFFSET137500000LENGTH201C00000				Null	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Available	Not Available	Not Available	Not Available	ROOT\LEGACY_NULL\0000		
volume.inf	Not Available			Partition Manager	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC2OFFSET339100000LENGTH10EA00000				Available	Not Available	Not Available	Not Available	ROOT\LEGACY_PARTMGR\0000		
Generic volume No	VOLUME 5.2.3788.0	10/1/2002	Microsoft	Parvdm	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
volume.inf	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_PARVDM\0000		
STORAGE\VOLUME\1&30A96598&0&SIGNATURE44F6ECC2OFFSET447B00000LENGTH155AC00000				Remote Access Auto Connection Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
AFD Networking Support Environment	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_RASACD\0000		
Available	Not Available			RDPCDD	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
ROOT\LEGACY_AFD\0000				Available	Not Available	Not Available	Not Available	ROOT\LEGACY_RDPCDD\0000		
Beep	Not Available			RDPWD	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Not Available	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_RDPWD\0000		
ROOT\LEGACY_BEEP\0000				TCP/IP Protocol Driver	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
CRC Disk Filter Driver	Not Available			Available	Not Available	Not Available	Not Available	ROOT\LEGACY_TCPIP\0000		
Not Available	Not Available			Available	Not Available	Not Available	Not Available			
Not Available	Not Available									
ROOT\LEGACY_CRCDISK\0000										
dmboot	Not Available									
Not Available	Not Available									
Not Available	Not Available									
Not Available	Not Available									
ROOT\LEGACY_DMBOOT\0000										

TDTCP	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Available	Not 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	Not Available	Not Available	Not Available	Not Available	Not Available
	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
ROOT\LEGACY_VGASAVE\0000						
volsnap	Not Available	LEGACYDRIVER	Not Available	Not Available	Not Available	Not Available
Available	Not 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	Not Available	Not Available	Not Available	Not Available	Not Available
	Not Available	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	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	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	Not Available		
ROOT\MEDIA\MS_MMVCD						
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	Not Available		
ROOT\MS_L2TPMINIPORT\0000						
WAN Miniport (IP)	No	NET	5.2.3788.0	10/1/2002		
Microsoft		netrasa.inf	Not Available	Not Available		
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WAN Miniport (PPPOE)	No	NET	5.2.3788.0	10/1/2002		
Microsoft		netrasa.inf	Not Available	Not Available		
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WAN Miniport (PPTP)	No	NET	5.2.3788.0	10/1/2002		
Microsoft		netrasa.inf	Not Available	Not Available		
ROOT\MS_PPTPMINIPORT\0000						
Direct Parallel	No	NET	5.2.3788.0	10/1/2002		
Microsoft		netrasa.inf	Not Available	Not Available		
ROOT\MS_PTMINIPORT\0000						
Terminal Server Device Redirector	No	SYSTEM	5.2.3788.0	10/1/2002	(Standard system devices)	Not Available
Available		machine.inf	Not Available	Not Available		
ROOT\RDPDR\0000						
Terminal Server Keyboard Driver	No	SYSTEM	5.2.3788.0	10/1/2002	(Standard system devices)	Not Available
Available		machine.inf	Not Available	Not Available		
ROOT\RDP_KBD\0000						
Terminal Server Mouse Driver	No	SYSTEM	5.2.3788.0	10/1/2002	(Standard system devices)	Not Available
Available		machine.inf	Not Available	Not Available		
ROOT\RDP_MOUSE\0000						
Plug and Play Software Device Enumerator	No	SYSTEM	5.2.3788.0	10/1/2002	(Standard system devices)	Not Available
Available		machine.inf	Not Available	Not Available		
ROOT\SYSTEM\0000						
Microcode Update Device	No	SYSTEM	5.2.3788.0	10/1/2002	(Standard system devices)	Not Available
Available		machine.inf	Not Available	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
Available		Not Available	Not Available	Not Available	Not Available	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&0A724201060			
010650000000000000000000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
0000100000000000000000B000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
0000100000000000000000A000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000009000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000008000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000007000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000006000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000005000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000004000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000003000			
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&4540008610			
00001000000000000000002000			
Unisys	Intelligent Fibre Channel Fabric Disk Driver	No	DISKDRIVE
2.36.0.5	2/19/2003	Unisys Corporation	oem6.inf
Not Available			







```

Not Available
SCSI\DISK&VEN_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&6F40008610
0000100000000000000002000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&6F40008610
0000100000000000000001000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
000010000000000000000B000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
000010000000000000000A000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000009000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000008000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000007000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000006000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000005000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000004000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000003000
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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000002000

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```

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_UNISYS__VIRTUALSTORAGE__01.0\1&1A590E2C&0&1540008610
0000100000000000000001000
[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:\P
rogram 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
TMP %USERPROFILE%\Local Settings\Temp      NT AUTHORITY\LOCAL SERVICE
TEMP %USERPROFILE%\Local Settings\Temp      MV-BOBDYLAN\Administrator
TMP %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 MV-
BOBDYLAN\Administrator
[Running Tasks]
Name      Path      Process ID      Priority      Min Working Set      Max
Working Set      Start Time      Version Size      File Date

```

```

system idle process  Not Available  0      0      Not Available  Not
Available           Not Available  Not Available  Not Available  Not Available
system Not Available  4      8      0      1413120 Not Available  Not
Available           Not Available  Not Available
smss.exe             Not Available  428    11     204800 1413120 4/14/2003 4:37
AM                 Not Available  Not Available  Not Available
csrss.exe           Not Available  476    13     Not Available  Not Available
4/14/2003 4:37 AM  Not Available  Not Available  Not Available

winlogon.exe        c:\windows\system32\winlogon.exe  500    13     204800
1413120 4/14/2003 4:38 AM  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 4/14/2003 4:38 AM  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 4/14/2003 4:38 AM  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  696    8      204800
1413120 4/14/2003 4:38 AM  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  768    8      204800
1413120 4/14/2003 4:38 AM  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  916    8      204800
1413120 4/14/2003 4:38 AM  4.2.0.75 168.05 KB (172,079
bytes) 3/25/2003 9:02 AM
svchost.exe         Not Available  1052   8      Not Available  Not Available
4/14/2003 4:40 AM  Not Available  Not Available  Not Available

svchost.exe         c:\windows\system32\svchost.exe  1080   8      204800
1413120 4/14/2003 4:40 AM  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  1140   24     204800
1413120 4/14/2003 4:40 AM  6.0.3.29 265.02 KB (271,376
bytes) 2/6/2003 6:43 PM
svchost.exe         Not Available  1172   8      Not Available  Not Available
4/14/2003 4:40 AM  Not Available  Not Available  Not Available

explorer.exe        c:\windows\explorer.exe  1676   8      204800
1413120 4/14/2003 4:41 AM  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  1816   8      Not Available  Not Available
4/14/2003 4:41 AM  Not Available  Not Available  Not Available

cmd.exe             c:\windows\system32\cmd.exe  1892   8      204800 1413120
4/14/2003 4:41 AM  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  1912
13 204800 1413120 4/14/2003 4:41 AM 2000.080.0761.00
7.10 MB (7,446,568 bytes) 3/25/2003 1:39 PM
helpctr.exe         c:\windows\pchealth\helpctr\binaries\helpctr.exe  1104
8 204800 1413120 4/14/2003 5:31 AM 5.2.3788.0
(srv03_rtm.030317-2234) 764.00 KB (782,336 bytes) 3/21/2003 2:58
PM
wmiprvse.exe        Not Available  1580   8      Not Available  Not Available
4/14/2003 5:31 AM  Not Available  Not Available  Not Available

```

```

helpsvcs.exe        c:\windows\pchealth\helpctr\binaries\helpsvcs.exe  1560
8 204800 1413120 4/14/2003 5:31 AM 5.2.3788.0
(srv03_rtm.030317-2234) 720.00 KB (737,280 bytes) 3/21/2003 2:58
PM

```

[Loaded Modules]

```

Name      Version Size      File Date      Manufacturer      Path
winlogon  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\winlogon.exe
ntdll    5.2.3788.0 (srv03_rtm.030317-2234) 722.50 KB (739,840 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\ntdll.dll
kernel32  5.2.3788.0 (srv03_rtm.030317-2234) 965.00 KB (988,160
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\kernel32.dll
msvcrt   7.0.3788.0 (srv03_rtm.030317-2234) 319.50 KB (327,168 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\msvcrt.dll
advapi32 5.2.3788.0 (srv03_rtm.030317-2234) 559.50 KB (572,928
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\advapi32.dll
rpcrt4   5.2.3788.0 (srv03_rtm.030317-2234) 644.00 KB (659,456 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\rpcrt4.dll
user32   5.2.3788.0 (srv03_rtm.030317-2234) 562.00 KB (575,488 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\user32.dll
gdi32    5.2.3788.0 (srv03_rtm.030317-2234) 263.00 KB (269,312 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\gdi32.dll
userenv  5.2.3788.0 (srv03_rtm.030317-2234) 732.50 KB (750,080 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\userenv.dll
nddeapi  5.2.3788.0 (srv03_rtm.030317-2234) 16.00 KB (16,384 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\nddeapi.dll
crypt32  5.131.3788.0 (srv03_rtm.030317-2234) 598.00 KB (612,352 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\crypt32.dll
msasn1   5.2.3788.0 (srv03_rtm.030317-2234) 58.00 KB (59,392 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\msasn1.dll
secur32  5.2.3788.0 (srv03_rtm.030317-2234) 63.00 KB (64,512 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\secur32.dll
winsta   5.2.3788.0 (srv03_rtm.030317-2234) 51.00 KB (52,224 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\winsta.dll
netapi32 5.2.3788.0 (srv03_rtm.030317-2234) 317.00 KB (324,608
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\netapi32.dll
profmap  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\profmap.dll
regapi   5.2.3788.0 (srv03_rtm.030317-2234) 48.50 KB (49,664 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\regapi.dll

```

ws2\_32 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\ws2\_32.dll

ws2help 5.2.3788.0 (srv03\_rtm.030317-2234) 19.50 KB (19,968 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\ws2help.dll

psapi 5.2.3788.0 (srv03\_rtm.030317-2234) 21.50 KB (22,016 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\psapi.dll

version 5.2.3788.0 (srv03\_rtm.030317-2234) 17.00 KB (17,408 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\version.dll

setupapi 5.2.3788.0 (srv03\_rtm.030317-2234) 1,014.50 KB  
 (1,038,848 bytes) 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\setupapi.dll

msgina 5.2.3788.0 (srv03\_rtm.030317-2234) 1.14 MB (1,191,936 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\msgina.dll

shsvcs 6.00.3788.0 (srv03\_rtm.030317-2234) 121.50 KB (124,416 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\shsvcs.dll

shlwapi 6.00.3788.0 (srv03\_rtm.030317-2234) 281.00 KB (287,744 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\shlwapi.dll

sfc 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\sfc.dll

sfc\_os 5.2.3788.0 (srv03\_rtm.030317-2234) 133.00 KB (136,192 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\sfc\_os.dll

wintrust 5.131.3788.0 (srv03\_rtm.030317-2234) 161.50 KB (165,376  
 bytes) 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\wintrust.dll

ole32 5.2.3788.0 (srv03\_rtm.030317-2234) 1.13 MB (1,187,328 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\ole32.dll

imagehlp 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\imagehlp.dll

comctl32 6.0 (srv03\_rtm.030317-2234) 907.00 KB (928,768 bytes)  
 3/21/2003 6:34 AM 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) 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\wincard.dll

wtsapi32 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\wtsapi32.dll

sxs 5.2.3788.0 (srv03\_rtm.030317-2234) 733.00 KB (750,592 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\sxs.dll

winmm 5.2.3788.0 (srv03\_rtm.030317-2234) 166.00 KB (169,984 bytes)  
 3/18/2003 4:00 AM Microsoft Corporation  
 c:\windows\system32\winmm.dll

shell32 6.00.3788.0 (srv03\_rtm.030317-2234) 7.79 MB (8,166,400 bytes)  
 3/18/2003 4:00 AM 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

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

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

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

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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
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
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
msvc60 6.05.2144.0 388.00 KB (397,312 bytes) 3/18/2003 4:00 AM
Microsoft Corporation c:\windows\system32\msvc60.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

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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
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
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
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

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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) 3/25/2003 7:34 PM
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
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

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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 6.0.3788.0 (srv03_rtm.030317-2234) 609.00 KB (623,616 bytes)
3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\wininet.dll
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
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
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
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
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

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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
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
actxprxy 6.00.3788.0 (srv03_rtm.030317-2234) 95.00 KB (97,280
bytes) 3/18/2003 4:00 AM Microsoft Corporation
c:\windows\system32\actxprxy.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

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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
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
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
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_128awe\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

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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
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
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
jscript 5.6.0.8515 436.00 KB (446,464 bytes) 3/18/2003 4:00 AM
Microsoft Corporation c:\windows\system32\jscript.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
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
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
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
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	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	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\dllhost.exe /processid:{02d4b3f1-fd88-11d1-960d-00805fc79235}	Normal	LocalSystem	0		
Cryptographic Services CryptSvc		Stopped	Manual	Share Process		
	c:\windows\system32\svchost.exe -k netsvcs	Normal	LocalSystem	0		
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	dmdadmin	Stopped	Manual	Share		
Process	c:\windows\system32\dmdadmin.exe /com	Normal	LocalSystem	0		

Logical Disk Manager dmserver Running Auto Share Process  
 c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

DNS Client Dnscache Stopped Manual Share Process  
 c:\windows\system32\svchost.exe -k networkservice Normal NT

AUTHORITY\NetworkService 0

Error Reporting Service ERSvc Stopped 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 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 mnmsrv Stopped Disabled Own  
 Process c:\windows\system32\mnmsrv.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\binn\sqlservr.exe Normal LocalSystem 0

MSSQLServerADHelper MSSQLServerADHelper Stopped Manual Own Process  
 c:\program files\microsoft sql server\80\tools\binn\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 0

Network Location Awareness (NLA) Nla Running Manual Share Process  
 c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

File Replication NtFrs Stopped Manual Own Process  
 c:\windows\system32\ntfrs.exe Ignore LocalSystem 0

NT LM Security Support Provider NtLmSsp Stopped Manual Share Process  
 c:\windows\system32\lsass.exe Normal LocalSystem 0

Removable Storage NtmsSvc Stopped Manual Share Process  
 c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Plug and Play PlugPlay Running Auto Share Process  
 c:\windows\system32\services.exe Normal LocalSystem 0

IPSEC Services PolicyAgent Stopped Manual Share Process  
 c:\windows\system32\lsass.exe Normal LocalSystem 0

Protected Storage ProtectedStorage Running Auto Share Process  
 c:\windows\system32\lsass.exe Normal LocalSystem 0

Remote Access Auto Connection Manager RasAuto Stopped Manual Share Process  
 c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Remote Access Connection Manager RasMan Stopped Manual Share Process  
 c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Remote Desktop Help Session Manager RDSessMgr Stopped Manual Own  
 Process c:\windows\system32\sessmgr.exe Normal LocalSystem 0

Routing and Remote Access RemoteAccess Stopped Disabled Share  
 Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem 0

Remote Registry RemoteRegistry Running Auto Share Process  
 c:\windows\system32\svchost.exe -k regsvc Normal NT

AUTHORITY\LocalService 0

Remote Procedure Call (RPC) Locator RpcLocator Stopped Manual Own  
 Process c:\windows\system32\locator.exe Normal NT

AUTHORITY\NetworkService 0



```

Remote Procedure Call (RPC) RpcSs Running Auto Share Process
  c:\windows\system32\svchost -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 sacsvr Stopped Manual Share Process
  c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Security Accounts Manager SamSs Running Auto Share Process
  c:\windows\system32\lsass.exe Normal LocalSystem 0

Smart Card SCardSvr Stopped Manual Share Process
  c:\windows\system32\scardsvr.exe Ignore NT
AUTHORITY\LocalService 0

Task Scheduler Schedule Stopped Manual Share Process
  c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Secondary Logon seclogon Running Auto Share Process
  c:\windows\system32\svchost.exe -k netsvcs Ignore LocalSystem
0

System Event Notification SENS Running Auto Share Process
  c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Shell Hardware Detection ShellHWDetection Running Auto Share
Process c:\windows\system32\svchost.exe -k netsvcs Ignore LocalSystem
0

Print Spooler Spooler Stopped Manual Own Process
  c:\windows\system32\spoolsv.exe Normal LocalSystem 0

SQLSERVERAGENT SQLSERVERAGENT Stopped Manual Own Process
  c:\sql80\mssql\binn\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 0

Microsoft Software Shadow Copy Provider swprv Stopped Manual Own
Process c:\windows\system32\svchost.exe -k swprv Normal LocalSystem
0

Performance Logs and Alerts SysmonLog Stopped Manual Own Process
  c:\windows\system32\smlogsvc.exe Normal NT
Authority\NetworkService 0

Telephony Tapisrv Stopped Manual Share Process
  c:\windows\system32\svchost.exe -k tapisrv Normal LocalSystem
0

Terminal Services TermService Running Manual Share Process
  c:\windows\system32\svchost.exe -k termsvcs Normal LocalSystem
0

Themes Themes Stopped Disabled Share Process
  c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Telnet TlntSvr Stopped Disabled Own Process
  c:\windows\system32\tlntsvr.exe Normal NT
AUTHORITY\LocalService 0

Distributed Link Tracking Server TrkSvr Stopped Disabled Share
Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Distributed Link Tracking Client TrkWks Stopped Manual Share Process
  c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

```

```

Terminal Services Session Directory Tssdis Stopped Disabled Own
Process c:\windows\system32\tssdis.exe Normal LocalSystem 0

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
0

Uninterruptible Power Supply UPS Stopped Manual Own Process
  c:\windows\system32\ups.exe Normal NT AUTHORITY\LocalService
0

Virtual Disk Service vds Stopped Manual Own Process
  c:\windows\system32\vds.exe Normal LocalSystem 0

Volume Shadow Copy VSS Stopped Manual Own Process
  c:\windows\system32\vssvc.exe Normal LocalSystem 0

Windows Time W32Time Running Auto Share Process
  c:\windows\system32\svchost.exe -k 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 WndmPmSN Stopped Manual Share
Process c:\windows\system32\svchost.exe -k netsvcs Normal LocalSystem
0

Windows Management Instrumentation Driver Extensions Wmi Stopped Manual
Share Process c:\windows\system32\svchost.exe -k netsvcs Normal
LocalSystem 0

WMI Performance Adapter WmiApSrv Stopped Manual Own Process
  c:\windows\system32\wbem\wmiapsrv.exe Normal LocalSystem 0

Automatic Updates wuauerv Stopped 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  
 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
browseic.dll	6.0.3788.0	62 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
cdfview.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
mshtmler.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: MV-BOBDYLAN  
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: CLIENT1  
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: gnivia2

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: 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: 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 - nxÎÇz.Ã.

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQLServer\CurrentVersi  
on  
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\SuperSocketNet  
etLib\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 [0x00f000f] , 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: AllowInProcess  
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: AllowInProcess  
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: AllowInProcess  
Type: REG\_DWORD  
Data: 0x1

Key Name:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Providers\MSIDX  
S  
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\MSQLImpProv  
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\MSSEARCHSQL  
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\SQLOLEDB  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:54 PM  
Value 0  
Name: AllowInProcess  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: DisallowAdhocAccess  
Type: REG\_DWORD  
Data: 0

Key Name: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\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

<pre> 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:    &lt;NO CLASS&gt; 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\SQLREPPSS.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\SQLREPPSS.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\SQLREPPSS.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 </pre>	<pre> Data:          c:\sql80\MSSQL\BINN\SQLREPPSS.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\SQLREPPSS.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:    &lt;NO CLASS&gt; 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 </pre>
---	--

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  
 00000010 30 2d 30 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  
 .....^.>[Û#  
 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\SQLEW  
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\SQLEW\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\Control\Session Manager\Kernel

Key Name:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\kernel  
Class Name: <NO CLASS>  
Last Write Time: 3/25/2003 - 2:05 PM  
Value 0  
Name: obcaseinsensitive  
Type: REG\_DWORD  
Data: 0x1

Value 1  
Name: ObUnsecureGlobalNames  
Type: REG\_MULTI\_SZ  
Data: netfxcustomperfcounters.1.0  
SharedPerfIPCBLOCK  
Cor\_Private\_IPCBLOCK

Value 2  
Name: XMMIZeroingDisable  
Type: REG\_DWORD  
Data: 0x1

## 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
.....ÿ...
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  
r¹õ.à.-k NASû´°

Value 10  
Name: WbemAdapFileTime  
Type: REG\_BINARY  
Data: ec 4b c6 4b ef f2 c2 01 - iKÆKiðÃ.

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  
Type: REG\_SZ  
Data:  
SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
000000000006000

Value 8  
Name: 21  
Type: REG\_SZ  
Data:  
SCSI\Disk&Ven\_UNISYS\_\_VirtualStorage\_\_01.0\1&1a590e2c&0&1D4000861000001000  
000000000007000

Value 9  
Name: 20  
Type: REG\_SZ

Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 000000000008000	Value 18 Name: 37 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000005000
Value 10 Name: 19 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 000000000009000	Value 19 Name: 36 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000006000
Value 11 Name: 18 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 00000000000A000	Value 20 Name: 35 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000007000
Value 12 Name: 17 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 00000000000B000	Value 21 Name: 34 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000008000
Value 13 Name: 16 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000 00000000000C000	Value 22 Name: 33 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000009000
Value 14 Name: 41 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000001000	Value 23 Name: 32 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000A000
Value 15 Name: 40 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000002000	Value 24 Name: 31 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000B000
Value 16 Name: 39 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000003000	Value 25 Name: 30 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 00000000000C000
Value 17 Name: 38 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000004000	Value 26 Name: 55



Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Data:			000000000009000
Value 27		Value 35	
Name:	54	Name:	46
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			00000000000A000
000000000002000		Value 36	
Value 28		Name:	45
Name:	53	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Data:			00000000000B000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Value 37	
000000000003000		Name:	44
Value 29		Type:	REG_SZ
Name:	52	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000
Type:	REG_SZ		00000000000C000
Data:		Value 38	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Name:	13
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		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000
000000000006000			000000000003000
Value 32		Value 41	
Name:	49	Name:	10
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000			000000000004000
000000000007000		Value 42	
Value 33		Name:	9
Name:	48	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000
Data:			000000000005000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000		Value 34	
000000000008000		Name:	47
Value 34		Type:	REG_SZ
Name:	47		

Value 43		Type:	REG_SZ
Name:	8	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000
Type:	REG_SZ		000000000009000
Data:		Value 52	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Name:	69
000000000006000		Type:	REG_SZ
Value 44		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000
Name:	7		00000000000A000
Type:	REG_SZ	Value 53	
Data:		Name:	68
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Type:	REG_SZ
000000000007000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000
Value 45			00000000000B000
Name:	6	Value 54	
Type:	REG_SZ	Name:	28
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&454000861000001000
000000000008000			00000000000B000
Value 46		Value 55	
Name:	5	Name:	64
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000			000000000001000
000000000009000		Value 56	
Value 47		Name:	62
Name:	4	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
Data:			000000000001000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Value 57	
00000000000A000		Name:	60
Value 48		Type:	REG_SZ
Name:	3	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
Type:	REG_SZ		000000000002000
Data:		Value 58	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Name:	59
00000000000B000		Type:	REG_SZ
Value 49		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
Name:	2		000000000003000
Type:	REG_SZ	Value 59	
Data:		Name:	65
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Type:	REG_SZ
00000000000C000			
Value 50		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
Name:	66		000000000004000
Type:	REG_SZ	Value 59	
Data:		Name:	65
SCSI\Disk&Ven_DGC_____RAID_10_____0099\1&1a590e2c&0&A72420106001065000		Type:	REG_SZ
000000000000000			
Value 51			
Name:	70		

Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000005000	Value 68 Name: 0 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000004000
Value 60 Name: 63 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000006000	Value 69 Name: 43 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000005000
Value 61 Name: 61 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000007000	Value 70 Name: 14 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000006000
Value 62 Name: 67 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000008000	Value 71 Name: 1 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000007000
Value 63 Name: 57 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 000000000009000	Value 72 Name: 56 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000008000
Value 64 Name: 58 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000 00000000000A000	Key Name: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ifdisk\Security Class Name: <NO CLASS> 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 .....
Value 65 Name: 15 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000001000	
Value 66 Name: 42 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000002000	
Value 67 Name: 29 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&154000861000001000 000000000003000	

```

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: 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
.....ÿ...
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
.....ý...
00000080 01 02 00 00 00 00 00 05 - 20 00 00 00 23 02 00 00 .....
...#...
00000090 01 01 00 00 00 00 00 05 - 12 00 00 00 01 01 00 00
.....
00 00 00 05 12 00 00 00 - .....

```

```

Key Name:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\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
  Type: REG_SZ
  Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
00000000000B000

Value 6
  Name: 4
  Type: REG_SZ
  Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&454000861000001000
00000000000A000

Value 7
  Name: 5

```

Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000009000
Data:			0000000000001000
Value 8		Value 16	
Name:	6	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&A53F008610000010000000000000C000
Data:	0000000000008000		
Value 9		Value 17	
Name:	7	Name:	15
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&A53F008610000010000000000000B000
Data:	0000000000007000		
Value 10		Value 18	
Name:	8	Name:	16
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&A53F008610000010000000000000A000
Data:	0000000000006000		
Value 11		Value 19	
Name:	9	Name:	17
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&A53F0086100000100000000000009000
Data:	0000000000005000		
Value 12		Value 20	
Name:	10	Name:	18
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&A53F0086100000100000000000008000
Data:	0000000000004000		
Value 13		Value 21	
Name:	11	Name:	19
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000003000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000007000
Data:	0000000000003000		
Value 14		Value 22	
Name:	12	Name:	20
Type:	REG_SZ	Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&45400086100000100000000000002000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000006000
Data:	0000000000002000		
Value 15		Value 23	
Name:	13	Name:	21
Type:	REG_SZ	Type:	REG_SZ
		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F0086100000100000000000005000



Value 24		Type:	REG_SZ
Name:	22	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Type:	REG_SZ		000000000008000
Data:		Value 33	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Name:	31
000000000004000		Type:	REG_SZ
Value 25		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Name:	23		000000000007000
Type:	REG_SZ	Value 34	
Data:		Name:	32
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&A53F00861000001000		Type:	REG_SZ
000000000003000		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Value 26			000000000006000
Name:	24	Value 35	
Type:	REG_SZ	Name:	33
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
000000000002000			000000000005000
Value 27		Value 36	
Name:	25	Name:	34
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			000000000004000
000000000001000		Value 37	
Value 28		Name:	35
Name:	26	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Data:			0000000000004000
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000		Value 38	
000000000000C000		Name:	36
Value 29		Type:	REG_SZ
Name:	27	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Type:	REG_SZ		000000000003000
Data:		Value 39	
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000		Name:	37
000000000000B000		Type:	REG_SZ
Value 30		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000
Name:	28		000000000002000
Type:	REG_SZ	Value 40	
Data:		Name:	38
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000		Type:	REG_SZ
000000000000A000			
Value 31			
Name:	29		
Type:	REG_SZ		
Data:			
SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&1D4000861000001000			
0000000000009000			
Value 32			
Name:	30		

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&6F4000861000001000 000000000009000
Value 47 Name: 45 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000005000	Value 56 Name: 54 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F4000861000001000 000000000008000
Value 48 Name: 46 Type: REG_SZ Data: SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6D4000861000001000 000000000004000	Value 57 Name: 55

Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000007000
Data:		Data:	000000000000A000
Value 58		Value 66	
Name:	56	Name:	64
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000009000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000006000	Value 67	
Value 59		Name:	65
Name:	57	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000008000
Data:		Value 68	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000005000	Name:	66
Value 60		Type:	REG_SZ
Name:	58	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000007000
Type:	REG_SZ	Value 69	
Data:		Name:	67
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000004000	Type:	REG_SZ
Value 61		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000006000
Name:	59	Value 70	
Type:	REG_SZ	Name:	68
Data:		Type:	REG_SZ
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000003000	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000005000
Value 62		Value 71	
Name:	60	Name:	69
Type:	REG_SZ	Type:	REG_SZ
Data:		Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000004000
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000002000	Value 72	
Value 63		Name:	70
Name:	61	Type:	REG_SZ
Type:	REG_SZ	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000003000
Data:		Value 73	
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000001000	Name:	71
Value 64		Type:	REG_SZ
Name:	62	Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F400086100000100000000000002000
Type:	REG_SZ		
Data:			
Data:	SCSI\Disk&Ven_UNISYS__VirtualStorage__01.0\1&1a590e2c&0&6F40008610000010000000000000B000		
Value 65			
Name:	63		
Type:	REG_SZ		

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: 04/14/2003 01:17:10 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 1,827,016 KB  
 Total Virtual Memory 6,132,936 KB  
 Available Virtual Memory 5,745,704 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
0xE000-0xEFFF	PCI Device	OK
0xE000-0xEFFF	PCI Device	OK
0xE000-0xEFFF	PCI Device	OK
0xE000-0xEFFF	PCI Device	OK
0xE000-0xEFFF	ATI Technologies Inc. RAGE XL PCI	OK
0xE000-0xEFFF	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
0xFEB00000-0xFEB7FFFF	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
0xFFE00000-0xFFFFFFF	System board	OK
0xFE100000-0xFE100FFF	Standard OpenHCD USB Host Controller	OK
0xF9000000-0xFADFFFFFF	PCI bus	OK
0xFAC00000-0xFADFFFFFF	PCI standard PCI-to-PCI bridge	OK
0xFACFF000-0xFACFFFFF	Adaptec AIC-7899 Ultra160/m PCI SCSI Card	OK
0xFACFE000-0xFACFEFFF	Adaptec AIC-7899 Ultra160/m PCI SCSI Card	OK
0xFAE00000-0xFAFFFFFF	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\lhacm.acm	Microsoft Corporation					OK
	C:\WINNT\System32\LHACM.ACM	4.4.3385			33.27 KB	(34,064 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\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\tssoft32.acm	DSP GROUP, INC.					OK
	C:\WINNT\System32\TSSOFT32.ACM	1.01			9.27 KB	(9,488 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\msgsm32.acm	Microsoft Corporation					OK
	C:\WINNT\System32\MSGSM32.ACM	5.00.2134.1			22.27 KB	(22,800 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\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)
c:\winnt\system32\msh263.drv	Microsoft Corporation					OK
	C:\WINNT\System32\MSH263.DRV	4.4.3385			252.27 KB	(258,320 bytes)
c:\winnt\system32\msh261.drv	Microsoft Corporation					OK
	C:\WINNT\System32\MSH261.DRV	4.4.3385			163.77 KB	(167,696 bytes)
c:\winnt\system32\msrle32.dll	Microsoft Corporation					OK
	C:\WINNT\System32\MSRLE32.DLL	5.00.2134.1			10.77 KB	(11,024 bytes)
c:\winnt\system32\ir32_32.dll	Intel(R) Corporation					OK
	C:\WINNT\System32\IR32_32.DLL	Not Available			194.50 KB	(199,168 bytes)

```

c:\winnt\system32\iccvid.dll Radius Inc. OK
C:\WINNT\System32\ICCVID.DLL 1.10.0.6 108.00 KB (110,592
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

```

[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 4/6/2003 3:43:25 PM
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 4/6/2003 3:43:25 PM
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\_PPTP\MINIPORT\0000  
Last Reset 4/6/2003 3:43:25 PM  
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\raspptp.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\_PT\MINIPORT\0000  
Last Reset 4/6/2003 3:43:25 PM  
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 4/6/2003 3:43:25 PM  
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 4/6/2003 3:43:25 PM  
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 4/6/2003 3:43:25 PM  
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 4/6/2003 3:43:25 PM  
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}] SEQPACKET 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}] SEQPACKET 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 13.44 GB (14,435,123,200 bytes)
Volume Name
Volume Serial Number COE2039E
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 adpul60m
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\adpul60m.sys (64432, v3.10a)

```

```

Name Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Caption Adaptec AIC-7899 Ultra160/m PCI SCSI Card
Driver adpul60m
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\adpul60m.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&20
  28
PCI Device
  PCI\VEN_1028&DEV_0008&SUBSYS_00081028&REV_00\3&13C0B0C5&0&21
  28
PCI Device
  PCI\VEN_1028&DEV_000D&SUBSYS_000D1028&REV_00\3&13C0B0C5&0&22
  28

```

[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
	Error Control	Accept	Pause	Accept	Stop			
abiosdsk	Abiosdsk	Not Available	Kernel Driver	False	False	False	False	False
	Disabled	Stopped OK	Ignore	False	False	False	False	False
abp480n5	abp480n5	Not Available	Kernel Driver	False	False	False	False	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
acpi	Microsoft ACPI Driver	c:\winnt\system32\drivers\acpi.sys	Kernel Driver	True	Running OK	Normal	False	True
acpiec	ACPIEC	c:\winnt\system32\drivers\acpiec.sys	Kernel Driver	False	Stopped OK	Normal	False	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
adpu160m	adpu160m	c:\winnt\system32\drivers\adpu160m.sys	Kernel Driver	True	Boot	Running OK	Normal	False
	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	Auto
	Running OK	Normal	False	True	True	True	True	Auto
aha154x	Aha154x	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
aic116x	aic116x	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
aic78u2	aic78u2	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
aic78xx	aic78xx	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
ami0nt	ami0nt	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
amsint	amsint	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
asc	asc	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
asc3350p	asc3350p	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
asc3550	asc3550	Not Available	Kernel Driver	False	Disabled	False	Disabled	False
	Stopped OK	Normal	False	False	False	False	False	False
asynmac	RAS Asynchronous Media Driver	c:\winnt\system32\drivers\asynmac.sys	Kernel Driver	False	Stopped OK	Normal	False	False
	Manual	Stopped OK	Normal	False	False	False	False	False

ataapi	Standard IDE/ESDI Hard Disk Controller	c:\winnt\system32\drivers\ataapi.sys	Kernel Driver	True	Running OK	Normal	False	True
	Running OK	Normal	False	True	True	True	True	Boot
atdisk	Atdisk	Not Available	Kernel Driver	False	Stopped OK	Ignore	False	Disabled
	Stopped OK	Ignore	False	False	False	False	False	False
atirage3	atirage3	c:\winnt\system32\drivers\atimpab.sys	Kernel Driver	True	Manual	Running OK	Ignore	False
	Driver	True	Manual	Running OK	Ignore	False	True	True
atmarpc	ATM ARP Client Protocol	c:\winnt\system32\drivers\atmarpc.sys	Kernel Driver	False	Stopped OK	Normal	False	Manual
	Stopped OK	Normal	False	False	False	False	False	Manual
audstub	Audio Stub Driver	c:\winnt\system32\drivers\audstub.sys	Kernel Driver	True	Manual	Running OK	Normal	False
	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	Manual
	Running OK	Normal	False	True	True	True	True	Manual
beep	Beep	c:\winnt\system32\drivers\beep.sys	Kernel Driver	True	System	Running OK	Normal	False
	System	Running OK	Normal	False	True	True	True	True
buslogic	BusLogic	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
cd20xrnt	cd20xrnt	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
cdaudio	Cdaudio	c:\winnt\system32\drivers\cdaudio.sys	Kernel Driver	False	System	Stopped OK	Ignore	False
	System	Stopped OK	Ignore	False	False	False	False	False
cdfs	Cdfs	c:\winnt\system32\drivers\cdfs.sys	File System Driver	True	Disabled	Running OK	Normal	False
	True	Disabled	Running OK	Normal	False	True	True	True
cdrom	CD-ROM Driver	c:\winnt\system32\drivers\cdrom.sys	Kernel Driver	True	System	Running OK	Normal	False
	True	System	Running OK	Normal	False	True	True	True
changer	Changer	Not Available	Kernel Driver	False	Ignore	False	False	System
	Ignore	False	False	False	False	False	False	Stopped OK
cpqarray	Cpqarray	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
cpqarray2	cpqarray2	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
cpqfcalm	cpqfcalm	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
cpqfws2e	cpqfws2e	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
dac960nt	dac960nt	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
deckzpsx	deckzpsx	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
dfsdriver	DfsDriver	c:\winnt\system32\drivers\dfs.sys	File System Driver	True	Boot	Running OK	Normal	False
	System	Driver	True	Boot	Running OK	Normal	False	True
disk	Disk Driver	c:\winnt\system32\drivers\disk.sys	Kernel Driver	True	Boot	Running OK	Normal	False
	True	Boot	Running OK	Normal	False	True	True	True
diskperf	Diskperf	c:\winnt\system32\drivers\diskperf.sys	Kernel Driver	True	Boot	Running OK	Normal	False
	Kernel	Driver	True	Boot	Running OK	Normal	False	True
dmboot	dmboot	c:\winnt\system32\drivers\dmboot.sys	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False
dmio	Logical Disk Manager Driver	c:\winnt\system32\drivers\dmio.sys	Kernel Driver	True	Boot	Running OK	Normal	False
	Kernel	Driver	True	Boot	Running OK	Normal	False	True
dmload	dmload	c:\winnt\system32\drivers\dmload.sys	Kernel Driver	True	Boot	Running OK	Normal	False
	Boot	Running OK	Normal	False	True	True	True	True
efs	EFS	c:\winnt\system32\drivers\efs.sys	File System Driver	True	Disabled	Running OK	Normal	False
	True	Disabled	Running OK	Normal	False	True	True	True
fastfat	Fastfat	c:\winnt\system32\drivers\fastfat.sys	File System Driver	True	Disabled	Running OK	Normal	False
	True	Disabled	Running OK	Normal	False	True	True	True
fd16_700	Fd16_700	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False
	Disabled	Stopped OK	Normal	False	False	False	False	False

fdc	Floppy Disk Controller Driver	c:\winnt\system32\drivers\fdc.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
fips	Fips	c:\winnt\system32\drivers\fips.sys	Kernel Driver	True	Auto	Running	OK	Normal	False	True
fireport	fireport	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	True
flashpnt	flashpnt	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False
flpydisk	Floppy Disk Driver	c:\winnt\system32\drivers\flpydisk.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
ftdisk	Volume Manager Driver	c:\winnt\system32\drivers\ftdisk.sys	Kernel Driver	True	Boot	Running	OK	Normal	False	True
gnindis	CLAN NDIS Driver	c:\winnt\system32\drivers\gnindis.sys	Kernel Driver	True	Auto	Running	OK	Normal	False	True
gnivia	CLAN VIA Driver	c:\winnt\system32\drivers\gnivia.sys	Kernel Driver	True	Auto	Running	OK	Normal	False	True
gpc	Generic Packet Classifier	c:\winnt\system32\drivers\msgpc.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver	c:\winnt\system32\drivers\i8042prt.sys	Kernel Driver	True	System	Running	OK	Normal	False	True
ini910u	ini910u Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False	True
intelide	IntelIde	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False
ipfilterdriver	IP Traffic Filter Driver	c:\winnt\system32\drivers\ipfltdrv.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
ipinip	IP in IP Tunnel Driver	c:\winnt\system32\drivers\ipinip.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
ipnat	IP Network Address Translator	c:\winnt\system32\drivers\ipnat.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
ipsec	IPSEC driver	c:\winnt\system32\drivers\ipsec.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
ipsraidn	ipsraidn	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False
irenum	IR Enumerator Service	c:\winnt\system32\drivers\irenum.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
isapnp	PnP ISA/EISA Bus Driver	c:\winnt\system32\drivers\isapnp.sys	Kernel Driver	True	Boot	Running	OK	Critical	False	True
kbdclass	Keyboard Class Driver	c:\winnt\system32\drivers\kbdclass.sys	Kernel Driver	True	System	Running	OK	Normal	False	True
ksecdd	KSecDD	c:\winnt\system32\drivers\ksecdd.sys	Kernel Driver	True	Boot	Running	OK	Normal	False	True
lbrtfdc	lbrtfdc	Not Available	Kernel Driver	False	Ignore	False	False	Kernel	Driver	Stopped
lp6nds35	lp6nds35	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False
mmdd	mmdd	c:\winnt\system32\drivers\mmdd.sys	Kernel Driver	True	System	Running	OK	Ignore	False	True
modem	Modem	c:\winnt\system32\drivers\modem.sys	Kernel Driver	False	Manual	Stopped	OK	Ignore	False	False
mouclass	Mouse Class Driver	c:\winnt\system32\drivers\mouclass.sys	Kernel Driver	True	System	Running	OK	Normal	False	True
mountmgr	MountMgr	c:\winnt\system32\drivers\mountmgr.sys	Kernel Driver	True	Boot	Running	OK	Normal	False	True
mraid35x	mraid35x	Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False
mrxsm	MRXSMB	c:\winnt\system32\drivers\mrxsm.sys	File System Driver	True	System	Running	OK	Normal	False	True
msfs	Msfs	c:\winnt\system32\drivers\msfs.sys	File System Driver	True	System	Running	OK	Normal	False	True
mkserv	Microsoft Streaming Service Proxy	c:\winnt\system32\drivers\mkserv.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
mspclock	Microsoft Streaming Clock Proxy	c:\winnt\system32\drivers\mspclock.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
mspqm	Microsoft Streaming Quality Manager Proxy	c:\winnt\system32\drivers\mspqm.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
mup	Mup	c:\winnt\system32\drivers\mup.sys	File System Driver	True	Boot	Running	OK	Normal	False	True
ncrc710	Nrc710 Not Available	Kernel Driver	False	Disabled	Stopped	OK	Normal	False	False	True
ndis	NDIS System Driver	c:\winnt\system32\drivers\ndis.sys	Kernel Driver	True	Boot	Running	OK	Normal	False	True
ndistapi	Remote Access NDIS TAPI Driver	c:\winnt\system32\drivers\ndistapi.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
ndiswan	Remote Access NDIS WAN Driver	c:\winnt\system32\drivers\ndiswan.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
ndproxy	NDIS Proxy	c:\winnt\system32\drivers\ndproxy.sys	Kernel Driver	True	Manual	Running	OK	Normal	False	True
netbios	NetBIOS Interface	c:\winnt\system32\drivers\netbios.sys	File System Driver	True	System	Running	OK	Normal	False	True
netbt	NetBios over Tcpip	c:\winnt\system32\drivers\netbt.sys	Kernel Driver	True	System	Running	OK	Normal	False	True
netdetect	NetDetect	c:\winnt\system32\drivers\netdetect.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
npfs	Npfs	c:\winnt\system32\drivers\npfs.sys	File System Driver	True	System	Running	OK	Normal	False	True
ntfs	Ntfs	c:\winnt\system32\drivers\ntfs.sys	File System Driver	True	Disabled	Running	OK	Normal	False	True
null	Null	c:\winnt\system32\drivers\null.sys	Kernel Driver	True	System	Running	OK	Normal	False	True
nwlkflt	IPX Traffic Filter Driver	c:\winnt\system32\drivers\nwlkflt.sys	Kernel Driver	False	Manual	Stopped	OK	Normal	False	False
nwlkfwd	IPX Traffic Forwarder Driver	c:\winnt\system32\drivers\nwlkfwd.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						serial	Serial port driver	c:\winnt\system32\drivers\serial.sys	Kernel Driver	True	System Running OK	Ignore	False	True		
pci	PCI Bus	c:\winnt\system32\drivers\pci.sys	Kernel Driver	True	Boot	Running OK	Critical	False	True	sfloppy	Sfloppy	c:\winnt\system32\drivers\sfloppy.sys	Kernel Driver	False	System Stopped OK	Ignore	False	False		
pcidump	PCIDump	Not Available	Kernel Driver	False	System	Stopped OK				sglfb	sglfb	Not Available	Kernel Driver	False	System Stopped OK					
pciide	PCIIde	c:\winnt\system32\drivers\pciide.sys	Kernel Driver	True	Boot	Running OK	Normal	False	True	simbad	Simbad	Not Available	Kernel Driver	False	Disabled					
pcmcia	Pcmcia	c:\winnt\system32\drivers\pcmcia.sys	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	sparrow	Sparrow	Not Available	Kernel Driver	False	Disabled					
pdcomp	PDCOMP	Not Available	Kernel Driver	False	Manual	Stopped OK				spud	Special Purpose Utility Driver	c:\winnt\system32\drivers\spud.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	
pdframe	PDFRAME	Not Available	Kernel Driver	False	Manual	Stopped OK				srv	Srv	c:\winnt\system32\drivers\srv.sys	File System Driver	True	Manual	Running OK	Normal	False	True	
pdreli	PDRELI	Not Available	Kernel Driver	False	Manual	Stopped OK				swenum	Software Bus Driver	c:\winnt\system32\drivers\swenum.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	
pdrframe	PDRFRAME	Not Available	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	symc810	symc810	Not Available	Kernel Driver	False	Disabled					
pptpminiport	WAN Miniport (PPTP)	c:\winnt\system32\drivers\raspttp.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	symc8xx	symc8xx	Not Available	Kernel Driver	False	Disabled					
ptilink	Direct Parallel Link Driver	c:\winnt\system32\drivers\ptilink.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	sym_hi	sym_hi	Not Available	Kernel Driver	False	Disabled					
ql1080	ql1080	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		
ql10wnt	Ql10wnt	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	tdasync	TDASync	c:\winnt\system32\drivers\tdasync.sys	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	
ql1240	ql1240	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	tdipx	TDIPX	c:\winnt\system32\drivers\tdipx.sys	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	
ql2100	ql2100	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	tdnetb	TDNETB	c:\winnt\system32\drivers\tdnetb.sys	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	
ql2300	ql2300	c:\winnt\system32\drivers\ql2300.sys	Kernel Driver	False	Boot	Stopped OK	Normal	False	False	tdpipe	TDPIPE	c:\winnt\system32\drivers\tdpipe.sys	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	
qlvika	qlvika	Not Available	Kernel Driver	False	Auto	Stopped OK	Normal	False	False	tdspix	TDSPX	c:\winnt\system32\drivers\tdspix.sys	Kernel Driver	False	Manual	Stopped OK	Ignore	False	False	
rasacd	Remote Access Auto Connection Driver	c:\winnt\system32\drivers\rasacd.sys	Kernel Driver	True	System	Running OK	Normal	False	True	tdtcp	TDTCP	c:\winnt\system32\drivers\tdtcp.sys	Kernel Driver	True	Manual	Running OK	Ignore	False	True	
rasl2tp	WAN Miniport (L2TP)	c:\winnt\system32\drivers\rasl2tp.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	termdd	Terminal Device Driver	c:\winnt\system32\drivers\termdd.sys	Kernel Driver	True	Auto	Running OK	Normal	False	True	
raspti	Direct Parallel	c:\winnt\system32\drivers\raspti.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	tga	tga	Not Available	Kernel Driver	False	System Stopped OK	Ignore	False	False		
rca	Microsoft Streaming Network Raw Channel Access	c:\winnt\system32\drivers\rca.sys	Kernel Driver	False	Manual	Stopped OK	Normal	False	False	udfs	Udfs	c:\winnt\system32\drivers\udfs.sys	File System Driver	False	Disabled	Stopped OK	Normal	False	False	
rdbss	Rdbss	c:\winnt\system32\drivers\rdbss.sys	File System Driver	True	System	Running OK	Normal	False	True	ultra66	ultra66	Not Available	Kernel Driver	False	Disabled	Stopped OK	Normal	False	False	
rdpdr	Terminal Server Device Redirector Driver	c:\winnt\system32\drivers\rdpdr.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	update	Microcode Update Driver	c:\winnt\system32\drivers\update.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	usbhub	Microsoft USB Standard Hub Driver	c:\winnt\system32\drivers\usbhub.sys	Kernel Driver	True	Manual	Running OK	Normal	False	True	
redbook	Digital CD Audio Playback Filter Driver	c:\winnt\system32\drivers\redbook.sys	Kernel Driver	False	System	Stopped OK	Normal	False	False	vgasave	VgaSave	c:\winnt\system32\drivers\vga.sys	Kernel Driver	True	System Running OK	Ignore	False	True		
serenum	Serenum Filter Driver	c:\winnt\system32\drivers\serenum.sys	Kernel Driver	True	Manual	Running OK	Normal	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	Unknown
system	Not Available	8	8	0	1413120 Not Available
smss.exe	c:\winnt\system32\smss.exe	188	11	204800	
bytes)	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
winlogon.exe	c:\winnt\system32\winlogon.exe	212	13	204800	
bytes)	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	
bytes)	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
rhostsrvr.exe c:\rhost\rhostsrvr.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
msinfo32.exe c:\program files\common files\microsoft
shared\msinfo\msinfo32.exe 1544 8 204800 1413120 4/14/2003
1:16:40 AM 5.00.2134.1 15.77 KB (16,144 bytes) 11/14/2002
8:47:06 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

```

[Loaded Modules]

Name	Version	Size	File Date	Manufacturer	Path				
traffic.dll	5.00.2139.1	30.77 KB (31,504 bytes)	12/7/1999			wbemess.dll	1.50.1085.0074	364.07 KB (372,804 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\traffic.dll				9:53:50 PM	Microsoft Corporation	c:\winnt\system32\wbem\wbemess.dll	
rsvp.exe	5.00.2167.1	172.77 KB (176,912 bytes)	12/7/1999			fastprox.dll	1.50.1085.0056	144.08 KB (147,536 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\rsvp.exe				9:53:48 PM	Microsoft Corporation	c:\winnt\system32\wbem\fastprox.dll	
wbemprox.dll	1.50.1085.0045	40.08 KB (41,040 bytes)	11/14/2002			wbemcore.dll	1.50.1085.0085	628.07 KB (643,146 bytes)	11/14/2002
9:53:50 PM	Microsoft Corporation	c:\winnt\system32\wbem\wbemprox.dll				9:53:49 PM	Microsoft Corporation	c:\winnt\system32\wbem\wbemcore.dll	
cabinet.dll	5.00.2147.1	54.77 KB (56,080 bytes)	12/7/1999			wbemcomn.dll	1.50.1085.0077	692.07 KB (708,675 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\cabinet.dll				9:53:49 PM	Microsoft Corporation	c:\winnt\system32\wbem\wbemcomn.dll	
msinfo32.dll	5.00.2195.4601	312.27 KB (319,760 bytes)	11/14/2002			winmgmt.exe	1.50.1085.0070	192.08 KB (196,685 bytes)	11/14/2002
9:53:51 PM	Microsoft Corporation	c:\program files\common files\microsoft shared\msinfo\msinfo32.dll				9:53:50 PM	Microsoft Corporation	c:\winnt\system32\wbem\winmgmt.exe	
mfc42u.dll	6.00.8665.0	972.05 KB (995,384 bytes)	12/7/1999			msidle.dll	5.00.2920.0000	6.27 KB (6,416 bytes)	12/7/1999 4:00:00 AM
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\mfc42u.dll				Microsoft Corporation	c:\winnt\system32\msidle.dll		
msinfo32.exe	5.00.2134.1	15.77 KB (16,144 bytes)	11/14/2002			mstask.exe	4.71.2195.1	115.77 KB (118,544 bytes)	11/14/2002
8:47:06 PM	Microsoft Corporation	c:\program files\common files\microsoft shared\msinfo\msinfo32.exe				9:53:29 PM	Microsoft Corporation	c:\winnt\system32\mstask.exe	
rhostsvr.exe	Not Available	54.50 KB (55,808 bytes)	10/8/2002			regsvc.exe	5.00.2195.3649	65.27 KB (66,832 bytes)	11/14/2002
4:29:32 PM	Not Available	c:\rhost\rhostsvr.exe				9:53:37 PM	Microsoft Corporation	c:\winnt\system32\regsvc.exe	
ntshrui.dll	5.00.2134.1	46.77 KB (47,888 bytes)	12/7/1999			dcap32.dll	4.4.3385	35.77 KB (36,624 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\ntshrui.dll				8:47:09 PM	Microsoft Corporation	c:\program files\netmeeting\dcap32.dll	
linkinfo.dll	5.00.2134.1	15.77 KB (16,144 bytes)	12/7/1999			msvfw32.dll	5.00.2134.1	113.77 KB (116,496 bytes)	12/7/1999
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\linkinfo.dll				4:00:00 AM	Microsoft Corporation	c:\winnt\system32\msvfw32.dll	
msi.dll	2.0.2600.1	1.90 MB (1,991,168 bytes)	11/14/2002 9:53:27 PM			msacm32.dll	5.00.2134.1	65.27 KB (66,832 bytes)	12/7/1999
	Microsoft Corporation	c:\winnt\system32\msi.dll				4:00:00 AM	Microsoft Corporation	c:\winnt\system32\msacm32.dll	
powrprof.dll	5.00.3502.5305	13.27 KB (13,584 bytes)	11/14/2002			nac.dll	4.4.3385	196.77 KB (201,488 bytes)	11/14/2002 8:47:08 PM
9:53:36 PM	Microsoft Corporation	c:\winnt\system32\powrprof.dll				Microsoft Corporation	c:\program files\netmeeting\nac.dll		
batmeter.dll	5.00.3502.5305	20.27 KB (20,752 bytes)	11/14/2002			callcont.dll	4.4.3385	383.77 KB (392,976 bytes)	11/14/2002
9:53:10 PM	Microsoft Corporation	c:\winnt\system32\batmeter.dll				9:53:56 PM	Microsoft Corporation	c:\program files\netmeeting\callcont.dll	
stobject.dll	5.00.2195.4455	79.27 KB (81,168 bytes)	11/14/2002			h323cc.dll	4.4.3385	39.27 KB (40,208 bytes)	11/14/2002
9:53:41 PM	Microsoft Corporation	c:\winnt\system32\stobject.dll				8:47:08 PM	Microsoft Corporation	c:\program files\netmeeting\h323cc.dll	
webcheck.dll	5.00.3315.3727	250.77 KB (256,784 bytes)	11/14/2002			nmasnt.dll	4.4.3385	8.77 KB (8,976 bytes)	11/14/2002 8:47:08 PM
9:53:44 PM	Microsoft Corporation	c:\winnt\system32\webcheck.dll				Microsoft Corporation	c:\program files\netmeeting\nmasnt.dll		
browseui.dll	5.00.3502.4373	791.27 KB (810,256 bytes)	11/14/2002			nmas.dll	4.4.3385	207.27 KB (212,240 bytes)	11/14/2002
9:53:10 PM	Microsoft Corporation	c:\winnt\system32\browseui.dll				8:47:08 PM	Microsoft Corporation	c:\program files\netmeeting\nmas.dll	
shdocvw.dll	5.00.3502.5400	1.05 MB (1,105,168 bytes)	11/14/2002			mst120.dll	4.4.3385	241.77 KB (247,568 bytes)	11/14/2002
9:53:39 PM	Microsoft Corporation	c:\winnt\system32\shdocvw.dll				9:53:57 PM	Microsoft Corporation	c:\program files\netmeeting\mst120.dll	
explorer.exe	5.00.3502.5321	237.27 KB (242,960 bytes)	11/14/2002			nmcom.dll	4.4.3385	60.77 KB (62,224 bytes)	11/14/2002
9:53:45 PM	Microsoft Corporation	c:\winnt\explorer.exe				9:53:57 PM	Microsoft Corporation	c:\program files\netmeeting\nmcom.dll	
rdpclip.exe	5.00.2174.1	39.77 KB (40,720 bytes)	11/14/2002			mnmsrvc.exe	4.4.3385	21.27 KB (21,776 bytes)	11/14/2002
12:44:44 PM	Microsoft Corporation	c:\winnt\system32\rdpclip.exe				8:47:09 PM	Microsoft Corporation	c:\winnt\system32\mnmsrvc.exe	
wshnetbs.dll	5.00.2134.1	7.77 KB (7,952 bytes)	12/7/1999 4:00:00 AM			rasdlg.dll	5.00.2195.5438	515.77 KB (528,144 bytes)	12/7/1999
	Microsoft Corporation	c:\winnt\system32\wshnetbs.dll				4:00:00 AM	Microsoft Corporation	c:\winnt\system32\rasdlg.dll	
ntmarta.dll	5.00.2195.4836	99.77 KB (102,160 bytes)	11/14/2002			netcfgx.dll	5.00.2195.4874	534.77 KB (547,600 bytes)	11/14/2002
9:53:33 PM	Microsoft Corporation	c:\winnt\system32\ntmarta.dll				9:53:31 PM	Microsoft Corporation	c:\winnt\system32\netcfgx.dll	
provthrd.dll	1.50.1085.0000	68.07 KB (69,708 bytes)	11/14/2002			rasmans.dll	5.00.2195.5436	149.27 KB (152,848 bytes)	11/14/2002
8:46:58 PM	Microsoft Corporation	c:\winnt\system32\wbem\provthrd.dll				9:53:36 PM	Microsoft Corporation	c:\winnt\system32\rasmans.dll	
ntevt.dll	1.50.1085.0072	192.06 KB (196,671 bytes)	11/14/2002			wmi.dll	5.00.2191.1	6.27 KB (6,416 bytes)	12/7/1999 4:00:00 AM
9:53:49 PM	Microsoft Corporation	c:\winnt\system32\wbem\ntevt.dll				Microsoft Corporation	c:\winnt\system32\wmi.dll		
perfos.dll	5.00.2155.1	21.27 KB (21,776 bytes)	12/7/1999			netshell.dll	5.00.2195.5431	457.77 KB (468,752 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\perfos.dll				9:53:32 PM	Microsoft Corporation	c:\winnt\system32\netshell.dll	
psapi.dll	5.00.2134.1	28.27 KB (28,944 bytes)	12/7/1999			netman.dll	5.00.2195.5282	89.27 KB (91,408 bytes)	11/14/2002
4:00:00 AM	Microsoft Corporation	c:\winnt\system32\psapi.dll				9:53:32 PM	Microsoft Corporation	c:\winnt\system32\netman.dll	
framedyn.dll	1.50.1085.0076	164.07 KB (168,009 bytes)	11/14/2002			sens.dll	5.00.2163.1	36.77 KB (37,648 bytes)	12/7/1999
9:53:48 PM	Microsoft Corporation	c:\winnt\system32\wbem\framedyn.dll				4:00:00 AM	Microsoft Corporation	c:\winnt\system32\sens.dll	
cimwin32.dll	1.50.1085.0073	1.04 MB (1,085,520 bytes)	11/14/2002			es.dll	2000.2.3497.0	225.27 KB (230,672 bytes)	11/14/2002 9:53:17 PM
9:53:48 PM	Microsoft Corporation	c:\winnt\system32\wbem\cimwin32.dll				Microsoft Corporation	c:\winnt\system32\es.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							



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 Gigaset 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 Gigaset Incorporated c:\winnt\system32\gnconmgr.exe  
 rdpsx.dll 5.00.2195.5243 97.90 KB (100,248 bytes) 11/14/2002  
 9:53:37 PM Microsoft Corporation c:\winnt\system32\rdpsx.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  
 adslpcc.dll 5.00.2195.5400 127.77 KB (130,832 bytes) 11/14/2002  
 9:53:08 PM Microsoft Corporation c:\winnt\system32\adslpcc.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  
 ntlapi.dll 5.00.2195.4907 6.77 KB (6,928 bytes) 12/7/1999 4:00:00 AM  
 Microsoft Corporation c:\winnt\system32\ntlapi.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  
 srvsvc.dll 5.00.2195.5400 81.77 KB (83,728 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\srvsvc.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  
 umpnpmgr.dll 5.00.2182.1 86.27 KB (88,336 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\umpnpmgr.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.drvc 5.00.2195.5225 111.27 KB (113,936 bytes) 12/7/1999  
 4:00:00 AM Microsoft Corporation c:\winnt\system32\winspool.drvc  
 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  
 cscdll.dll 5.00.2195.5434 98.77 KB (101,136 bytes) 11/14/2002  
 9:53:13 PM Microsoft Corporation c:\winnt\system32\cscdll.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  
 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  
 ws2\_32.dll 5.00.2195.4874 66.77 KB (68,368 bytes) 11/14/2002  
 9:53:44 PM Microsoft Corporation c:\winnt\system32\ws2\_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			
	c:\winnt\system32\services.exe		Normal LocalSystem			0
Application Management	AppMgmt	Stopped Manual	Share Process			
	c:\winnt\system32\services.exe		Normal LocalSystem			0
Background Intelligent Transfer Service	BITS	Stopped Manual	Share Process			
Process	c:\winnt\system32\svchost.exe -k bitsgroup		Normal LocalSystem			0
Computer Browser	Browser	Running Auto	Share Process			
	c:\winnt\system32\services.exe		Normal LocalSystem			0
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			
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\inetnsrv\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			
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			
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 seclon  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\inetrv\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 -crhosthdr.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
browseic.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
enhsgl.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	8.0.0.6730.0	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
winsoc.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	13766 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

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 144
Maximum pool size 144
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 "LDAPsvc"
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 0x000002510 0x00000000
```

## MSSQL Server Registry Parameters

```
\registry\machine\software\microsoft\mssqlserver\client\connectto
DSQUERY = DBMSOCCN
DBSERVER = DENETLIB, 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\inetsrv\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\inetsrv
CertMapList = C:\WINNT\System32\inetsrv\iisrmap.dll
AccessDeniedMessage = Error: Access is Denied.
Filter DLLs =
LogFileDirectory = C:\WINNT\System32\LogFiles
AcceptExOutstanding = REG_DWORD 0x00000028
ADCLaunch
AdvancedDataFactory
RDSServer.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\unisys
TPCC
MAXTERMS = 6000
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
INITRSCALE 1200
INITTSCALE 100
INITRWID 1,14600
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 970
1 INITMYWID 1,97
//
//Configuration Driver 2
//
2 INITIPADDR 192.168.93.1
2 INITIISADDR 192.1.1.1
2 INITIISPORT 80
2 INITBROWSERS 970
2 INITMYWID 98,194
//
//Configuration Driver 3
//
3 INITIPADDR 192.168.93.1
3 INITIISADDR 192.1.1.1
3 INITIISPORT 80
3 INITBROWSERS 970
3 INITMYWID 195,291
//
//Configuration Driver 4
//
4 INITIPADDR 192.168.93.1
4 INITIISADDR 192.1.1.1
4 INITIISPORT 80
4 INITBROWSERS 970
4 INITMYWID 292,388
//
//Configuration Driver 5
//
5 INITIPADDR 192.168.93.1
5 INITIISADDR 192.1.1.1
5 INITIISPORT 80
5 INITBROWSERS 970
5 INITMYWID 389,485
//
//Configuration Driver 6
//
6 INITIPADDR 192.168.93.1
6 INITIISADDR 192.1.1.1
6 INITIISPORT 80
6 INITBROWSERS 970
6 INITMYWID 486,582
//
//Configuration Driver 7
//
7 INITIPADDR 192.168.93.1
7 INITIISADDR 192.1.1.1
7 INITIISPORT 80
7 INITBROWSERS 970
7 INITMYWID 583,679
//
//Configuration Driver 8
//
8 INITIPADDR 192.168.93.1
```

```

8 INITIISADDR 192.1.1.1
8 INITIISPORT 80
8 INITBROWSERS 970
8 INITMYWID 680,776
//
//Configuration Driver 9
//
9 INITIPADDR 192.168.93.1
9 INITIISADDR 192.1.1.1
9 INITIISPORT 80
9 INITBROWSERS 970
9 INITMYWID 777,873
//
//Configuration Driver 10
//
10 INITIPADDR 192.168.93.1
10 INITIISADDR 192.1.1.1
10 INITIISPORT 80
10 INITBROWSERS 970
10 INITMYWID 874,970
//
//Configuration Driver 11
//
11 INITIPADDR 192.168.93.1
11 INITIISADDR 192.1.1.1
11 INITIISPORT 80
11 INITBROWSERS 970
11 INITMYWID 971,1067
//
//Configuration Driver 12
//
12 INITIPADDR 192.168.93.1
12 INITIISADDR 192.1.1.1
12 INITIISPORT 80
12 INITBROWSERS 970
12 INITMYWID 1068,1164
//
//Configuration Driver 13
//
13 INITIPADDR 192.168.93.1
13 INITIISADDR 192.1.1.1
13 INITIISPORT 80
13 INITBROWSERS 970
13 INITMYWID 1165,1261
//
//Configuration Driver 14
//
14 INITIPADDR 192.168.93.1
14 INITIISADDR 192.1.1.1
14 INITIISPORT 80
14 INITBROWSERS 970
14 INITMYWID 1262,1358
//
//Configuration Driver 15
//
15 INITIPADDR 192.168.93.1
15 INITIISADDR 192.1.1.1
15 INITIISPORT 80
15 INITBROWSERS 970

```

```

15 INITMYWID 1359,1455
//
//Configuration Driver 16
//
16 INITIPADDR 192.168.93.1
16 INITIISADDR 192.1.1.1
16 INITIISPORT 80
16 INITBROWSERS 970
16 INITMYWID 1456,1552
//
//Configuration Driver 17
//
17 INITIPADDR 192.168.93.1
17 INITIISADDR 192.1.1.1
17 INITIISPORT 80
17 INITBROWSERS 970
17 INITMYWID 1553,1649
//
//Configuration Driver 18
//
18 INITIPADDR 192.168.93.1
18 INITIISADDR 192.1.1.1
18 INITIISPORT 80
18 INITBROWSERS 970
18 INITMYWID 1650,1746
//
//Configuration Driver 19
//
19 INITIPADDR 192.168.93.2
19 INITIISADDR 192.1.1.1
19 INITIISPORT 80
19 INITBROWSERS 970
19 INITMYWID 1747,1843
//
//Configuration Driver 20
//
20 INITIPADDR 192.168.93.2
20 INITIISADDR 192.1.1.1
20 INITIISPORT 80
20 INITBROWSERS 970
20 INITMYWID 1844,1940
//
//Configuration Driver 21
//
21 INITIPADDR 192.168.93.2
21 INITIISADDR 192.1.1.1
21 INITIISPORT 80
21 INITBROWSERS 970
21 INITMYWID 1941,2037
//
//Configuration Driver 22
//
22 INITIPADDR 192.168.93.2
22 INITIISADDR 192.1.1.1
22 INITIISPORT 80
22 INITBROWSERS 970
22 INITMYWID 2038,2134
//
//Configuration Driver 23

```

```

//
23 INITIPADDR 192.168.93.2
23 INITIISADDR 192.1.1.1
23 INITIISPORT 80
23 INITBROWSERS 970
23 INITMYWID 2135,2231
//
//Configuration Driver 24
//
24 INITIPADDR 192.168.93.2
24 INITIISADDR 192.1.1.1
24 INITIISPORT 80
24 INITBROWSERS 970
24 INITMYWID 2232,2328
//
//Configuration Driver 25
//
25 INITIPADDR 192.168.93.2
25 INITIISADDR 192.1.1.1
25 INITIISPORT 80
25 INITBROWSERS 970
25 INITMYWID 2329,2425
//
//Configuration Driver 26
//
26 INITIPADDR 192.168.93.2
26 INITIISADDR 192.1.1.1
26 INITIISPORT 80
26 INITBROWSERS 970
26 INITMYWID 2426,2522
//
//Configuration Driver 27
//
27 INITIPADDR 192.168.93.2
27 INITIISADDR 192.1.1.1
27 INITIISPORT 80
27 INITBROWSERS 970
27 INITMYWID 2523,2619
//
//Configuration Driver 28
//
28 INITIPADDR 192.168.93.2
28 INITIISADDR 192.1.1.1
28 INITIISPORT 80
28 INITBROWSERS 970
28 INITMYWID 2620,2716
//
//Configuration Driver 29
//
29 INITIPADDR 192.168.93.2
29 INITIISADDR 192.1.1.1
29 INITIISPORT 80
29 INITBROWSERS 970
29 INITMYWID 2717,2813
//
//Configuration Driver 30
//
30 INITIPADDR 192.168.93.2
30 INITIISADDR 192.1.1.1

```

```

30 INITIISPORT 80
30 INITBROWSERS 970
30 INITMYWID 2814,2910
//
//Configuration Driver 31
//
31 INITIPADDR 192.168.93.2
31 INITIISADDR 192.1.1.1
31 INITIISPORT 80
31 INITBROWSERS 970
31 INITMYWID 2911,3007
//
//Configuration Driver 32
//
32 INITIPADDR 192.168.93.2
32 INITIISADDR 192.1.1.1
32 INITIISPORT 80
32 INITBROWSERS 970
32 INITMYWID 3008,3104
//
//Configuration Driver 33
//
33 INITIPADDR 192.168.93.2
33 INITIISADDR 192.1.1.1
33 INITIISPORT 80
33 INITBROWSERS 970
33 INITMYWID 3105,3201
//
//Configuration Driver 34
//
34 INITIPADDR 192.168.93.2
34 INITIISADDR 192.1.1.1
34 INITIISPORT 80
34 INITBROWSERS 970
34 INITMYWID 3202,3298
//
//Configuration Driver 35
//
35 INITIPADDR 192.168.93.2
35 INITIISADDR 192.1.1.1
35 INITIISPORT 80
35 INITBROWSERS 970
35 INITMYWID 3299,3395
//
//Configuration Driver 36
//
36 INITIPADDR 192.168.93.2
36 INITIISADDR 192.1.1.1
36 INITIISPORT 80
36 INITBROWSERS 970
36 INITMYWID 3396,3492
//
//Configuration Driver 37
//
37 INITIPADDR 192.168.93.2
37 INITIISADDR 192.1.1.1
37 INITIISPORT 80
37 INITBROWSERS 970
37 INITMYWID 3493,3589

```

```
//  
//Configuration Driver 38  
//  
38 INITIPADDR 192.168.93.3  
38 INITIISADDR 192.2.1.1  
38 INITIISPORT 80  
38 INITBROWSERS 980  
38 INITMYWID 3590,3687  
//  
//Configuration Driver 39  
//  
39 INITIPADDR 192.168.93.3  
39 INITIISADDR 192.2.1.1  
39 INITIISPORT 80  
39 INITBROWSERS 980  
39 INITMYWID 3688,3785  
//  
//Configuration Driver 40  
//  
40 INITIPADDR 192.168.93.3  
40 INITIISADDR 192.2.1.1  
40 INITIISPORT 80  
40 INITBROWSERS 980  
40 INITMYWID 3786,3883  
//  
//Configuration Driver 41  
//  
41 INITIPADDR 192.168.93.3  
41 INITIISADDR 192.2.1.1  
41 INITIISPORT 80  
41 INITBROWSERS 980  
41 INITMYWID 3884,3981  
//  
//Configuration Driver 42  
//  
42 INITIPADDR 192.168.93.3  
42 INITIISADDR 192.2.1.1  
42 INITIISPORT 80  
42 INITBROWSERS 980  
42 INITMYWID 3982,4079  
//  
//Configuration Driver 43  
//  
43 INITIPADDR 192.168.93.3  
43 INITIISADDR 192.2.1.1  
43 INITIISPORT 80  
43 INITBROWSERS 980  
43 INITMYWID 4080,4177  
//  
//Configuration Driver 44  
//  
44 INITIPADDR 192.168.93.3  
44 INITIISADDR 192.2.1.1  
44 INITIISPORT 80  
44 INITBROWSERS 980  
44 INITMYWID 4178,4275  
//  
//Configuration Driver 45  
//
```

```
45 INITIPADDR 192.168.93.3  
45 INITIISADDR 192.2.1.1  
45 INITIISPORT 80  
45 INITBROWSERS 980  
45 INITMYWID 4276,4373  
//  
//Configuration Driver 46  
//  
46 INITIPADDR 192.168.93.3  
46 INITIISADDR 192.2.1.1  
46 INITIISPORT 80  
46 INITBROWSERS 980  
46 INITMYWID 4374,4471  
//  
//Configuration Driver 47  
//  
47 INITIPADDR 192.168.93.3  
47 INITIISADDR 192.2.1.1  
47 INITIISPORT 80  
47 INITBROWSERS 980  
47 INITMYWID 4472,4569  
//  
//Configuration Driver 48  
//  
48 INITIPADDR 192.168.93.3  
48 INITIISADDR 192.2.1.1  
48 INITIISPORT 80  
48 INITBROWSERS 980  
48 INITMYWID 4570,4667  
//  
//Configuration Driver 49  
//  
49 INITIPADDR 192.168.93.3  
49 INITIISADDR 192.2.1.1  
49 INITIISPORT 80  
49 INITBROWSERS 980  
49 INITMYWID 4668,4765  
//  
//Configuration Driver 50  
//  
50 INITIPADDR 192.168.93.3  
50 INITIISADDR 192.2.1.1  
50 INITIISPORT 80  
50 INITBROWSERS 980  
50 INITMYWID 4766,4863  
//  
//Configuration Driver 51  
//  
51 INITIPADDR 192.168.93.3  
51 INITIISADDR 192.2.1.1  
51 INITIISPORT 80  
51 INITBROWSERS 980  
51 INITMYWID 4864,4961  
//  
//Configuration Driver 52  
//  
52 INITIPADDR 192.168.93.3  
52 INITIISADDR 192.2.1.1  
52 INITIISPORT 80
```

```

52 INITBROWSERS 980
52 INITMYWID 4962,5059
//
//Configuration Driver 53
//
53 INITIPADDR 192.168.93.3
53 INITIISADDR 192.2.1.1
53 INITIISPORT 80
53 INITBROWSERS 980
53 INITMYWID 5060,5157
//
//Configuration Driver 54
//
54 INITIPADDR 192.168.93.3
54 INITIISADDR 192.2.1.1
54 INITIISPORT 80
54 INITBROWSERS 980
54 INITMYWID 5158,5255
//
//Configuration Driver 55
//
55 INITIPADDR 192.168.93.3
55 INITIISADDR 192.2.1.1
55 INITIISPORT 80
55 INITBROWSERS 980
55 INITMYWID 5256,5353
//
//Configuration Driver 56
//
56 INITIPADDR 192.168.93.3
56 INITIISADDR 192.2.1.1
56 INITIISPORT 80
56 INITBROWSERS 980
56 INITMYWID 5354,5451
//
//Configuration Driver 57
//
57 INITIPADDR 192.168.93.4
57 INITIISADDR 192.2.1.1
57 INITIISPORT 80
57 INITBROWSERS 980
57 INITMYWID 5452,5549
//
//Configuration Driver 58
//
58 INITIPADDR 192.168.93.4
58 INITIISADDR 192.2.1.1
58 INITIISPORT 80
58 INITBROWSERS 980
58 INITMYWID 5550,5647
//
//Configuration Driver 59
//
59 INITIPADDR 192.168.93.4
59 INITIISADDR 192.2.1.1
59 INITIISPORT 80
59 INITBROWSERS 980
59 INITMYWID 5648,5745
//

```

```

//Configuration Driver 60
//
60 INITIPADDR 192.168.93.4
60 INITIISADDR 192.2.1.1
60 INITIISPORT 80
60 INITBROWSERS 980
60 INITMYWID 5746,5843
//
//Configuration Driver 61
//
61 INITIPADDR 192.168.93.4
61 INITIISADDR 192.2.1.1
61 INITIISPORT 80
61 INITBROWSERS 980
61 INITMYWID 5844,5941
//
//Configuration Driver 62
//
62 INITIPADDR 192.168.93.4
62 INITIISADDR 192.2.1.1
62 INITIISPORT 80
62 INITBROWSERS 980
62 INITMYWID 5942,6039
//
//Configuration Driver 63
//
63 INITIPADDR 192.168.93.4
63 INITIISADDR 192.2.1.1
63 INITIISPORT 80
63 INITBROWSERS 980
63 INITMYWID 6040,6137
//
//Configuration Driver 64
//
64 INITIPADDR 192.168.93.4
64 INITIISADDR 192.2.1.1
64 INITIISPORT 80
64 INITBROWSERS 980
64 INITMYWID 6138,6235
//
//Configuration Driver 65
//
65 INITIPADDR 192.168.93.4
65 INITIISADDR 192.2.1.1
65 INITIISPORT 80
65 INITBROWSERS 980
65 INITMYWID 6236,6333
//
//Configuration Driver 66
//
66 INITIPADDR 192.168.93.4
66 INITIISADDR 192.2.1.1
66 INITIISPORT 80
66 INITBROWSERS 980
66 INITMYWID 6334,6431
//
//Configuration Driver 67
//
67 INITIPADDR 192.168.93.4

```

```

67 INITIISADDR 192.2.1.1
67 INITIISPORT 80
67 INITBROWSERS 980
67 INITMYWID 6432,6529
//
//Configuration Driver 68
//
68 INITIPADDR 192.168.93.4
68 INITIISADDR 192.2.1.1
68 INITIISPORT 80
68 INITBROWSERS 980
68 INITMYWID 6530,6627
//
//Configuration Driver 69
//
69 INITIPADDR 192.168.93.4
69 INITIISADDR 192.2.1.1
69 INITIISPORT 80
69 INITBROWSERS 980
69 INITMYWID 6628,6725
//
//Configuration Driver 70
//
70 INITIPADDR 192.168.93.4
70 INITIISADDR 192.2.1.1
70 INITIISPORT 80
70 INITBROWSERS 980
70 INITMYWID 6726,6823
//
//Configuration Driver 71
//
71 INITIPADDR 192.168.93.4
71 INITIISADDR 192.2.1.1
71 INITIISPORT 80
71 INITBROWSERS 980
71 INITMYWID 6824,6921
//
//Configuration Driver 72
//
72 INITIPADDR 192.168.93.4
72 INITIISADDR 192.2.1.1
72 INITIISPORT 80
72 INITBROWSERS 980
72 INITMYWID 6922,7019
//
//Configuration Driver 73
//
73 INITIPADDR 192.168.93.4
73 INITIISADDR 192.2.1.1
73 INITIISPORT 80
73 INITBROWSERS 980
73 INITMYWID 7020,7117
//
//Configuration Driver 74
//
74 INITIPADDR 192.168.93.4
74 INITIISADDR 192.2.1.1
74 INITIISPORT 80
74 INITBROWSERS 980

```

```

74 INITMYWID 7118,7215
//
//Configuration Driver 75
//
75 INITIPADDR 192.168.93.4
75 INITIISADDR 192.2.1.1
75 INITIISPORT 80
75 INITBROWSERS 980
75 INITMYWID 7216,7313
//
//Configuration Driver 76
//
76 INITIPADDR 192.168.93.5
76 INITIISADDR 192.3.1.1
76 INITIISPORT 80
76 INITBROWSERS 950
76 INITMYWID 7314,7408
//
//Configuration Driver 77
//
77 INITIPADDR 192.168.93.5
77 INITIISADDR 192.3.1.1
77 INITIISPORT 80
77 INITBROWSERS 950
77 INITMYWID 7409,7503
//
//Configuration Driver 78
//
78 INITIPADDR 192.168.93.5
78 INITIISADDR 192.3.1.1
78 INITIISPORT 80
78 INITBROWSERS 950
78 INITMYWID 7504,7598
//
//Configuration Driver 79
//
79 INITIPADDR 192.168.93.5
79 INITIISADDR 192.3.1.1
79 INITIISPORT 80
79 INITBROWSERS 950
79 INITMYWID 7599,7693
//
//Configuration Driver 80
//
80 INITIPADDR 192.168.93.5
80 INITIISADDR 192.3.1.1
80 INITIISPORT 80
80 INITBROWSERS 950
80 INITMYWID 7694,7788
//
//Configuration Driver 81
//
81 INITIPADDR 192.168.93.5
81 INITIISADDR 192.3.1.1
81 INITIISPORT 80
81 INITBROWSERS 950
81 INITMYWID 7789,7883
//
//Configuration Driver 82

```

```
//
82 INITIPADDR 192.168.93.5
82 INITIISADDR 192.3.1.1
82 INITIISPORT 80
82 INITBROWSERS 950
82 INITMYWID 7884,7978
//
//Configuration Driver 83
//
83 INITIPADDR 192.168.93.5
83 INITIISADDR 192.3.1.1
83 INITIISPORT 80
83 INITBROWSERS 950
83 INITMYWID 7979,8073
//
//Configuration Driver 84
//
84 INITIPADDR 192.168.93.5
84 INITIISADDR 192.3.1.1
84 INITIISPORT 80
84 INITBROWSERS 950
84 INITMYWID 8074,8168
//
//Configuration Driver 85
//
85 INITIPADDR 192.168.93.5
85 INITIISADDR 192.3.1.1
85 INITIISPORT 80
85 INITBROWSERS 950
85 INITMYWID 8169,8263
//
//Configuration Driver 86
//
86 INITIPADDR 192.168.93.5
86 INITIISADDR 192.3.1.1
86 INITIISPORT 80
86 INITBROWSERS 950
86 INITMYWID 8264,8358
//
//Configuration Driver 87
//
87 INITIPADDR 192.168.93.5
87 INITIISADDR 192.3.1.1
87 INITIISPORT 80
87 INITBROWSERS 950
87 INITMYWID 8359,8453
//
//Configuration Driver 88
//
88 INITIPADDR 192.168.93.5
88 INITIISADDR 192.3.1.1
88 INITIISPORT 80
88 INITBROWSERS 950
88 INITMYWID 8454,8548
//
//Configuration Driver 89
//
89 INITIPADDR 192.168.93.5
89 INITIISADDR 192.3.1.1
```

```
89 INITIISPORT 80
89 INITBROWSERS 950
89 INITMYWID 8549,8643
//
//Configuration Driver 90
//
90 INITIPADDR 192.168.93.5
90 INITIISADDR 192.3.1.1
90 INITIISPORT 80
90 INITBROWSERS 950
90 INITMYWID 8644,8738
//
//Configuration Driver 91
//
91 INITIPADDR 192.168.93.5
91 INITIISADDR 192.3.1.1
91 INITIISPORT 80
91 INITBROWSERS 950
91 INITMYWID 8739,8833
//
//Configuration Driver 92
//
92 INITIPADDR 192.168.93.5
92 INITIISADDR 192.3.1.1
92 INITIISPORT 80
92 INITBROWSERS 950
92 INITMYWID 8834,8928
//
//Configuration Driver 93
//
93 INITIPADDR 192.168.93.5
93 INITIISADDR 192.3.1.1
93 INITIISPORT 80
93 INITBROWSERS 950
93 INITMYWID 8929,9023
//
//Configuration Driver 94
//
94 INITIPADDR 192.168.93.5
94 INITIISADDR 192.3.1.1
94 INITIISPORT 80
94 INITBROWSERS 950
94 INITMYWID 9024,9118
//
//Configuration Driver 95
//
95 INITIPADDR 192.168.93.6
95 INITIISADDR 192.3.1.1
95 INITIISPORT 80
95 INITBROWSERS 950
95 INITMYWID 9119,9213
//
//Configuration Driver 96
//
96 INITIPADDR 192.168.93.6
96 INITIISADDR 192.3.1.1
96 INITIISPORT 80
96 INITBROWSERS 950
96 INITMYWID 9214,9308
```

```

//
//Configuration Driver 97
//
97 INITIPADDR 192.168.93.6
97 INITIISADDR 192.3.1.1
97 INITIISPORT 80
97 INITBROWSERS 950
97 INITMYWID 9309,9403
//
//Configuration Driver 98
//
98 INITIPADDR 192.168.93.6
98 INITIISADDR 192.3.1.1
98 INITIISPORT 80
98 INITBROWSERS 950
98 INITMYWID 9404,9498
//
//Configuration Driver 99
//
99 INITIPADDR 192.168.93.6
99 INITIISADDR 192.3.1.1
99 INITIISPORT 80
99 INITBROWSERS 950
99 INITMYWID 9499,9593
//
//Configuration Driver 100
//
100 INITIPADDR 192.168.93.6
100 INITIISADDR 192.3.1.1
100 INITIISPORT 80
100 INITBROWSERS 950
100 INITMYWID 9594,9688
//
//Configuration Driver 101
//
101 INITIPADDR 192.168.93.6
101 INITIISADDR 192.3.1.1
101 INITIISPORT 80
101 INITBROWSERS 950
101 INITMYWID 9689,9783
//
//Configuration Driver 102
//
102 INITIPADDR 192.168.93.6
102 INITIISADDR 192.3.1.1
102 INITIISPORT 80
102 INITBROWSERS 950
102 INITMYWID 9784,9878
//
//Configuration Driver 103
//
103 INITIPADDR 192.168.93.6
103 INITIISADDR 192.3.1.1
103 INITIISPORT 80
103 INITBROWSERS 950
103 INITMYWID 9879,9973
//
//Configuration Driver 104
//

```

```

104 INITIPADDR 192.168.93.6
104 INITIISADDR 192.3.1.1
104 INITIISPORT 80
104 INITBROWSERS 950
104 INITMYWID 9974,10068
//
//Configuration Driver 105
//
105 INITIPADDR 192.168.93.6
105 INITIISADDR 192.3.1.1
105 INITIISPORT 80
105 INITBROWSERS 950
105 INITMYWID 10069,10163
//
//Configuration Driver 106
//
106 INITIPADDR 192.168.93.6
106 INITIISADDR 192.3.1.1
106 INITIISPORT 80
106 INITBROWSERS 950
106 INITMYWID 10164,10258
//
//Configuration Driver 107
//
107 INITIPADDR 192.168.93.6
107 INITIISADDR 192.3.1.1
107 INITIISPORT 80
107 INITBROWSERS 950
107 INITMYWID 10259,10353
//
//Configuration Driver 108
//
108 INITIPADDR 192.168.93.6
108 INITIISADDR 192.3.1.1
108 INITIISPORT 80
108 INITBROWSERS 950
108 INITMYWID 10354,10448
//
//Configuration Driver 109
//
109 INITIPADDR 192.168.93.6
109 INITIISADDR 192.3.1.1
109 INITIISPORT 80
109 INITBROWSERS 950
109 INITMYWID 10449,10543
//
//Configuration Driver 110
//
110 INITIPADDR 192.168.93.6
110 INITIISADDR 192.3.1.1
110 INITIISPORT 80
110 INITBROWSERS 950
110 INITMYWID 10544,10638
//
//Configuration Driver 111
//
111 INITIPADDR 192.168.93.6
111 INITIISADDR 192.3.1.1
111 INITIISPORT 80

```



```
111 INITBROWSERS 950
111 INITMYWID 10639,10733
//
//Configuration Driver 112
//
112 INITIPADDR 192.168.93.6
112 INITIISADDR 192.3.1.1
112 INITIISPORT 80
112 INITBROWSERS 950
112 INITMYWID 10734,10828
//
//Configuration Driver 113
//
113 INITIPADDR 192.168.93.6
113 INITIISADDR 192.3.1.1
113 INITIISPORT 80
113 INITBROWSERS 950
113 INITMYWID 10829,10923
//
//Configuration Driver 114
//
114 INITIPADDR 192.168.93.7
114 INITIISADDR 192.4.1.1
114 INITIISPORT 80
114 INITBROWSERS 970
114 INITMYWID 10924,11020
//
//Configuration Driver 115
//
115 INITIPADDR 192.168.93.7
115 INITIISADDR 192.4.1.1
115 INITIISPORT 80
115 INITBROWSERS 970
115 INITMYWID 11021,11117
//
//Configuration Driver 116
//
116 INITIPADDR 192.168.93.7
116 INITIISADDR 192.4.1.1
116 INITIISPORT 80
116 INITBROWSERS 970
116 INITMYWID 11118,11214
//
//Configuration Driver 117
//
117 INITIPADDR 192.168.93.7
117 INITIISADDR 192.4.1.1
117 INITIISPORT 80
117 INITBROWSERS 970
117 INITMYWID 11215,11311
//
//Configuration Driver 118
//
118 INITIPADDR 192.168.93.7
118 INITIISADDR 192.4.1.1
118 INITIISPORT 80
118 INITBROWSERS 970
118 INITMYWID 11312,11408
//
```

```
//Configuration Driver 119
//
119 INITIPADDR 192.168.93.7
119 INITIISADDR 192.4.1.1
119 INITIISPORT 80
119 INITBROWSERS 970
119 INITMYWID 11409,11505
//
//Configuration Driver 120
//
120 INITIPADDR 192.168.93.7
120 INITIISADDR 192.4.1.1
120 INITIISPORT 80
120 INITBROWSERS 970
120 INITMYWID 11506,11602
//
//Configuration Driver 121
//
121 INITIPADDR 192.168.93.7
121 INITIISADDR 192.4.1.1
121 INITIISPORT 80
121 INITBROWSERS 970
121 INITMYWID 11603,11699
//
//Configuration Driver 122
//
122 INITIPADDR 192.168.93.7
122 INITIISADDR 192.4.1.1
122 INITIISPORT 80
122 INITBROWSERS 970
122 INITMYWID 11700,11796
//
//Configuration Driver 123
//
123 INITIPADDR 192.168.93.7
123 INITIISADDR 192.4.1.1
123 INITIISPORT 80
123 INITBROWSERS 970
123 INITMYWID 11797,11893
//
//Configuration Driver 124
//
124 INITIPADDR 192.168.93.7
124 INITIISADDR 192.4.1.1
124 INITIISPORT 80
124 INITBROWSERS 970
124 INITMYWID 11894,11990
//
//Configuration Driver 125
//
125 INITIPADDR 192.168.93.7
125 INITIISADDR 192.4.1.1
125 INITIISPORT 80
125 INITBROWSERS 970
125 INITMYWID 11991,12087
//
//Configuration Driver 126
//
126 INITIPADDR 192.168.93.7
```

```
126 INITIISADDR 192.4.1.1
126 INITIISPORT 80
126 INITBROWSERS 970
126 INITMYWID 12088,12184
//
//Configuration Driver 127
//
127 INITIPADDR 192.168.93.7
127 INITIISADDR 192.4.1.1
127 INITIISPORT 80
127 INITBROWSERS 970
127 INITMYWID 12185,12281
//
//Configuration Driver 128
//
128 INITIPADDR 192.168.93.7
128 INITIISADDR 192.4.1.1
128 INITIISPORT 80
128 INITBROWSERS 970
128 INITMYWID 12282,12378
//
//Configuration Driver 129
//
129 INITIPADDR 192.168.93.7
129 INITIISADDR 192.4.1.1
129 INITIISPORT 80
129 INITBROWSERS 970
129 INITMYWID 12379,12475
//
//Configuration Driver 130
//
130 INITIPADDR 192.168.93.7
130 INITIISADDR 192.4.1.1
130 INITIISPORT 80
130 INITBROWSERS 970
130 INITMYWID 12476,12572
//
//Configuration Driver 131
//
131 INITIPADDR 192.168.93.7
131 INITIISADDR 192.4.1.1
131 INITIISPORT 80
131 INITBROWSERS 970
131 INITMYWID 12573,12669
//
//Configuration Driver 132
//
132 INITIPADDR 192.168.93.7
132 INITIISADDR 192.4.1.1
132 INITIISPORT 80
132 INITBROWSERS 970
132 INITMYWID 12670,12766
//
//Configuration Driver 133
//
133 INITIPADDR 192.168.93.8
133 INITIISADDR 192.4.1.1
133 INITIISPORT 80
133 INITBROWSERS 970
```

```
133 INITMYWID 12767,12863
//
//Configuration Driver 134
//
134 INITIPADDR 192.168.93.8
134 INITIISADDR 192.4.1.1
134 INITIISPORT 80
134 INITBROWSERS 970
134 INITMYWID 12864,12960
//
//Configuration Driver 135
//
135 INITIPADDR 192.168.93.8
135 INITIISADDR 192.4.1.1
135 INITIISPORT 80
135 INITBROWSERS 970
135 INITMYWID 12961,13057
//
//Configuration Driver 136
//
136 INITIPADDR 192.168.93.8
136 INITIISADDR 192.4.1.1
136 INITIISPORT 80
136 INITBROWSERS 970
136 INITMYWID 13058,13154
//
//Configuration Driver 137
//
137 INITIPADDR 192.168.93.8
137 INITIISADDR 192.4.1.1
137 INITIISPORT 80
137 INITBROWSERS 970
137 INITMYWID 13155,13251
//
//Configuration Driver 138
//
138 INITIPADDR 192.168.93.8
138 INITIISADDR 192.4.1.1
138 INITIISPORT 80
138 INITBROWSERS 970
138 INITMYWID 13252,13348
//
//Configuration Driver 139
//
139 INITIPADDR 192.168.93.8
139 INITIISADDR 192.4.1.1
139 INITIISPORT 80
139 INITBROWSERS 970
139 INITMYWID 13349,13445
//
//Configuration Driver 140
//
140 INITIPADDR 192.168.93.8
140 INITIISADDR 192.4.1.1
140 INITIISPORT 80
140 INITBROWSERS 970
140 INITMYWID 13446,13542
//
//Configuration Driver 141
```

```

//
141 INITIPADDR 192.168.93.8
141 INITIISADDR 192.4.1.1
141 INITIISPORT 80
141 INITBROWSERS 970
141 INITMYWID 13543,13639
//
//Configuration Driver 142
//
142 INITIPADDR 192.168.93.8
142 INITIISADDR 192.4.1.1
142 INITIISPORT 80
142 INITBROWSERS 970
142 INITMYWID 13640,13736
//
//Configuration Driver 143
//
143 INITIPADDR 192.168.93.8
143 INITIISADDR 192.4.1.1
143 INITIISPORT 80
143 INITBROWSERS 970
143 INITMYWID 13737,13833
//
//Configuration Driver 144
//
144 INITIPADDR 192.168.93.8
144 INITIISADDR 192.4.1.1
144 INITIISPORT 80
144 INITBROWSERS 970
144 INITMYWID 13834,13930
//
//Configuration Driver 145
//
145 INITIPADDR 192.168.93.8
145 INITIISADDR 192.4.1.1
145 INITIISPORT 80
145 INITBROWSERS 970
145 INITMYWID 13931,14027
//
//Configuration Driver 146
//
146 INITIPADDR 192.168.93.8
146 INITIISADDR 192.4.1.1
146 INITIISPORT 80
146 INITBROWSERS 970
146 INITMYWID 14028,14124
//
//Configuration Driver 147
//
147 INITIPADDR 192.168.93.8
147 INITIISADDR 192.4.1.1
147 INITIISPORT 80
147 INITBROWSERS 970
147 INITMYWID 14125,14221
//
//Configuration Driver 148
//
148 INITIPADDR 192.168.93.8
148 INITIISADDR 192.4.1.1

```

```

148 INITIISPORT 80
148 INITBROWSERS 970
148 INITMYWID 14222,14318
//
//Configuration Driver 149
//
149 INITIPADDR 192.168.93.8
149 INITIISADDR 192.4.1.1
149 INITIISPORT 80
149 INITBROWSERS 970
149 INITMYWID 14319,14415
//
//Configuration Driver 150
//
150 INITIPADDR 192.168.93.8
150 INITIISADDR 192.4.1.1
150 INITIISPORT 80
150 INITBROWSERS 970
150 INITMYWID 14416,14512
//
//Configuration Driver 151
//
151 INITIPADDR 192.168.93.8
151 INITIISADDR 192.4.1.1
151 INITIISPORT 80
151 INITBROWSERS 880
151 INITMYWID 14513,14600

```

## 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 WEBTTNEWORDER=12030
set WEBTTPAYMENT=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 Tcpip. . . . . : 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-E7-BF-FE-BE
```

Ethernet adapter Client:

```
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit
Ethernet
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:

```
Connection-specific DNS Suffix . :
Description . . . . . : Intel 825x-based PCI Ethernet
Adapter (10/100)
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:

```
Connection-specific DNS Suffix . :
Description . . . . . : Broadcom NetXtreme Gigabit
Ethernet
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 825x-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 . :  
Description . . . . . : Intel 8255x-based PCI Ethernet  
Adapter (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 \\rtel\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 " D1 RTE17 " /MIN webdriver.cmd 17
start " D1 RTE18 " /MIN webdriver.cmd 18
start " D1 RTE19 " /MIN webdriver.cmd 19
start " D1 RTE20 " /MIN webdriver.cmd 20
start " D1 RTE21 " /MIN webdriver.cmd 21
start " D1 RTE22 " /MIN webdriver.cmd 22
start " D1 RTE23 " /MIN webdriver.cmd 23

start " 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 " D2 RTE33 " /MIN webdriver.cmd 33
start " D2 RTE34 " /MIN webdriver.cmd 34
start " D2 RTE35 " /MIN webdriver.cmd 35
start " D2 RTE36 " /MIN webdriver.cmd 36
start " D2 RTE37 " /MIN webdriver.cmd 37
start " D2 RTE38 " /MIN webdriver.cmd 38
start " D2 RTE39 " /MIN webdriver.cmd 39
start " D2 RTE40 " /MIN webdriver.cmd 40
start " D2 RTE41 " /MIN webdriver.cmd 41
```

```
start " D2 RTE42 " /MIN webdriver.cmd 42
start " D2 RTE43 " /MIN webdriver.cmd 43
start " D2 RTE44 " /MIN webdriver.cmd 44
start " D2 RTE45 " /MIN webdriver.cmd 45
start " D2 RTE46 " /MIN webdriver.cmd 46
start " D2 RTE47 " /MIN webdriver.cmd 47

start " D3 RTE48 " /MIN webdriver.cmd 48
start " D3 RTE49 " /MIN webdriver.cmd 49
start " D3 RTE50 " /MIN webdriver.cmd 50
start " D3 RTE51 " /MIN webdriver.cmd 51
start " D3 RTE52 " /MIN webdriver.cmd 52
start " D3 RTE53 " /MIN webdriver.cmd 53
start " D3 RTE54 " /MIN webdriver.cmd 54
start " D3 RTE55 " /MIN webdriver.cmd 55
start " D3 RTE56 " /MIN webdriver.cmd 56
start " D3 RTE57 " /MIN webdriver.cmd 57
start " D3 RTE58 " /MIN webdriver.cmd 58
start " D3 RTE59 " /MIN webdriver.cmd 59
start " D3 RTE60 " /MIN webdriver.cmd 60
start " D3 RTE61 " /MIN webdriver.cmd 61
start " D3 RTE62 " /MIN webdriver.cmd 62
start " D3 RTE63 " /MIN webdriver.cmd 63
start " D3 RTE64 " /MIN webdriver.cmd 64
start " D3 RTE65 " /MIN webdriver.cmd 65
start " D3 RTE66 " /MIN webdriver.cmd 66
start " D3 RTE67 " /MIN webdriver.cmd 67
start " D3 RTE68 " /MIN webdriver.cmd 68
start " D3 RTE69 " /MIN webdriver.cmd 69
start " D3 RTE70 " /MIN webdriver.cmd 70
start " D3 RTE71 " /MIN webdriver.cmd 71

start " D4 RTE72 " /MIN webdriver.cmd 72
start " D4 RTE73 " /MIN webdriver.cmd 73
start " D4 RTE74 " /MIN webdriver.cmd 74
start " D4 RTE75 " /MIN webdriver.cmd 75
start " D4 RTE76 " /MIN webdriver.cmd 76
start " D4 RTE77 " /MIN webdriver.cmd 77
start " D4 RTE78 " /MIN webdriver.cmd 78
start " D4 RTE79 " /MIN webdriver.cmd 79
start " D4 RTE80 " /MIN webdriver.cmd 80
start " D4 RTE81 " /MIN webdriver.cmd 81
start " D4 RTE82 " /MIN webdriver.cmd 82
start " D4 RTE83 " /MIN webdriver.cmd 83
start " D4 RTE84 " /MIN webdriver.cmd 84
start " D4 RTE85 " /MIN webdriver.cmd 85
start " D4 RTE86 " /MIN webdriver.cmd 86
start " D4 RTE87 " /MIN webdriver.cmd 87
start " D4 RTE88 " /MIN webdriver.cmd 88
start " D4 RTE89 " /MIN webdriver.cmd 89
start " D4 RTE90 " /MIN webdriver.cmd 90
start " D4 RTE91 " /MIN webdriver.cmd 91
start " D4 RTE92 " /MIN webdriver.cmd 92
start " D4 RTE93 " /MIN webdriver.cmd 93
start " D4 RTE94 " /MIN webdriver.cmd 94
start " D4 RTE95 " /MIN webdriver.cmd 95

start " D6 RTE96 " /MIN webdriver.cmd 96
start " D6 RTE97 " /MIN webdriver.cmd 97
```

```
start " D6 RTE98 " /MIN webdriver.cmd 98
start " D6 RTE99 " /MIN webdriver.cmd 99
start " D6 RTE100 " /MIN webdriver.cmd 100
start " D6 RTE101 " /MIN webdriver.cmd 101
start " D6 RTE102 " /MIN webdriver.cmd 102
start " D6 RTE103 " /MIN webdriver.cmd 103
start " D6 RTE104 " /MIN webdriver.cmd 104
start " D6 RTE105 " /MIN webdriver.cmd 105
start " D6 RTE106 " /MIN webdriver.cmd 106
start " D6 RTE107 " /MIN webdriver.cmd 107
start " D6 RTE108 " /MIN webdriver.cmd 108
start " D6 RTE109 " /MIN webdriver.cmd 109
start " D6 RTE110 " /MIN webdriver.cmd 110
start " D6 RTE111 " /MIN webdriver.cmd 111
start " D6 RTE112 " /MIN webdriver.cmd 112
start " D6 RTE113 " /MIN webdriver.cmd 113

start " D7 RTE114 " /MIN webdriver.cmd 114
start " D7 RTE115 " /MIN webdriver.cmd 115
start " D7 RTE116 " /MIN webdriver.cmd 116
start " D7 RTE117 " /MIN webdriver.cmd 117
start " D7 RTE118 " /MIN webdriver.cmd 118
start " D7 RTE119 " /MIN webdriver.cmd 119
start " D7 RTE120 " /MIN webdriver.cmd 120
start " D7 RTE121 " /MIN webdriver.cmd 121
start " D7 RTE122 " /MIN webdriver.cmd 122
start " D7 RTE123 " /MIN webdriver.cmd 123
start " D7 RTE124 " /MIN webdriver.cmd 124
start " D7 RTE125 " /MIN webdriver.cmd 125
start " D7 RTE126 " /MIN webdriver.cmd 126
start " D7 RTE127 " /MIN webdriver.cmd 127
start " D7 RTE128 " /MIN webdriver.cmd 128
start " D7 RTE129 " /MIN webdriver.cmd 129
start " D7 RTE130 " /MIN webdriver.cmd 130
start " D7 RTE131 " /MIN webdriver.cmd 131
start " D7 RTE132 " /MIN webdriver.cmd 132
start " D8 RTE133 " /MIN webdriver.cmd 133

start " D8 RTE134 " /MIN webdriver.cmd 134
start " D8 RTE135 " /MIN webdriver.cmd 135
start " D8 RTE136 " /MIN webdriver.cmd 136
start " D8 RTE137 " /MIN webdriver.cmd 137
start " D8 RTE138 " /MIN webdriver.cmd 138
start " D8 RTE139 " /MIN webdriver.cmd 139
start " D8 RTE140 " /MIN webdriver.cmd 140
start " D8 RTE141 " /MIN webdriver.cmd 141
start " D8 RTE142 " /MIN webdriver.cmd 142
start " D8 RTE143 " /MIN webdriver.cmd 143
start " D8 RTE144 " /MIN webdriver.cmd 144
start " D8 RTE145 " /MIN webdriver.cmd 145
start " D8 RTE146 " /MIN webdriver.cmd 146
start " D8 RTE147 " /MIN webdriver.cmd 147
start " D8 RTE148 " /MIN webdriver.cmd 148
start " D8 RTE149 " /MIN webdriver.cmd 149
start " D8 RTE150 " /MIN webdriver.cmd 150
start " D8 RTE151 " /MIN webdriver.cmd 151
```

# Appendix E - Disk Storage

TPC-C 60-Day Disk Space Requirements					
Warehouses	<b>14,600</b>	tpmC	<b>181,280.45</b>	tpmC/W	12.42
<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	344,810
mssql70_cs_fg	70	8,210	574,700	573,434	573,434
mssql70_misc_fg	70	4,320	302,400	292,513	297,351
<b>Total Allocated MB</b>			<b>1,225,042</b>	<b>1,149,396</b>	<b>1,215,637</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	60,435	(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	4,471,239	Static Space + 60 * (Daily Growth + Daily Spread)			
60 Day Space GB	<b>4,366.44</b>				
8 hr log GB	<b>382.14</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	4366.44 GB	412	6736.84 GB	18GB drives	
Total DB		<b>412</b>	6736.84 GB		
8-hr log+mirror	764.28 GB	14	845.49 GB	73GB drives	
OS, SQL Server	14.00 GB	1	27.95 GB	30GB drive	
<b>Total space</b>	<b>5144.72 GB</b>	<b>427</b>	<b>7610.29 GB</b>	<b>7.4 TB</b>	

TPC-C Dynamic Table Growth Rates for 8 Hours					181,280.45 tpmC
Tables	Warm (KB)	Final (KB)	Change(KB)	KB / New-Order	8-Hr MB
History	24,422,648	29,252,816	4,830,168	0.0569	28,689.00
Orders	13,453,152	18,148,056	4,694,904	0.0553	17,841.10
Order_line	274,329,336	329,969,728	55,640,392	0.6559	323,639.07
<b>Dynamic</b>	<b>312,205,136</b>	<b>377,370,600</b>	<b>65,165,464</b>	<b>0.7682</b>	<b>370,169.16</b>
New_order	2,311,488	3,381,976	1,070,488	0.0126	3,329.70
<b>Static</b>					
<b>Log</b>	30,994,529	391,395,493	360,400,964	<b>4.2488</b>	391,309.88 382.139 GB
<b>SUM(d_next_o_id)</b>	438,146,007	522,970,393	84,824,386		

## ***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 (\$).

<b>Part Number</b>	<b>Description</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Price</b>
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.

# COMPUTER RESOLUTIONS<sup>®</sup>

Taking IT Personally<sup>SM</sup>

Phone: 800-848-7185  
 Fax: 203-384-0473  
 35 Benham Avenue  
 Bridgeport, CT 06605  
 www.cri1.com

## SALES QUOTE

SQ-15437

Apr 22, 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	PREPAY	Apr 22, 2003	John Palmieri				
Quotation	PO #	Reference	Ship VIA	Pag	Printed		
SQ-15437			ROADWAY PACKAGING	1	04/24/0308:36		
L Item	Description	Qty	Ship	Price	M	Discount	Amount
1	ES7000-540 Server			251750.00	EA		251750.00
2	ES7540163-640	1					
3	FC76222-P64	7		2850.00	EA		19950.00
4	PCI10001-CXG	4		755.00	EA		3020.00
5	ES70003-UIF	1		570.00	EA		570.00
6	WND2316-TSP	1		35112.0	EA		35112.00
7	DUS200316-TSP	2		3192.00	EA		6384.00
8	GTS7523416-SSA	3		12574.0	EA		37722.00
9	DQL200316-LX	1		212800.00	EA		212800.00
10							
11	JBD201815-2F	454		578.00	EA		262412.00
12	CXR7310-2GF	16		1748.00	EA		27968.00
13	JBD2002-SA	18		3197.00	EA		57546.00
14	JBD2011-SA	12		3413.00	EA		40956.00
15	RMM20103-ELS	6		5502.00	EA		33012.00
16	RMM20701-TAR	18		2209.00	EA		39762.00
17	USS10300-SW	1		8550.00	EA		8550.00
18	USS20310-LIC	1		46313.0	EA		46313.00
19	JBD20003-CCL	18		54.00	EA		972.00
20	JBD2010-OCL	19		172.00	EA		3268.00
21	JBD2000-RMK	30		182.00	EA		5460.00
22	CX200-DPE	1		19000.0	EA		19000.00
23	CXN200-T3	1		3800.00	EA		3800.00
24	CXN600-WIN	1		950.00	EA		950.00
25	GS516-T16	1		2850.00	EA		2850.00
26	SWC81-SXR	2		1520.00	EA		3040.00
						Page 1	
						SubTotal	1123167.00

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Account	Terms	Due Date	Account Rep			Schedule Dat		
CRI	PREPAY	Apr 22, 2003	John Palmieri					
Quotation	PO #	Reference	Ship VIA		Pag	Printed		
SQ-15437			ROADWAY PACKAGING		2	04/24/0308:36		
L Item	Description	Qty	Ship	Price	M	Discount	Amount	
27	CBL121-SWC	10		143.00	EA		1430.00	
28	KBR28301-SXR	2		333.00	EA		666.00	
29	MON2145-LCD	2		2565.00	EA		5130.00	
30	SFR9-PWR	12		162.00	EA		1944.00	
31	USE1936-LC6	12		86.00	EA		1032.00	
32	HRT3619-RDR	4		475.00	EA		1900.00	
33	HRT361941-OFT	4		1425.00	EA		5700.00	
34	HRT3641-SDS	4		475.00	EA		1900.00	
35	RM1936-FOT	4		162.00	EA		648.00	
36								
37	ESL30201-240	4		1557.00	EA		6228.00	
38	CPL3020241-512	4		665.00	EA		2660.00	
39	DIM3000022-2GB	4		1598.00	EA		6392.00	
40	HBP3020101-51	4		265.00	EA		1060.00	
41	HDM18110-DC4	4		333.00	EA		1332.00	
42	PCI10001-CXG	4		755.00	EA		3020.00	
43	ESL3020-VRL	4		333.00	EA		1332.00	
44	DISCOUNT	1		-174831.00	EA		-174831.00	
45								
46								
47								
48								
						Taxable	0.00	
						Tax	0.00	
						Exempt	990710.00	
						Total	990710.00	
						Paid	0.00	
						Tr Disc	0.00	
						Balance	990710.00	
						Amount shown in Rate :0.00 of		