

Compaq Computer Corporation

TPC Benchmark™ C
Full Disclosure Report
for
ProLiant 8500
using
Microsoft SQL Server 7.0 Enterprise Edition
and
Windows NT 4.0 Enterprise Edition

First Edition
April 2000

COMPAQ

First Edition – April 2000

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All performance data contained in this report were obtained in a rigorously controlled environment. Results obtained in other operating environments may vary significantly. Compaq does 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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Preface

The TPC Benchmark C was developed by the Transaction Processing Performance Council (TPC). The TPC was founded to define transaction processing benchmarks and to disseminate objective, verifiable performance data to the industry. This full disclosure report is based on the TPC Benchmark C Standard Specifications Version 3.5, released August 26, 1999.

TPC Benchmark C Overview

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

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

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

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

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

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

Abstract

Overview

This report documents the methodology and results of the TPC Benchmark C test conducted on the Compaq ProLiant 8500. The operating system used for the benchmark was Windows NT 4.0 Enterprise Edition with Service Pack 6. The DBMS used was Microsoft SQL Server 7.0 Enterprise Edition with Service Pack 2.

TPC Benchmark C Metrics

The standard TPC Benchmark C metrics, tpmC (transactions per minute), price per tpmC (five year capital cost per measured tpmC), and the availability date are reported as:

33617.40 tpmC

\$12.91 per tpmC

The availability date is April 7, 2000.

Standard and Executive Summary Statements

The following pages contain executive summary of results for this benchmark.

Auditor

The benchmark configuration, environment and methodology were audited by Lorna Livingtree of Performance Metrics, Inc. to verify compliance with the relevant TPC specifications.

Compaq Computer Corporation

Proliant 8500-550-6P

C/S with 4 Proliant 1600

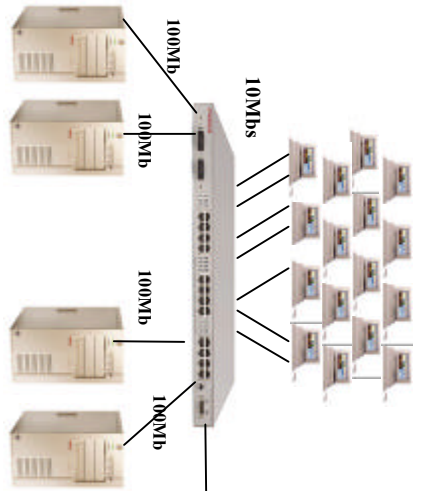
TPC-C Rev. 3.5

Report Date: April 7, 2000

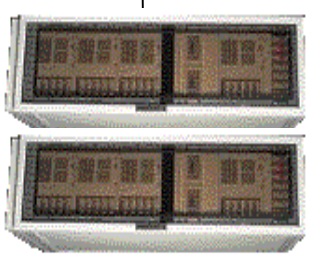
| | | | |
|-------------------|------------------|-------------------|--------------------|
| Total System Cost | TPC-C Throughput | Price/Performance | Availability Date |
| \$433,809 | 33617.40 | \$12.91 | Apr 7, 2000 |

| | | | | |
|-------------------------------|---------------------------------------------|-----------------------------------------|----------------------------------------|-----------------|
| Processors | Database Manager | Operating System | Other Software | Number of Users |
| 6 Pentium III Xeon 550 MHz | Microsoft SQL Server 7.0 Enterprise Edition | Windows NT 4.0 Enterprise Edition (SP6) | Microsoft Visual C++ Microsoft COM+ | 27200 |

Compaq Proliant 8500-550-6P



27200 PCs



6X Compaq SMART 4200 Array Controllers
19X StorageWorks Model 4214R

253 X 9.1 GB 10K Pluggable Drives +
12 X 18 GB 10K Pluggable Drives

| System Components | | Server | | Each Client | |
|-------------------|----------|-------------------------------------|----------|----------------------------------|-------|
| Processor | Quantity | Description | Quantity | Description | |
| Processor | 6 | 550MHz PentiumIII Xeon w/ 2MB Cache | 2 | 600MhzPentium III w/ 512K cache | |
| Memory | 16 | 256MB | 4 | 128MB | |
| Disk Controllers | 6 | SMART 4200 Array Controller | 1 | Integrated Ultra SCSI Controller | |
| Disk Drives | 253 | 9.1GB SCSI Drive | 1 | 9.1GB SCSI Drive | |
| | 12 | 18GB SCSI Drive | | | |
| Total Storage | | 2.2917 Terabytes | | | 9.1GB |
| Tape Drives | 1 | 4/8 DAT | | | |

| | | |
|------------------------------------|-----------------------------|------------------------------|
| Compaq Computer Corporation | ProLiant 8500-550-6P | TPC-C Rev. 3.5 |
| | | Report Date: 3-Apr-00 |

| Description | Part Number | Third Party | Unit Price | Qty | Extended Price | 5 yr. Maint. Price |
|---------------------------------------------------------------|-----------------|-------------|------------|------|----------------|--------------------|
| | | | | | | |
| Server Hardware | | | | | | |
| ProLiant 8500-550-4 | 323300-001 | 1 | 45,416 | 1 | 45,416 | |
| - 4 Pentium III Xeon/550MHz 2MB Cache | | | | | | |
| - 2 GB SD RAM Memory, Emb. Array Controller | | | | | | |
| - CD-ROM 24X - 10/100 Ethernet Controller | | | | | | |
| ProLiant Pent. III Xeon 6/550-2M | 146170-B21 | 1 | 6,048 | 2 | 12,096 | |
| 512MB SD RAM Memory Kit (2x256MB) | 238807-B21 | 1 | 1,652 | 4 | 6,608 | |
| Compaq SMART Array Controller 4200 | 295636-B21 | 1 | 2,218 | 6 | 13,306 | |
| StorageWorks Enclosure Model 4214R | 103381-001 | 1 | 2,576 | 19 | 48,944 | |
| Dual I/O Module for StorageWorks 4214R | 119829-B21 | 1 | 336 | 1 | 336 | |
| Compaq V500 Color Monitor | 325900-001 | 1 | 203 | 1 | 203 | |
| 4/8GB DAT Drive | 295353-B21 | 1 | 703 | 1 | 703 | |
| Compaq Rack Model 7142 | 165753-001 | 1 | 1,680 | 2 | 3,360 | |
| Compaq Rack Coupling Kit | 165664-001 | 1 | 152 | 1 | 152 | |
| Compaq Rack Sidewall Kit | 165652-001 | 1 | 208 | 1 | 208 | |
| 9.1 GB Hot-Plug Wide U2 10K 1" | 328939-B22 | 1 | 503 | 253 | 127,229 | |
| 18.2 GB Hot-Plug Wide U2 10K 1" | 128418-B22 | 1 | 940 | 12 | 11,276 | |
| ProLiant Enterprise Server - Parts Exchange - 1 Year | FM-HEPRT-12 | 1 | 597 | 2 | | 1,194 |
| ProLiant Storage System - Parts Exchange - 1 Year | FM-STPRT-12 | 1 | 255 | 38 | | 9,690 |
| Onsite 5x8 4 Hr. Service Upgrade from Compaq Standard Service | Allstar | 1 | | | | 21,587 |
| Server Software | | | | | | |
| Microsoft SQL Server 7.0 Enterprise | Microsoft | 2 | 28,999 | 1 | 28,999 | 10,475 |
| Microsoft Visual C++ 6.0 | Microsoft | 2 | 549 | 1 | 549 | Incl Above |
| Microsoft Windows NT Server 4.0 Enterprise Edition | Microsoft | 2 | 3,999 | 1 | 3,999 | Incl Above |
| Client Hardware | | | | | | |
| ProLiant 1600 6/600 - 128MB, 100TX Nic | 153552-001 | 1 | 2,688 | 4 | 10,752 | |
| Pentium III 600 MHz Processor Option | 153555-B21 | 1 | 1,007 | 4 | 4,028 | |
| 128-Megabyte SD DIMM Kit | 313615-B21 | 1 | 361 | 12 | 4,328 | |
| NC3122 PCI Dual 10/100 Controller | 317450-B21 | 1 | 263 | 4 | 1,053 | |
| Compaq V500 Color Monitor | 325900-001 | 1 | 203 | 4 | 811 | |
| 9.1GB Wide U2 10K | 328939-B22 | 1 | 503 | 4 | 2,012 | |
| ProLiant Workgroup Server - Parts Exchange - 1 Year | FM-LOPRT-12 | 1 | 259 | 8 | | 2,072 |
| Onsite 5x8 4 Hr. Service Upgrade from Compaq Standard Service | Allstar | 1 | | | | 1,839 |
| Client Software | | | | | | |
| Microsoft Windows 2000 Server | Microsoft | 2 | 999 | 4 | 3,996 | Incl. Above |
| User Connectivity | | | | | | |
| LinkSys 8 Port 10/100 Switch EZX#88R | DEH4162 LinkSys | 3 | 160 | 7 | 1,120 | See Note 1 |
| 8-port 10BaseT hub | Generic | 1 | 25.00 | 3745 | 93,625 | See Note 1 |
| Large Purchase and Cash discount | | | 9.0% | 1 | | |

| | | | | | | |
|---------------------------------------------------------------|--|--|--|--|------------------|------------------|
| Subtotal | | | | | 269,837 | 32,471 |
| Microsoft | | | | | 28,999 | 10,475 |
| Microsoft | | | | | 549 | Incl Above |
| Microsoft | | | | | 3,999 | Incl Above |
| Subtotal | | | | | 33,547 | 10,475 |
| ProLiant 1600 6/600 - 128MB, 100TX Nic | | | | | 10,752 | |
| Pentium III 600 MHz Processor Option | | | | | 4,028 | |
| 128-Megabyte SD DIMM Kit | | | | | 4,328 | |
| NC3122 PCI Dual 10/100 Controller | | | | | 1,053 | |
| Compaq V500 Color Monitor | | | | | 811 | |
| 9.1GB Wide U2 10K | | | | | 2,012 | |
| ProLiant Workgroup Server - Parts Exchange - 1 Year | | | | | | 2,072 |
| Onsite 5x8 4 Hr. Service Upgrade from Compaq Standard Service | | | | | | 1,839 |
| Subtotal | | | | | 22,982 | 3,911 |
| Microsoft Windows 2000 Server | | | | | 3,996 | Incl. Above |
| Subtotal | | | | | 3,996 | 0 |
| LinkSys 8 Port 10/100 Switch EZX#88R | | | | | 1,120 | See Note 1 |
| 8-port 10BaseT hub | | | | | 93,625 | See Note 1 |
| Subtotal | | | | | 94,745 | 0 |
| Total | | | | | \$390,227 | (\$3,274) |
| | | | | | | \$43,582 |
| | | | | | | \$433,809 |
| | | | | | | 33617.40 |
| | | | | | | \$1291 |

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark pricing 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.

Printing: 1=Allstar Systems 2=Microsoft 3=Allstar/VAR/HOUSE

Note 1 = 5 Year warranty with 10% Spares -

Note: The benchmark results and test methodology were qualified by Lorna Livingtree of Performance Metrics, Inc.

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput **33617.40 tpmC**
0.09%
% throughput difference, reported & reproducibility runs

| Response Times (in seconds) | Average | 90% | Maximum |
|------------------------------------|----------------|------------|----------------|
| New-Order | 0.46 | 0.66 | 3.87 |
| Payment | 0.30 | 0.49 | 3.41 |
| Order-Status | 0.33 | 0.52 | 3.41 |
| Delivery (interactive portion) | 0.10 | 0.11 | 0.13 |
| Delivery (deferred portion) | 1.31 | 2.55 | 6.28 |
| Stock-Level | 2.34 | 2.82 | 5.38 |
| Menu | 0.10 | 0.11 | 0.96 |

Transaction Mix, in percent of total transaction

| | |
|--------------|--------|
| New-Order | 44.73% |
| Payment | 43.05% |
| Order-Status | 4.07% |
| Delivery | 4.08% |
| Stock-Level | 4.07% |

Emulation Delay (in seconds)

| | Resp. Time | Menu |
|------------------------|-------------------|-------------|
| New-Order | 0.10 | 0.10 |
| Payment | 0.10 | 0.10 |
| Order-Status | 0.10 | 0.10 |
| Delivery (interactive) | 0.10 | 0.10 |
| Stock-Level | 0.10 | 0.10 |

Keying/Think Times (in seconds)

| | Min. | Average | Max. |
|------------------------|-------------|----------------|--------------|
| New-Order | 18.00/0.00 | 18.01/12.22 | 18.03/122.41 |
| Payment | 3.00/0.00 | 3.01/12.22 | 3.03/122.41 |
| Order-Status | 2.00/0.00 | 2.01/10.20 | 2.03/102.00 |
| Delivery (interactive) | 2.00/0.00 | 2.02/5.12 | 2.03/51.00 |
| Stock-Level | 2.00/0.00 | 2.01/5.13 | 2.03/50.99 |

Test Duration

| | |
|----------------------------------------------------------------|------------|
| Ramp-up time | 72 minutes |
| Measurement interval | 30 minutes |
| Transactions (all types) completed during measurement interval | 2346975 |
| Ramp down time | 52 minutes |

Checkpointing

| | |
|-----------------------|------------|
| Number of checkpoints | 1 |
| Checkpoint interval | 30 minutes |

General Items

Test Sponsor

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

This benchmark was sponsored by Compaq Computer Corporation. The benchmark was developed and engineered by Compaq Computer Corporation. Testing took place at Compaq benchmarking laboratories in Houston, Texas.

Application Code and Definition Statements

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

Appendix A contains all source code implemented in this benchmark.

Parameter Settings

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

- Database options
- Recover/commit options
- Consistency locking options
- Operating system and application configuration parameters

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

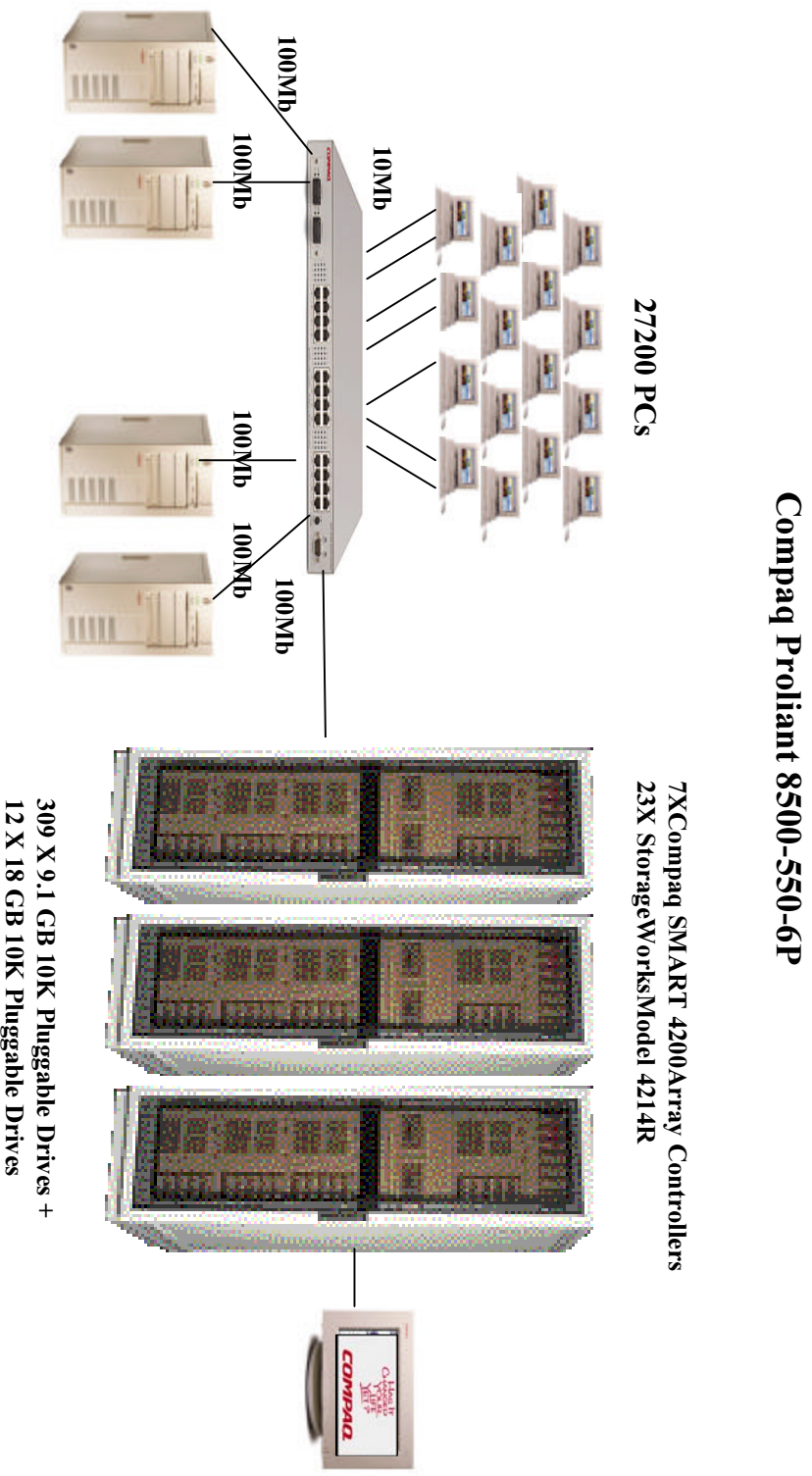
Appendix C contains the tunable parameters to for the database, the operating system, and the transaction monitor.

Configuration Items

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

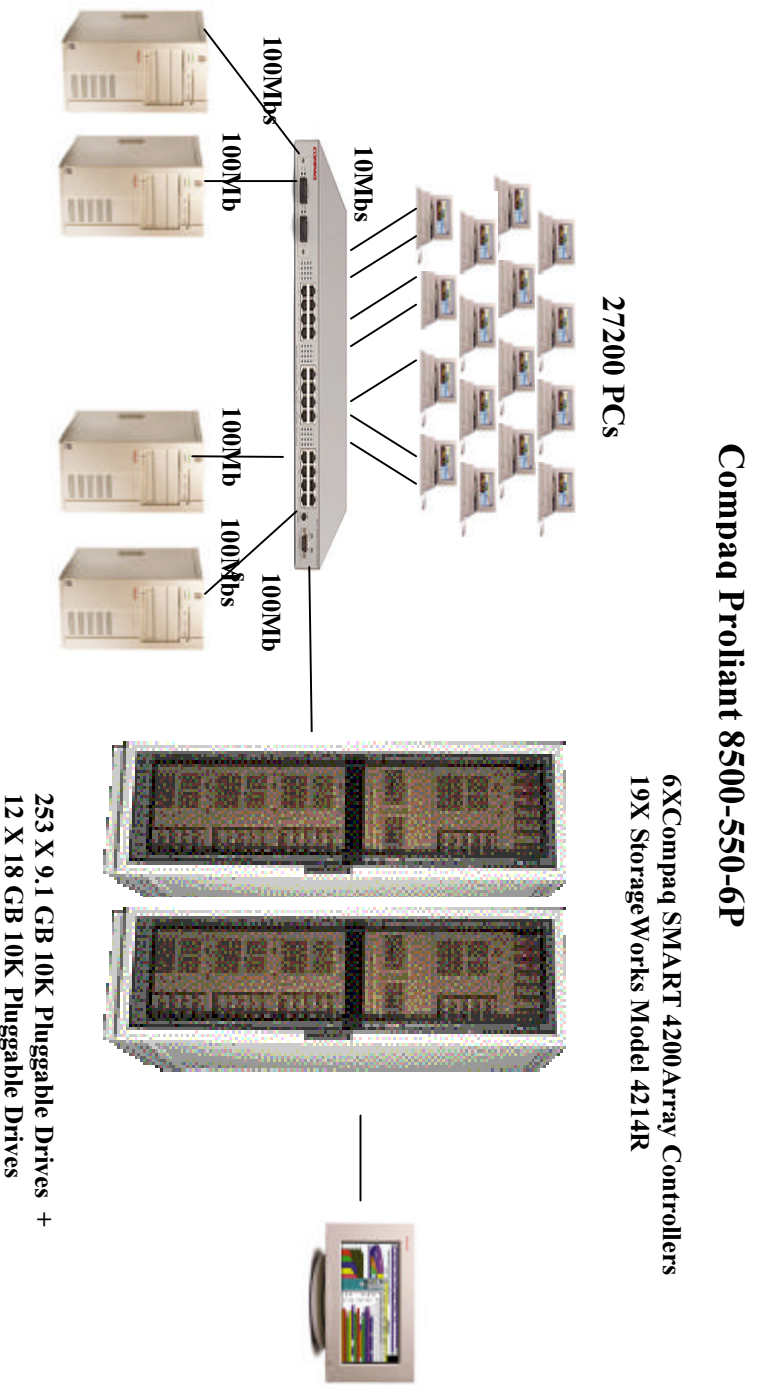
The configuration diagrams for both the tested and priced systems are included on the following pages.

Figure 1. Benchmarked Configuration



Note: 1 SMART-4200 Controller, 56 9.1GB drives and 4 Storage Works 4214 Enclosures contained the database backup and were not used for the performance run

Figure 2. Priced Configuration



Clause 1 Related Items

Table Definitions

Listing must be provided for all table definition statements and all other statements used to set up the database.

Appendix B contains the code used to define and load the database tables.

Physical Organization of Database

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

The tested configuration consisted of: 253 drives at 9.1GB, and 12 drives at 18GB each.

Benchmarked Configuration:

Embedded Raid Controller

EISA UTILITIES PARTITION

Total Capacity = 36 MB

Compaq System Configuration Utilities

LOGICAL_DRIVE_C:

Total Capacity = 4044 MB

Microsoft Windows NT v. 4.0

LOGICAL_DRIVE_E:

Total Capacity = 4590 MB

Nothing

SMART-4200 Controller, Slot 1 Array A

LOGICAL_DRIVE_V:

Total Capacity = 14112 MB

RAID 0

SMART-4200 Controller, Slot 1 Array B

LOGICAL_DRIVE_W:

Total Capacity = 14112 MB

RAID 0

SMART-4200 Controller, Slot 1 Array C

LOGICAL_DRIVE_X:

Total Capacity = 14112 MB

RAID 0

SMART-4200 Controller, Slot 3, Array A

LOGICAL_DRIVE_N:

Total Capacity = 14092 MB

RAID 0

SMART-4200 Controller, Slot 3, Array B

LOGICAL_DRIVE_O:

Total Capacity = 14092 MB

RAID 0

SMART-4200 Controller, Slot 3, Array C

LOGICAL_DRIVE_P:

Total Capacity = 14092 MB

RAID 0

SMART-4200 Controller, Slot 3, Array D

LOGICAL_DRIVE_Q:

Total Capacity = 14092 MB

RAID 0

MSSQL7_fg

SMART-4200 Controller, Slot 6, Array A

LOGICAL_DRIVE_Z:

Total Capacity = 242979 MB

RAID 0+1

TPCC Backup Set

| | | |
|------------------------------------------------|----------------------------------|---------------|
| SMART-4200 Controller, Slot 9, Array A | | |
| LOGICAL_DRIVE G: | <u>Total Capacity = 14032 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 9, Array B | | |
| LOGICAL_DRIVE H: | <u>Total Capacity = 14032 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 9, Array C | | |
| LOGICAL_DRIVE I: | <u>Total Capacity = 14032 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 10, Array A | | |
| LOGICAL_DRIVE R: | <u>Total Capacity = 14104 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 10, Array B | | |
| LOGICAL_DRIVE S: | <u>Total Capacity = 14104 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 10, Array C | | |
| LOGICAL_DRIVE T: | <u>Total Capacity = 14104 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 10, Array D | | |
| LOGICAL_DRIVE U: | <u>Total Capacity = 14104 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 11, Array A | | |
| LOGICAL_DRIVE J: | <u>Total Capacity = 14084 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 11, Array B | | |
| LOGICAL_DRIVE K: | <u>Total Capacity = 14084 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 11, Array C | | |
| LOGICAL_DRIVE L: | <u>Total Capacity = 14084 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |
| SMART-4200 Controller, Slot 11, Array D | | |
| LOGICAL_DRIVE M: | <u>Total Capacity = 14084 MB</u> | <u>RAID 0</u> |
| MSSQL70_fg | | |

Priced Configuration vs. Measured Configuration:

The measured configuration has the backup devices stored on 9.1GB drives, whereas the priced configuration has tape drives for backup.

Insert and 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 restrictions in the SUT database implementation that precludes inserts beyond the limits defined in Clause 1.4.11 must be disclosed. This includes the maximum number of rows that can be inserted and the minimum key value for these new rows.

All insert and delete functions were fully operational during the entire benchmark.

Partitioning

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

No partitioning was used in this benchmark.

Replication, Duplication or Additions

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

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

Clause 2 Related Items

Random Number Generation

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

In the Benchmark RTE from Microsoft, each driver engine uses an independent random number sequence. All of the users within a given driver draw from the same sequence.

The Benchmark RTE computes random integers as described in "Random Numbers Generators: Good Ones Are Hard to Find." Communications of the ACM - October 1988 Volume 31 Number 10.

The seeds for each user were captured and verified by the auditor to be unique. In addition, the contents of the database were systematically searched, and randomly sampled by the auditor for patterns that would indicate the random number generator had effected any kind of a discernible pattern; none were found.

Input/Output Screen Layout

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

All screen layouts followed the specifications exactly.

Priced Terminal Feature Verification

The method used to verify that the emulated terminals provide all the features described in Clause 2.2.2.4 must be explained. Although not specifically priced, the type and model of the terminals used for the demonstration in 8.1.3.3 must be disclosed and commercially available (including supporting software and maintenance).

The terminal attributes were verified by the auditor manually exercising each specification on a representative Compaq ProLiant 1600 server.

Presentation Manager or Intelligent Terminal

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

Application code running on the client machines implemented the TPC-C user interface. No presentation manager software or intelligent terminal features were used. The source code for the forms applications is listed in Appendix A.

Transaction Statistics

Table 2.1 lists the numerical quantities that Clauses 8.1.3.5 to 8.1.3.11 require.

Table 2. 1 Transaction Statistics

| Statistic | Value |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| New Order | 99.00% Home warehouse order lines Remote warehouse order lines Rolled back transactions .99% Average items per order 10.00 |
| Payment | 85.01% Home warehouse payments Remote warehouse payments 14.99% |

| Statistic | Value |
|-----------------------|--------|
| Accessed by last name | 59.94% |
| Order Status | 60.01% |
| Transaction Mix | 44.73% |
| New Order | 43.05% |
| Payment | 4.07% |
| Order status | 4.08% |
| Delivery | 4.07% |
| Stock level | 4.07% |

Queuing Mechanism

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

Microsoft COM+ on each client machine served as the queuing mechanism to the database. Each delivery request was submitted to Microsoft COM+ asynchronously with control being returned to the client process immediately and the deferred delivery part completing asynchronously.

The source code is listed in Appendix A.

Clause 3 Related Items

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.

All ACID property tests were successful. The executions are described below.

Atomicity

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

Completed Transactions

A row was selected in a script from the warehouse, district and customer tables, and the balances noted. A payment transaction was started with the same warehouse, district and customer identifiers and a known amount. The payment transaction was committed and the rows were verified to contain correctly updated balances.

Aborted Transactions

A row was selected in a script from the warehouse, district and customer tables, and the balances noted. A payment transaction was started with the same warehouse, district and customer identifiers and a known amount. The payment transaction was rolled back and the rows were verified to contain the original balances.

Consistency

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

Consistency conditions one through four were tested using a shell script to issue queries to the database. The results of the queries verified that the database was consistent for all four tests.

A run was executed under full load lasting over an hour and a half and included a checkpoint.

The shell script was executed again. The result of the same queries verified that the database remained consistent after the run.

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.

Isolation tests one through seven were executed using shell scripts to issue queries to the database. Each script included timestamps to demonstrate the concurrency of operations. The results of the queries were captured to files. The captured files were verified by the auditor to demonstrate the required isolation had been met.

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

For Isolation test seven, case A was followed.

Durability

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

Durable Media Failure

The durable media failure tests were performed on a previously reported Proliant system (TPC-C disclosure dated December 20, 1999).

Loss of Data and Log

To demonstrate recovery from a permanent failure of durable medium containing DBMS logs and TPC-C tables, the following steps were executed:

- The database was backed up to extra disks.
- The total number of New Orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table giving the beginning count.
- The RTE was started with 100 users.
- The test was allowed to run for a minimum of 10 minutes.
- One log disk was removed from the drive cabinet.
- Since the disk was mirrored, processing was not interrupted. This was verified by checking the users status on the RTE.
- One of the data disks was removed from the drive cabinet.
- When Microsoft SQL Server recorded errors about not being able to access the database, the RTE was shut down.
- A dump of the transaction log was taken and the Microsoft SQL Server was shutdown.
- A new log disk was inserted into the log drive cabinet. A new data disk was inserted into the data drive cabinet. Both cabinets were powered back up and system restarted.
- Microsoft SQL Server was started.
- The database was restored from backup and the transaction log dump.
- Consistency condition #3 was executed and verified.
- Step 2 was repeated and the difference between the first and second counts was noted.
- An RTE report was generated for the entire run time giving the number of NEW-ORDERS successfully returned to the RTE.
- The counts in step 12 and 13 were compared and the results verified that all committed transactions had been successfully recovered.
- Samples were taken from the RTE files and used to query the database to demonstrate successful transactions had corresponding rows in the ORDER table.

Instantaneous Interruption and Loss of Memory

Because loss of power erases the contents of memory, the instantaneous interruption and the loss of memory tests were combined into a single test. This test was executed on a fully scaled database of 2720 warehouses under a full load of 27200 users. The following steps were executed:

- The total number of New Orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table giving the beginning count.
- The RTE was started with 27200 users.
- The test was allowed to run for a minimum of 10 minutes.
- A checkpoint was performed.
- System crash and loss of memory were induced by switching the power off. No battery backup or Uninterruptible Power Supply (UPS) were used to preserve the contents of memory.
- The RTE was shutdown.
- Power was restored and the system restarted.
- Microsoft SQL Server was restarted and performed an automatic recovery.
- Consistency condition #3 was executed and verified.

- Step 1 was repeated and the difference between the first and second counts was noted.
- An RTE report was generated for the entire run time giving the number of NEW-ORDERS successfully returned to the RTE.
- The counts in step 9 and 10 were compared and the results verified that all committed transactions had been successfully recovered.

Samples were taken from the RTE files and used to query the database to demonstrate successful transactions had corresponding rows in the ORDER table.

Clause 4 Related Items

Initial Cardinality of Tables

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

Table 4.1 Number of Rows for Server

| Table | Cardinality as built |
|--------------------|----------------------|
| Warehouse | 2,720 |
| District | 27,200 |
| Customer | 81,600,000 |
| History | 81,600,000 |
| Orders | 81,600,000 |
| New Order | 24,480,000 |
| Order Line | 815,996,127 |
| Stock | 272,000,000 |
| Item | 100,000 |
| Deleted Warehouses | 0 |

Database Layout

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

The benchmarked configuration used 6 SMART-4200 Array controllers, each with 4 SCSI channels. Each controller is capable of accessing up to 56 disk drives per array, 14 disk drives per each channel, and supports RAID 0 and RAID 1 per each logical volume configured. The data tables were stored on 18 logical volumes (i.e. 1 logical drive of 14 9.1GB drives per Storage Works 4214R Enclosure). Each data volume was configured with RAID 0 and the Array Accelerator was disabled. One logical volume of 12 18GB drives was configured as a RAID 0+1 and stored the transaction log. The transaction log volumes also had the Array Accelerator disabled. The operating system was stored on a 9.1GB drive on the embedded RAID controller. All RAID volumes used hardware RAID.

Section 1.2 of this report details the distribution of database tables across all disks. The code that creates the filegroups and tables is included in Appendix B.

Type of Database

A statement must be provided that describes:

- *The data model implemented by DBMS used (e.g. relational, network, hierarchical).*

- *The database interface (e.g. embedded, call level) and access language (e.g. SQL, DLI, COBOL read/write used to implement the TPC-C transaction. 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 7.0 Enterprise Edition is a relational DBMS.

The interface used was Microsoft SQL Server stored procedures accessed with Remote Procedure Calls embedded in C code.

Database Mapping

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

The database was not replicated.

180 Day Space

Details of the 180 day space computations along with proof that the database is configured to sustain 8 hours of growth for the dynamic tables (Order, Order-Line, and History) must be disclosed.

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

- The free space on the log file was queried using *dbcc sqlperf(logspace)*.
- Transactions were run against the database with a full load of users.
- The free space was again queried using *dbcc sqlperf(logspace)*.
- The space used was calculated as the difference between the first and second query.
- The number of NEW-ORDERS was verified from the difference in the sum(*d_next_o_id*) taken from before and after the run.
- The space used was divided by the number of NEW-ORDERS giving a space used per NEW-ORDER transaction.
- The space used per transaction was multiplied by the measured tpmC rate times 480 minutes.

The same methodology was used to compute growth requirements for dynamic tables Order, Order-Line and History.

The details of both the 8-hour transaction log space requirement and the 180-day space requirement is shown in Appendix D.

Clause 5 Related Items

Throughput

Measured tpmC must be reported

Measured tpmC 33617.40 tpmC
Price per tpmC \$12.91 per tpmC

Response Times

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

Table 5.2: Response Times

| Type | Average | 90 th % | Maximum |
|----------------------|---------|--------------------|---------|
| New-Order | 0.46 | 0.66 | 3.87 |
| Payment | 0.30 | 0.49 | 3.41 |
| Order-Status | 0.33 | 0.52 | 3.41 |
| Interactive Delivery | 0.10 | 0.11 | 0.13 |
| Deferred Delivery | 1.31 | 2.55 | 6.28 |
| Stock-Level | 2.34 | 2.82 | 5.38 |
| Menu | 0.10 | 0.11 | 0.96 |

Keying and Think Times

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

Table 5.3: Keying Times

| Type | Minimum | Average | Maximum |
|----------------------|---------|---------|---------|
| New-Order | 18.00 | 18.01 | 18.03 |
| Payment | 3.00 | 3.02 | 3.03 |
| Order-Status | 2.00 | 2.01 | 2.03 |
| Interactive Delivery | 2.00 | 2.02 | 2.03 |
| Stock-Level | 2.00 | 2.01 | 2.03 |

Table 5.4: Think Times

| Type | Minimum | Average | Maximum |
|----------------------|---------|---------|---------|
| New-Order | 0.00 | 12.22 | 122.41 |
| Payment | 0.00 | 12.22 | 122.41 |
| Order-Status | 0.00 | 10.20 | 102.00 |
| Interactive Delivery | 0.00 | 5.12 | 51.00 |
| Stock-Level | 0.00 | 5.13 | 50.99 |

Response Time Frequency Distribution Curves and Other Graphs

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

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

Think Time frequency distribution curves (see Clause 5.6.3) must be reported for each transaction type.

Keying Time frequency distribution curves (see Clause 5.6.4) must be reported for each transaction type.

A graph of throughput versus elapsed time (see Clause 5.6.5) must be reported for the New-Order transaction.

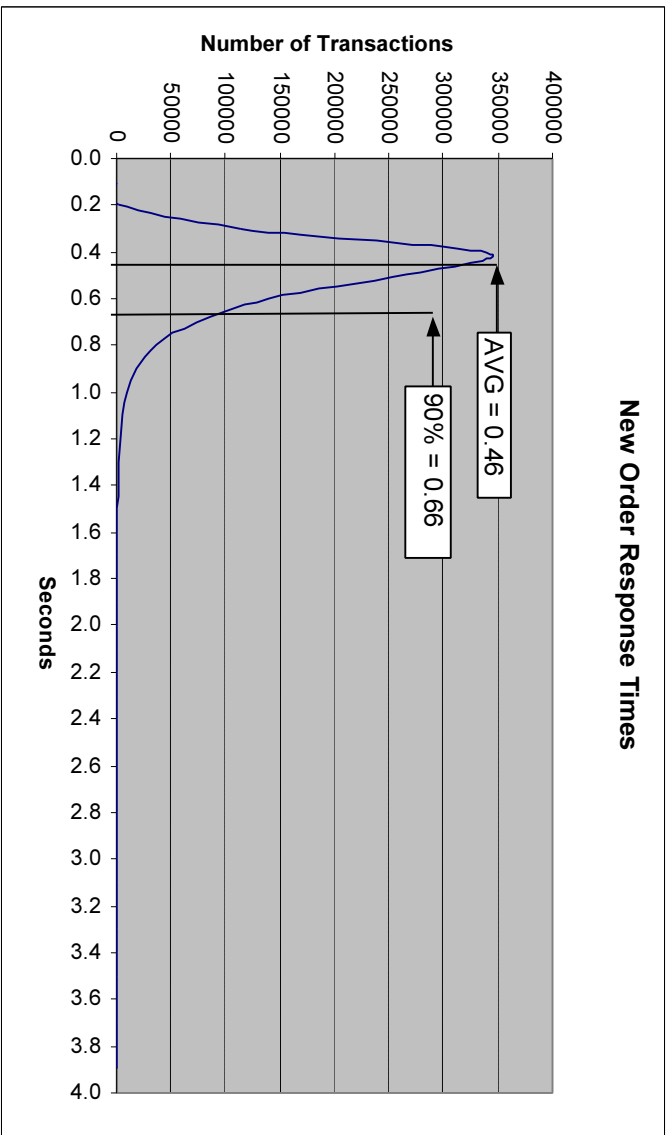


Figure 3. New Order Response Time Distribution

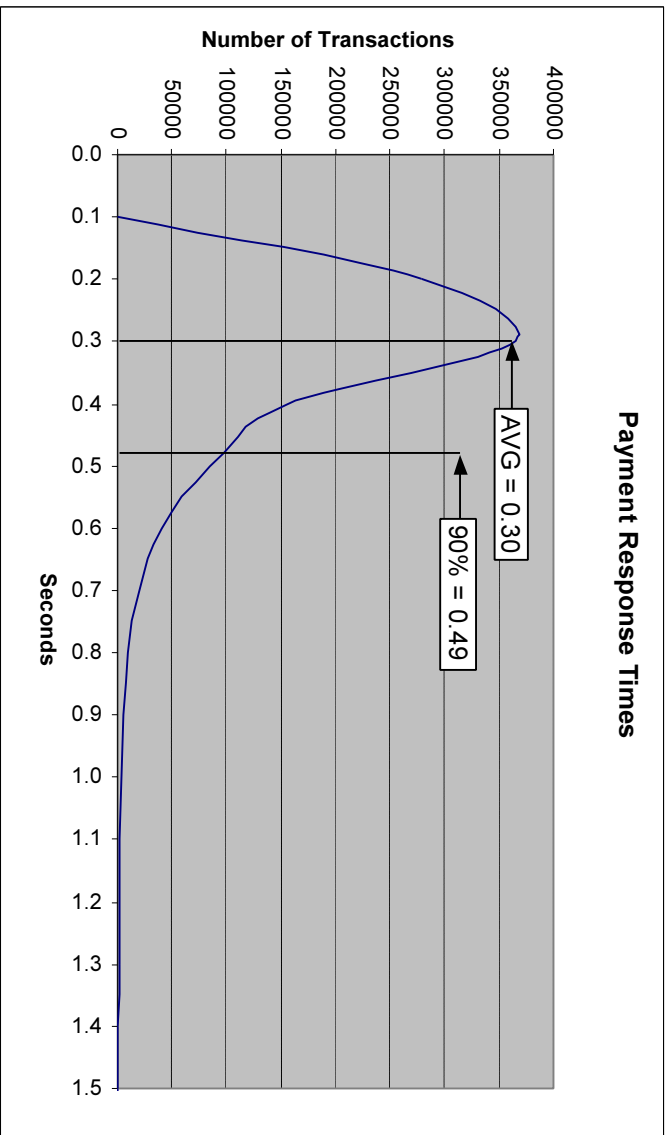


Figure 4. Payment Response Time Distribution

Figure 5. Order Status Response Time Distribution

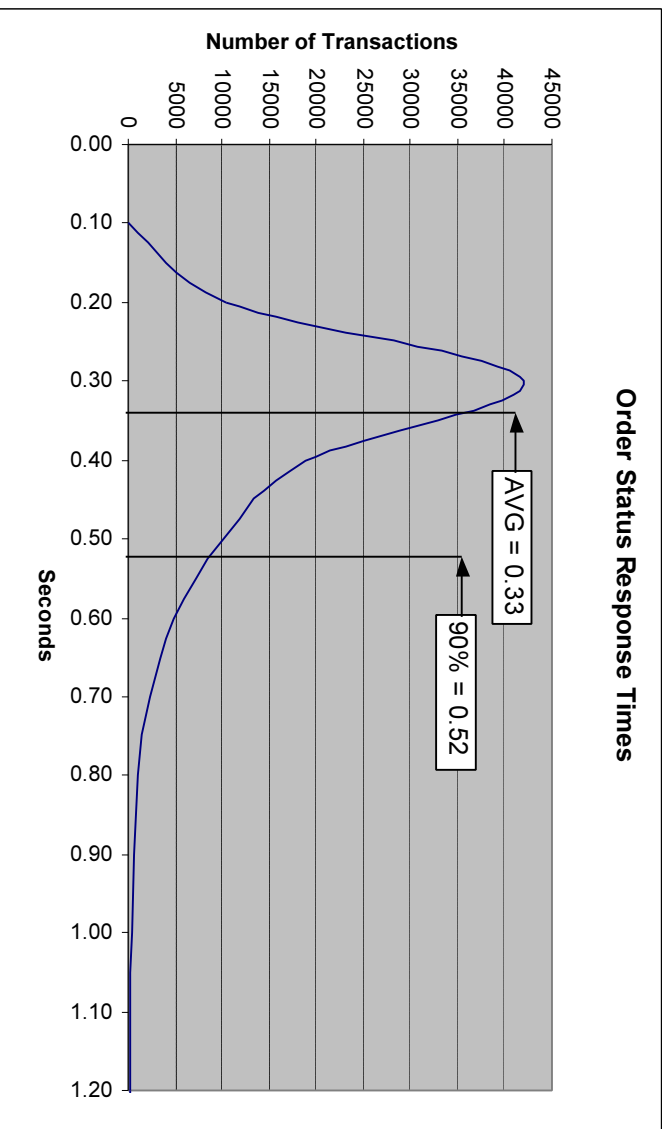


Figure 6. Delivery Response Time Distribution

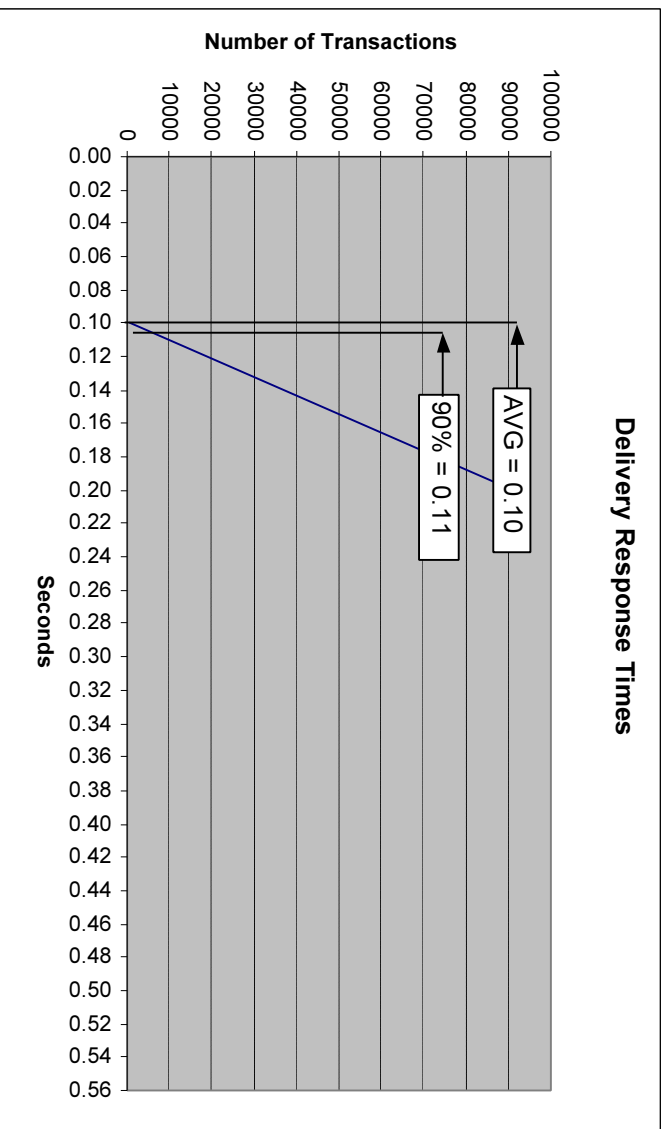


Figure 7. Stock Level Response Time Distribution

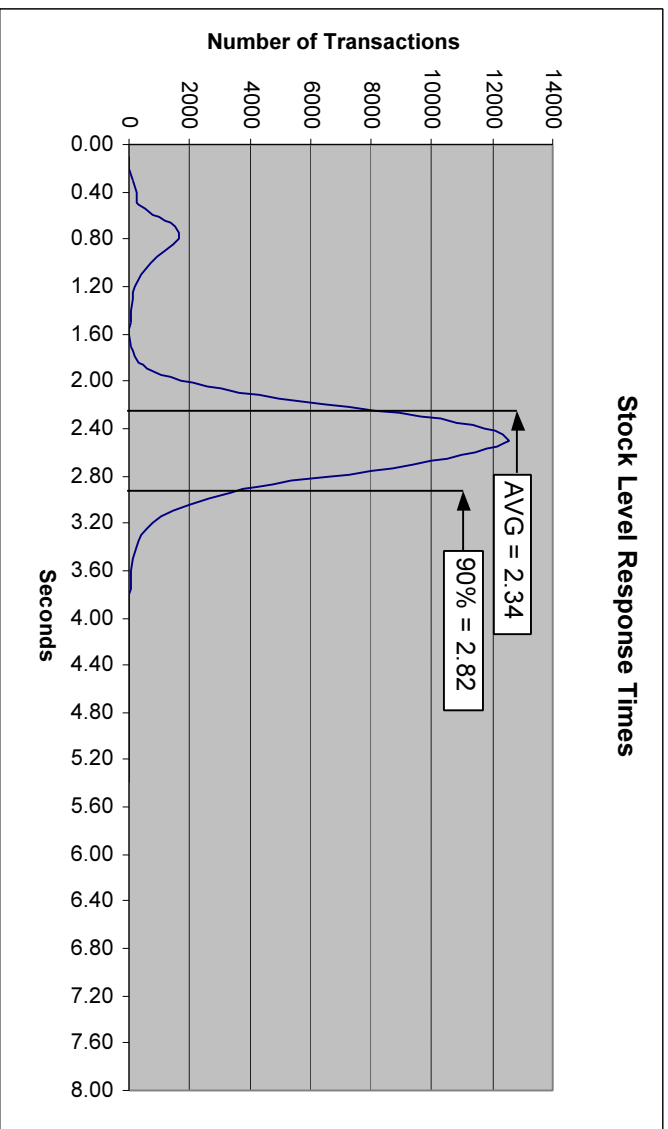
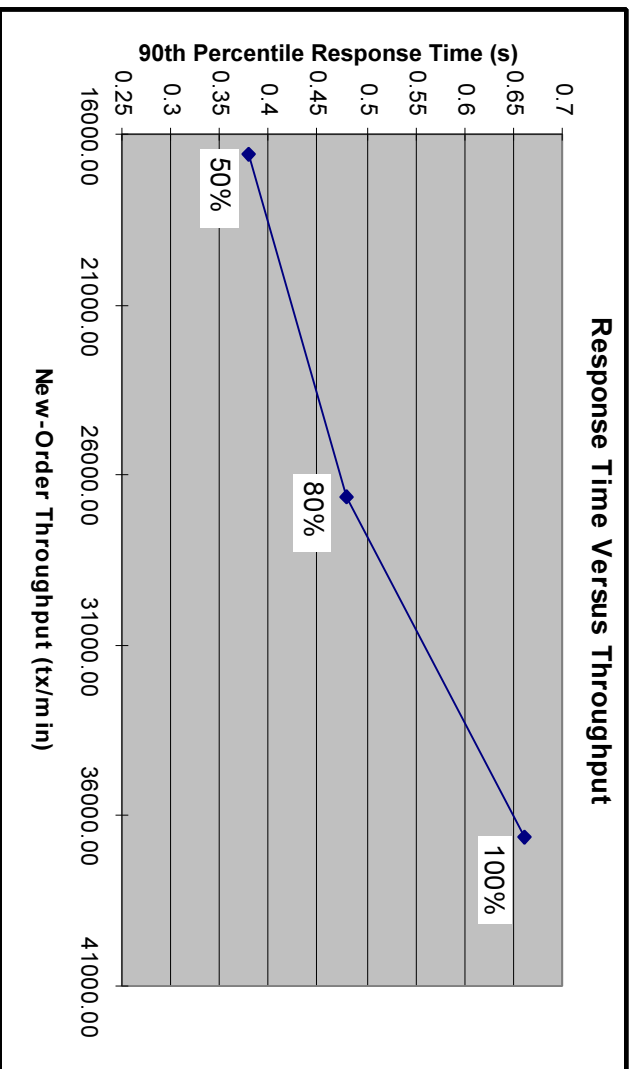


Figure 8. Response Time vs. Throughput



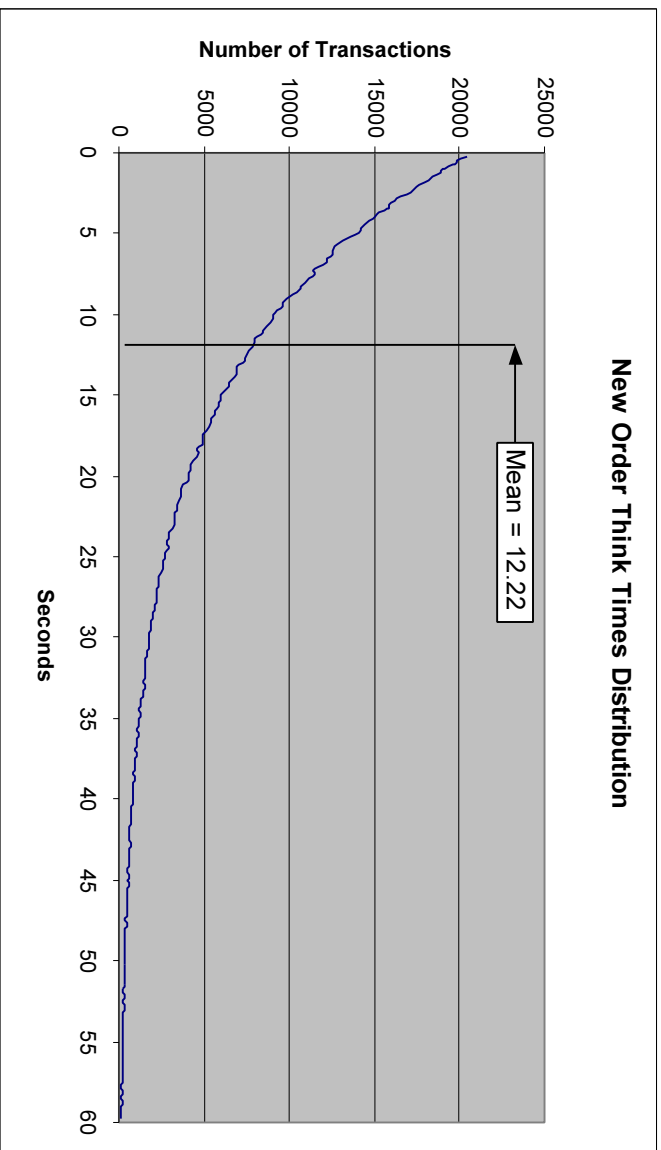


Figure 9. New Order Think Time Distribution

New Order Think Times Distribution

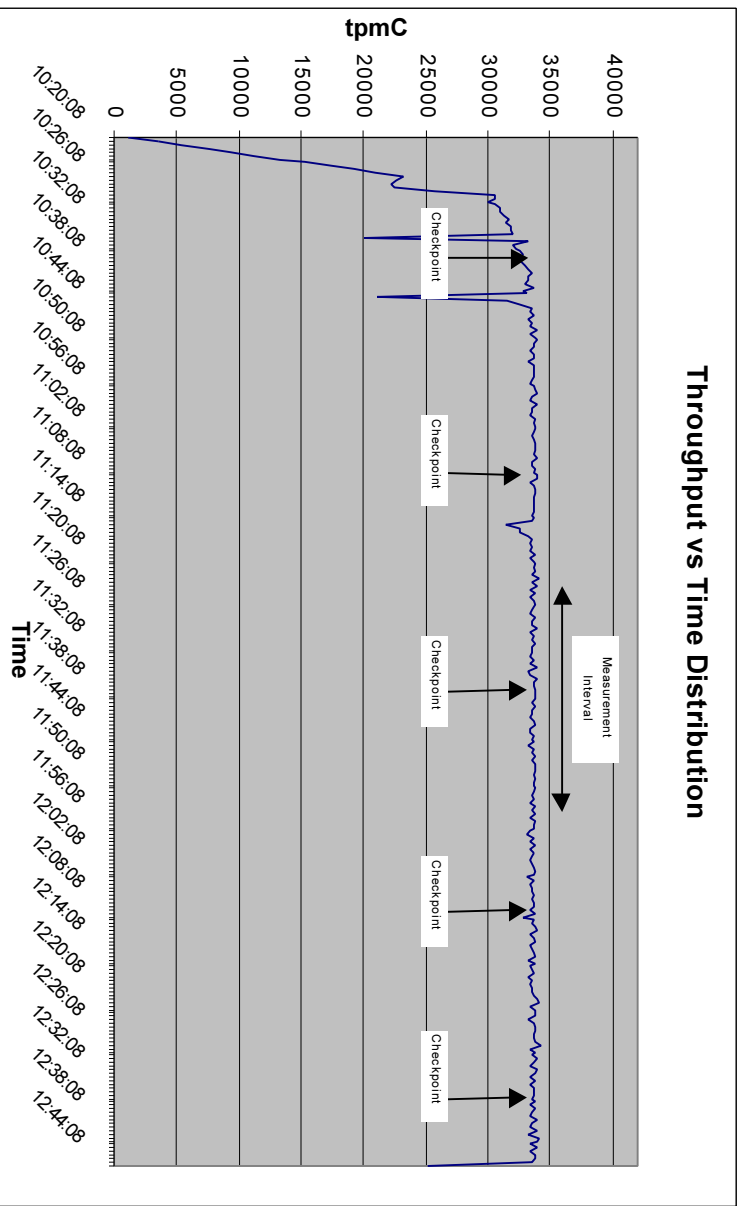


Figure 10. Throughput vs. Time Distribution

Throughput vs. Time Distribution

Steady State Determination

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

Steady state was determined using real time monitor utilities from the RTE. Steady state was further confirmed by the throughput data collected during the run and graphed in Figure 10.

Work Performed During Steady State

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

The RTE generated the required input data to choose a transaction from the menu. This data was timestamped. The input screen for the requested transaction was returned and timestamped. The difference between these two timestamps was the menu response time. The RTE writes to the log file once per transaction on selective fields such as order id. There is one log file per driver engine.

The RTE generated the required input data for the chosen transaction. It waited to complete the minimum required key time before transmitting the input screen. The transmission was timestamped. The return of the screen with the required response data was timestamped. The difference between these two timestamps was the response time for that transaction.

The RTE then waited the required think time interval before repeating the process starting at selecting a transaction from the menu.

The RTE transmissions were sent to application processes running on the client machines through Ethernet LANs. These client application processes handled all screen I/O as well as all requests to the database on the server. The applications communicated with the database server over the Ethernet LAN using DBLIB and RPC calls.

To perform checkpoints at specific intervals, we set SQL Server *recovery interval* to the maximum allowable value and wrote a script to schedule multiple checkpoints at specific intervals. The script included a wait time between each checkpoint equal to the measurement interval which was 20 minutes. The checkpoint script was started manually after the RTE had all users logged in and sending transactions.

At each checkpoint, Microsoft SQL Server wrote to disk all memory pages that had been updated but not yet physically written to disk. The positioning of the measurement interval was verified to be clear of the guard zones and is depicted on the graph in Figure 10.

Reproducibility

A description of the method used to determine the reproducibility of the measurement results must be reported.

We allowed the database to warm up and to reach a steady state for approximately 106 minutes. The steady state was sustained for a 30-minute (measurement) interval, and was followed by a ramp-down. The repeatable interval result was within 0.09 % of the reported interval result.

Measurement Period Duration

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

The reported measured interval was exactly 30 minutes long.

Regulation of Transaction Mix

The method of regulation of the transaction mix (e.g., card decks or weighted random distribution) must be described. If weighted distribution is used and the RTE adjusts the weights associated with each transaction type, the maximum adjustments to the weight from the initial value must be disclosed.

The RTE was given a weighted random distribution, which was not adjusted during the run.

Transaction Statistics

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

Table 5.5: Transaction Statistics

| Statistic | Value | |
|-----------------|------------------------------------|--------|
| New Order | Home warehouse order lines | 99.00% |
| | Remote warehouse order lines | 1.00% |
| | Rolled back transactions | 0.99% |
| | Average items per order | 10.00 |
| Payment | Home warehouse payments | 85.01% |
| | Remote warehouse payments | 14.99% |
| Delivery | Accessed by last name | 59.94% |
| | Skipped transactions (interactive) | 0 |
| Order Status | Skipped transactions (deferred) | 0 |
| Transaction Mix | Accessed by last name | 60.01% |
| | New Order | 44.73% |
| | Payment | 43.05% |
| | Order status | 4.07% |
| | Delivery | 4.08% |
| | Stock level | 4.07% |

Checkpoint Count and Location

The number of checkpoints in the Measurement Interval, the time in seconds from the start of the Measurement Interval to the first checkpoint, and the Checkpoint Interval must be disclosed.

The initial checkpoint was started 27 minutes after the start of the ramp-up. Subsequent checkpoints occurred every 30 minutes. The checkpoint in the measurement interval lasted approximately 6 minutes. The measurement interval contains the third checkpoint, and is clear of the guard zones.

Clause 6 Related Items

RTE Descriptions

If the RTE is commercially available, then its inputs must be specified. Otherwise, a description must be supplied of what inputs (e.g., scripts) to the RTE had been used.

The RTE used was Microsoft Benchcraft RTE. Benchcraft is a proprietary tool provided by Microsoft and is not commercially available. The RTE's input are listed in Appendix A.

Emulated Components

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

The driver system consisted of 4 Compaq ProLiant servers. These driver machines were attached to the 4 Compaq ProLiant client machines through a 100Mb/s Ethernet connection to the 10/100 Dual Speed Switches. Since this configuration is the same connectivity of the priced system, no components were being emulated. Therefore, the test described in Clause 6.6.3.4 was not required.

Functional Diagrams

A complete functional diagram of both the benchmark configuration 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.

The driver system performed the data generation and input functions of the priced display device. It also captured the input and output data and timestamps for post-processing of the reported metrics. No other functionality was included on the driver system.

Section 1.4 of this report contains detailed diagrams of both the benchmark configuration and the priced configuration.

Networks

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

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

In the tested configuration, 4 driver (RTE) machines were connected to the 8-port Dual Speed switches with 100Mb/s Ethernet connections. The 4 client machines were connected to the switch with 100Mb/s connections. The server (SUT) was connected to the switches with a 100Mb/s connection.

Operator Intervention

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

This configuration does not require any operator intervention to sustain eight hours of the reported throughput.

Clause 7 Related Items

System Pricing

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

The total 5 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.

The details of the hardware and software are reported in the front of this report as part of the executive summary. All third party quotations are included at the end of this report as Appendix E.

Availability, Throughput, and Price Performance

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

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

- **Maximum Qualified Throughput** 33617.40 tpmC
- **Price per tpmC** \$12.91 per tpmC
- **Availability** April 7, 2000

Country Specific Pricing

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

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

Usage Pricing

For any usage pricing, the sponsor must disclose:

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

The component pricing based on usage is shown below:

- 1 Microsoft Windows NT 4.0 Server Enterprise Edition
- 4 Microsoft Windows 2000 Standard Edition licenses (includes Microsoft COM+)
- One Microsoft SQL Server 7.0 Enterprise Edition (Unlimited User Licenses)
- One Microsoft Visual C++
- Compaq Servers include 3 years of support.

Clause 9 Related Items

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.

This implementation of the TPC Benchmark C was audited by Lorna Livingtree of Performance Metrics, Inc.

Performance Metrics, Inc.
137 Yankton St., Suite 101
Folsom, CA 95630
(phone) (916) 985-1131
(fax) (916) 985-1185
e-mail: lorna@perfmetrics.com

Availability of the Full Disclosure Report

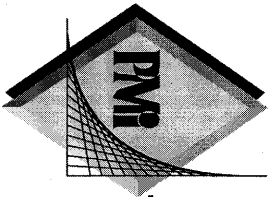
The Full Disclosure Report must be readily available to the public at a reasonable charge, similar to the charges for similar documents by the test sponsor. The report must be made available when results are made public. In order to use the phrase "TPC Benchmark™ C", the Full Disclosure Report must have been submitted to the TPC Administrator as well as written permission obtained to distribute same.

Requests for this TPC Benchmark C Full Disclosure Report should be sent to:

Transaction Processing Performance Council
c/o Shanley Public Relations
777 North First Street, Suite 600
San Jose, CA 95112-6311

or

Compaq Computer Corporation
Database Performance Engineering
P. O. Box 692000
Houston, TX 77269-2000



PERFORMANCE METRICS INC.
TPC Certified Auditors

April 7, 2000

Mr. Brean Campbell
Database Performance Engineer
Compag Computer Corporation
20555 SH 249
Houston, TX 77070

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

Platform: ProLiant 8500-550-4
Database Manager: Microsoft SQL Server 7.0 Enterprise Edition
Operating System: Microsoft NT version 4.0 Enterprise Edition
Transaction Monitor: Microsoft COM+

| Servers: ProLiant 8500 with: | | | | |
|-------------------------------------|------------------------------|-----------------------------|--------------|-----------|
| CPU's | Memory | Disks (total) | 90% Response | TpmC |
| 6 Pentium III Xeon @ 550 Mhz | Main: 4096 MB Cache: 2 MB | 253 @ 9.1GB 12 @ 18.2 GB | 0.66 sec | 33,617.40 |
| 4 Clients: ProLiant 1600 each with: | | | | |
| 2 Pentium III @ 600 Mhz | Main: 512 MB Cache: 512K | 1 @ 9.1GB | na | Na |

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

- The transactions were correctly implemented.
- The database files were properly sized and populated.
- The database was properly scaled with 2720 warehouses.
- The ACID properties were successfully demonstrated.
- The ACID properties, except for system loss, were demonstrated on a subset of the SUT configured with a database properly populated for 10 warehouses.

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(916) 635-2822 fax: (916) 858-0109 email: Lorna@PerfMetrics.com

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PERFORMANCE METRICS INC.
TPC Certified Auditors

- Input data was generated according to the specified percentages.
- Eight hours of mirrored log space was present on the tested system.
- Eight hours of growth space for the dynamic tables was present on the tested system.
- The data for the 180 day space calculation was verified.
- The controller cache was disabled on the log disk controllers.
- The steady state portion of the test was 30 minutes.
- One checkpoint was taken before the measured interval.
- One checkpoint was taken during the measured interval.
- The checkpoints were verified to be clear of the guard zone.
- The system pricing was checked for major components and maintenance.
- Third party quotes were verified for compliance.

Auditor Notes: None.

Sincerely,



Lorna Livingtree
Auditor

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Appendix A: Source Code

The client source code is listed below.

```

/* FILE: METHODS.H
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 * All Rights Reserved
 * not yet audited
 * PURPOSE: Header file for COM components.
 * Change history:
 * 4.20.000 - first version
 */

enum COMPONENT_ERROR
{
    ERR_MISSING_REGISTRY_ENTRIES = 1,
    ERR_LOADDLL_FAILED,
    ERR_GETPROCADDR_FAILED,
    ERR_UNKNOWN_DB_PROTOCOL
};

class CCOMPONENT_ERR : public CBaseErr
{
public:
    CCOMPONENT_ERR(COMPONENT_ERROR Err)
    {
        m_Error = Err;
        m_szTextDetail = NULL;
        m_SystemErr = 0;
        m_szErrorText = NULL;
    };

    CCOMPONENT_ERR(COMPONENT_ERROR Err, char *szTextDetail, DWORD
dwSystemErr)
    {
        m_Error = Err;
        m_szTextDetail = new char[strlen(szTextDetail)+1];
        strcpy( m_szTextDetail, szTextDetail );
        m_SystemErr = dwSystemErr;
        m_szErrorText = NULL;
    };

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

```

```

            delete [] m_szErrorText;
        };

        COMPONENT_ERROR m_Error;
        char *m_szTextDetail;
        char *m_szErrorText;
        DWORD m_SystemErr;

        int ErrorType() {return ERR_TYPE_COMPONENT;};
        int ErrorNum() {return m_Error;};
        char *ErrorText();
    };

    static void WriteMessageToEventLog(LPTSTR lpszMsg);

    //////////////////////////////////////
    // CTPCC_Common
    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** txn);
        HRESULT __stdcall Payment( int* iSize, UCHAR** txn);
        HRESULT __stdcall Delivery( int* iSize, UCHAR** txn) {return
E_NOTIMPL;};
        HRESULT __stdcall StockLevel( int* iSize, UCHAR** txn);
        HRESULT __stdcall OrderStatus( int* iSize, UCHAR** txn);

        HRESULT __stdcall CallSetComplete();

    // IObjectControl
        STDMETHODCALLTYPE CanBePooled() { return m_bCanBePooled; }
        STDMETHODCALLTYPE Activate() { return S_OK; } // we don't support COM
Services transactions (no enlistment)
        STDMETHODCALLTYPE Deactivate() { /* nothing to do */ }

    // IObjectConstruct
        STDMETHODCALLTYPE Construct(IDispatch * pUnk);

    private:
        // helper methods
        BOOL m_bCanBePooled;
        CTPCC_BASE *m_pTxn;

        struct COM_DATA
        {
            int retval;

```

```

        int error;
        union
        {
            NEW_ORDER_DATA      NewOrder;
            PAYMENT_DATA         Payment;
            DELIVERY_DATA        Delivery;
            STOCK_LEVEL_DATA     StockLevel;
            ORDER_STATUS_DATA    OrderStatus;
        } u;
    };

};

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

    BEGIN_COM_MAP(CTPCC)
        COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
        COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
    END_COM_MAP()

};

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
// CNewOrder
class CNewOrder :
    public CTPCC_Common,
    public CComCoClass<CNewOrder, &CLSID_NewOrder>
{
public:
    DECLARE_REGISTRY_RESOURCEID(IDR_NEWORDER)

    BEGIN_COM_MAP(CNewOrder)
        COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
        COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
    END_COM_MAP()

    // ITPCC
public:
    // HRESULT __stdcall NewOrder(          int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall Payment(         int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall StockLevel( int* isize, UCHAR** txn) {return E_NOTIMPL;}
    // HRESULT __stdcall OrderStatus(     int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
};

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
// COrderStatus
class COrderStatus :
    public CTPCC_Common,
    public CComCoClass<COrderStatus, &CLSID_OrderStatus>
{

```

```

public:
    DECLARE_REGISTRY_RESOURCEID(IDR_ORDERSTATUS)

    BEGIN_COM_MAP(COrderStatus)
        COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
        COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
    END_COM_MAP()

    // ITPCC
public:
    // HRESULT __stdcall NewOrder(          int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall Payment(         int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall StockLevel( int* isize, UCHAR** txn) {return E_NOTIMPL;}
    // HRESULT __stdcall OrderStatus(     int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
};

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
// CPayment
class CPayment :
    public CTPCC_Common,
    public CComCoClass<CPayment, &CLSID_Payment>
{
public:
    DECLARE_REGISTRY_RESOURCEID(IDR_PAYMENT)

    BEGIN_COM_MAP(CPayment)
        COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
        COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
    END_COM_MAP()

    // ITPCC
public:
    // HRESULT __stdcall NewOrder(          int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall Payment(         int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
    // HRESULT __stdcall StockLevel( int* isize, UCHAR** txn) {return E_NOTIMPL;}
    // HRESULT __stdcall OrderStatus(     int* isize, UCHAR** txn) {return
    E_NOTIMPL;}
};

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
// CStockLevel
class CStockLevel :
    public CTPCC_Common,
    public CComCoClass<CStockLevel, &CLSID_StockLevel>
{
public:
    DECLARE_REGISTRY_RESOURCEID(IDR_STOCKLEVEL)

    BEGIN_COM_MAP(CStockLevel)
        COM_INTERFACE_ENTRY2(IUnknown, CComObjectRootEx)
        COM_INTERFACE_ENTRY_CHAIN(CTPCC_Common)
    END_COM_MAP()

    // ITPCC
public:

```

```

        HRESULT __stdcall NewOrder(          int* iSize, UCHAR** txn) {return
E_NOTIMPL;}
        HRESULT __stdcall Payment(         int* iSize, UCHAR** txn) {return
E_NOTIMPL;}
//      HRESULT __stdcall StockLevel( int* iSize, UCHAR** txn) {return E_NOTIMPL;}
        HRESULT __stdcall OrderStatus(     int* iSize, UCHAR** txn) {return
E_NOTIMPL;}
};

```

```

=====
/*      FILE:          READREGISTRY.CPP
*
*          Microsoft TPC-C Kit Ver. 4.20.000
*          Copyright Microsoft, 1999
*
*          All Rights Reserved
*
*          not yet audited
*
*      PURPOSE:      Implementation for TPC-C Tuxedo class.
*      Contact:      Charles Levine (clevine@microsoft.com)
*
*      Change history:
*          4.20.000 - first version
*/

/* FUNCTION: ReadTPCCRegistrySettings
*
* PURPOSE:          This function reads the NT registry for startup parameters.
There parameters are
*                  under the TPCC key.
*
* RETURNS          FALSE = no errors
*                  TRUE  = error reading registry
*/
BOOL ReadTPCCRegistrySettings( TPCCREGISTRYDATA *pReg )
{
    HKEY    hKey;
    DWORD   size;
    DWORD   type;
    DWORD   dwTmp;
    char    szTmp[256];

    if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE, "SOFTWARE\\Microsoft\\TPCC", 0,
KEY_READ, &hKey) != ERROR_SUCCESS )
        return TRUE;

    // determine database protocol to use; may be either ODBC or DBLIB
    pReg->eDB_Protocol = Unspecified;
    size = sizeof(szTmp);
    if ( RegQueryValueEx(hKey, "DB_Protocol", 0, &type, (BYTE *)&szTmp, &size)
== ERROR_SUCCESS )
    {
        if ( !strcmp(szTmp, szDBNames[ODBC]) )
            pReg->eDB_Protocol = ODBC;
        else if ( !strcmp(szTmp, szDBNames[DBLIB]) )
            pReg->eDB_Protocol = DBLIB;
    }

    pReg->eTxnMon = None;
    // determine txn monitor to use; may be either TUXEDO, or blank
    size = sizeof(szTmp);
    if ( RegQueryValueEx(hKey, "TxnMonitor", 0, &type, (BYTE *)&szTmp, &size)
== ERROR_SUCCESS )

```

```

    {
        if ( !strcmp(szTmp, szTxnMonNames[TUXEDO]) )
            pReg->eTxnMon = TUXEDO;
        else if ( !strcmp(szTmp, szTxnMonNames[ENCINA]) )
            pReg->eTxnMon = ENCINA;
        else if ( !strcmp(szTmp, szTxnMonNames[COM]) )
            pReg->eTxnMon = COM;
    }

    pReg->bCOM_SinglePool = FALSE;
    size = sizeof(szTmp);
    if ( RegQueryValueEx(hKey, "COM_SinglePool", 0, &type, (BYTE *)&szTmp,
&size) == ERROR_SUCCESS )
    {
        if ( !strcmp(szTmp, "YES") )
            pReg->bCOM_SinglePool = TRUE;
    }

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

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

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

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

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

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

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

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

```



```

        RegCloseKey(hKey);
    }
    return FALSE;
}

```

```

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

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

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

//This structure defines the data necessary to keep distinct for each terminal or
client connection.
typedef struct _TPCCREGISTRYDATA
{
    enum DBPROTOCOL eDB_Protocol;
    enum TXNMON eTxnMon;
    BOOL bCOM_SinglePool;
    DWORD dwMaxConnections;
    DWORD dwMaxPendingDeliveries;
    DWORD dwNumberOfDeliveryThreads;
    char szPath[128];
    char szDbServer[32];
    char szDbName[32];
    char szDbUser[32];
    char szDbPassword[32];
} TPCCREGISTRYDATA, *PTPCCREGISTRYDATA;

BOOL ReadTPCCRegistrySettings( TPCCREGISTRYDATA *pReg );

```

```

# Microsoft Developer Studio Project File - Name="db_dblib_dll" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Dynamic-Link Library" 0x0102

CFG=db_dblib_dll - Win32 IceCAP
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "db_dblib_dll.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "db_dblib_dll.mak" CFG="db_dblib_dll - Win32 IceCAP"
!MESSAGE
!MESSAGE Possible choices for configuration are:

```

```

!MESSAGE
!MESSAGE "db_dblib_dll - Win32 Release" (based on "Win32 (x86) Dynamic-Link
Library")
!MESSAGE "db_dblib_dll - Win32 Debug" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE "db_dblib_dll - Win32 IceCAP" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD
/c
# ADD CPP /nologo /MD /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD /c
# ADD BASE MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /machine:I386
# ADD LINK32 ntwdblib.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib /nologo
/subsystem:windows /dll /machine:I386 /out:".bin\tpcc_dblib.dll"

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MTd /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS"
/YX /FD /c
# ADD CPP /nologo /MDd /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX
/ FD /c

```

```

# ADD BASE MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d " _DEBUG"
# ADD RSC /l 0x409 /d " _DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbcc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /pdbtype:sept
# ADD LINK32 ntdbllib.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib /nologo
/subsystem:windows /dll /debug /machine:I386 /out:". \bin\tpcc_dblib.dll"
/pdbtype:sept

!ELSEIF "$(CFG)" == "db_dblib_dll - Win32 IceCAP"

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "db_dblib"
# PROP BASE Intermediate_Dir "db_dblib"
# PROP BASE Ignore_Export_Lib 0
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MDd /W3 /Gm /GX /Zi /Od /D "WIN32" /D " _DEBUG" /D " _WINDOWS"
/YX /FD /Gh /c
# ADD CPP /nologo /MD /W3 /Gm /GX /Zi /O2 /D "WIN32" /D "NDEBUG" /D " _WINDOWS" /D
"ICECAP" /YX /FD /Gh /c
# ADD BASE MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d " _DEBUG"
# ADD RSC /l 0x409 /d " _DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 ntdbllib.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib /nologo
/subsystem:windows /dll /debug /machine:I386 /out:". \bin\tpcc_dblib.dll"
/pdbtype:sept
# ADD LINK32 icap.lib ntdbllib.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib /nologo
/subsystem:windows /dll /debug /machine:I386 /out:". \bin\tpcc_dblib.dll"
/pdbtype:sept

!ENDIF

# Begin Target

# Name "db_dblib_dll - Win32 Release"
# Name "db_dblib_dll - Win32 Debug"
# Name "db_dblib_dll - Win32 IceCAP"
# Begin Group "Source"

# PROP Default_Filter "*.cpp"
# Begin Source File

```

```

SOURCE=.\src\tpcc_dblib.cpp
# End Source File
# End Group
# Begin Group "Header"

```

```

# PROP Default_Filter "*.h"
# Begin Source File

```

```

SOURCE=..\common\src\error.h
# End Source File
# Begin Source File

```

```

SOURCE=.\src\tpcc_dblib.h
# End Source File
# Begin Source File

```

```

SOURCE=..\common\src\trans.h
# End Source File
# Begin Source File

```

```

SOURCE=..\common\src\txn_base.h
# End Source File
# End Group
# End Target
# End Project

```

```

/*****
DllData file -- generated by MIDL compiler

```

```

DO NOT ALTER THIS FILE

```

```

This file is regenerated by MIDL on every IDL file compile.

```

```

To completely reconstruct this file, delete it and rerun MIDL
on all the IDL files in this DLL, specifying this file for the
/dlldata command line option

```

```

*****/

```

```

#include <rpcproxy.h>

```

```

#ifdef __cplusplus
extern "C" {
#endif

```

```

EXTERN_PROXY_FILE( tpcc_com_ps )

```

```

PROXYFILE_LIST_START
/* Start of list */
REFERENCE_PROXY_FILE( tpcc_com_ps ),
/* End of list */
PROXYFILE_LIST_END

```

```

DLLDATA_ROUTINES( aProxyFileList, GET_DLL_CLSID )

```

```

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

```

```

/* end of generated dlldata file */

```

```

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

#pragma once

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

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

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

#define ERR_FATAL_LEVEL 1
#define ERR_WARNING_LEVEL 2
#define ERR_INFORMATION_LEVEL 3

#define ERR_TYPE_LOGIC -1 //logic error in program; internal error
#define ERR_SUCCESS 0 //success (a non-error error)
#define ERR_BAD_ITEM_ID 1
#define ERR_TYPE_DELIVERY_POST 1 //expected abort record in txnRecord 2
//expected delivery post failed
#define ERR_TYPE_WEBDLL 3 //tpcc web generated error
#define ERR_TYPE_SQL 4 //sql server generated error
#define ERR_TYPE_DBLIB 5 //dblib generated error
#define ERR_TYPE_ODBC 6 //odbc generated error
#define ERR_TYPE_SOCKET 7 //error on communication socket client rte only
#define ERR_TYPE_DEADLOCK 8 //dblib and odbc only deadlock condition
#define ERR_TYPE_COM 9 //error from COM call
#define ERR_TYPE_TUXEDO 10 //tuxedo error

```

```

#define ERR_TYPE_OS 11 //operating system error
#define ERR_TYPE_MEMORY 12 //memory allocation error
#define ERR_TYPE_TPCC_ODBC 13 //error from tpcc odbc txn module
#define ERR_TYPE_TPCC_DBLIB 14 //error from tpcc dblib txn module
#define ERR_TYPE_DELISRV 15 //delivery server error
#define ERR_TYPE_TXNLOG 16 //txn log error
#define ERR_TYPE_BCCONN 17 //Benchcraft connection class
#define ERR_TYPE_TPCC_CONN 18 //Benchcraft connection class
#define ERR_TYPE_ENCINA 19 //Encina error
#define ERR_TYPE_COMPONENT 20 //error from COM component

class CBaseErr
{
public:
    char *m_szApp;
    char *m_szMsg;
    char *m_szLoc; // code location where the error occurred
    int m_idMsg;

    CBaseErr(void)
    {
        m_idMsg = 0;
        m_szMsg = new char[m_szMsg_size];
        m_szApp = new char[m_szApp_size];
        m_szLoc = NULL;

        m_szMsg[0] = 0;
        m_szApp[0] = 0;

        GetModuleFileName(GetModuleHandle(NULL), m_szApp, m_szApp_size);
    }

    ~CBaseErr(void)
    {
        if (m_szMsg) delete [] m_szMsg;
        if (m_szApp) delete [] m_szApp;
        if (m_szLoc) delete [] m_szLoc;
    };

    CBaseErr(int idMsg)
    {
        m_idMsg = idMsg;
        m_szApp = new char[m_szApp_size];
        m_szMsg = new char[m_szMsg_size];
        m_szLoc = NULL;

        GetModuleFileName(GetModuleHandle(NULL), m_szApp, m_szApp_size);
        LoadString(GetModuleHandle(NULL), idMsg, m_szMsg, m_szMsg_size);
    }
}

```

```

CBaseErr(LPCTSTR szMsg)
{
    m_idMsg      = 0;
    m_szApp      = new char[m_szApp_size];
    m_szMsg      = new char[m_szMsg_size];
    m_szLoc      = NULL;

    GetModuleFileName(GetModuleHandle(NULL), m_szApp, m_szApp_size);
    strcpy(m_szMsg, szMsg);
}

void SetError(char *szMsg, LPCTSTR szLocation)
{
    if (szMsg != NULL)
        strcpy(m_szMsg, szMsg);
    else
        m_szMsg[0] = 0;

    if (szLocation != NULL)
    {
        delete [] m_szLoc;
        m_szLoc = new char[strlen(szLocation)+1];
        strcpy(m_szLoc, szLocation);
    }
    else
    {
        delete [] m_szLoc;
        m_szLoc = NULL;
    }
}

virtual void Draw(HWND hwnd, LPCTSTR szStr = NULL)
{
    int          j;
    char        szTmp[512];

    if (szStr)
        j = wsprintf(szTmp, "%s\n", szStr);
    if (m_szLoc)
        j += wsprintf(szTmp+j, "Location=%s\n", m_szLoc);
    if (m_szMsg)
        j += wsprintf(szTmp+j, "%s\n", m_szMsg);

    ::MessageBox(hwnd, szTmp, m_szApp, MB_OK);

    char *GetApp(void) { return m_szApp; }
    char *GetMsg(void) { return m_szMsg; }
    char *GetLocation(void) { return m_szLoc; }

    virtual int ErrorType() = 0; // a value which distinguishes the kind of
error that occurred
    virtual int ErrorNum() = 0; // an error value specific to the
error type
    virtual char *ErrorText() = 0; // a string (i.e., human readable)
representation of the error
};

class CSocketErr : public CBaseErr
{
public:
    enum Action

```

```

{
    eNone,
    eSend,
    eSocket,
    eConnect
};

CSocketErr(Action eAction, LPCTSTR szLocation);
CSocketErr(int iError) { m_errId = iError; };
int          m_errId;
Action      m_eAction;

int ErrorType() { return ERR_TYPE_SOCKET;};
int ErrorNum() { return m_errId;};
char *ErrorText(void);
};

class CSystemErr : public CBaseErr
{
public:
    enum Action
    {
        eNone,
        eTransactNamedPipe,
        eWaitNamedPipe,
        eSetNamedPipeHandleState,
        eCreateFile,
        eCreateProcess,
        eCallNamedPipe,
        eCreateEvent,
        eCreateThread,
        eVirtualAlloc,
        eReadFile,
        eWriteFile,
        eMapViewOfFile,
        eCreateFileMapping,
        eInitializeSecurityDescriptor,
        eSetSecurityDescriptorDacl,
        eCreateNamedPipe,
        eConnectNamedPipe,
    };

    CSystemErr(Action eAction, LPCTSTR szLocation);

    void Draw(HWND hwnd, LPCTSTR szStr = NULL);

    int          m_errId;
    Action      m_eAction;

    int ErrorType() { return ERR_TYPE_OS;};
    int ErrorNum() { return m_errId;};
    char *ErrorText() { return "";} // TODO: need to code
error text
};

class CMemoryErr : public CBaseErr
{
public:
    CMemoryErr(void);

    int ErrorType() { return ERR_TYPE_MEMORY;};
    int ErrorNum() { return 0;};
};

```

```

        char *ErrorText() { return ""; } // TODO: need to code
error text
};

-----
/* FILE: INSTALL.C
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 *
 * All Rights Reserved
 *
 * not audited
 *
 * PURPOSE: Automated installation application for TPC-C Web Kit
 * Contact: Charles Levine (clevine@microsoft.com)
 *
 * Change history:
 * 4.20.000 - added COM installation steps
 */

#include <windows.h>
#include <direct.h>
#include <io.h>
#include <stdlib.h>
#include <stdio.h>
#include <commctrl.h>
#include "..\..\common\src\ReadRegistry.h"

#include "resource.h"

#define WM_INITTEXT WM_USER+100

HICON hIcon;
HINSTANCE hInst;

DWORD versionExeMS;
DWORD versionExeLS;
DWORD versionExeMM;
DWORD versionDllMS;
DWORD versionDllLS;

// TPC-C registry settings
TPCCREGISTRYDATA Reg;

static int iPoolThreadLimit;
static int iThreadTimeout;
static int iListenBackLog;
static int iAcceptExOutstanding;

static int iMaxPhysicalMemory; //max physical memory in
MB
static char szLastFileName[64]; // last file we worked on (for
error reporting)

BOOL CALLBACK LicenseDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM
lParam);
BOOL CALLBACK UpdatedDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM
lParam);
BOOL CALLBACK MainDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
BOOL CALLBACK CopyDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam);
static void ProcessOK(HWND hwnd, char *szDllPath);
static void ReadRegistrySettings(void);
static void WriteRegistrySettings(char *szDllPath);

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static BOOL RegisterDLL(char *szFileName);
static int CopyFiles(HWND hDlg, char *szDllPath);
static BOOL GetInstallPath(char *szDllPath);
static void GetVersionInfo(char *szDLLPath, char *szExePath);
static BOOL CheckWWWebService(void);
static BOOL StartWWWebService(void);
static BOOL StopWWWebService(void);
static void UpdateDialog(HWND hDlg);

BOOL install_com(char *szDllPath);

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

int WINAPI WinMain( HINSTANCE hInstance, HINSTANCE hPrevInstance, LPSTR lpCmdLine,
int nCmdShow )
{
    int iRc;

    hInst = hInstance;

    InitCommonControls();

    hIcon = LoadIcon(hInstance, MAKEINTRESOURCE(IDI_ICON1));

    iRc = DialogBox(hInstance, MAKEINTRESOURCE(IDD_DIALOG4),
GetDesktopWindow(), LicenseDlgProc);
    if ( iRc )
    {
        iRc = DialogBox(hInstance, MAKEINTRESOURCE(IDD_DIALOG1),
GetDesktopWindow(), MainDlgProc);
        if ( iRc )
        {
            DialogBoxParam(hInstance,
MAKEINTRESOURCE(IDD_DIALOG2), GetDesktopWindow(), UpdatedDlgProc, (LPARAM)iRc);
        }

        DestroyIcon(hIcon);
        return 0;
    }

    BOOL CALLBACK LicenseDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam)
    {
        HGLOBAL hRes;
        HRSRC hResInfo;
        BYTE *pSrc, *pDst;
        DWORD dwSize;
        static HFONT hFont;

        switch(uMsg)
        {
            case WM_INITDIALOG:
                hFont = CreateFont(-12, 0, 0, 0, 400, 0, 0, 0, 0, 0,
0, 0, 0, "Arial");
                SendMessage( GetDlgItem(hwnd, IDR_LICENSE1),
WM_SETFONT, (WPARAM)hFont, MAKELPARAM(0, 0) );
                PostMessage(hwnd, WM_INITTEXT, (WPARAM)0, (LPARAM)0);
                return TRUE;
            case WM_INITTEXT:
                hResInfo = FindResource(hInst,
MAKEINTRESOURCE(IDR_LICENSE1), "LICENSE");
                dwSize = SizeofResource(hInst, hResInfo);
                hRes = LoadResource(hInst, hResInfo );
        }
    }
}

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        pSrc = (BYTE *)LockResource(hRes);
        pDst = (unsigned char *)malloc(dwSize+1);
        if ( pDst )
        {
            memcpy(pDst, pSrc, dwSize);
            pDst[dwSize] = 0;
            SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pDst);
        }
        free(pDst);
    }
    else
        SetDlgItemText(hwnd, IDC_LICENSE, (const
char *)pSrc);

    return TRUE;
case WM_DESTROY:
    DeleteObject(hFont);
    return TRUE;
case WM_COMMAND:
    if ( wParam == IDOK )
        EndDialog(hwnd, TRUE);
    if ( wParam == IDCANCEL )
        EndDialog(hwnd, FALSE);
    default:
        break;
}
return FALSE;
}

BOOL CALLBACK UpdatedDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam)
{
    switch(uMsg)
    {
        case WM_INITDIALOG:
            switch(lParam)
            {
                case 1:
                case 2:
                    SetDlgItemText(hwnd, IDC_RESULTS,
"TPC-C Web Client Installed");
                    break;
            }
            return TRUE;
        case WM_COMMAND:
            if ( wParam == IDOK )
                EndDialog(hwnd, TRUE);
            break;
        default:
            break;
    }
    return FALSE;
}

BOOL CALLBACK MainDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam)
{
    PAINTSTRUCT ps;
    MEMORYSTATUS memoryStatus;
    OSVERSIONINFO VI;
    char szTmp[256];
    static char szDllPath[256];
    static char szExePath[256];

    switch(uMsg)
    {

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        case WM_INITDIALOG:
            GlobalMemoryStatus(&memoryStatus);
            iMaxPhysicalMemory = (memoryStatus.dwTotalPhys/
1048576);

            if ( GetInstallPath(szDllPath) )
            {
                MessageBox(hwnd, "Error internet service
inetsrv is not installed.", NULL, MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, FALSE);
                return TRUE;
            }

            // set default values
            ZeroMemory( &Reg, sizeof(Reg) );
            Reg.dwNumberOfDeliveryThreads = 4;
            Reg.dwMaxConnections = 100;
            Reg.dwMaxPendingDeliveries = 100;
            Reg.eDb_Protocol = DBLIB;
            Reg.eTxnMon = None;
            strcpy(Reg.szDbServer, "");
            strcpy(Reg.szDbName, "tpcc");
            strcpy(Reg.szDbUser, "sa");
            strcpy(Reg.szDbPassword, "");

            iPoolThreadLimit = iMaxPhysicalMemory * 2;
            iThreadTimeout = 86400;
            iListenBackLog = 15;
            iAcceptExOutstanding = 40;

            ReadTPCCRegistrySettings( &Reg );
            ReadRegistrySettings();

            GetModuleFileName(hInst, szExePath,
sizeof(szExePath));
            GetVersionInfo(szDllPath, szExePath);

            wsprintf(szTmp, "Version %d.%2.2d.%3.3d",
versionExeMS, versionExeMM, versionExeLS);
            SetDlgItemText(hwnd, IDC_VERSION, szTmp);
            SetDlgItemText(hwnd, IDC_PATH, szDllPath);

            SetDlgItemText(hwnd, ED_DB_SERVER, Reg.szDbServer);
            SetDlgItemText(hwnd, ED_DB_USER_ID, Reg.szDbUser);
            SetDlgItemText(hwnd, ED_DB_PASSWORD,
Reg.szDbPassword);
            SetDlgItemText(hwnd, ED_DB_NAME, Reg.szDbName);

            SetDlgItemInt(hwnd, ED_THREADS,
Reg.dwNumberOfDeliveryThreads, FALSE);
            SetDlgItemInt(hwnd, ED_MAXCONNECTION,
Reg.dwMaxConnections, FALSE);
            SetDlgItemInt(hwnd, ED_MAXDELIVERIES,
Reg.dwMaxPendingDeliveries, FALSE);
            SetDlgItemInt(hwnd, ED_IIS_MAX_THREAD_POOL_LIMIT,
iPoolThreadLimit, FALSE);
            SetDlgItemInt(hwnd, ED_IIS_THREAD_TIMEOUT,
iThreadTimeout, FALSE);
            SetDlgItemInt(hwnd, ED_IIS_LISTEN_BACKLOG,
iListenBackLog, FALSE);
            SetDlgItemInt(hwnd, ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,
iAcceptExOutstanding, FALSE);

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        CheckDlgButton(hwnd, IDC_DBLIB, 0);
        CheckDlgButton(hwnd, IDC_ODBC, 0);
        if ( Reg.eDB_Protocol == DBLIB )
            CheckDlgButton(hwnd, IDC_DBLIB, 1);
        else
            CheckDlgButton(hwnd, IDC_ODBC, 1);

        // check OS version level for COM. Must be at least
        VI.dwOSVersionInfoSize = sizeof(VI);
        GetVersionEx( &VI );
        if (VI.dwMajorVersion < 5)
        {
            HWND hDlg = GetDlgItem( hwnd, IDC_TM_MTS );
            EnableWindow( hDlg, 0 ); // disable COM

            if (Reg.eTxnMon == COM)
                Reg.eTxnMon = None;
        }

        CheckDlgButton(hwnd, IDC_TM_NONE, 0);
        CheckDlgButton(hwnd, IDC_TM_TUXEDO, 0);
        CheckDlgButton(hwnd, IDC_TM_MTS, 0);
        CheckDlgButton(hwnd, IDC_TM_ENCINA, 0);
        switch (Reg.eTxnMon)
        {
        case None:
            CheckDlgButton(hwnd, IDC_TM_NONE, 1);
            break;
        case TUXEDO:
            CheckDlgButton(hwnd, IDC_TM_TUXEDO, 1);
            break;
        case ENCINA:
            CheckDlgButton(hwnd, IDC_TM_ENCINA, 1);
            break;
        case COM:
            CheckDlgButton(hwnd, IDC_TM_MTS, 1);
            break;
        }

        return TRUE;
    case WM_PAINT:
        if ( IsIconic(hwnd) )
        {
            BeginPaint(hwnd, &ps);
            DrawIcon(ps.hdc, 0, 0, hIcon);
            EndPaint(hwnd, &ps);
            return TRUE;
        }
        break;
    case WM_COMMAND:
        if ( HIWORD(wParam) == BN_CLICKED )
        {
            switch( LOWORD(wParam) )
            {
            case IDC_DBLIB:
                return TRUE;
            case IDC_ODBC:
                return TRUE;
            case IDOK:
                ProcessOK(hwnd,
szDllPath);

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                return TRUE;
            case IDCANCEL:
                EndDialog(hwnd, FALSE);
                return TRUE;
            default:
                return FALSE;
        }
    }
    default:
        break;
}
return FALSE;
}

static void ProcessOK(HWND hwnd, char *szDllPath)
{
    int d;
    HWND hDlg;
    int rc;

    char szFullName[256];
    char szErrTxt[128];

    // read settings from dialog
    Reg.dwNumberOfDeliveryThreads = GetDlgItemInt(hwnd, ED_THREADS, &d,
FALSE);
    Reg.dwMaxConnections = GetDlgItemInt(hwnd, ED_MAXCONNECTION, &d, FALSE);
    Reg.dwMaxPendingDeliveries = GetDlgItemInt(hwnd, ED_MAXDELIVERIES, &d,
FALSE);

    GetDlgItemText(hwnd, ED_DB_SERVER, Reg.szDbServer,
sizeof(Reg.szDbServer));
    GetDlgItemText(hwnd, ED_DB_USER_ID, Reg.szDbUser, sizeof(Reg.szDbUser));
    GetDlgItemText(hwnd, ED_DB_PASSWORD, Reg.szDbPassword,
sizeof(Reg.szDbPassword));
    GetDlgItemText(hwnd, ED_DB_NAME, Reg.szDbName, sizeof(Reg.szDbName));

    if ( IsDlgButtonChecked(hwnd, IDC_DBLIB) )
    {
        Reg.eDB_Protocol = DBLIB;
        rc = 1;
    }
    else if ( IsDlgButtonChecked(hwnd, IDC_ODBC) )
    {
        Reg.eDB_Protocol = ODBC;
        rc = 2;
    }

    if ( IsDlgButtonChecked(hwnd, IDC_TM_NONE) )
        Reg.eTxnMon = None;
    else if ( IsDlgButtonChecked(hwnd, IDC_TM_TUXEDO) )
        Reg.eTxnMon = TUXEDO;
    else if ( IsDlgButtonChecked(hwnd, IDC_TM_MTS) )
        Reg.eTxnMon = COM;
    else if ( IsDlgButtonChecked(hwnd, IDC_TM_ENCINA) )
        Reg.eTxnMon = ENCINA;

    iPoolThreadLimit = GetDlgItemInt(hwnd, ED_IIS_MAX_THREAD_POOL_LIMIT, &d,
FALSE);
    iThreadTimeout = GetDlgItemInt(hwnd, ED_IIS_THREAD_TIMEOUT, &d, FALSE);
    iListenBackLog = GetDlgItemInt(hwnd, ED_IIS_LISTEN_BACKLOG, &d, FALSE);

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        iAcceptExOutstanding = GetDlgItemInt(hwnd,
ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE, &d, FALSE);

        ShowWindow(hwnd, SW_HIDE);
        hDlg = CreateDialog(hInst, MAKEINTRESOURCE(IDD_DIALOG3), hwnd,
CopyDlgProc);
        ShowWindow(hDlg, SW_SHOWNA);
        UpdateDialog(hDlg);

        // write binaries to inetpub\wwwroot
        rc = CopyFiles(hDlg, szDllPath);
        if ( !rc )
        {
            ShowWindow(hwnd, SW_SHOWNA);
            DestroyWindow(hDlg);
            strcpy( szErrTxt, "Error(s) occurred when creating " );
            strcat( szErrTxt, szLastFileName );
            MessageBox(hwnd, szErrTxt, NULL, MB_ICONSTOP | MB_OK);
            EndDialog(hwnd, 0);
            return;
        }

        // update registry
        SetDlgItemText(hDlg, IDC_STATUS, "Updating Registry.");
        SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);
        WriteRegistrySettings(szDllPath);

        // register com proxy stub
        strcpy(szFullName, szDllPath);
        strcat(szFullName, "tpcc_com.ps.dll");
        if (!RegisterDLL(szFullName))
        {
            ShowWindow(hwnd, SW_SHOWNA);
            DestroyWindow(hDlg);
            strcpy( szErrTxt, "Error occurred when registering " );
            strcat( szErrTxt, szFullName );
            MessageBox(hwnd, szErrTxt, NULL, MB_ICONSTOP | MB_OK);
            EndDialog(hwnd, 0);
            return;
        }

        // if using COM
        if (Reg.eTxnMon == COM)
        {
            SetDlgItemText(hDlg, IDC_STATUS, "Configuring COM.");
            SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
            UpdateDialog(hDlg);

            if (install_com(szDllPath))
            {
                ShowWindow(hwnd, SW_SHOWNA);
                DestroyWindow(hDlg);
                strcpy( szErrTxt, "Error occurred when configuring COM
settings." );
                MessageBox(hwnd, szErrTxt, NULL, MB_ICONSTOP | MB_OK);
                EndDialog(hwnd, 0);
                return;
            }
        }
    }
}

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        Sleep(100);

        ShowWindow(hwnd, SW_SHOWNA);
        DestroyWindow(hDlg);

        EndDialog(hwnd, rc);
        return;
    }

    static void ReadRegistrySettings(void)
    {
        HKEY    hKey;
        DWORD   size;
        DWORD   type;

        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameters", 0, KEY_READ, &hKey) ==
ERROR_SUCCESS )
        {
            size = sizeof(iPoolThreadLimit);
            if ( RegQueryValueEx(hKey, "PoolThreadLimit", 0, &type, (char
*)&iPoolThreadLimit, &size) == ERROR_SUCCESS )
                if ( !iPoolThreadLimit )
                    iPoolThreadLimit = iMaxPhysicalMemory * 2;

            size = sizeof(iThreadTimeout);
            if ( RegQueryValueEx(hKey, "ThreadTimeout", 0, &type, (char
*)&iThreadTimeout, &size) == ERROR_SUCCESS )
                if ( !iThreadTimeout )
                    iThreadTimeout = 86400;

            size = sizeof(iListenBackLog);
            if ( RegQueryValueEx(hKey, "ListenBackLog", 0, &type, (char
*)&iListenBackLog, &size) == ERROR_SUCCESS )
                if ( !iListenBackLog )
                    iListenBackLog = 15;

            RegCloseKey(hKey);
        }

        if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Parameters", 0, KEY_READ, &hKey) ==
ERROR_SUCCESS )
        {
            size = sizeof(iAcceptExOutstanding);
            if ( RegQueryValueEx(hKey, "AcceptExOutstanding", 0, &type,
(char *)&iAcceptExOutstanding, &size) == ERROR_SUCCESS )
                if ( !iAcceptExOutstanding )
                    iAcceptExOutstanding = 40;

            RegCloseKey(hKey);
        }
    }

    static void WriteRegistrySettings(char *szDllPath)
    {
        HKEY    hKey;
        DWORD   dwDisposition;
        char    szTmp[256];
        char    *ptr;
        int     iRc;
    }

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        if ( RegCreateKeyEx(HKEY_LOCAL_MACHINE, "SOFTWARE\\Microsoft\\TPCC", 0,
NULL, REG_OPTION_NON_VOLATILE, KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition) ==
ERROR_SUCCESS )
    {
        strcpy(szTmp, szDllPath);
        ptr = strstr(szTmp, "tpcc");
        if ( ptr )
            *ptr = 0;

        RegSetValueEx(hKey, "Path", 0, REG_SZ, szTmp, strlen(szTmp)+1);

        RegSetValueEx(hKey, "NumberOfDeliveryThreads", 0, REG_DWORD,
(char *)&Reg.dwNumberOfDeliveryThreads, sizeof(Reg.dwNumberOfDeliveryThreads));
        RegSetValueEx(hKey, "MaxConnections", 0, REG_DWORD, (char
*)&Reg.dwMaxConnections, sizeof(Reg.dwMaxConnections));
        RegSetValueEx(hKey, "MaxPendingDeliveries", 0, REG_DWORD, (char
*)&Reg.dwMaxPendingDeliveries, sizeof(Reg.dwMaxPendingDeliveries));

        RegSetValueEx(hKey, "DB_Protocol", 0, REG_SZ,
szDBNames[Reg.eDB_Protocol], strlen(szDBNames[Reg.eDB_Protocol])+1);
        RegSetValueEx(hKey, "TxnMonitor", 0, REG_SZ,
szTxnMonNames[Reg.eTxnMon], strlen(szTxnMonNames[Reg.eTxnMon])+1);

        RegSetValueEx(hKey, "DbServer", 0, REG_SZ, Reg.szDbServer,
strlen(Reg.szDbServer)+1);
        RegSetValueEx(hKey, "DbName", 0, REG_SZ, Reg.szDbName,
strlen(Reg.szDbName)+1);
        RegSetValueEx(hKey, "DbUser", 0, REG_SZ, Reg.szDbUser,
strlen(Reg.szDbUser)+1);
        RegSetValueEx(hKey, "DbPassword", 0, REG_SZ, Reg.szDbPassword,
strlen(Reg.szDbPassword)+1);

        strcpy(szTmp, "YES");
        RegSetValueEx(hKey, "COM_SinglePool", 0, REG_SZ, szTmp,
strlen(szTmp)+1);

        RegFlushKey(hKey);
        RegCloseKey(hKey);
    }

    if ( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\Inetinfo\\Parameters", 0, NULL,
REG_OPTION_NON_VOLATILE, KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
    {
        RegSetValueEx(hKey, "PoolThreadLimit", 0, REG_DWORD, (char
*)&iPoolThreadLimit, sizeof(iPoolThreadLimit));
        RegSetValueEx(hKey, "ThreadTimeout", 0, REG_DWORD, (char
*)&iThreadTimeout, sizeof(iThreadTimeout));
        RegSetValueEx(hKey, "ListenBackLog", 0, REG_DWORD, (char
*)&iListenBackLog, sizeof(iListenBackLog));

        RegFlushKey(hKey);
        RegCloseKey(hKey);
    }

    if ( (iRc=RegCreateKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Parameters", 0, NULL,
REG_OPTION_NON_VOLATILE, KEY_ALL_ACCESS, NULL, &hKey, &dwDisposition)) ==
ERROR_SUCCESS )
    {
        RegSetValueEx(hKey, "AcceptExOutstanding", 0, REG_DWORD, (char
*)&iAcceptExOutstanding, sizeof(iAcceptExOutstanding));

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        RegFlushKey(hKey);
        RegCloseKey(hKey);
    }

    return;
}

BOOL CALLBACK CopyDlgProc(HWND hwnd, UINT uMsg, WPARAM wParam, LPARAM lParam)
{
    if ( uMsg == WM_INITDIALOG )
    {
        SendDlgItemMessage(hwnd, IDC_PROGRESS1, PBM_SETRANGE, 0,
MAKELPARAM(0, 15));
        SendDlgItemMessage(hwnd, IDC_PROGRESS1, PBM_SETSTEP, (WPARAM)1,
0);

        return TRUE;
    }
    return FALSE;
}

BOOL RegisterDLL(char *szFileName)
{
    HINSTANCE hLib;
    FARPROC lpDllEntryPoint;

    hLib = LoadLibrary(szFileName);
    if ( hLib == NULL )
        return FALSE;
    // Find the entry point.
    lpDllEntryPoint = GetProcAddress(hLib, "DllRegisterServer");
    if (lpDllEntryPoint != NULL)
    {
        return ((*lpDllEntryPoint)()) == S_OK;
    }
    else
        return FALSE; //unable to locate entry point
}

BOOL FileFromResource( char *szResourceName, int iResourceId, char *szDllPath, char
*szFileName )
{
    HGLOBAL hDLL;
    HRSRC hResInfo;
    HANDLE hFile;
    DWORD dwSize;
    BYTE *pSrc;
    DWORD d;
    char szFullName[256];

    hResInfo = FindResource(hInst, MAKEINTRESOURCE(iResourceId),
szResourceName);

    strcpy(szFullName, szDllPath);
    strcat(szFullName, szFileName);

    dwSize = SizeofResource(hInst, hResInfo);
    hDLL = LoadResource(hInst, hResInfo);
    pSrc = (BYTE *)LockResource(hDLL);
    remove(szFullName);

    if ( !(hFile = CreateFile(szFullName, GENERIC_WRITE, 0, NULL,
CREATE_ALWAYS, FILE_ATTRIBUTE_NORMAL, NULL)) )

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        return FALSE;
    if ( !WriteFile(hFile, pSrc, dwSize, &d, NULL) )
        return FALSE;

    CloseHandle(hFile);

    UnlockResource(hDLL);
    FreeResource(hDLL);
    return TRUE;
}

static int CopyFiles(HWND hDlg, char *szDllPath)
{
    BOOL                bSvcRunning;

    bSvcRunning = CheckWWWService();
    if ( bSvcRunning )
    {
        SetDlgItemText(hDlg, IDC_STATUS, "Stopping Web Service.");
        SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);

        StopWWWService();
        SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
        UpdateDialog(hDlg);
    }

    SetDlgItemText(hDlg, IDC_STATUS, "Copying Files...");
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);

    // install TPCC.DLL
    strcpy( szLastFileName, "tpcc.dll" );
    if ( !FileFromResource( "TPCCDLL", IDR_TPCCDLL, szDllPath, szLastFileName
))
        return 0;
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);

    // install tpcc_dblib.dll
    strcpy( szLastFileName, "tpcc_dblib.dll" );
    if ( !FileFromResource( "DBLIB_DLL", IDR_DBLIB_DLL, szDllPath,
szLastFileName ))
        return 0;
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);

    // install tpcc_odbc.dll
    strcpy( szLastFileName, "tpcc_odbc.dll" );
    if ( !FileFromResource( "ODBC_DLL", IDR_ODBC_DLL, szDllPath, szLastFileName
))
        return 0;
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);

    // install tuxapp.exe
    strcpy( szLastFileName, "tuxapp.exe" );
    if ( !FileFromResource( "TUXEDO_APP", IDR_TUXEDO_APP, szDllPath,
szLastFileName ))
        return 0;
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);
}

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// install tpcc_tuxedo.dll
strcpy( szLastFileName, "tpcc_tuxedo.dll" );
if ( !FileFromResource( "TUXEDO_DLL", IDR_TUXEDO_DLL, szDllPath,
szLastFileName ))
    return 0;
SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
UpdateDialog(hDlg);

// install tpcc_com.dll
strcpy( szLastFileName, "tpcc_com.dll" );
if ( !FileFromResource( "COM_DLL", IDR_COM_DLL, szDllPath, szLastFileName
))
    return 0;
SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
UpdateDialog(hDlg);

// install tpcc_com_ps.dll
strcpy( szLastFileName, "tpcc_com_ps.dll" );
if ( !FileFromResource( "COM_PS_DLL", IDR_COMPS_DLL, szDllPath,
szLastFileName ))
    return 0;
SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
UpdateDialog(hDlg);

// install tpcc_com_all.dll
strcpy( szLastFileName, "tpcc_com_all.dll" );
if ( !FileFromResource( "COM_ALL_DLL", IDR_COMALL_DLL, szDllPath,
szLastFileName ))
    return 0;
SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
UpdateDialog(hDlg);

//if we stopped service restart it.
if ( !bSvcRunning )
{
    SetDlgItemText(hDlg, IDC_STATUS, "Starting Web Service.");
    SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
    UpdateDialog(hDlg);
    StartWWWService();
}

SendDlgItemMessage(hDlg, IDC_PROGRESS1, PBM_STEPIT, 0, 0);
UpdateDialog(hDlg);

return 1;
}

static BOOL GetInstallPath(char *szDllPath)
{
    HKEY    hKey;
    BYTE    szData[256];
    DWORD   sv;
    BOOL    bRc;
    int     len;
    char    *ptr;
    int     iRc;

    szDllPath[0] = 0;
    bRc = TRUE;
    if ( RegOpenKeyEx(HKEY_LOCAL_MACHINE,
"SYSTEM\\CurrentControlSet\\Services\\W3SVC\\Parameters\\Virtual Roots", 0,
KEY_ALL_ACCESS, &hKey) == ERROR_SUCCESS )

```

```

    {
        sv = sizeof(szData);
        iRc = RegQueryValueEx( hKey, "/", NULL, NULL, szData, &sv );
// used by IIS 3.0
        if ( iRc == ERROR_FILE_NOT_FOUND )
            iRc = RegQueryValueEx( hKey, "/", NULL, NULL, szData,
&sv ); // used by IIS 4.0
        if ( iRc == ERROR_SUCCESS )
        {
            bRc = FALSE;
            strcpy(szDllPath, szData);
            if ( (ptr = strchr(szDllPath, ',')) )
                *ptr = 0;

            len = strlen(szDllPath);
            if ( szDllPath[len-1] != '\\ ' )
            {
                szDllPath[len] = '\\';
                szDllPath[len+1] = 0;
            }
        }
        RegCloseKey(hKey);
    }

    return bRc;
}

static void GetVersionInfo(char *szDLLPath, char *szExePath)
{
    DWORD          d;
    DWORD          dwSize;
    DWORD          dwBytes;
    char           *ptr;
    VS_FIXEDFILEINFO *vs;

    versionDllMS = 0;
    versionDllLS = 0;
    if ( _access(szDLLPath, 00) == 0 )
    {
        dwSize = GetFileVersionInfoSize(szDLLPath, &d);
        if ( dwSize )
        {
            ptr = (char *)malloc(dwSize);
            GetFileVersionInfo(szDLLPath, 0, dwSize, ptr);
            VerQueryValue(ptr, "\\",&vs, &dwBytes);
            versionDllMS = vs->dwProductVersionMS;
            versionDllLS = vs->dwProductVersionLS;
            free(ptr);
        }
    }

    versionExeMS = 0x7FFF;
    versionExeLS = 0x7FFF;
    dwSize = GetFileVersionInfoSize(szExePath, &d);
    if ( dwSize )
    {
        ptr = (char *)malloc(dwSize);
        GetFileVersionInfo(szExePath, 0, dwSize, ptr);
        VerQueryValue(ptr, "\\",&vs, &dwBytes);

        versionExeMS = vs->dwProductVersionMS;
        versionExeLS = LOWORD(vs->dwProductVersionLS);
    }
}

```

```

        versionExeMM = HIWORD(vs->dwProductVersionLS);
        free(ptr);
    }
    return;
}

static BOOL CheckWWWebService(void)
{
    SC_HANDLE      schSCManager;
    SC_HANDLE      schService;
    SERVICE_STATUS ssStatus;

    schSCManager = OpenSCManager(NULL, NULL, SC_MANAGER_ALL_ACCESS);
    schService = OpenService(schSCManager, TEXT("W3SVC"), SERVICE_ALL_ACCESS);
    if (schService == NULL)
        return FALSE;

    if (! QueryServiceStatus(schService, &ssStatus) )
        goto ServiceNotRunning;

    if ( !ControlService(schService, SERVICE_CONTROL_STOP, &ssStatus) )
        goto ServiceNotRunning;
    //start Service pending, Check the status until the service is running.
    if (! QueryServiceStatus(schService, &ssStatus) )
        goto ServiceNotRunning;

    CloseServiceHandle(schService);
    return TRUE;
}

ServiceNotRunning:
    CloseServiceHandle(schService);
    return FALSE;
}

static BOOL StartWWWebService(void)
{
    SC_HANDLE      schSCManager;
    SC_HANDLE      schService;
    SERVICE_STATUS ssStatus;
    DWORD          dwOldCheckPoint;

    schSCManager = OpenSCManager(NULL, NULL, SC_MANAGER_ALL_ACCESS);
    schService = OpenService(schSCManager, TEXT("W3SVC"), SERVICE_ALL_ACCESS);
    if (schService == NULL)
        return FALSE;

    if (! StartService(schService, 0, NULL) )
        goto StartWWWebErr;
    //start Service pending, Check the status until the service is running.
    if (! QueryServiceStatus(schService, &ssStatus) )
        goto StartWWWebErr;
    while( ssStatus.dwCurrentState != SERVICE_RUNNING )
    {
        dwOldCheckPoint = ssStatus.dwCheckPoint;
        //Save the current checkpoint.
        Sleep(ssStatus.dwWaitHint);
        //Wait for the specified interval.
        if ( !QueryServiceStatus(schService, &ssStatus) ) //Check the
status again.
            break;
    }
}

```

```

        if (dwOldCheckPoint >= ssStatus.dwCheckPoint)
//Break if the checkpoint has not been incremented.
        break;
    }

    if (ssStatus.dwCurrentState == SERVICE_RUNNING)
        goto StartWWWebErr;

    CloseServiceHandle(schService);
    return TRUE;

StartWWWebErr:
    CloseServiceHandle(schService);
    return FALSE;
}

static BOOL StopWWWebService(void)
{
    SC_HANDLE          schSCManager;
    SC_HANDLE          schService;
    SERVICE_STATUS     ssStatus;
    DWORD              dwOldCheckPoint;

    schSCManager = OpenSCManager(NULL, NULL, SC_MANAGER_ALL_ACCESS);
    schService = OpenService(schSCManager, TEXT("W3SVC"), SERVICE_ALL_ACCESS);
    if (schService == NULL)
        return FALSE;

    if (! QueryServiceStatus(schService, &ssStatus) )
        goto StopWWWebErr;

    if ( !ControlService(schService, SERVICE_CONTROL_STOP, &ssStatus) )
        goto StopWWWebErr;
//start Service pending, Check the status until the service is running.
    if (! QueryServiceStatus(schService, &ssStatus) )
        goto StopWWWebErr;
    while( ssStatus.dwCurrentState == SERVICE_RUNNING)
    {
        dwOldCheckPoint = ssStatus.dwCheckPoint;
//Save the current checkpoint.
        Sleep(ssStatus.dwWaitHint);
//Wait for the specified interval.
        if ( !QueryServiceStatus(schService, &ssStatus) ) //Check the
status again.
            break;
        if (dwOldCheckPoint >= ssStatus.dwCheckPoint)
//Break if the checkpoint has not been incremented.
            break;
    }

    if (ssStatus.dwCurrentState == SERVICE_RUNNING)
        goto StopWWWebErr;

    CloseServiceHandle(schService);
    return TRUE;

StopWWWebErr:
    CloseServiceHandle(schService);
    return FALSE;
}

static void UpdateDialog(HWND hDlg)

```

```

{
    MSG msg;

    UpdateWindow(hDlg);
    while( PeekMessage(&msg, hDlg, 0, 0, PM_REMOVE) )
    {
        TranslateMessage(&msg);
        DispatchMessage(&msg);
    }
    Sleep(250);
    return;
}

# Microsoft Developer Studio Project File - Name="install" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Application" 0x0101

CFG=install - Win32 Release
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "install.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "install.mak" CFG="install - Win32 Release"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "install - Win32 Release" (based on "Win32 (x86) Application")
!MESSAGE "install - Win32 Debug" (based on "Win32 (x86) Application")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir ".\Release"
# PROP BASE Intermediate_Dir ".\Release"
# PROP BASE Target_Dir "."
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir "."
# ADD BASE CPP /nologo /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /c
# ADD CPP /nologo /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD /c
# ADD BASE MTL /nologo /D "NDEBUG" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"

```

```

BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /machine:I386
# ADD LINK32 version.lib comctl32.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbccp32.lib /nologo /subsystem:windows /machine:I386 /out:"..\bin\install.exe"

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir ".\Debug"
# PROP BASE Intermediate_Dir ".\Debug"
# PROP BASE Target_Dir "."
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir "."
# ADD BASE CPP /nologo /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX
/c
# ADD CPP /nologo /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX /FD
/c
# ADD BASE MTL /nologo /D "_DEBUG" /win32
# ADD MTL /nologo /D "_DEBUG" /mktyplib203 /win32
# ADD BASE RSC /l 0x409 /d "_DEBUG"
# ADD RSC /l 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /debug /machine:I386
# ADD LINK32 version.lib comctl32.lib kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbccp32.lib /nologo /subsystem:windows /debug /machine:I386
/out:"..\bin\install.exe"

!ENDIF

# Begin Target

# Name "install - Win32 Release"
# Name "install - Win32 Debug"
# Begin Group "Source Files"

# PROP Default_Filter "cpp;c;cxx;rc;def;r;odl;hpj;bat;for;f90"
# Begin Source File

SOURCE=.\src\install.c
# End Source File
# Begin Source File

SOURCE=.\src\install.rc
# ADD BASE RSC /l 0x409 /i "src"
# ADD RSC /l 0x409 /i "src" /i "..\src"
# End Source File

```

```

# Begin Source File

SOURCE=.\src\install_com.cpp
# End Source File
# End Group
# Begin Group "Header Files"

# PROP Default_Filter "h;hpp;hxx;hm;inl;fi;fd"
# End Group
# Begin Group "Resource Files"

# PROP Default_Filter "ico;cur;bmp;dlg;rc2;rct;bin;cnt;rtf;gif;jpg;jpeg;jpe"
# Begin Source File

SOURCE=.\SRC\ICON1.ICO
# End Source File
# Begin Source File

SOURCE=.\SRC\ICON2.ICO
# End Source File
# End Group
# Begin Source File

SOURCE=.\SRC\LICENSE.TXT
# End Source File
# Begin Source File

SOURCE=..\isapi_dll\bin\tpcc.dll
# End Source File
# Begin Source File

SOURCE=..\tm_com_dll\bin\tpcc_com.dll
# End Source File
# Begin Source File

SOURCE=..\tpcc_com_all\bin\tpcc_com_all.dll
# End Source File
# Begin Source File

SOURCE=..\tpcc_com_ps\bin\tpcc_com_ps.dll
# End Source File
# Begin Source File

SOURCE=..\db_dblib_dll\bin\tpcc_dblib.dll
# End Source File
# Begin Source File

SOURCE=..\db_odbc_dll\bin\tpcc_odbc.dll
# End Source File
# Begin Source File

SOURCE=..\tm_tuxedo_dll\bin\tpcc_tuxedo.dll
# End Source File
# Begin Source File

SOURCE=..\tuxapp\bin\tuxapp.exe
# End Source File
# End Target
# End Project



---


//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by install.rc

```

```

//
#define IDD_DIALOG1 101
#define IDI_ICON1 102
#define IDR_TPCCDLL 103
#define IDD_DIALOG2 105
#define IDI_ICON2 106
#define IDR_DELIVERY 107
#define IDD_DIALOG3 108

#define BN_LOG 1001
#define ED_KEEP 1002
#define ED_THREADS 1003
#define ED_THREADS2 1004
#define IDC_PATH 1007
#define IDC_VERSION 1009
#define IDC_RESULTS 1010
#define IDC_PROGRESS1 1011
#define IDC_STATUS 1012
#define IDC_BUTTON1 1013
#define ED_MAXCONNECTION 1014
#define ED_IIS_MAX_THREAD_POOL_LIMIT 1015
#define ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE 1017
#define ED_IIS_THREAD_TIMEOUT 1018
#define ED_IIS_LISTEN_BACKLOG 1019
#define IDC_DBLIB 1021
#define IDC_ODBC 1022
#define IDC_CONNECT_POOL 1023
#define ED_USER_CONNECT_DELAY_TIME 1024

// Next default values for new objects
//
//Microsoft Developer Studio generated resource script.
//
#include "resource.h"

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

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

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

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

////////////////////////////////////
//
// Dialog
//

IDD_DIALOG1 DIALOGEX 0, 0, 219, 351
STYLE DS_MODALFRAME | DS_CENTER | WS_MINIMIZEBOX | WS_POPUP | WS_CAPTION |

```

```

WS_SYSMENU
CAPTION "TPC-C Web Client Installation Utility"
FONT 8, "MS Sans Serif"
BEGIN
EDITTEXT ED_THREADS,164,45,34,12,ES_RIGHT | ES_NUMBER,
WS_EX_RTLREADING
EDITTEXT ED_MAXDELIVERIES,164,59,34,12,ES_RIGHT | ES_NUMBER,
WS_EX_RTLREADING
EDITTEXT ED_MAXCONNECTION,164,73,34,12,ES_RIGHT | ES_NUMBER,
WS_EX_RTLREADING
CONTROL "None", IDC_TM_NONE, "Button", BS_AUTORADIOBUTTON |
WS_GROUP | WS_TABSTOP,43,100,33,10
CONTROL "COM", IDC_TM_MTS, "Button", BS_AUTORADIOBUTTON |
WS_TABSTOP,43,113,32,10
CONTROL "TUXEDO", IDC_TM_TUXEDO, "Button", BS_AUTORADIOBUTTON |
WS_TABSTOP,106,100,46,10
CONTROL "ENCINA", IDC_TM_ENCINA, "Button", BS_AUTORADIOBUTTON |
WS_DISABLED | WS_TABSTOP,106,113,43,10
EDITTEXT ED_DB_SERVER,131,152,67,12,ES_AUTOHSCROLL
EDITTEXT ED_DB_USER_ID,131,165,67,12,ES_AUTOHSCROLL
EDITTEXT ED_DB_PASSWORD,131,178,67,12,ES_AUTOHSCROLL
EDITTEXT ED_DB_NAME,131,191,67,12,ES_AUTOHSCROLL
CONTROL "DBLIB", IDC_DBLIB, "Button", BS_AUTORADIOBUTTON | WS_GROUP |
WS_TABSTOP,45,219,39,12
CONTROL "ODBC", IDC_ODBC, "Button", BS_AUTORADIOBUTTON | WS_TABSTOP,
91,219,39,12
EDITTEXT ED_IIS_MAX_THREAD_POOL_LIMIT,164,263,34,12,ES_RIGHT |
ES_NUMBER,WS_EX_RTLREADING
EDITTEXT ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,164,277,34,12,ES_RIGHT |
ES_NUMBER,WS_EX_RTLREADING
EDITTEXT ED_IIS_THREAD_TIMEOUT,164,291,34,12,ES_RIGHT | ES_NUMBER,
WS_EX_RTLREADING
EDITTEXT ED_IIS_LISTEN_BACKLOG,164,305,34,12,ES_RIGHT | ES_NUMBER,
WS_EX_RTLREADING
DEFPUSHBUTTON "OK", IDOK,53,331,50,14
PUSHBUTTON "Cancel", IDCANCEL,119,331,50,14
EDITTEXT IDC_PATH,106,26,91,13,ES_AUTOHSCROLL | ES_READONLY
LTEXT "Number of Delivery Threads:", IDC_STATIC,35,45,115,12
LTEXT "Max Number of Connections:", IDC_STATIC,35,73,115,12
RTEXT "Version 4.11", IDC_VERSION,120,4,89,9
LTEXT "IIS Max Thread Pool Limit:", IDC_STATIC,36,263,115,12
LTEXT "Web Service Backlog Queue Size:", IDC_STATIC,36,277,115,
12
LTEXT "IIS Thread Timeout (seconds):", IDC_STATIC,36,291,115,12
LTEXT "IIS Listen Backlog:", IDC_STATIC,36,307,115,10
GROUPBOX "Database Interface", IDC_STATIC,35,208,163,27,WS_GROUP
LTEXT "Installation directory:", IDC_STATIC,35,29,71,10
GROUPBOX "Transaction Monitor", IDC_STATIC,33,90,165,37
LTEXT "Server Name:", IDC_STATIC,35,155,56,8
LTEXT "User ID:", IDC_STATIC,35,168,60,8
LTEXT "User Password:", IDC_STATIC,35,181,83,8
LTEXT "Database Name:", IDC_STATIC,35,194,54,8
GROUPBOX "SQL Server Connection Properties", IDC_STATIC,22,139,187,
102
GROUPBOX "Web Client Properties", IDC_STATIC,22,15,187,118
GROUPBOX "IIS Settings", IDC_STATIC,22,247,187,79
LTEXT "Max Pending Deliveries:", IDC_STATIC,35,59,115,12
END

IDD_DIALOG2 DIALOGEX 0, 0, 117, 62
STYLE DS_SETFOREGROUND | DS_3DLOOK | DS_CENTER | WS_POPUP | WS_BORDER
EXSTYLE WS_EX_STATICEDGE
FONT 12, "MS Sans Serif", 0, 0, 0x1

```

```

BEGIN
  DEFPUSHBUTTON "OK",IDOK,33,45,50,9
  CTEXT "HTML TPC-C Installation Successful",IDC_RESULTS,7,22,
    102,18,0,WS_EX_CLIENTEDGE
  ICON IDI_ICON2,IDC_STATIC,50,7,18,20,SS_REALSIZEIMAGE,
    WS_EX_TRANSPARENT
END

```

```

IDD_DIALOG3 DIALOG DISCARDABLE 0, 0, 91, 40
STYLE DS_SYSMODAL | DS_MODALFRAME | DS_3DLOOK | DS_CENTER | WS_CAPTION
CAPTION "Installing TPC-C Web Client"
FONT 12, "Arial Black"
BEGIN
  CONTROL "Progress1",IDC_PROGRESS1,"msctls_progress32",WS_BORDER,
    7,20,77,13
  CTEXT "Static",IDC_STATUS,7,7,77,12,SS_SUNKEN
END

```

```

IDD_DIALOG4 DIALOG DISCARDABLE 0, 0, 291, 202
STYLE DS_MODALFRAME | DS_CENTER | WS_POPUP | WS_CAPTION | WS_SYSTEMMENU
CAPTION "Client End User License"
FONT 8, "MS Sans Serif"
BEGIN
  EDITTEXT IDC_LICENSE,7,7,271,167,ES_MULTILINE | ES_AUTOVSCROLL |
    ES_AUTOHSCROLL | ES_READONLY | WS_VSCROLL | WS_HSCROLL
  DEFPUSHBUTTON "I &Agree",IDOK,87,181,50,14
  PUSHBUTTON "&Cancel",IDCANCEL,153,181,50,14
END

```

```

////////////////////////////////////
//
// DESIGNINFO
//

```

```

#ifdef APSTUDIO_INVOKED
GUIDELINES DESIGNINFO DISCARDABLE
BEGIN

```

```

  IDD_DIALOG1, DIALOG
  BEGIN
    LEFTMARGIN, 22
    RIGHTMARGIN, 209
    VERTGUIDE, 35
    VERTGUIDE, 198
    TOPMARGIN, 4
    BOTTOMMARGIN, 345
  END

```

```

  IDD_DIALOG2, DIALOG
  BEGIN
    LEFTMARGIN, 7
    RIGHTMARGIN, 109
    TOPMARGIN, 7
    BOTTOMMARGIN, 54
  END

```

```

  IDD_DIALOG3, DIALOG
  BEGIN
    LEFTMARGIN, 7
    RIGHTMARGIN, 84
    TOPMARGIN, 7
    BOTTOMMARGIN, 33
  END

```

```

IDD_DIALOG4, DIALOG
BEGIN
  LEFTMARGIN, 7
  RIGHTMARGIN, 278
  TOPMARGIN, 7
  BOTTOMMARGIN, 195
END

```

```

END
#endif // APSTUDIO_INVOKED

```

```

#ifdef APSTUDIO_INVOKED
////////////////////////////////////
//
// TEXTINCLUDE
//

```

```

1 TEXTINCLUDE DISCARDABLE
BEGIN
  "resource.h\0"
END

```

```

2 TEXTINCLUDE DISCARDABLE
BEGIN
  "#include \"afxres.h\"\r\n"
  "\0"
END

```

```

3 TEXTINCLUDE DISCARDABLE
BEGIN
  "\r\n"
  "\0"
END

```

```

#endif // APSTUDIO_INVOKED

```

```

////////////////////////////////////
//
// Icon
//

```

```

// Icon with lowest ID value placed first to ensure application icon
// remains consistent on all systems.
IDI_ICON1 ICON DISCARDABLE "icon1.ico"
IDI_ICON2 ICON DISCARDABLE "icon2.ico"

```

```

////////////////////////////////////
//
// TPCCDLL
//

```

```

IDR_TPCCDLL TPCCDLL DISCARDABLE "..\..\isapi_dll\bin\tpcc.dll"

```

```

#ifdef MAC
////////////////////////////////////
//
// Version
//

```

```

VS_VERSION_INFO VERSIONINFO
FILEVERSION 0,4,20,0

```

```

PRODUCTVERSION 0,4,20,0
FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
FILEFLÄGS 0x1L
#else
FILEFLÄGS 0x0L
#endif
FILEOS 0x40004L
FILETYPE 0x1L
FILESUBTYPE 0x0L
BEGIN
    BLOCK "StringFileInfo"
    BEGIN
        BLOCK "040904b0"
        BEGIN
            VALUE "Comments", "TPC-C Web Client Installer\0"
            VALUE "CompanyName", "Microsoft\0"
            VALUE "FileDescription", "install\0"
            VALUE "FileVersion", "0, 4, 20, 0\0"
            VALUE "InternalName", "install\0"
            VALUE "LegalCopyright", "Copyright © 1999\0"
            VALUE "OriginalFilename", "install.exe\0"
            VALUE "ProductName", "Microsoft install\0"
            VALUE "ProductVersion", "0, 4, 20, 0\0"
        END
    END
    BLOCK "VarFileInfo"
    BEGIN
        VALUE "Translation", 0x409, 1200
    END
END

#endif // !_MAC

////////////////////////////////////
//
// LICENSE
//
IDR_LICENSE1          LICENSE DISCARDABLE    "license.txt"

////////////////////////////////////
//
// DBLIB_DLL
//
IDR_DBLIB_DLL         DBLIB_DLL DISCARDABLE
"..\\..\\db_dblib_dll\\bin\\tpcc_dblib.dll"

////////////////////////////////////
//
// ODBC_DLL
//
IDR_ODBC_DLL         ODBC_DLL DISCARDABLE
"..\\..\\db_odbc_dll\\bin\\tpcc_odbc.dll"

////////////////////////////////////
//
// TUXEDO_APP
//

```

```

IDR_TUXEDO_APP        TUXEDO_APP DISCARDABLE  "..\\..\\tuxapp\\bin\\tuxapp.exe"

////////////////////////////////////
//
// TUXEDO_DLL
//
IDR_TUXEDO_DLL        TUXEDO_DLL DISCARDABLE
"..\\..\\tm_tuxedo_dll\\bin\\tpcc_tuxedo.dll"

////////////////////////////////////
//
// COM_DLL
//
IDR_COM_DLL           COM_DLL DISCARDABLE
"..\\..\\tm_com_dll\\bin\\tpcc_com.dll"

////////////////////////////////////
//
// COM_PS_DLL
//
IDR_COMPS_DLL         COM_PS_DLL DISCARDABLE
"..\\..\\tpcc_com_ps\\bin\\tpcc_com_ps.dll"

////////////////////////////////////
//
// COM_ALL_DLL
//
IDR_COMALL_DLL        COM_ALL_DLL DISCARDABLE
"..\\..\\tpcc_com_all\\bin\\tpcc_com_all.dll"
#endif // English (U.S.) resources
////////////////////////////////////

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

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

-----
/*      FILE:          INSTALL_COM.CPP
*
*      Microsoft TPC-C Kit Ver. 4.20.000
*      Copyright Microsoft, 1999
*
*      All Rights Reserved
*
*
*      not audited
*
*      PURPOSE:  installation code for COM application for TPC-C Web Kit
*      Contact:  Charles Levine (clevine@microsoft.com)
*
*      Change history:
*      4.20.000 - first version
*/

```



```

#define _WIN32_WINNT 0x0500

#include <comdef.h>
#include <comadmin.h>
#include <stdio.h>
#include <tchar.h>

extern "C"
{
    BOOL install_com(char *szDllPath);
}

BOOL install_com(char *szDllPath)
{
    ICOMAdminCatalog* pCOMAdminCat = NULL;
    ICatalogCollection* pCatalogCollectionApp = NULL;
    ICatalogCollection* pCatalogCollectionCo = NULL;
    ICatalogCollection* pCatalogCollectionItf = NULL;
    ICatalogCollection* pCatalogCollectionMethod = NULL;

    ICatalogObject* pCatalogObjectApp = NULL;
    ICatalogObject* pCatalogObjectCo = NULL;
    ICatalogObject* pCatalogObjectItf = NULL;
    ICatalogObject* pCatalogObjectMethod = NULL;

    _bstr_t bstrTemp, bstrTemp2, bstrTemp3,
bstrTemp4;
    _bstr_t bstrDllPath = szDllPath;
    _variant_t vTmp, vKey;
    long lActProp, lCount, lCountCo,
lCountItf, lCountMethod;
    bool bTmp;

    CoInitializeEx(NULL, COINIT_MULTITHREADED);

    HRESULT hr = CoCreateInstance(CLSID_COMAdminCatalog,
NULL,
CLSCTX_INPROC_SERVER,
IID_ICOMAdminCatalog,
(void**) &pCOMAdminCat);

    if (!SUCCEEDED(hr)) goto Error;

    bstrTemp = "Applications";

    // Attempt to connect to "Applications" in the Catalog
    hr = pCOMAdminCat->GetCollection(bstrTemp,
(IDispatch**) &pCatalogCollectionApp);
    if (!SUCCEEDED(hr)) goto Error;

    // Attempt to load the "Applications" collection
    hr = pCatalogCollectionApp->Populate();
    if (!SUCCEEDED(hr)) goto Error;

    hr = pCatalogCollectionApp->get_Count(&lCount);
    if (!SUCCEEDED(hr)) goto Error;

```

```

// iterate through applications to delete existing "TPC-C" application (if
any)
while (lCount > 0)
{
    hr = pCatalogCollectionApp->get_Item(lCount - 1, (IDispatch**)
&pCatalogObjectApp);
    if (!SUCCEEDED(hr)) goto Error;

    hr = pCatalogObjectApp->get_Name(&vTmp);
    if (!SUCCEEDED(hr)) goto Error;

    if (wcsncmp(vTmp.bstrVal, L"TPC-C"))
    {
        lCount--;
        continue;
    }
    else
    {
        hr = pCatalogCollectionApp->Remove(lCount - 1);
        if (!SUCCEEDED(hr)) goto Error;
        break;
    }
}

hr = pCatalogCollectionApp->SaveChanges(&lActProp);
if (!SUCCEEDED(hr)) goto Error;

// add the new application
hr = pCatalogCollectionApp->Add((IDispatch**) &pCatalogObjectApp);
if (!SUCCEEDED(hr)) goto Error;

// set properties
bstrTemp = "Name";
vTmp = "TPC-C";
hr = pCatalogObjectApp->put_Value(bstrTemp, vTmp);
if (!SUCCEEDED(hr)) goto Error;

// set as a library (in process) application
bstrTemp = "Activation";
lActProp = COMAdminActivationInproc;
vTmp = lActProp;
hr = pCatalogObjectApp->put_Value(bstrTemp, vTmp);
if (!SUCCEEDED(hr)) goto Error;

// set security level to process
bstrTemp = "AccessChecksLevel";
lActProp = COMAdminAccessChecksApplicationLevel;
vTmp = lActProp;
hr = pCatalogObjectApp->put_Value(bstrTemp, vTmp);
if (!SUCCEEDED(hr)) goto Error;

// save key to get the Components collection later
hr = pCatalogObjectApp->get_Key(&vKey);
if (!SUCCEEDED(hr)) goto Error;

// save changes (app creation) so component installation will work
hr = pCatalogCollectionApp->SaveChanges(&lActProp);
if (!SUCCEEDED(hr)) goto Error;

pCatalogObjectApp->Release();
pCatalogObjectApp = NULL;

bstrTemp = "TPC-C"; // app name

```

```

DLL      bstrTemp2 =      bstrDllPath + "tpcc_com_all.dll";      //
      bstrTemp3 =      "";
      // type library (TLB)
      bstrTemp4 =      bstrDllPath + "tpcc_com_ps.dll";      //
proxy/stub dll

      hr = pCOMAdminCat->InstallComponent(bstrTemp,

      bstrTemp2,

      bstrTemp3,

      bstrTemp4);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "Components";
      hr = pCatalogCollectionApp->GetCollection(bstrTemp, vKey, (IDispatch**)
&pCatalogCollectionCo);
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionCo->Populate();
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionCo->get_Count(&lCountCo);
      if (!SUCCEEDED(hr)) goto Error;

      // iterate through components in application and set the properties
      while (lCountCo > 0)
      {
&pCatalogObjectCo);
      hr = pCatalogCollectionCo->get_Item(lCountCo - 1, (IDispatch**)
      if (!SUCCEEDED(hr)) goto Error;

      // used for debugging (view the name)
      hr = pCatalogObjectCo->get_Name(&vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "ConstructionEnabled";
      bTmp = TRUE;
      vTmp = bTmp;
      hr = pCatalogObjectCo->put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "ConstructorString";
      bstrTemp2 = "dummy string (do not remove)";
      vTmp = bstrTemp2;
      hr = pCatalogObjectCo->put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "JustInTimeActivation";
      bTmp = TRUE;
      vTmp = bTmp;
      hr = pCatalogObjectCo->put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "MaxPoolSize";
      vTmp.Clear();      // clear variant so it isn't stored as a
bool (_variant_t feature)
      vTmp = (long)30;
      hr = pCatalogObjectCo->put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

```

```

      bstrTemp = "ObjectPoolingEnabled";
      bTmp = TRUE;
      vTmp = bTmp;
      hr = pCatalogObjectCo->put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      // save key to get the InterfacesForComponent collection
      hr = pCatalogObjectCo->get_Key(&vKey);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "InterfacesForComponent";
      hr = pCatalogCollectionCo->GetCollection(bstrTemp, vKey,
(IDispatch**) &pCatalogCollectionItf);
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionItf->Populate();
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionItf->get_Count(&lCountItf);
      if (!SUCCEEDED(hr)) goto Error;

      // iterate through interfaces in component
      while (lCountItf > 0)
      {
      hr = pCatalogCollectionItf->get_Item(lCountItf - 1,
(IDispatch**) &pCatalogObjectItf);
      if (!SUCCEEDED(hr)) goto Error;

      // save key to get the MethodsForInterface collection
      hr = pCatalogObjectItf->get_Key(&vKey);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "MethodsForInterface";
      hr = pCatalogCollectionItf->GetCollection(bstrTemp,
vKey, (IDispatch**) &pCatalogCollectionMethod);
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionMethod->Populate();
      if (!SUCCEEDED(hr)) goto Error;

      hr = pCatalogCollectionMethod->
>get_Count(&lCountMethod);
      if (!SUCCEEDED(hr)) goto Error;

      // iterate through methods of interface
      while (lCountMethod > 0)
      {
      hr = pCatalogCollectionMethod->
>get_Item(lCountMethod - 1, (IDispatch**) &pCatalogObjectMethod);
      if (!SUCCEEDED(hr)) goto Error;

      bstrTemp = "AutoComplete";
      bTmp = TRUE;
      vTmp = bTmp;
      hr = pCatalogObjectMethod->
>put_Value(bstrTemp, vTmp);
      if (!SUCCEEDED(hr)) goto Error;

      pCatalogObjectMethod->Release();
      pCatalogObjectMethod = NULL;

```



```

#define APS_NEXT_COMMAND_VALUE      40001
#define APS_NEXT_CONTROL_VALUE      1024
#define APS_NEXT_SYMED_VALUE        101
#endif
#endif

# Microsoft Developer Studio Project File - Name="isapi_dll" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Dynamic-Link Library" 0x0102

CFG=isapi_dll - Win32 IceCAP
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "isapi_dll.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "isapi_dll.mak" CFG="isapi_dll - Win32 IceCAP"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "isapi_dll - Win32 Release" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE "isapi_dll - Win32 Debug" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE "isapi_dll - Win32 IceCAP" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD
/c
# ADD CPP /nologo /MD /W3 /GX /O2 /D "NDEBUG" /D "WIN32" /D "_WINDOWS" /YX /FD /c
# ADD BASE MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe

```

```

# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /machine:I386
# ADD LINK32 ..\common\txnlog\lib\release\rtetime.lib
..\common\txnlog\lib\release\spinlock.lib ..\common\txnlog\lib\release\error.lib
..\common\txnlog\lib\release\txnlog.lib wsock32.lib kernel32.lib user32.lib
gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib
uuid.lib odbc32.lib odbccp32.lib /nologo /subsystem:windows /dll /machine:I386
/out:".bin\tpcc.dll"

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS"
/YX /FD /c
# ADD CPP /nologo /MDd /W3 /GX /ZI /Od /D "_DEBUG" /D "WIN32" /D "_WINDOWS" /FR /YX
/FD /c
# ADD BASE MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "_DEBUG"
# ADD RSC /l 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /pdbtype:sept
# ADD LINK32 ..\common\txnlog\lib\debug\rtetime.lib
..\common\txnlog\lib\debug\spinlock.lib ..\common\txnlog\lib\debug\error.lib
..\common\txnlog\lib\debug\txnlog.lib wsock32.lib kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib
odbc32.lib odbccp32.lib /nologo /subsystem:windows /dll /debug /machine:I386
/out:".bin\tpcc.dll" /pdbtype:sept
# SUBTRACT LINK32 /profile /pdb:none

!ELSEIF "$(CFG)" == "isapi_dll - Win32 IceCAP"

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "isapi_dl"
# PROP BASE Intermediate_Dir "isapi_dl"
# PROP BASE Ignore_Export_Lib 0
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MDd /W3 /GX /Zi /Od /D "_DEBUG" /D "WIN32" /D "_WINDOWS" /FR
/YX /FD /Gh /c

```

```

# ADD CPP /nologo /MD /W3 /GX /Zi /O2 /D "NDEBUG" /D "ICECAP" /D "WIN32" /D
" _WINDOWS" /FR /YX /FD /Gh /c
# ADD BASE MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D " _DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /1 0x409 /d " _DEBUG"
# ADD RSC /1 0x409 /d " _DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbcc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /out:".bin\tpcc.dll"
/pdbtype:sept
# SUBTRACT BASE LINK32 /profile /pdb:none
# ADD LINK32 icap.lib ..\common\txnlog\lib\release\rtetime.lib
..\common\txnlog\lib\release\spinlock.lib ..\common\txnlog\lib\release\error.lib
..\common\txnlog\lib\release\txnlog.lib wsock32.lib kernel32.lib user32.lib
gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib
uuid.lib odbcc32.lib odbccp32.lib /nologo /subsystem:windows /dll /debug
/machine:I386 /out:".bin\tpcc.dll" /pdbtype:sept
# SUBTRACT LINK32 /profile /pdb:none /map

!ENDIF

# Begin Target

# Name "isapi_dll - Win32 Release"
# Name "isapi_dll - Win32 Debug"
# Name "isapi_dll - Win32 IceCAP"
# Begin Group "Source"

# PROP Default_Filter "*.cpp, *.def, *.rc"
# Begin Source File

SOURCE=.\src\tpcc.cpp
# End Source File
# Begin Source File

SOURCE=.\src\tpcc.def
# End Source File
# Begin Source File

SOURCE=.\src\tpcc.rc
# End Source File
# End Group
# Begin Group "Header Files"

# PROP Default_Filter "*.h, *.hpp"
# Begin Source File

SOURCE=.\common\src\error.h
# End Source File
# Begin Source File

SOURCE=.\common\src\ReadRegistry.h
# End Source File
# Begin Source File

SOURCE=.\src\tpcc.h
# End Source File
# Begin Source File

```

```

SOURCE=.\db_dblib_dll\src\tpcc_dblib.h
# End Source File
# Begin Source File

SOURCE=.\db_odbc_dll\src\tpcc_odbc.h
# End Source File
# Begin Source File

SOURCE=.\tm_tuxedo_dll\src\tpcc_tux.h
# End Source File
# Begin Source File

SOURCE=.\common\src\trans.h
# End Source File
# Begin Source File

SOURCE=.\common\src\txn_base.h
# End Source File
# End Group
# End Target
# End Project

```

```

//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc.rc
//
#define IDD_DIALOG1 101

// Next default values for new objects
//
#ifndef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE 102
#define _APS_NEXT_COMMAND_VALUE 40001
#define _APS_NEXT_CONTROL_VALUE 1000
#define _APS_NEXT_SYMED_VALUE 101
#endif
#endif

/* FILE: rtetime.h : header file
 * Copyright 1997 Microsoft Corp., All rights reserved.
 *
 * Authors: Charles Levine, Philip Durr
 * Microsoft Corp.
 */

#define MAX_JULIAN_TIME 0x7FFFFFFFFFFFFFFF
#define JULIAN_TIME __int64
#define TC_TIME DWORD
extern "C"
{
    BOOL InitJulianTime(LPSYSTEMTIME lpInitTime);
    JULIAN_TIME GetJulianTime(void);
    DWORD MyTickCount(void);
    void GetJulianAndTC(JULIAN_TIME *pJulian, DWORD *pTC);
    JULIAN_TIME ConvertTo64BitTime(int iYear, int iMonth, int iDay, int iHour,
int iMinute, int iSecond);
    JULIAN_TIME Get64BitTime(LPSYSTEMTIME lpInitTime);
    int JulianDay( int yr, int mm, int dd );
    void JulianToTime(JULIAN_TIME julianTS, int* yr, int* mm, int* dd,
int *hh, int *mi, int *ss );
    void JulianToCalendar( int day, int* yr, int* mm, int* dd );

```

```

}
}
FILE: SPINLOCK.H
*
* Copyright 1997 Microsoft Corp., All rights reserved.
*
* Authors: Mike Parkes, Charles Levine, Philip Durr
*          Microsoft Corp.
*/

#ifndef _INC_Spinlock

const LONG LockClosed      = 1;
const LONG LockOpen       = 0;

/*****
 *
 * Spinlock and Semaphore locking.
 *
 * This class provides a very conservative locking scheme.
 * The assumption behind the code is that locks will be
 * held for a very short time. When a lock is taken a memory
 * location is exchanged. All other threads that want this
 * lock wait by spinning and sometimes sleeping on a semaphore
 * until it becomes free again. The only other choice is not
 * to wait at all and move on to do something else. This
 * module should normally be used in conjunction with cache
 * aligned memory in minimize cache line misses.
 *
 *****/

class Spinlock
{
    // Private data.
    HANDLE          Semaphore;
    volatile LONG   m_Spinlock;
    volatile LONG   Waiting;

#ifdef _DEBUG
    // Counters for debugging builds.
    volatile LONG   TotalLocks;
    volatile LONG   TotalSleeps;
    volatile LONG   TotalSpins;
    volatile LONG   TotalWaits;
#endif

public:
    // Public functions.

    Spinlock( void );

    inline BOOL ClaimSpinlock( volatile LONG *sl );
    inline void ReleaseLock( void );
    ~Spinlock( void );
    // Disabled operations.
    Spinlock( const Spinlock & Copy );
    void operator=( const Spinlock & Copy );

private:
    // Private functions.
    inline BOOL ClaimSpinlock( volatile LONG *sl );
    void WaitForLock( void );
    void WakeAllSleepers( void );

```

```

};

/*****
 *
 * A guaranteed atomic exchange.
 *
 * An attempt is made to claim the Spinlock. This action is
 * guaranteed to be atomic.
 *
 *****/

inline BOOL Spinlock::ClaimSpinlock( volatile LONG *Spinlock )
{
#ifdef _DEBUG
    InterlockedIncrement( (LPLONG) & TotalLocks );
#endif
    return ( (*Spinlock) == LockOpen) && (InterlockedExchange(
(LPLONG) Spinlock, LockClosed) == LockOpen) );
}

/*****
 *
 * Claim the Spinlock.
 *
 * Claim the lock if available else wait or exit.
 *
 *****/

inline BOOL Spinlock::ClaimLock( BOOL Wait )
{
    if ( ! ClaimSpinlock( (volatile LONG*) & m_Spinlock ) )
    {
        if ( Wait )
            WaitForLock();
        return Wait;
    }
    return TRUE;
}

/*****
 *
 * Release the Spinlock.
 *
 * Release the lock and if needed wakeup any sleepers.
 *
 *****/

inline void Spinlock::ReleaseLock( void )
{
    m_Spinlock = LockOpen;
    if ( Waiting > 0 )
        WakeAllSleepers();
}

#define _INC_Spinlock

#endif

# Microsoft Developer Studio Project File - Name="tm_com_dll" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Dynamic-Link Library" 0x0102

```

```

CFG=tm_com_dll - Win32 Debug
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "tm_com_dll.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tm_com_dll.mak" CFG="tm_com_dll - Win32 Debug"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tm_com_dll - Win32 Release" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE "tm_com_dll - Win32 Debug" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD
/c
# ADD CPP /nologo /MD /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD /c
# ADD BASE MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /machine:I386
# ADD LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /machine:I386 /out:".bin\tpcc_com.dll"

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"

```

```

# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS"
/YX /FD /c
# ADD CPP /nologo /MDd /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX
/FD /c
# ADD BASE MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "_DEBUG"
# ADD RSC /l 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /pdbtype:sept
# ADD LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /out:".bin\tpcc_com.dll"
/pdbtype:sept

!ENDIF

# Begin Target

# Name "tm_com_dll - Win32 Release"
# Name "tm_com_dll - Win32 Debug"
# Begin Source File

SOURCE=.\src\tpcc_com.cpp
# End Source File
# Begin Source File

SOURCE=.\src\tpcc_com.h
# End Source File
# End Target
# End Project

/*      FILE:          TPCC.C
 *
 *      Microsoft TPC-C Kit Ver. 4.20.000
 *      Copyright Microsoft, 1999
 *
 *      All Rights Reserved
 *
 *      Version 4.10.000 audited by Richard Gimarc,
 *      Performance Metrics, 3/17/99
 *
 *      PURPOSE:      Main module for TPCC.DLL which is an ISAPI service dll.
 *      Contact:      Charles Levine (clevine@microsoft.com)
 *
 *      Change history:
 *      4.20.000 - reworked error handling; added options for COM and
 *      Encina txn monitors
 */

#include <windows.h>
#include <process.h>
#include <tchar.h>

```

```

#include <stdio.h>
#include <stdarg.h>
#include <malloc.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <sys\timeb.h>
#include <io.h>
#include <assert.h>

#include <sqltypes.h>

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

#include "..\..\common\src\trans.h" //tpckit transaction header
contains definitions of structures specific to TPC-C
#include "..\..\common\src\error.h"
#include "..\..\common\src\txn_base.h"
#include "..\..\common\src\ReadRegistry.h"

#include "..\..\common\txnlog\include\rtetime.h"
#include "..\..\common\txnlog\include\spinlock.h"
#include "..\..\common\txnlog\include\txnlog.h"

// Database layer includes
#include "..\..\db_dblib_dll\src\tpcc_dblib.h" // DBLIB implementation
of TPC-C txns
#include "..\..\db_odbc_dll\src\tpcc_odbc.h" // ODBC implementation
of TPC-C txns

// Txn monitor layer includes
#include "..\..\tm_com_dll\src\tpcc_com.h" // COM
Services implementation on TPC-C txns
#include "..\..\tm_tuxedo_dll\src\tpcc_tux.h" // interface to Tuxedo
libraries
#include "..\..\tm_encina_dll\src\tpcc_enc.h" // interface to Encina
libraries

#include "httpext.h" //ISAPI DLL information
header
#include "tpcc.h" //this dlls specific
structure, value e.t. header.

#define LEN_ERR_STRING 256

// defines for Make<Txn>Form calls to distinguish input and output flavors
#define OUTPUT_FORM 0
#define INPUT_FORM 1

char szMyComputerName[MAX_COMPUTERNAME_LENGTH+1];

//Terminal client id structure
TERM Term = { 0, 0, 0, NULL };

// The WEBCLIENT_VERSION string specifies the version level of this web client
interface.
// The RTE must be synchronized with the interface level on login, otherwise the
login
// will fail. This is a sanity check to catch problems resulting from mismatched
versions

```

```

// of the RTE and web client.
#define WEBCLIENT_VERSION "410"

static CRITICAL_SECTION TermCriticalSection;

static HINSTANCE hLibInstanceTm = NULL;
static HINSTANCE hLibInstanceDb = NULL;

TYPE_CTPCC_DBLIB *pCTPCC_DBLIB_new;
TYPE_CTPCC_ODBC *pCTPCC_ODBC_new;
TYPE_CTPCC_TUXEDO *pCTPCC_TUXEDO_new;
TYPE_CTPCC_ENCINA *pCTPCC_ENCINA_new;
TYPE_CTPCC_ENCINA *pCTPCC_ENCINA_post_init;
TYPE_CTPCC_COM *pCTPCC_COM_new;

// For deferred Delivery txns:

CTxnLog //used to log delivery transaction information *txnDelilog = NULL;

HANDLE INVALID_HANDLE_VALUE; hWorkerSemaphore =
HANDLE = INVALID_HANDLE_VALUE; hDoneEvent
HANDLE *pDeliHandles =
NULL;

// configuration settings from registry
TPCCREGISTRYDATA Reg;

DWORD dwNumDeliveryThreads = 4;
CRITICAL_SECTION DelBuffCriticalSection; //critical
section for delivery transactions cache
DELIVERY_TRANSACTION *pDelBuff = NULL;
DWORD dwDelBuffSize =
100; // size of circular buffer for delivery txns
DWORD dwDelBuffFreeCount;
// number of buffers free
DWORD dwDelBuffBusyIndex = 0;
// index position of entry waiting to be delivered
DWORD dwDelBuffFreeIndex = 0;
// index position of unused entry

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

/* FUNCTION: DllMain
*
* PURPOSE: This function is the entry point for the DLL. This
implementation is based on the
* fact that DLL_PROCESS_ATTACH is only called from the
inet service once.
*
* ARGUMENTS: HANDLE hModule module handle
* DWORD ul_reason_for_call reason for
call
* LPVOID lpReserved
* reserved for future use
* RETURNS: BOOL FALSE
errors occurred in initialization
* TRUE
DLL successfully initialized

```



```

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

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

                    InitializeCriticalSection(&TermCriticalSection);

                    if ( ReadTPCCRegistrySettings( &Reg ) )
                        throw new CWBCLNT_ERR(
ERR_MISSING_REGISTRY_ENTRIES );

                    dwDelBuffSize = min(
Reg.dwMaxPendingDeliveries, 10000 ); // min with 10000 as a sanity constraint
                    dwNumDeliveryThreads = min(
Reg.dwNumberOfDeliveryThreads, 100 ); // min with 100 as a sanity constraint

                    TermInit();

                    // load DLL for txn monitor
                    if (Reg.eTxnMon == TUXEDO)
                    {
                        strcpy( szDllName, Reg.szPath );
                        strcat( szDllName,
"tpcc_tuxedo.dll" );
                        szDllName );
                        hLibInstanceTm = LoadLibrary(
                            szDllName );
                        if (hLibInstanceTm == NULL)
                            throw new CWBCLNT_ERR(
ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                        // get function pointer to wrapper
                        for class constructor
                            pCTPCC_TUXEDO_new =
                                (TYPE_CTPCC_TUXEDO*) GetProcAddress(hLibInstanceTm, "CTPCC_TUXEDO_new");
                        if (pCTPCC_TUXEDO_new == NULL)
                            throw new CWBCLNT_ERR(
ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                    }
                    else if (Reg.eTxnMon == ENCINA)
                    {
                        strcpy( szDllName, Reg.szPath );
                        strcat( szDllName,
"tpcc_encina.dll" );
                        szDllName );
                        hLibInstanceTm = LoadLibrary(
                            szDllName );
                        if (hLibInstanceTm == NULL)
                            throw new CWBCLNT_ERR(
ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                        // get function pointer to wrapper
                        for class constructor
                            pCTPCC_ENCINA_new =
                                (TYPE_CTPCC_ENCINA*) GetProcAddress(hLibInstanceTm, "CTPCC_ENCINA_new");
                        pCTPCC_ENCINA_post_init =
                                (TYPE_CTPCC_ENCINA*) GetProcAddress(hLibInstanceTm, "CTPCC_ENCINA_post_init");
                        if (pCTPCC_ENCINA_new == NULL)
                            throw new CWBCLNT_ERR(
ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                    }
                    else if (Reg.eTxnMon == COM)
                    {
                        strcpy( szDllName, Reg.szPath );
                        strcat( szDllName,
"tpcc_com.dll" );
                        szDllName );
                        hLibInstanceTm = LoadLibrary(
                            szDllName );
                        if (hLibInstanceTm == NULL)
                            throw new CWBCLNT_ERR(
ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                        // get function pointer to wrapper
                        for class constructor
                            pCTPCC_COM_new = (TYPE_CTPCC_COM*)
                                GetProcAddress(hLibInstanceTm, "CTPCC_COM_new");
                        if (pCTPCC_COM_new == NULL)
                            throw new CWBCLNT_ERR(
ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                    }

                    // load DLL for database connection
                    if ((Reg.eTxnMon == None) ||
(dwNumDeliveryThreads > 0))
                    {
                        if (Reg.eDB_Protocol == DBLIB)
                        {
                            strcpy( szDllName,
                                Reg.szPath );
                            strcat( szDllName,
"tpcc_dblib.dll" );
                            LoadLibrary( szDllName );
                            hLibInstanceDb =
                                LoadLibrary( szDllName );
                            if (hLibInstanceDb ==
                                NULL)
                                throw new
                                    CWBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                            // get function pointer
                            pCTPCC_DBLIB_new =
                                (TYPE_CTPCC_DBLIB*) GetProcAddress(hLibInstanceDb, "CTPCC_DBLIB_new");
                            if (pCTPCC_DBLIB_new ==
                                NULL)
                                throw new
                                    CWBCLNT_ERR( ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                        }
                        else if (Reg.eDB_Protocol == ODBC)
                        {

```

```

                                hLibInstanceTm = LoadLibrary(
                                    szDllName );
                                if (hLibInstanceTm == NULL)
                                    throw new CWBCLNT_ERR(
                                        ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                                // get function pointer to wrapper
                                for class constructor
                                    pCTPCC_ENCINA_new =
                                        (TYPE_CTPCC_ENCINA*) GetProcAddress(hLibInstanceTm, "CTPCC_ENCINA_new");
                                    pCTPCC_ENCINA_post_init =
                                        (TYPE_CTPCC_ENCINA*) GetProcAddress(hLibInstanceTm, "CTPCC_ENCINA_post_init");
                                    if (pCTPCC_ENCINA_new == NULL)
                                        throw new CWBCLNT_ERR(
                                            ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                                }
                                else if (Reg.eTxnMon == COM)
                                {
                                    strcpy( szDllName, Reg.szPath );
                                    strcat( szDllName,
"tpcc_com.dll" );
                                    szDllName );
                                    hLibInstanceTm = LoadLibrary(
                                        szDllName );
                                    if (hLibInstanceTm == NULL)
                                        throw new CWBCLNT_ERR(
                                            ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                                    // get function pointer to wrapper
                                    for class constructor
                                        pCTPCC_COM_new = (TYPE_CTPCC_COM*)
                                            GetProcAddress(hLibInstanceTm, "CTPCC_COM_new");
                                        if (pCTPCC_COM_new == NULL)
                                            throw new CWBCLNT_ERR(
                                                ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                                }

                                // load DLL for database connection
                                if ((Reg.eTxnMon == None) ||
(dwNumDeliveryThreads > 0))
                                {
                                    if (Reg.eDB_Protocol == DBLIB)
                                    {
                                        strcpy( szDllName,
                                            Reg.szPath );
                                        strcat( szDllName,
"tpcc_dblib.dll" );
                                        LoadLibrary( szDllName );
                                        hLibInstanceDb =
                                            LoadLibrary( szDllName );
                                        if (hLibInstanceDb ==
                                            NULL)
                                            throw new
                                                CWBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                                        // get function pointer
                                        pCTPCC_DBLIB_new =
                                            (TYPE_CTPCC_DBLIB*) GetProcAddress(hLibInstanceDb, "CTPCC_DBLIB_new");
                                        if (pCTPCC_DBLIB_new ==
                                            NULL)
                                            throw new
                                                CWBCLNT_ERR( ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                                    }
                                    else if (Reg.eDB_Protocol == ODBC)
                                    {

```

```

        strcpy( szDllName,
Reg.szPath );
        strcat( szDllName,
"tpcc_odbc.dll");
LoadLibrary( szDllName );
NULL)
CWEBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName, GetLastError() );
to wrapper for class constructor
(TYPE_CTPCC_ODBC*) GetProcAddress( hLibInstanceDb, "CTPCC_ODBC_new");
NULL)
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
        }
        if (dwNumDeliveryThreads)
        {
            // for deferred delivery txns:
            hDoneEvent = CreateEvent( NULL,
TRUE /* manual reset */, FALSE /* initially not signalled */, NULL );
            InitializeCriticalSection(&DelBuffCriticalSection);
            hWorkerSemaphore =
CreateSemaphore( NULL, 0, dwDelBuffSize, NULL );
            dwDelBuffFreeCount =
dwDelBuffSize;
            InitJulianTime(NULL);
            // create unique log file name
            SYSTEMTIME Time;
            GetLocalTime( &Time );
            wsprintf( szLogFile, "%sdelivery-
%2.2d%2.2d%2.2d-%2.2d%2.2d.log",
                Reg.szPath,
Time.wYear % 100, Time.wMonth, Time.wDay, Time.wHour, Time.wMinute );
            CTxnLog(szLogFile, TXN_LOG_WRITE);
            //write event into txn log for
START
            txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_START, szMyComputerName, sizeof(szMyComputerName));
            // allocate structures for
            pDeliHandles = new
            pDelBuff = new
            // launch DeliveryWorkerThread to
perform actual delivery txns
            for(i=0; i<dwNumDeliveryThreads;
i++)
        {

```

```

        pDeliHandles[i] =
(HANDLE) _beginthread( DeliveryWorkerThread, 0, NULL );
        if (pDeliHandles[i] ==
INVALID_HANDLE_VALUE)
            throw new
CWEBCLNT_ERR( ERR_DELIVERY_THREAD_FAILED );
        }
        break;
        case DLL_PROCESS_DETACH:
            if (dwNumDeliveryThreads)
            {
                if (txnDelilog != NULL)
                {
                    //write event into txn
log for STOP
                    txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_STOP, szMyComputerName, sizeof(szMyComputerName));
                    // This will do a clean
shutdown of the delivery log file
                    CTxnLog
                    *txnDelilogLocal = txnDelilog;
                    txnDelilog= NULL;
                    delete txnDelilogLocal;
                }
                delete [] pDeliHandles;
                delete [] pDelBuff;
                CloseHandle( hWorkerSemaphore );
                CloseHandle( hDoneEvent );
            }
            DeleteCriticalSection(&DelBuffCriticalSection);
        }
        DeleteCriticalSection(&TermCriticalSection);
        if (hLibInstanceTm != NULL)
            FreeLibrary( hLibInstanceTm );
        hLibInstanceTm = NULL;
        if (hLibInstanceDb != NULL)
            FreeLibrary( hLibInstanceDb );
        hLibInstanceDb = NULL;
        Sleep(500);
        break;
        default:
            /* nothing */;
    }
}
catch (CBaseErr *e)
{
    WriteMessageToEventLog( e->ErrorText() );
    delete e;
    TerminateExtension(0);
    return FALSE;
}
catch (...)

```

```

        {
            WriteMessageToEventLog(TEXT("Unhandled exception.  DLL could not
load.));
            TerminateExtension(0);
            return FALSE;
        }

        return TRUE;
    }

/* FUNCTION: GetExtensionVersion
 *
 * PURPOSE:      This function is called by the inet service when the DLL is
first loaded.
 *
 * ARGUMENTS:    HSE_VERSION_INFO  *pVer    passed in structure in which to
place expected version number.
 *
 * RETURNS:      TRUE              inet service expected return value.
 */

BOOL WINAPI GetExtensionVersion(HSE_VERSION_INFO *pVer)
{
    pVer->dwExtensionVersion = MAKELONG(HSE_VERSION_MINOR, HSE_VERSION_MAJOR);
    lstrcpy(pVer->lpszExtensionDesc, "TPC-C Server.");
    HSE_MAX_EXT_DLL_NAME_LEN);

    // TODO: why do we need this here instead of in the DLL attach?
    if (Reg.eTxnMon == ENCINA)
        pCTPCC_ENCINA_post_init();

    return TRUE;
}

/* FUNCTION: TerminateExtension
 *
 * PURPOSE:      This function is called by the inet service when the DLL is
about to be unloaded.
 *
 * ARGUMENTS:    Release all resources in anticipation of being
unloaded.
 *
 * RETURNS:      TRUE              inet service expected return value.
 */

BOOL WINAPI TerminateExtension( DWORD dwFlags )
{
    if (pDeliHandles)
    {
        SetEvent( hDoneEvent );
        for(DWORD i=0; i<dwNumDeliveryThreads; i++)
            WaitForSingleObject( pDeliHandles[i], INFINITE );
    }

    TermDeleteAll();
    return TRUE;
}

/* FUNCTION: HttpExtensionProc
 *
 * PURPOSE:      This function is the main entry point for the TPCC DLL. The
internet service

```

```

        calls this function passing in the http string.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK  *pECB    structure pointer to
passed in internet
 *
 *               service information.
 *
 * RETURNS:      DWORD              HSE_STATUS_SUCCESS
connection can be dropped if error
 *
 *               HSE_STATUS_SUCCESS_AND_KEEP_CONN    keep connect valid comment sent
 *
 * COMMENTS:     None
 *
 */

DWORD WINAPI HttpExtensionProc(EXTENSION_CONTROL_BLOCK *pECB)
{
    int          iCmd, FormId, TermId, iSyncId;
    char         szBuffer[4096];

    int          lpbSize;
    static char  szHeader[] = "200 Ok";
    DWORD        dwSize = 6;           // initial value is
strlen(szHeader)
    char         szHeader1[4096];

#ifdef ICECAP
    StartCAP();
#endif

    try
    {
        //process http query
        ProcessQueryString(pECB, &iCmd, &FormId, &TermId, &iSyncId);

        if (TermId != 0)
        {
            if ( TermId < 0 || TermId >= Term.iNumEntries ||
Term.pClientData[TermId].iNextFree != -1 )
            {
                // debugging...
                char szTmp[128];
                wsprintf( szTmp, "Invalid term ID; TermId =
%d", TermId );
                WriteMessageToEventLog( szTmp );
                throw new CWEBCLNT_ERR( ERR_INVALID_TERMID
);
            }

            //must have a valid syncid here since termid is valid
            if (iSyncId != Term.pClientData[TermId].iSyncId)
                throw new CWEBCLNT_ERR(
ERR_INVALID_SYNC_CONNECTION );

            //set use time
            Term.pClientData[TermId].iTickCount = GetTickCount();
        }

        switch(iCmd)

```

```

{
case 0:
WelcomeForm(pECB, szBuffer);
break;
case 1:
switch( FormId )
{
case WELCOME_FORM:
case MAIN_MENU_FORM:
break;
case NEW_ORDER_FORM:
ProcessNewOrderForm(pECB, TermId,
szBuffer);
break;
case PAYMENT_FORM:
ProcessPaymentForm(pECB, TermId,
szBuffer);
break;
case DELIVERY_FORM:
ProcessDeliveryForm(pECB, TermId,
szBuffer);
break;
case ORDER_STATUS_FORM:
ProcessOrderStatusForm(pECB,
TermId, szBuffer);
break;
case STOCK_LEVEL_FORM:
ProcessStockLevelForm(pECB,
TermId, szBuffer);
break;
}
break;
case 2:
// new-order selected from menu; display new-order
input form
MakeNewOrderForm(TermId, NULL, INPUT_FORM, szBuffer);
break;
case 3:
// payment selected from menu; display payment input
form
MakePaymentForm(TermId, NULL, INPUT_FORM, szBuffer);
break;
case 4:
// delivery selected from menu; display delivery input
form
MakeDeliveryForm(TermId, NULL, INPUT_FORM, szBuffer);
break;
case 5:
// order-status selected from menu; display order-
status input form
szBuffer);
MakeOrderStatusForm(TermId, NULL, INPUT_FORM,
break;
case 6:
// stock-level selected from menu; display stock-level
input form
szBuffer);
MakeStockLevelForm(TermId, NULL, INPUT_FORM,
break;
case 7:
// ExitCmd
TermDelete(TermId);
WelcomeForm(pECB, szBuffer);

```

```

break;
case 8:
SubmitCmd(pECB, szBuffer);
break;
case 9:
// menu
MakeMainMenuForm(TermId,
Term.pClientData[TermId].iSyncId, szBuffer);
break;
case 10:
// CMD-Clear
// resets all connections; should only be used when no
other connections are active
TermDeleteAll();
TermInit();
WelcomeForm(pECB, szBuffer);
break;
case 11: // CMD-Stats
StatsCmd(pECB, szBuffer);
break;
}
}
catch (CBaseErr *e)
{
ErrorForm( pECB, e->ErrorType(), e->ErrorNum(), TermId, iSyncId,
e->ErrorText(), szBuffer );
delete e;
}
catch (...)
{
ErrorForm( pECB, ERR_TYPE_WEBDLL, 0, TermId, iSyncId, "Error:
Unhandled exception in Web Client.", szBuffer);
}
}
#endif ICECAP
StopCAP();
#endif

lpbSize = strlen(szBuffer);
wsprintf(szHeader1,
"Content-Type: text/html\r\n"
"Content-Length: %d\r\n"
"Connection: Keep-Alive\r\n\r\n", lpbSize);
strcat( szHeader1, szBuffer );

(*pECB->ServerSupportFunction)(pECB->ConnID, HSE_REQ_SEND_RESPONSE_HEADER,
szHeader, (LPDWORD) &dwSize, (LPDWORD)szHeader1);

//finish up and keep connection
pECB->dwHttpStatusCode = 200;
return HSE_STATUS_SUCCESS_AND_KEEP_CONN;
}

void WriteMessageToEventLog(LPTSTR lpszMsg)
{
TCHAR szMsg[256];
HANDLE hEventSource;
LPTSTR lpszStrings[2];

// Use event logging to log the error.
//

```

```

hEventSource = RegisterEventSource(NULL, TEXT("TPCC.DLL"));

_stprintf(szMsg, TEXT("Error in TPCC.DLL: "));
lpszStrings[0] = szMsg;
lpszStrings[1] = lpszMsg;

if (hEventSource != NULL)
{
    ReportEvent(hEventSource, // handle of event source
               EVENTLOG_ERROR_TYPE, // event type
               0, // event category
               0, // event ID
               NULL, // current user's SID
               2, // strings in lpszStrings
               0, // no bytes of raw data
               (LPCSTR *)lpszStrings, // array of error strings
               NULL); // no raw data

    (VOID) DeregisterEventSource(hEventSource);
}

/* FUNCTION: DeliveryWorkerThread
 *
 * PURPOSE: This function processes deferred delivery txns. There are
 typically several threads running this routine. The number of threads
 is determined by an entry read from the registry. The thread waits for work by
 waiting on semaphore. When a delivery txn is posted, the semaphore is
 released. After processing the delivery txn, information is logged to record the
 txn status and execution time.
 */

/*static*/ void DeliveryWorkerThread(void *ptr)
{
    CTPCC_BASE *pTxn = NULL;

    DELIVERY_TRANSACTION delivery;
    PDELIVERY_DATA pDeliveryData;
    TXN_RECORD_TPCC_DELIV_DEF txnDeliRec;

    DWORD index;
    HANDLE handles[2];

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

    assert(txnDeliRec != NULL);

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

```

```

            pTxn = pCTPCC_DBLIB_new( Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, szMyComputerName, Reg.szDbName );
            pDeliveryData = pTxn->BuffAddr_Delivery();
        }
        catch (CBaseErr *e)
        {
            char szTmp[1024];
            wsprintf( szTmp, "Error in Delivery Txn thread. Could not
connect to database. "
                    "%s. Server=%s, User=%s, Password=%s,
Database=%s",
                    e->ErrorText(), Reg.szDbServer,
Reg.szDbUser, Reg.szDbPassword, Reg.szDbName );
            WriteMessageToEventLog( szTmp );
            delete e;
            goto ErrorExit;
        }
        catch (...)
        {
            WriteMessageToEventLog(TEXT("Unhandled exception caught in
DeliveryWorkerThread."));
            goto ErrorExit;
        }
    }
    while (TRUE)
    {
        try
        {
            //while delivery thread running, i.e. user has not
requested termination
            while (TRUE)
            {
                // need to wait for multiple objects:
                handles[0] = hDoneEvent;
                handles[1] = hWorkerSemaphore;
                index = WaitForMultipleObjects( 2,
&handles[0], FALSE, INFINITE );
                if (index == WAIT_OBJECT_0)
                    goto ErrorExit;

                ZeroMemory(&txnDeliRec, sizeof(txnDeliRec));
                txnDeliRec.TxnType =

                // make a local copy of current entry from
delivery buffer and increment buffer index
                EnterCriticalSection(&DelBuffCriticalSection);
                delivery = *(pDelBuff+dwDelBuffBusyIndex);
                dwDelBuffFreeCount++;
                dwDelBuffBusyIndex++;
                if (dwDelBuffBusyIndex == dwDelBuffSize)
                    // wrap-around if at end of buffer
                    dwDelBuffBusyIndex = 0;

                LeaveCriticalSection(&DelBuffCriticalSection);

                pDeliveryData->w_id = delivery.w_id;
                pDeliveryData->o_carrier_id =

                delivery.o_carrier_id;
            }
        }
    }
}

```

```

        txnDeliRec.w_id = pDeliveryData->w_id;
        txnDeliRec.o_carrier_id = pDeliveryData->
>o_carrier_id;
        txnDeliRec.TxnStartT0 =
Get64BitTime(&delivery.queue);

        GetLocalTime( &trans_start );
        pTxn->Delivery();
        GetLocalTime( &trans_end );

        //log txn
        txnDeliRec.TxnStatus = ERR_SUCCESS;
        for (int i=0; i<10; i++)
            txnDeliRec.o_id[i] =
pDeliveryData->o_id[i];
            txnDeliRec.DeltaT4 =
(int) (Get64BitTime(&trans_end) - txnDeliRec.TxnStartT0);
            txnDeliRec.DeltaTxnExec =
(int) (Get64BitTime(&trans_end) - Get64BitTime(&trans_start));

            if (txnDelilog != NULL)
                txnDelilog->
>WriteToLog(&txnDeliRec);
        }
    } catch (CBaseErr *e)
    {
        char szTmp[1024];
        wsprintf( szTmp, "Error in Delivery Txn thread. %s",
e->ErrorText() );
        WriteMessageToEventLog( szTmp );

        // log the error txn
        txnDeliRec.TxnStatus = e->ErrorType();
        if (txnDelilog != NULL)
            txnDelilog->WriteToLog(&txnDeliRec);

        delete e;
    } catch (...)
    {
        // unhandled exception; shouldn't happen; not much we
can do...
        WriteMessageToEventLog(TEXT("Unhandled exception
caught in DeliveryWorkerThread."));
    }
}

ErrorExit:
    delete pTxn;
    _endthread();
}

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

```

```

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

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

        dwDelBuffFreeCount--;
        dwDelBuffFreeIndex++;
        if (dwDelBuffFreeIndex == dwDelBuffSize)
            dwDelBuffFreeIndex = 0; // wrap-around

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

        if (!bError)
            // increment worker semaphore to wake up a worker thread
            ReleaseSemaphore( hWorkerSemaphore, 1, NULL );

        return bError;
    }

/* FUNCTION: ProcessQueryString
*
* PURPOSE:      This function extracts the relevent information out of the http
command passed in from
                the browser.
*
* COMMENTS:     If this is the initial connection i.e. client is at welcome
screen then
                there will not be a terminal id or current
form id. If this is the case
                then the pTermid and pFormid return values
are undefined.
*/

void ProcessQueryString(EXTENSION_CONTROL_BLOCK *pECB, int *pCmd, int *pFormId, int
*pTermId, int *pSyncId)
{
    char *ptr = pECB->lpszQueryString;
    char szBuffer[25];
    int i;

    //allowable client command strings i.e. CMD=command
    static char *szCmds[] =
    {
        "Process", "..NewOrder..", "..Payment..", "..Delivery..",
        "..Order-Status..", "..Stock-Level..",

```



```

                                "DB Password"
= <B>%s</B><BR>"
                                "DB Name"
= <B>%s</B><BR>"
                                "</PRE></font>"
                                , Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, Reg.szDbName );
    strcat( szBuffer, szTmp);

    sprintf( szTmp, "Please enter your Warehouse and District for this
session:<BR>"
                                "<font face=\"Courier New\"
color=\"blue\"><PRE> );
    strcat( szBuffer, szTmp);
    strcat( szBuffer, "Warehouse ID = <INPUT NAME=\"w_id\" SIZE=4<BR>"
                                "District ID = <INPUT
NAME=\"d_id\" SIZE=2><BR>"
                                "</PRE></font><HR>"
                                "<INPUT TYPE=\"submit\">"
NAME="CMD\" VALUE=\"Submit\">"
                                "</FORM></BODY></HTML>");
}

/* FUNCTION: SubmitCmd
 *
 * PURPOSE:      This function allocated a new terminal id in the Term structure
array.
 *
 */

void SubmitCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer)
{
    int                iNewTerm;
    char              *ptr = pECB->lpszQueryString;

    char              szVersion[32]   = { 0 };
    char              szServer[32]    = { 0 };
    char              szUser[32]      = "sa";
    char              szPassword[32]  = { 0 };
    char              szDatabase[32]  = "tpcc";

    // validate version field; the version field ensures that the RTE is
synchronized with the web client
    GetKeyValue(&ptr, "VERSION", szVersion, sizeof(szVersion),
ERR_VERSION_MISMATCH);
    if ( strcmp( szVersion, WEBCLIENT_VERSION ) )
        throw new CWEBCLNT_ERR( ERR_VERSION_MISMATCH );

    if (Reg.eTxnMon == None)
    {
        // parse Server name
        GetKeyValue(&ptr, "db_server", szServer, sizeof(szServer),
ERR_NO_SERVER_SPECIFIED);
        // parse User name
        GetKeyValue(&ptr, "db_user", szUser, sizeof(szUser), NO_ERR);
        // parse Password
        GetKeyValue(&ptr, "db_passwd", szPassword, sizeof(szPassword),
NO_ERR);
        // parse Database name
        GetKeyValue(&ptr, "db_name", szDatabase, sizeof(szDatabase),
NO_ERR);
    }
}

```

```

// parse warehouse ID
int w_id = GetIntKeyValue(&ptr, "w_id", ERR_HTML_ILL_FORMED,
ERR_W_ID_INVALID);
if ( w_id < 1 )
    throw new CWEBCLNT_ERR( ERR_W_ID_INVALID );

// parse district ID
int d_id = GetIntKeyValue(&ptr, "d_id", ERR_HTML_ILL_FORMED,
ERR_D_ID_INVALID);
if ( d_id < 1 || d_id > 10 )
    throw new CWEBCLNT_ERR( ERR_D_ID_INVALID );

iNewTerm = TermAdd();

Term.pClientData[iNewTerm].w_id = w_id;
Term.pClientData[iNewTerm].d_id = d_id;

try
{
    if (Reg.eTxnMon == TUXEDO)
        Term.pClientData[iNewTerm].pTxn = pCTPCC_TUXEDO_new();
    else if (Reg.eTxnMon == ENCINA)
        Term.pClientData[iNewTerm].pTxn = pCTPCC_ENCINA_new();
    else if (Reg.eTxnMon == COM)
        Term.pClientData[iNewTerm].pTxn = pCTPCC_COM_new(
Reg.bCOM_SinglePool );
    else if (Reg.eDB_Protocol == ODBC)
        Term.pClientData[iNewTerm].pTxn = pCTPCC_ODBC_new(
szServer, szUser, szPassword, szMyComputerName, szDatabase );
    else if (Reg.eDB_Protocol == DBLIB)
        Term.pClientData[iNewTerm].pTxn = pCTPCC_DBLIB_new(
szServer, szUser, szPassword, szMyComputerName, szDatabase );
}
catch (...)
{
    TermDelete(iNewTerm);
    throw; // pass exception upward
}

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

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

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

    EnterCriticalSection(&TermCriticalSection);

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

```



```

        iTotal++;
    }

    LeaveCriticalSection(&TermCriticalSection);

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

char *CWEBCLNT_ERR::ErrorText()
{
    static SERRORMSG errorMsgs[] =
    {
        { ERR_COMMAND_UNDEFINED,
          "Command undefined." },
        { ERR_D_ID_INVALID,
          "Invalid District ID Must be 1 to 10." },
        { ERR_DELIVERY_CARRIER_ID_RANGE,
          "Delivery Carrier ID out of range must be 1 - 10." },
        { ERR_DELIVERY_CARRIER_INVALID,
          "Delivery Carrier ID invalid must be numeric 1 - 10." },
        { ERR_DELIVERY_MISSING_OCD_KEY,
          "Delivery missing Carrier ID key \"OCD*\"." },
        { ERR_DELIVERY_THREAD_FAILED,
          "Could not start delivery worker thread." },
        { ERR_GETPROCADDR_FAILED,
          "Could not map proc in DLL. GetProcAddr error. DLL=" },
        { ERR_HTML_ILL_FORMED,
          "Required key field is missing from HTML string." },
        { ERR_INVALID_SYNC_CONNECTION,
          "Invalid Terminal Sync ID." },
        { ERR_INVALID_TERMID,
          "Invalid Terminal ID." },
        { ERR_LOADDLL_FAILED,
          "Load of DLL failed. DLL=" },
        { ERR_MAX_CONNECTIONS_EXCEEDED,
          "connections available. Max Connections is probably too low." },
        { ERR_MISSING_REGISTRY_ENTRIES,
          "Required registry entries are missing. Rerun INSTALL to correct." },
        { ERR_NEWORDER_CUSTOMER_INVALID,
          "New Order customer id invalid data type, range = 1 to 3000." },
        { ERR_NEWORDER_CUSTOMER_KEY,
          "New Order missing Customer key \"CID*\"." },
        { ERR_NEWORDER_DISTRICT_INVALID,
          "New Order District ID Invalid range 1 - 10." },
    },
}

```

```

        { ERR_NEWORDER_FORM_MISSING_DID,
          "New Order missing District key \"DID*\"." },
        { ERR_NEWORDER_ITEMID_INVALID,
          "Order Item Id is wrong data type, must be numeric." },
        { ERR_NEWORDER_ITEMID_RANGE,
          "New Order Item Id is out of range. Range = 1 to 999999." },
        { ERR_NEWORDER_ITEMID_WITHOUT_SUPPW,
          "Order Item_Id field entered without a corresponding Supp_W." },
        { ERR_NEWORDER_MISSING_IID_KEY,
          "Order missing Item Id key \"IID*\"." },
        { ERR_NEWORDER_MISSING_QTY_KEY,
          "Order Missing Qty key \"Qty##*\"." },
        { ERR_NEWORDER_MISSING_SUPPW_KEY,
          "New Order missing Supp_W key \"SP##*\"." },
        { ERR_NEWORDER_NOITEMS_ENTERED,
          "Order No order lines entered." },
        { ERR_NEWORDER_QTY_INVALID,
          "New Order Qty invalid must be numeric range 1 - 99." },
        { ERR_NEWORDER_QTY_RANGE,
          "New Order Qty is out of range. Range = 1 to 99." },
        { ERR_NEWORDER_QTY_WITHOUT_SUPPW,
          "New Order Qty field entered without a corresponding Supp_W." },
        { ERR_NEWORDER_SUPPW_INVALID,
          "New Order Supp_W invalid data type must be numeric." },
        { ERR_NO_SERVER_SPECIFIED,
          "No Server name specified." },
        { ERR_ORDERSTATUS_CID_AND_CLT,
          "Order Status Only Customer ID or Last Name may be entered, not both." },
        { ERR_ORDERSTATUS_CID_INVALID,
          "Order Status Customer ID invalid, range must be numeric 1 - 3000." },
        { ERR_ORDERSTATUS_CLT_RANGE,
          "Order Status Customer last name longer than 16 characters." },
        { ERR_ORDERSTATUS_DID_INVALID,
          "Order Status District invalid, value must be numeric 1 - 10." },
        { ERR_ORDERSTATUS_MISSING_CID_CLT,
          "Order Status Either Customer ID or Last Name must be entered." },
        { ERR_ORDERSTATUS_MISSING_CID_KEY,
          "Order Status missing Customer key \"CID*\"." },
        { ERR_ORDERSTATUS_MISSING_CLT_KEY,
          "Order Status missing Customer Last Name key \"CLT*\"." },
        { ERR_ORDERSTATUS_MISSING_DID_KEY,
          "Order Status missing District key \"DID*\"." },
        { ERR_PAYMENT_CDI_INVALID,
          "Payment Customer district invalid must be numeric." },
    },
}

```

```

        {
            ERR_PAYMENT_CID_AND_CLT,
"Payment Only Customer ID or Last Name may be entered, not both."
        },
        {
            ERR_PAYMENT_CUSTOMER_INVALID,
"Payment Customer data type invalid, must be numeric."
        },
        {
            ERR_PAYMENT_CWI_INVALID,
"Payment Customer Warehouse invalid, must be numeric."
        },
        {
            ERR_PAYMENT_DISTRICT_INVALID,
"Payment District ID is invalid, must be 1 - 10."
        },
        {
            ERR_PAYMENT_HAM_INVALID,
"Payment Amount invalid data type must be numeric."
        },
        {
            ERR_PAYMENT_HAM_RANGE,
"Payment Amount out of range, 0 - 9999.99."
        },
        {
            ERR_PAYMENT_LAST_NAME_TOO_LONG,
"Payment Customer last name longer than 16 characters."
        },
        {
            ERR_PAYMENT_MISSING_CDI_KEY,
"Payment missing Customer district key \"CDI*\"."
        },
        {
            ERR_PAYMENT_MISSING_CID_CLT,
"Payment Either Customer ID or Last Name must be entered."
        },
        {
            ERR_PAYMENT_MISSING_CID_KEY,
"Payment missing Customer Key \"CID*\"."
        },
        {
            ERR_PAYMENT_MISSING_CLT_KEY,
"Payment missing Customer Last Name key \"CLT*\"."
        },
        {
            ERR_PAYMENT_MISSING_CWI_KEY,
"Payment missing Customer Warehouse key \"CWI*\"."
        },
        {
            ERR_PAYMENT_MISSING_DID_KEY,
"Payment missing District Key \"DID*\"."
        },
        {
            ERR_PAYMENT_MISSING_HAM_KEY,
"Payment missing Amount key \"HAM*\"."
        },
        {
            ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY,
missing Threshold key \"TT*\"."
        },
        {
            ERR_STOCKLEVEL_THRESHOLD_INVALID,
"Stock Level; Threshold value must be in the range = 1 - 99."
        },
        {
            ERR_STOCKLEVEL_THRESHOLD_RANGE,
"Stock Level Threshold out of range, range must be 1 - 99."
        },
        {
            ERR_VERSION_MISMATCH,
"Invalid version field. RTE and Web Client are probably out of
sync."
        },
        {
            ERR_W_ID_INVALID,
"Invalid Warehouse ID."
        },
        {
            0,
            ""
        }
    },
};

char szTmp[256];

```

```

int i = 0;
while (TRUE)
{
    if (errorMsgs[i].szMsg[0] == 0)
    {
        strcpy( szTmp, "Unknown error number." );
        break;
    }
    if (m_Error == errorMsgs[i].iError)
    {
        strcpy( szTmp, errorMsgs[i].szMsg );
        break;
    }
    i++;
}

if (m_szTextDetail)
    strcat( szTmp, m_szTextDetail );
if (m_SystemErr)
    sprintf( szTmp+strlen(szTmp), " Error=%d", m_SystemErr );

m_szErrorText = new char[strlen(szTmp)+1];
strcpy( m_szErrorText, szTmp );
return m_szErrorText;
}

/* FUNCTION: GetKeyValue
 *
 * PURPOSE: This function parses a http formatted string for specific key
 values.
 *
 * ARGUMENTS: char *pQueryString http string
 from client browser
 * char *pKey
 * char key value to look for
 * char *pValue
 * int character array into which to place key's value
 * int iMax
 * maximum length of key value array.
 * WEBERROR err
 * error value to throw
 *
 * RETURNS: nothing.
 *
 * ERROR: if (the pKey value is not found) then
 * if (err == 0)
 * return (empty string)
 * else
 * throw CWEBCLNT_ERR(err)
 *
 * COMMENTS: http keys are formatted either KEY=value& or KEY=value\0. This
 DLL formats
 * TPC-C input fields in such a manner that the
 keys can be extracted in the
 * above manner.
 */

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

```

```

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

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

*pQueryString = ptr;
return;

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

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

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

```

```

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

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

// make sure we stopped scanning for the right reason
if ((ptr0 == ptr) || (*ptr && *ptr != '&'))
{
    if (NotIntErr != NO_ERR)
        throw new CWEBCLNT_ERR( NoKeyErr );
    return 0;
}

*pQueryString = ptr;
return atoi(ptr0);

ErrorNoKey:
if (NoKeyErr != NO_ERR)
    throw new CWEBCLNT_ERR( NoKeyErr );
return 0;
}

/* FUNCTION: TermInit
*
* PURPOSE:      This function initializes the client terminal structure; it is
called when the TPCC.DLL
*              is first loaded by the inet service.
*
*/

void TermInit(void)
{
    EnterCriticalSection(&TermCriticalSection);

    Term.iMasterSyncId = 1;
    Term.iNumEntries = Reg.dwMaxConnections+1;

    Term.pClientData = NULL;
    Term.pClientData = (PCLIENTDATA)malloc(Term.iNumEntries *
sizeof(CLIENTDATA));
    if (Term.pClientData == NULL)
    {
        LeaveCriticalSection(&TermCriticalSection);
        throw new CWEBCLNT_ERR( ERR_MEM_ALLOC_FAILED );
    }

    ZeroMemory( Term.pClientData, Term.iNumEntries * sizeof(CLIENTDATA) );

    Term.iFreeList = Term.iNumEntries-1;
    // build free list
    // note: Term.pClientData[0].iNextFree gets set to -1, which marks it as
"in use".
    // This is intentional, as the zero entry is used as an anchor and
never
    // allocated as an actual terminal.

```

```

        for(int i=0; i<Term.iNumEntries; i++)
            Term.pClientData[i].iNextFree = i-1;
    }
    LeaveCriticalSection(&TermCriticalSection);

/* FUNCTION: TermDeleteAll
 *
 * PURPOSE:      This function frees allocated resources associated with the
terminal structure.
 *
 * ARGUMENTS:    none
 *
 * RETURNS:      None
 *
 * COMMENTS:     This function is called only when the inet service unloads the
TPCC.DLL
 */
void TermDeleteAll(void)
{
    EnterCriticalSection(&TermCriticalSection);

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

    Term.iFreeList          = 0;
    Term.iNumEntries       = 0;
    if ( Term.pClientData )
        free(Term.pClientData);
    Term.pClientData       = NULL;

    LeaveCriticalSection(&TermCriticalSection);
}

/* FUNCTION: TermAdd
 *
 * PURPOSE:      This function assigns a terminal id which is used to identify a
client browser.
 *
 * RETURNS:      int          assigned terminal id
 */
int TermAdd(void)
{
    DWORD    i;
    int      iNewTerm, iTickCount;

    if (Term.iNumEntries == 0)
        return -1;

    EnterCriticalSection(&TermCriticalSection);
    if (Term.iFreeList != 0)
    {
        // position is available
        iNewTerm = Term.iFreeList;
        Term.iFreeList = Term.pClientData[iNewTerm].iNextFree;
        Term.pClientData[iNewTerm].iNextFree = -1; // indicates this
position is in use
    }
}

```

```

    }
    else
    {
        // no open slots, so find the slot that hasn't been used in the
longest time and reuse it
        for(iNewTerm=1, i=1, iTickCount=0x7FFFFFFF;
i<Reg.dwMaxConnections; i++)
        {
            if (iTickCount > Term.pClientData[i].iTickCount)
            {
                iTickCount = Term.pClientData[i].iTickCount;
                iNewTerm = i;
            }
        }
        // if oldest term is less than one minute old, it probably means
that more connections // are being attempted than were specified as "Max Connections"
at install. In this case, // do not bump existing connection; instead, return error to
requestor.
        if ((GetTickCount() - iTickCount) < 60000)
        {
            LeaveCriticalSection(&TermCriticalSection);
            throw new CWEBCLNT_ERR( ERR_MAX_CONNECTIONS_EXCEEDED
);
        }
        Term.pClientData[iNewTerm].iTickCount = GetTickCount();
        Term.pClientData[iNewTerm].iSyncId = Term.iMasterSyncId++;
        Term.pClientData[iNewTerm].pTxn = NULL;

        LeaveCriticalSection(&TermCriticalSection);
        return iNewTerm;
    }
}

/* FUNCTION: TermDelete
 *
 * PURPOSE:      This function makes a terminal entry in the Term array available
for reuse.
 *
 * ARGUMENTS:    int          id
                  Terminal id of client exiting
 */
void TermDelete(int id)
{
    if ( id > 0 && id < Term.iNumEntries )
    {
        delete Term.pClientData[id].pTxn;

        // put onto free list
        EnterCriticalSection(&TermCriticalSection);

        Term.pClientData[id].iNextFree = Term.iFreeList;
        Term.iFreeList = id;

        LeaveCriticalSection(&TermCriticalSection);
    }
}

/* FUNCTION: MakeErrorForm

```

```

*/
void ErrorForm(EXTENSION_CONTROL_BLOCK *pECB, int iType, int iErrorNum, int iTermId,
int iSyncId, char *szErrorText, char *szBuffer )
{
    wsprintf(szBuffer,
        "<HTML><HEAD><TITLE>TPC-C Error</TITLE></HEAD><BODY>"
        "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
        "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
        "<BOLD>An Error Occurred</BOLD><BR><BR>"
        "%s"
        "<BR><BR><HR>"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..NewOrder..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Payment..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Delivery..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"
        "</FORM></BODY></HTML>"
        , iType, iErrorNum, MAIN_MENU_FORM, iTermId, iSyncId,
szErrorText );
}

/* FUNCTION: MakeMainMenuForm
*/
void MakeMainMenuForm(int iTermId, int iSyncId, char *szForm)
{
    wsprintf(szForm,
        "<HTML><HEAD><TITLE>TPC-C Main Menu</TITLE></HEAD><BODY>"
        "Select Desired Transaction.<BR><HR>"
        "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
        "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..NewOrder..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Payment..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Delivery..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
        "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Exit..\">"
        "</FORM></BODY></HTML>"
        , MAIN_MENU_FORM, iTermId, iSyncId);
}

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

```

```

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

    c = wsprintf(szForm,
        "<HTML><HEAD><TITLE>TPC-C Stock Level</TITLE></HEAD><FORM
ACTION=\"tpcc.dll\" METHOD=\"GET\">"
        "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">"
        "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">"
        "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
        "<PRE><font face=\"Courier\">"
        "Stock-Level<BR>"
        "Warehouse: %4.4d District: %2.2d<BR><BR>",
        STOCK_LEVEL_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
        Term.pClientData[iTermId].w_id, Term.pClientData[iTermId].d_id);

    if ( bInput )
    {
        strcpy(szForm+c,
            "Stock Level Threshold: <INPUT NAME=\"TT*\"
SIZE=2><BR><BR>"
            "low stock: </font><BR><BR><BR><BR><BR><BR>"
            "<BR><BR><BR><BR><BR><BR><BR><BR><PRE><HR>"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
            "</FORM></HTML>" );
    }
    else
    {
        wsprintf(szForm+c,
            "Stock Level Threshold: %2.2d<BR><BR>"
            "low stock: %3.3d</font><BR><BR><BR><BR><BR><BR>"
            "<BR><BR><BR><BR><BR><BR><BR><BR><PRE><HR>"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
            "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
            "</FORM></HTML>"
            , pStockLevelData->threshold, pStockLevelData->
low_stock);
    }
}

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

```

```

*/
void MakeNewOrderForm(int iTermId, NEW_ORDER_DATA *pNewOrderData, BOOL bInput, char
*szForm)
{
    int i, c;
    BOOL bValid;
    static char szBR[] = " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR>";

    if (!bInput)
        assert( pNewOrderData->exec_status_code == eOK || pNewOrderData-
>exec_status_code == eInvalidItem );

    bValid = (bInput || (pNewOrderData->exec_status_code == eOK));

    c = vsprintf(szForm,
" <HTML><HEAD><TITLE>TPC-C New Order</TITLE></HEAD><BODY>
" <FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">
" <INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">
" <INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">
" <INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">
" <INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">
" <INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">
" <PRE><font face=\"Courier\">
New Order<BR>
", bValid ? 0 : ERR_BAD_ITEM_ID, NEW_ORDER_FORM, iTermId,
Term.pClientData[iTermId].iSyncid);

    if ( bInput )
    {
        c += vsprintf(szForm+c, "Warehouse: %4.4d ",
Term.pClientData[iTermId].w_id );

        strcpy( szForm+c,
"District: <INPUT NAME=\"DID*\" SIZE=1>
"Customer: <INPUT NAME=\"CID*\" SIZE=4> Name:
Credit: %Disc:<BR>
"Order Number: Number of Lines:
W_tax: D_tax:<BR> <BR>
" Supp_W Item_Id Item Name Qty
Stock B/G Price Amount<BR>
" <INPUT NAME=\"SP00*\" SIZE=4> <INPUT
NAME=\"IID00*\" SIZE=6>
<INPUT NAME=\"Qty00*\"
SIZE=1><BR>
" <INPUT NAME=\"SP01*\" SIZE=4> <INPUT
NAME=\"IID01*\" SIZE=6>
<INPUT NAME=\"Qty01*\"
SIZE=1><BR>
" <INPUT NAME=\"SP02*\" SIZE=4> <INPUT
NAME=\"IID02*\" SIZE=6>
<INPUT NAME=\"Qty02*\"
SIZE=1><BR>
" <INPUT NAME=\"SP03*\" SIZE=4> <INPUT
NAME=\"IID03*\" SIZE=6>
<INPUT NAME=\"Qty03*\"
SIZE=1><BR>
" <INPUT NAME=\"SP04*\" SIZE=4> <INPUT
NAME=\"IID04*\" SIZE=6>
<INPUT NAME=\"Qty04*\"
SIZE=1><BR>
" <INPUT NAME=\"SP05*\" SIZE=4> <INPUT
NAME=\"IID05*\" SIZE=6>
<INPUT NAME=\"Qty05*\"
SIZE=1><BR>

```

```

" <INPUT NAME=\"SP06*\" SIZE=4> <INPUT
NAME=\"IID06*\" SIZE=6>
<INPUT NAME=\"Qty06*\"
SIZE=1><BR>
" <INPUT NAME=\"SP07*\" SIZE=4> <INPUT
NAME=\"IID07*\" SIZE=6>
<INPUT NAME=\"Qty07*\"
SIZE=1><BR>
" <INPUT NAME=\"SP08*\" SIZE=4> <INPUT
NAME=\"IID08*\" SIZE=6>
<INPUT NAME=\"Qty08*\"
SIZE=1><BR>
" <INPUT NAME=\"SP09*\" SIZE=4> <INPUT
NAME=\"IID09*\" SIZE=6>
<INPUT NAME=\"Qty09*\"
SIZE=1><BR>
" <INPUT NAME=\"SP10*\" SIZE=4> <INPUT
NAME=\"IID10*\" SIZE=6>
<INPUT NAME=\"Qty10*\"
SIZE=1><BR>
" <INPUT NAME=\"SP11*\" SIZE=4> <INPUT
NAME=\"IID11*\" SIZE=6>
<INPUT NAME=\"Qty11*\"
SIZE=1><BR>
" <INPUT NAME=\"SP12*\" SIZE=4> <INPUT
NAME=\"IID12*\" SIZE=6>
<INPUT NAME=\"Qty12*\"
SIZE=1><BR>
" <INPUT NAME=\"SP13*\" SIZE=4> <INPUT
NAME=\"IID13*\" SIZE=6>
<INPUT NAME=\"Qty13*\"
SIZE=1><BR>
" <INPUT NAME=\"SP14*\" SIZE=4> <INPUT
NAME=\"IID14*\" SIZE=6>
<INPUT NAME=\"Qty14*\"
SIZE=1><BR>
"Execution Status:
Total:<BR>
" </font></PRE><HR>
" <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\">
" <INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">
" </FORM></HTML>
");
}
else
{
    c += vsprintf(szForm+c, "Warehouse: %4.4d District: %2.2d
Date: ",
pNewOrderData->w_id,
pNewOrderData->d_id);

    if ( bValid )
    {
        c += vsprintf(szForm+c, "%2.2d-%2.2d-%4.4d
%2.2d:%2.2d:%2.2d",
pNewOrderData->o_entry_d.day,
pNewOrderData->o_entry_d.month,
pNewOrderData->o_entry_d.year,
pNewOrderData->o_entry_d.hour,
pNewOrderData->o_entry_d.minute,
pNewOrderData->o_entry_d.second);
    }

    c += vsprintf(szForm+c, "<BR>Customer: %4.4d Name: %-16s
Credit: %-2s ",
pNewOrderData->c_id, pNewOrderData->c_last,
pNewOrderData->c_credit);

    if ( bValid )
    {
        c += sprintf(szForm+c,

```

```

                                "%Disc: %5.2f
<BR>"
                                "Order Number: %8.8d
Number of Lines: %2.2d      W_tax: %5.2f  D_tax: %5.2f <BR> <BR>"
                                " Supp_W Item_Id Item
Name                          Qty Stock B/G Price  Amount<BR>",
                                100.0*pNewOrderData->c_discount,
                                pNewOrderData->o_id,
                                pNewOrderData->o_ol_cnt,
                                100.0 * pNewOrderData->w_tax,
                                100.0 * pNewOrderData->d_tax);
                                for(i=0; i<pNewOrderData->o_ol_cnt; i++)
                                {
                                c += sprintf(szForm+c, " %4.4d %6.6d %-
24s %2.2d %3.3d %1.1s %$6.2f %$7.2f <BR>",
                                pNewOrderData-
>OL[i].ol_supply_w_id,
                                pNewOrderData->OL[i].ol_i_id,
                                pNewOrderData->OL[i].ol_i_name,
                                pNewOrderData->OL[i].ol_quantity,
                                pNewOrderData->OL[i].ol_stock,
                                pNewOrderData-
>OL[i].ol_brand_generic,
                                pNewOrderData->OL[i].ol_i_price,
                                pNewOrderData->OL[i].ol_amount );
                                }
                                else
                                {
                                c += wsprintf(szForm+c,
                                "%Disc:<BR>"
                                "Order Number: %8.8d Number of Lines:
                                " Supp_W Item_Id Item Name
                                , pNewOrderData->o_id);
                                i = 0;
                                strncpy( szForm+c, szBR, (15-i)*5 );
                                c += (15-i)*5;
                                if ( bValid )
                                c += sprintf(szForm+c, "Execution Status: Transaction
                                Total: %$8.2f ",
                                pNewOrderData->total_amount);
                                else
                                c += wsprintf(szForm+c, "Execution Status: Item number
                                Total:");
                                strcpy(szForm+c,
                                " <BR></font></PRE><HR>"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
                                VALUE=\"..NewOrder..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
                                VALUE=\"..Payment..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
                                VALUE=\"..Delivery..\">"
                                Status..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-

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Level..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
                                VALUE=\"..Exit..\">"
                                "</FORM></HTML>"
                                );
                                }
                                /* FUNCTION: MakePaymentForm
                                *
                                * COMMENTS:      The internal client buffer is created when the terminal id is
                                assigned and should not
                                *
                                *                               be freed except when the client terminal id
                                is no longer needed.
                                */
                                void MakePaymentForm(int iTermId, PAYMENT_DATA *pPaymentData, BOOL bInput, char
                                *szForm)
                                {
                                int c;
                                c = wsprintf(szForm,
                                "<HTML><HEAD><TITLE>TPC-C Payment</TITLE></HEAD><BODY>"
                                "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
                                "<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"0\">"
                                "<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">"
                                "<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
                                "<INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">"
                                "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
                                "<PRE><font face=\"Courier\">"
                                Payment<BR>"
                                "Date: "
                                , PAYMENT_FORM, iTermId, Term.pClientData[iTermId].iSyncId);
                                if ( !bInput )
                                {
                                c += wsprintf(szForm+c, "%2.2d-%2.2d-%4.4d %2.2d:%2.2d:%2.2d",
                                pPaymentData->h_date.day,
                                pPaymentData->h_date.month,
                                pPaymentData->h_date.year,
                                pPaymentData->h_date.hour,
                                pPaymentData->h_date.minute,
                                pPaymentData->h_date.second);
                                }
                                if ( bInput )
                                {
                                c += wsprintf(szForm+c,
                                "<BR> <BR>Warehouse: %4.4d"
                                " District: <INPUT
                                NAME=\"%DID*\" SIZE=1><BR> <BR> <BR> <BR>"
                                "Customer: <INPUT NAME=\"%CID*\" SIZE=4>"
                                "Cust-Warehouse: <INPUT NAME=\"%CWI*\" SIZE=4> "
                                "Cust-District: <INPUT NAME=\"%CDI*\" SIZE=1><BR>"
                                "Name:
                                <INPUT NAME=\"%CLT*\"
                                SIZE=16>
                                Since:<BR>"
                                "
                                Credit:<BR>"
                                "
                                Disc:<BR>"
                                "
                                Phone:<BR> <BR>"

```

```

"Amount Paid:          $<INPUT NAME="HAM*" SIZE=7>
New Cust-Balance:<BR>"
"Credit Limit:<BR> <BR>Cust-Data: <BR> <BR> <BR> <BR>
<BR></font></PRE><HR>"
" <INPUT TYPE="submit" NAME="CMD"
VALUE="Process"><INPUT TYPE="submit" NAME="CMD" VALUE="Menu">"
" </BODY></FORM></HTML>"
, Term.pClientData[iTermId].w_id);
}
else
{
c += sprintf(szForm+c,
" <BR> <BR>Warehouse: %4.4d
District: %2.2d<BR>"
"%-20s          %-20s<BR>"
"%-20s          %-20s<BR>"
"%-20s %-2s %5.5s-%4.4s      %-20s %-2s %5.5s-
%4.4s<BR> <BR>"
"Customer: %4.4d Cust-Warehouse: %4.4d Cust-
District: %2.2d<BR>"
"Name:  %-16s %-2s %-16s      Since:  %2.2d-%2.2d-
%4.4d<BR>"
"          %-20s          Credit:  %-2s<BR>"
, Term.pClientData[iTermId].w_id, pPaymentData->d_id
, pPaymentData->w_street_1, pPaymentData->d_street_1
, pPaymentData->w_street_2, pPaymentData->d_street_2
, pPaymentData->w_city, pPaymentData->w_state,
pPaymentData->w_zip, pPaymentData->w_zip+5
, pPaymentData->d_city, pPaymentData->d_state,
pPaymentData->d_zip, pPaymentData->d_zip+5
, pPaymentData->c_id, pPaymentData->c_w_id,
pPaymentData->c_d_id
, pPaymentData->c_first, pPaymentData->c_middle,
pPaymentData->c_last
, pPaymentData->c_since.day, pPaymentData-
>c_since.month, pPaymentData->c_since.year
, pPaymentData->c_street_1, pPaymentData->c_credit
);
c += sprintf(szForm+c,
"          %-20s          %Disc:
%5.2f<BR>",
pPaymentData->c_street_2, 100.0*pPaymentData-
>c_discount);
c += sprintf(szForm+c,
"          %-20s %-2s %5.5s-%4.4s      Phone:  %6.6s-
%3.3s-%3.3s-%4.4s<BR> <BR>",
pPaymentData->c_city, pPaymentData->c_state,
pPaymentData->c_zip, pPaymentData->c_zip+5,
pPaymentData->c_phone, pPaymentData->c_phone+6,
pPaymentData->c_phone+9, pPaymentData->c_phone+12 );
c += sprintf(szForm+c,
"Amount Paid:          $%7.2f      New Cust-Balance:
%$14.2f<BR>"
"Credit Limit:  $%13.2f<BR> <BR>"
, pPaymentData->h_amount, pPaymentData->c_balance
, pPaymentData->c_credit_lim
);

```

```

if ( pPaymentData->c_credit[0] == 'B' && pPaymentData-
>c_credit[1] == 'C' )
c += sprintf(szForm+c,
"Cust-Data: %5.50s<BR>
%5.50s<BR>          %5.50s<BR>          %5.50s<BR>",
pPaymentData->c_data, pPaymentData->c_data,
pPaymentData->c_data+50, pPaymentData->c_data+100, pPaymentData->c_data+150 );
else
strcpy(szForm+c, "Cust-Data: <BR> <BR> <BR> <BR>");
strcat(szForm,
" <BR></font></PRE><HR>"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..NewOrder..">"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..Payment..">"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..Delivery..">"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..Order-Status..">"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..Stock-Level..">"
" <INPUT TYPE="submit"
NAME="CMD" VALUE="..Exit..">"
" </BODY></FORM></HTML>");
}
/* FUNCTION: MakeOrderStatusForm
*
* COMMENTS:      The internal client buffer is created when the terminal id is
*                assigned and should not
*                be freed except when the client terminal id
*                is no longer needed.
*/
void MakeOrderStatusForm(int iTermId, ORDER_STATUS_DATA *pOrderStatusData, BOOL
bInput, char *szForm)
{
int i, c;
static char szBR[] = " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR>";
c = sprintf(szForm,
"<HTML><HEAD><TITLE>TPC-C Order-Status</TITLE></HEAD><BODY>"
"<FORM ACTION="tpcc.dll" METHOD="GET">"
"<INPUT TYPE="hidden" NAME="STATUSID" VALUE="0">"
"<INPUT TYPE="hidden" NAME="ERROR" VALUE="0">"
"<INPUT TYPE="hidden" NAME="FORMID" VALUE="%d">"
"<INPUT TYPE="hidden" NAME="TERMINID" VALUE="%d">"
"<INPUT TYPE="hidden" NAME="SYCID" VALUE="%d">"
"<PRE><font face="Courier">
Order-Status<BR>"
"Warehouse: %4.4d ",
ORDER_STATUS_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
Term.pClientData[iTermId].w_id);
if ( bInput )
{
strcpy(szForm+c,
"District: <INPUT NAME="DID*" SIZE=1><BR>"

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"Customer: <INPUT NAME=\"CID*\" SIZE=4> Name:
<INPUT NAME=\"CLT*\" SIZE=23><BR>
"Cust-Balance:<BR> <BR>"
"Order-Number: Entry-Date:
Carrier-Number:<BR>"
"Supply-W Item-Id Qty Amount Delivery-
Date<BR> <BR> <BR> <BR> <BR>"
" <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR></font></PRE>"
" <HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\"><INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
" </BODY></FORM></HTML>" );
}
else
{
c += sprintf(szForm+c,
"District: %2.2d<BR>"
"Customer: %4.4d Name: %16s %2s %16s<BR>",
pOrderStatusData->d_id, pOrderStatusData->c_id,
pOrderStatusData->c_first, pOrderStatusData->c_middle,
pOrderStatusData->c_last);

c += sprintf(szForm+c, "Cust-Balance: %9.2f<BR> <BR>",
pOrderStatusData->c_balance);

c += sprintf(szForm+c,
"Order-Number: %8.8d Entry-Date: %2.2d-%2.2d-%4.4d
%2.2d:%2.2d:%2.2d Carrier-Number: %2.2d<BR>"
"Supply-W Item-Id Qty Amount Delivery-
Date<BR>",
pOrderStatusData->o_id,
pOrderStatusData->o_entry_d.day,
pOrderStatusData->o_entry_d.month,
pOrderStatusData->o_entry_d.year,
pOrderStatusData->o_entry_d.hour,
pOrderStatusData->o_entry_d.minute,
pOrderStatusData->o_entry_d.second,
pOrderStatusData->o_carrier_id);

for(i=0; i< pOrderStatusData->o_ol_cnt; i++)
{
c += sprintf(szForm+c, " %4.4d %6.6d %2.2d
%8.2f %2.2d-%2.2d-%4.4d<BR>",
pOrderStatusData->OL[i].ol_supply_w_id,
pOrderStatusData->OL[i].ol_i_id,
pOrderStatusData->OL[i].ol_quantity,
pOrderStatusData->OL[i].ol_amount,
pOrderStatusData->OL[i].ol_delivery_d.day,
pOrderStatusData->OL[i].ol_delivery_d.month,
pOrderStatusData->OL[i].ol_delivery_d.year);
}

strcpy( szForm+c, szBR, (15-i)*5 );
c += (15-i)*5;

strcpy(szForm+c,
" </font></PRE><HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
" <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
" <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"

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" <INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
" <INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
" <INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
" </BODY></FORM></HTML>" );
}
}
/* FUNCTION: MakeDeliveryForm
*
* COMMENTS: The internal client buffer is created when the terminal id is
* assigned and should not
* be freed except when the client terminal id
* is no longer needed.
*/
void MakeDeliveryForm(int iTermId, DELIVERY_DATA *pDeliveryData, BOOL bInput, char
*szForm)
{
int c;

c = sprintf(szForm,
"<HTML><HEAD><TITLE>TPC-C Delivery</TITLE></HEAD><BODY>"
"<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
"<INPUT TYPE=\"hidden\" NAME=\"STATUSID\" VALUE=\"%d\">"
"<INPUT TYPE=\"hidden\" NAME=\"ERROR\" VALUE=\"0\">"
"<INPUT TYPE=\"hidden\" NAME=\"FORMID\" VALUE=\"%d\">"
"<INPUT TYPE=\"hidden\" NAME=\"TERMINID\" VALUE=\"%d\">"
"<INPUT TYPE=\"hidden\" NAME=\"SYNCRID\" VALUE=\"%d\">"
"<PRE><font face=\"Courier\">"
Delivery<BR>"
"Warehouse: %4.4d<BR> <BR>",
(!bInput && (pDeliveryData->exec_status_code != eOK)) ?
ERR_TYPE_DELIVERY_POST : 0,
DELIVERY_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
Term.pClientData[iTermId].w_id);

if ( bInput )
{
strcpy( szForm+c,
"Carrier Number: <INPUT NAME=\"OCD*\" SIZE=1><BR>
<BR>"
"Execution Status: <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR>"
" <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
</font></PRE><HR>"
"<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\">"
"<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
" </BODY></FORM></HTML>" );
}
else
{
sprintf( szForm+c,
"Carrier Number: %2.2d<BR> <BR>"
"Execution Status: %s <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>"
" <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
</font></PRE>"
"<HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"

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VALUE=\..\Payment..\>"      "<INPUT TYPE=\submit\ NAME=\CMD\
                              "<INPUT TYPE=\submit\ NAME=\CMD\
VALUE=\..\Delivery..\>"    "<INPUT TYPE=\submit\ NAME=\CMD\ VALUE=\..\Order-
Status..\>"                 "<INPUT TYPE=\submit\ NAME=\CMD\ VALUE=\..\Stock-
Level..\>"                  "<INPUT TYPE=\submit\ NAME=\CMD\
VALUE=\..\Exit..\>"        "</BODY></FORM></HTML>"
                              , pDeliveryData->o_carrier_id,
                              (pDeliveryData->exec_status_code == eOK) ? "Delivery
has been queued." : "Delivery Post Failed "
                              );
    }
}

/* FUNCTION: ProcessNewOrderForm
 *
 * PURPOSE:      This function gets and validates the input data from the new
order form
 *
 *               filling in the required input variables. it then calls
the SQLNewOrder
 *               transaction, constructs the output form and writes it
back to client
 *               browser.
 */

void ProcessNewOrderForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer)
{
    PNEW_ORDER_DATA      pNewOrder;

    pNewOrder = Term.pClientData[iTermId].pTxn->BuffAddr_NewOrder();

    ZeroMemory(pNewOrder, sizeof(NEW_ORDER_DATA));
    pNewOrder->w_id = Term.pClientData[iTermId].w_id;
    GetNewOrderData(pECB->lpszQueryString, pNewOrder);

    Term.pClientData[iTermId].pTxn->NewOrder();

    pNewOrder = Term.pClientData[iTermId].pTxn->BuffAddr_NewOrder();
    MakeNewOrderForm(iTermId, pNewOrder, OUTPUT_FORM, szBuffer );
}

/* FUNCTION: void ProcessPaymentForm
 *
 * PURPOSE:      This function gets and validates the input data from the payment
form
 *
 *               filling in the required input variables. It then calls
the SQLPayment
 *               transaction, constructs the output form and writes it
back to client
 *               browser.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK *pECB passed in structure
pointer from inetsrv.
 *
 *               int
 *               iTermId client browser terminal id
 */

```

```

void ProcessPaymentForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char *szBuffer)
{
    PPAYMENT_DATA      pPayment;

    pPayment = Term.pClientData[iTermId].pTxn->BuffAddr_Payment();
    ZeroMemory(pPayment, sizeof(PAYMENT_DATA));
    pPayment->w_id = Term.pClientData[iTermId].w_id;
    GetPaymentData(pECB->lpszQueryString, pPayment);

    Term.pClientData[iTermId].pTxn->Payment();

    pPayment = Term.pClientData[iTermId].pTxn->BuffAddr_Payment();
    MakePaymentForm(iTermId, pPayment, OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessOrderStatusForm
 *
 * PURPOSE:      This function gets and validates the input data from the Order
Status
 *
 *               form filling in the required input variables. It then
calls the
 *               SQLOrderStatus transaction, constructs the output form
and writes it
 *               back to client browser.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK *pECB passed in structure
pointer from inetsrv.
 *
 *               int
 *               iTermId client browser terminal id
 */

void ProcessOrderStatusForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer)
{
    PORDER_STATUS_DATA pOrderStatus;

    pOrderStatus = Term.pClientData[iTermId].pTxn->BuffAddr_OrderStatus();
    ZeroMemory(pOrderStatus, sizeof(ORDER_STATUS_DATA));
    pOrderStatus->w_id = Term.pClientData[iTermId].w_id;
    GetOrderStatusData(pECB->lpszQueryString, pOrderStatus);

    Term.pClientData[iTermId].pTxn->OrderStatus();

    pOrderStatus = Term.pClientData[iTermId].pTxn->BuffAddr_OrderStatus();
    MakeOrderStatusForm(iTermId, pOrderStatus, OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessDeliveryForm
 *
 * PURPOSE:      This function gets and validates the input data from the
delivery form
 *
 *               filling in the required input variables. It then calls
the PostDeliveryInfo
 *               Api, The client is then informed that the transaction
has been posted.
 *
 * ARGUMENTS:    EXTENSION_CONTROL_BLOCK *pECB passed in structure
pointer from inetsrv.
 *
 *               int
 *               iTermId client browser terminal id
 */

```

```

*/
void ProcessDeliveryForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char *szBuffer)
{
    char *ptr = pECB->lpszQueryString;

    PDELIVERY_DATA pDelivery;

    pDelivery = Term.pClientData[iTermId].pTxn->BuffAddr_Delivery();
    ZeroMemory(pDelivery, sizeof(DELIVERY_DATA));
    pDelivery->w_id = Term.pClientData[iTermId].w_id;

    pDelivery->o_carrier_id = GetIntKeyValue(&ptr, "OCD*",
ERR_DELIVERY_MISSING_OCD_KEY, ERR_DELIVERY_CARRIER_INVALID);
    if ( pDelivery->o_carrier_id > 10 || pDelivery->o_carrier_id < 1 )
        throw new CWBCLNT_ERR( ERR_DELIVERY_CARRIER_ID_RANGE );

    if (dwNumDeliveryThreads)
    {
        //post delivery info
        if ( PostDeliveryInfo(pDelivery->w_id, pDelivery->o_carrier_id)

            else
                pDelivery->exec_status_code = eDeliveryFailed;
            else
                pDelivery->exec_status_code = eOK;
        }
    }
    else // delivery is done synchronously if no delivery threads configured
        Term.pClientData[iTermId].pTxn->Delivery();

    pDelivery = Term.pClientData[iTermId].pTxn->BuffAddr_Delivery();
    MakeDeliveryForm(iTermId, pDelivery, OUTPUT_FORM, szBuffer);
}

/* FUNCTION: ProcessStockLevelForm
* PURPOSE: This function gets and validates the input data from the Stock
Level
* form filling in the required input variables. It then
calls the
* SQLStockLevel transaction, constructs the output form
and writes it
* back to client browser.
* ARGUMENTS: EXTENSION_CONTROL_BLOCK *pECB passed in structure
pointer from inetsrv.
* int
* iTermId client browser terminal id
*/

void ProcessStockLevelForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer)
{
    char *ptr = pECB->lpszQueryString;

    PSTOCK_LEVEL_DATA pStockLevel;

    pStockLevel = Term.pClientData[iTermId].pTxn->BuffAddr_StockLevel();
    ZeroMemory( pStockLevel, sizeof(STOCK_LEVEL_DATA) );

    pStockLevel->w_id = Term.pClientData[iTermId].w_id;
    pStockLevel->d_id = Term.pClientData[iTermId].d_id;

```

```

pStockLevel->threshold = GetIntKeyValue(&ptr, "TT*",
ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY, ERR_STOCKLEVEL_THRESHOLD_INVALID);
    if ( pStockLevel->threshold >= 100 || pStockLevel->threshold < 0 )
        throw new CWBCLNT_ERR( ERR_STOCKLEVEL_THRESHOLD_RANGE );

    Term.pClientData[iTermId].pTxn->StockLevel();

    pStockLevel = Term.pClientData[iTermId].pTxn->BuffAddr_StockLevel();
    MakeStockLevelForm(iTermId, pStockLevel, OUTPUT_FORM, szBuffer);
}

/* FUNCTION: GetNewOrderData
* PURPOSE: This function extracts and validates the new order form data
from an http command string.
* ARGUMENTS: LPSTR lpszQueryString
client browser http command string
NEW_ORDER_DATA *pNewOrderData
pointer to new order data structure
*/

void GetNewOrderData(LPSTR lpszQueryString, NEW_ORDER_DATA *pNewOrderData)
{
    char szTmp[26];
    int i;
    short items;
    int ol_i_id, ol_quantity;
    char *ptr = lpszQueryString;

    static char szSP[MAX_OL_NEW_ORDER_ITEMS][6] =
    { "SP00*", "SP01*", "SP02*", "SP03*", "SP04*",
      "SP05*", "SP06*", "SP07*", "SP08*", "SP09*",
      "SP10*", "SP11*", "SP12*", "SP13*", "SP14*" };
    static char szIID[MAX_OL_NEW_ORDER_ITEMS][7] =
    { "IID00*", "IID01*", "IID02*", "IID03*", "IID04*",
      "IID05*", "IID06*", "IID07*", "IID08*", "IID09*",
      "IID10*", "IID11*", "IID12*", "IID13*", "IID14*" };
    static char szQty[MAX_OL_NEW_ORDER_ITEMS][7] =
    { "Qty00*", "Qty01*", "Qty02*", "Qty03*", "Qty04*",
      "Qty05*", "Qty06*", "Qty07*", "Qty08*", "Qty09*",
      "Qty10*", "Qty11*", "Qty12*", "Qty13*", "Qty14*" };

    pNewOrderData->d_id = GetIntKeyValue(&ptr, "DID*",
ERR_NEWORDER_FORM_MISSING_DID, ERR_NEWORDER_DISTRICT_INVALID);
    pNewOrderData->c_id = GetIntKeyValue(&ptr, "CID*",
ERR_NEWORDER_CUSTOMER_KEY, ERR_NEWORDER_CUSTOMER_INVALID);

    for(i=0, items=0; i<MAX_OL_NEW_ORDER_ITEMS; i++)
    {
        GetKeyValue(&ptr, szSP[i], szTmp, sizeof(szTmp),
ERR_NEWORDER_MISSING_SUPPW_KEY);
        if ( szTmp[0] )
        {
            if ( !IsNumeric(szTmp) )
                throw new CWBCLNT_ERR(
ERR_NEWORDER_SUPPW_INVALID );
            pNewOrderData->OL[items].ol_supply_w_id =
(short)atoi(szTmp);

            ol_i_id = pNewOrderData->OL[items].ol_i_id =

```

```

                GetIntKeyValue(&ptr, szIID[i],
ERR_NEWORDER_MISSING_IID_KEY, ERR_NEWORDER_ITEMID_INVALID);
                if ( ol_i_id > 999999 || ol_i_id < 1 )
                    throw new CWBCLNT_ERR(
ERR_NEWORDER_ITEMID_RANGE );

                ol_quantity = pNewOrderData->OL[items].ol_quantity =
                GetIntKeyValue(&ptr, szQty[i],
ERR_NEWORDER_MISSING_QTY_KEY, ERR_NEWORDER_QTY_INVALID);
                if ( ol_quantity > 99 || ol_quantity < 1 )
                    throw new CWBCLNT_ERR(
ERR_NEWORDER_QTY_RANGE );

                items++;
            }
            else
            {
                // nothing entered for supply warehouse, so item id
and qty must also be blank
                GetKeyValue(&ptr, szIID[i], szTmp, sizeof(szTmp),
ERR_NEWORDER_MISSING_IID_KEY);
                if ( szTmp[0] )
                    throw new CWBCLNT_ERR(
ERR_NEWORDER_ITEMID_WITHOUT_SUPPW );

                GetKeyValue(&ptr, szQty[i], szTmp, sizeof(szTmp),
ERR_NEWORDER_MISSING_QTY_KEY);
                if ( szTmp[0] )
                    throw new CWBCLNT_ERR(
ERR_NEWORDER_QTY_WITHOUT_SUPPW );
            }
        }
        if ( items == 0 )
            throw new CWBCLNT_ERR( ERR_NEWORDER_NOITEMS_ENTERED );

        pNewOrderData->o_ol_cnt = items;
    }

/* FUNCTION: GetPaymentData
 *
 * PURPOSE:      This function extracts and validates the payment form data from
an http command string.
 *
 * ARGUMENTS:   LPSTR          lpszQueryString
                client browser http command string
                PAYMENT_DATA    *pPaymentData
                pointer to payment data structure
 */

void GetPaymentData(LPSTR lpszQueryString, PAYMENT_DATA *pPaymentData)
{
    char    szTmp[26];
    char    *ptr = lpszQueryString;
    BOOL    bCustIdBlank;

    pPaymentData->d_id = GetIntKeyValue(&ptr, "DID*",
ERR_PAYMENT_MISSING_DID_KEY, ERR_PAYMENT_DISTRICT_INVALID);

    GetKeyValue(&ptr, "CID*", szTmp, sizeof(szTmp),
ERR_PAYMENT_MISSING_CID_KEY);
    if ( szTmp[0] == 0 )
    {
        bCustIdBlank = TRUE;
        pPaymentData->c_id = 0;
    }
}

```

```

    }
    else
    {
        // parse customer id and verify that last name was NOT entered
        bCustIdBlank = FALSE;
        if ( !IsNumeric(szTmp) )
            throw new CWBCLNT_ERR( ERR_PAYMENT_CUSTOMER_INVALID );

        pPaymentData->c_id = atoi(szTmp);
    }

    pPaymentData->c_w_id = GetIntKeyValue(&ptr, "CWI*",
ERR_PAYMENT_MISSING_CWI_KEY, ERR_PAYMENT_CWI_INVALID);
    pPaymentData->c_d_id = GetIntKeyValue(&ptr, "CDI*",
ERR_PAYMENT_MISSING_CDI_KEY, ERR_PAYMENT_CDI_INVALID);

    if ( bCustIdBlank )
    {
        // customer id is blank, so last name must be entered
        GetKeyValue(&ptr, "CLT*", szTmp, sizeof(szTmp),
ERR_PAYMENT_MISSING_CLT_KEY);
        if ( szTmp[0] == 0 )
            throw new CWBCLNT_ERR( ERR_PAYMENT_MISSING_CID_CLT );

        _strupr( szTmp );
        if ( strlen(pPaymentData->c_last) > LAST_NAME_LEN )
            throw new CWBCLNT_ERR( ERR_PAYMENT_LAST_NAME_TO_LONG );
    }

    strcpy(pPaymentData->c_last, szTmp);
}
else
{
    // parse customer id and verify that last name was NOT entered
    GetKeyValue(&ptr, "CLT*", szTmp, sizeof(szTmp),
ERR_PAYMENT_MISSING_CLT_KEY);
    if ( szTmp[0] != 0 )
        throw new CWBCLNT_ERR( ERR_PAYMENT_CID_AND_CLT );
}

    GetKeyValue(&ptr, "HAM*", szTmp, sizeof(szTmp),
ERR_PAYMENT_MISSING_HAM_KEY);
    if ( !IsDecimal(szTmp) )
        throw new CWBCLNT_ERR( ERR_PAYMENT_HAM_INVALID );
    pPaymentData->h_amount = atof(szTmp);
    if ( pPaymentData->h_amount >= 10000.00 || pPaymentData->h_amount < 0 )
        throw new CWBCLNT_ERR( ERR_PAYMENT_HAM_RANGE );
}

/* FUNCTION: GetOrderStatusData
 *
 * PURPOSE:      This function extracts and validates the payment form data from
an http command string.
 *
 */
void GetOrderStatusData(LPSTR lpszQueryString, ORDER_STATUS_DATA *pOrderStatusData)
{
    char    szTmp[26];
    char    *ptr = lpszQueryString;

    pOrderStatusData->d_id = GetIntKeyValue(&ptr, "DID*",
ERR_ORDERSTATUS_MISSING_DID_KEY, ERR_ORDERSTATUS_DID_INVALID);

    GetKeyValue(&ptr, "CID*", szTmp, sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CID_KEY);
    if ( szTmp[0] == 0 )
    {
        // customer id is blank, so last name must be entered
    }
}

```

```

        pOrderStatusData->c_id = 0;
        GetKeyValue(&ptr, "CLT*", szTmp, sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CLT_KEY);
        if ( szTmp[0] == 0 )
            throw new CWBCLNT_ERR(
ERR_ORDERSTATUS_MISSING_CID_CLT );

        _strupr( szTmp );
        if ( strlen(pOrderStatusData->c_last) > LAST_NAME_LEN )
            throw new CWBCLNT_ERR( ERR_ORDERSTATUS_CLT_RANGE );
        strcpy(pOrderStatusData->c_last, szTmp);
    }
    else
    {
        // parse customer id and verify that last name was NOT entered
        if ( !IsNumeric(szTmp) )
            throw new CWBCLNT_ERR( ERR_ORDERSTATUS_CID_INVALID );
        pOrderStatusData->c_id = atoi(szTmp);
        GetKeyValue(&ptr, "CLT*", szTmp, sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CLT_KEY);
        if ( szTmp[0] != 0 )
            throw new CWBCLNT_ERR( ERR_ORDERSTATUS_CID_AND_CLT );
    }
}

/* FUNCTION: BOOL IsNumeric(char *ptr)
 *
 * PURPOSE:      This function determines if a string is numeric. It fails if any
 *               characters other
 *               than numeric and null terminator are present.
 *
 * ARGUMENTS:   char          *ptr      pointer to string to
 *               check.
 *
 * RETURNS:     BOOL          FALSE    if string is not all numeric
 *               TRUE         if string
 *               contains only numeric characters i.e. '0' - '9'
 */

BOOL IsNumeric(char *ptr)
{
    if ( *ptr == 0 )
        return FALSE;

    while( *ptr && isdigit(*ptr) )
        ptr++;
    return ( !*ptr );
}

/* FUNCTION: BOOL IsDecimal(char *ptr)
 *
 * PURPOSE:      This function determines if a string is a non-negative decimal
 *               value.
 *               It fails if any characters other than a series of numbers followed by
 *               a decimal point, another series of numbers, and a null
 *               terminator are present.
 *
 * ARGUMENTS:   char          *ptr      pointer to string to
 *               check.
 *
 * RETURNS:     BOOL          FALSE    if string is not a valid non-
 *               negative decimal value

```

```

 *
 *               TRUE         if string is
 */

BOOL IsDecimal(char *ptr)
{
    char *dotp;
    BOOL bValid;

    if ( *ptr == 0 )
        return FALSE;

    // find decimal point
    dotp = strchr( ptr, '.' );
    if (dotp == NULL)
        // no decimal point, so just check for numeric
        return IsNumeric(ptr);
    *dotp = 0; // temporarily replace decimal with a terminator

    if ( *ptr != 0 )
        bValid = IsNumeric(ptr);
    // string starts with decimal point
    else if (*(dotp+1) == 0)
        return FALSE; // nothing but a decimal point is bad
    else
        bValid = TRUE;

    if (*(dotp+1) != 0)
        // check text after decimal point
        bValid &= IsNumeric(dotp+1);

    *dotp = '.'; // replace decimal point
    return bValid;
}

LIBRARY TPCC.DLL

EXPORTS

    GetExtensionVersion @1
    HttpExtensionProc @2
    TerminateExtension @3

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

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

```

```

#define _APS_NEXT_SYMED_VALUE 101

#define TP_MAX_RETRIES
    50

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

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

//This structure defines the data necessary to keep distinct for each terminal or
client connection.
typedef struct _CLIENTDATA
{
    int iNextFree;
    //index of next free element or -1 if this entry in use.
    int w_id;
    //warehouse id assigned at welcome form
    int d_id;
    //district id assigned at welcome form

    int iSyncId;
    //synchronization id
    int iTickCount;
    //time of last access;

    CTPCC_BASE *pTxn;
} CLIENTDATA, *PCLIENTDATA;

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

```

```

typedef TERM *PTERM;
//pointer to terminal structure type

enum WEBERROR
{
    NO_ERR,
    ERR_COMMAND_UNDEFINED,
    ERR_D_ID_INVALID,
    ERR_DELIVERY_CARRIER_ID_RANGE,
    ERR_DELIVERY_CARRIER_INVALID,
    ERR_DELIVERY_MISSING_OCD_KEY,
    ERR_DELIVERY_THREAD_FAILED,
    ERR_GETPROCADDR_FAILED,
    ERR_HTML_ILL_FORMED,
    ERR_INVALID_SYNC_CONNECTION,
    ERR_INVALID_TERMID,
    ERR_LOADDLL_FAILED,
    ERR_MAX_CONNECTIONS_EXCEEDED,
    ERR_MEM_ALLOC_FAILED,
    ERR_MISSING_REGISTRY_ENTRIES,
    ERR_NEWORDER_CUSTOMER_INVALID,
    ERR_NEWORDER_CUSTOMER_KEY,
    ERR_NEWORDER_DISTRICT_INVALID,
    ERR_NEWORDER_FORM_MISSING_DID,
    ERR_NEWORDER_ITEMID_INVALID,
    ERR_NEWORDER_ITEMID_RANGE,
    ERR_NEWORDER_ITEMID_WITHOUT_SUPPW,
    ERR_NEWORDER_MISSING_IID_KEY,
    ERR_NEWORDER_MISSING_QTY_KEY,
    ERR_NEWORDER_MISSING_SUPPW_KEY,
    ERR_NEWORDER_NOITEMS_ENTERED,
    ERR_NEWORDER_QTY_INVALID,
    ERR_NEWORDER_QTY_RANGE,
    ERR_NEWORDER_QTY_WITHOUT_SUPPW,
    ERR_NEWORDER_SUPPW_INVALID,
    ERR_NO_SERVER_SPECIFIED,
    ERR_ORDERSTATUS_CID_AND_CLT,
    ERR_ORDERSTATUS_CID_INVALID,
    ERR_ORDERSTATUS_CLT_RANGE,
    ERR_ORDERSTATUS_DID_INVALID,
    ERR_ORDERSTATUS_MISSING_CID_CLT,
    ERR_ORDERSTATUS_MISSING_CID_KEY,
    ERR_ORDERSTATUS_MISSING_CLT_KEY,
    ERR_ORDERSTATUS_MISSING_DID_KEY,
    ERR_PAYMENT_CDI_INVALID,
    ERR_PAYMENT_CID_AND_CLT,
    ERR_PAYMENT_CUSTOMER_INVALID,
    ERR_PAYMENT_CWI_INVALID,
    ERR_PAYMENT_DISTRICT_INVALID,
    ERR_PAYMENT_HAM_INVALID,
    ERR_PAYMENT_HAM_RANGE,
    ERR_PAYMENT_LAST_NAME_TOO_LONG,
    ERR_PAYMENT_MISSING_CDI_KEY,
    ERR_PAYMENT_MISSING_CID_CLT,
    ERR_PAYMENT_MISSING_CID_KEY,
    ERR_PAYMENT_MISSING_CLT,
    ERR_PAYMENT_MISSING_CLT_KEY,
    ERR_PAYMENT_MISSING_CWI_KEY,
    ERR_PAYMENT_MISSING_DID_KEY,
    ERR_PAYMENT_MISSING_HAM_KEY,
    ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY,
    ERR_STOCKLEVEL_THRESHOLD_INVALID,

```

```

        ERR_STOCKLEVEL_THRESHOLD_RANGE,
        ERR_VERSION_MISMATCH,
        ERR_W_ID_INVALID
    };

class CWEBCLNT_ERR : public CBaseErr
{
public:
    CWEBCLNT_ERR(WEBERROR Err)
    {
        m_Error = Err;
        m_szTextDetail = NULL;
        m_SystemErr = 0;
        m_szErrorText = NULL;
    };

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

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

    WEBERROR m_Error;
    char *m_szTextDetail; //
    char *m_szErrorText;
    DWORD m_SystemErr;

    int ErrorType() {return ERR_TYPE_WEBDLL;};
    int ErrorNum() {return m_Error;};
    char *ErrorText();
};

//These constants have already been defined in engstut.h, but since we do
//not want to include it in the delisrv executable
#define TXN_EVENT_START 2
#define TXN_EVENT_STOP 4
#define TXN_EVENT_WARNING 6 //used to record a warning into
the log

//function prototypes

BOOL APIENTRY DllMain(HANDLE hModule, DWORD ul_reason_for_call, LPVOID lpReserved);
void WriteMessageToEventLog(LPTSTR lpszMsg);
void ProcessQueryString(EXTENSION_CONTROL_BLOCK *pECB, int *pCmd, int *pFormId, int
*pTermId, int *pSyncId);
void WelcomeForm(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void SubmitCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void BeginCmd(EXTENSION_CONTROL_BLOCK *pECB, int iFormId, int iTermId);
void ProcessCmd(EXTENSION_CONTROL_BLOCK *pECB, int iFormId, int iTermId);

```

```

void StatsCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void ErrorMessage(EXTENSION_CONTROL_BLOCK *pECB, int iError, int iErrorType, char
*szMsg, int iTermId);
void GetKeyValue(char **pQueryString, char *pKey, char *pValue, int iMax, WEBERROR
err);
int GetIntKeyValue(char **pQueryString, char *pKey, WEBERROR NoKeyErr, WEBERROR
NotIntErr);
void TermInit(void);
void TermDeleteAll(void);
int TermAdd(void);
void TermDelete(int id);
void ErrorForm(EXTENSION_CONTROL_BLOCK *pECB, int iType, int iErrorNum, int iTermId,
int iSyncId, char *szErrorText, char *szBuffer );
void MakeMainMenuForm(int iTermId, int iSyncId, char *szForm);
void MakeStockLevelForm(int iTermId, STOCK_LEVEL_DATA *pStockLevelData, BOOL bInput,
char *szForm);
void MakeNewOrderForm(int iTermId, NEW_ORDER_DATA *pNewOrderData, BOOL bInput, char
*szForm);
void MakePaymentForm(int iTermId, PAYMENT_DATA *pPaymentData, BOOL bInput, char
*szForm);
void MakeOrderStatusForm(int iTermId, ORDER_STATUS_DATA *pOrderStatusData, BOOL
bInput, char *szForm);
void MakeDeliveryForm(int iTermId, DELIVERY_DATA *pDeliveryData, BOOL bInput, char
*szForm);
void ProcessNewOrderForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer);
void ProcessPaymentForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char *szBuffer);
void ProcessOrderStatusForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer);
void ProcessDeliveryForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer);
void ProcessStockLevelForm(EXTENSION_CONTROL_BLOCK *pECB, int iTermId, char
*szBuffer);
void GetNewOrderData(LPSTR lpszQueryString, NEW_ORDER_DATA *pNewOrderData);
void GetPaymentData(LPSTR lpszQueryString, PAYMENT_DATA *pPaymentData);
void GetOrderStatusData(LPSTR lpszQueryString, ORDER_STATUS_DATA *pOrderStatusData);
BOOL PostDeliveryInfo(short w_id, short o_carrier_id);
BOOL IsNumeric(char *ptr);
BOOL IsDecimal(char *ptr);
void DeliveryWorkerThread(void *ptr);

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

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

//
// English (U.S.) resources
//
#ifdef APX_RESOURCE_DLL || defined(APX_TARG_ENU)
#ifdef _WIN32
LANGUAGE LANG_ENGLISH, SUBLANG_ENGLISH_US
#pragma code_page(1252)
#endif // _WIN32

```

```

#ifndef _MAC
////////////////////////////////////
//
// Version
//

VS_VERSION_INFO VERSIONINFO
FILEVERSION 0,4,0,0
PRODUCTVERSION 0,4,0,0
FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
FILEFLAGS 0x1L
#else
FILEFLAGS 0x0L
#endif
FILEOS 0x40004L
FILETYPE 0x2L
FILESUBTYPE 0x0L
BEGIN
    BLOCK "StringFileInfo"
    BEGIN
        BLOCK "040904b0"
        BEGIN
            VALUE "Comments", "TPC-C HTML DLL Server (DBLIB)\0"
            VALUE "CompanyName", "Microsoft\0"
            VALUE "FileDescription", "TPC-C HTML DLL Server (DBLIB)\0"
            VALUE "FileVersion", "0, 4, 0, 0\0"
            VALUE "InternalName", "tpcc\0"
            VALUE "LegalCopyright", "Copyright © 1997\0"
            VALUE "OriginalFilename", "tpcc.dll\0"
            VALUE "ProductName", "Microsoft tpcc\0"
            VALUE "ProductVersion", "0, 4, 0, 0\0"
        END
    END
    BLOCK "VarFileInfo"
    BEGIN
        VALUE "Translation", 0x409, 1200
    END
END

#endif // !_MAC

#ifdef APSTUDIO_INVOKED
////////////////////////////////////
//
// TEXTINCLUDE
//

1 TEXTINCLUDE DISCARDABLE
BEGIN
    "resource.h\0"
END

2 TEXTINCLUDE DISCARDABLE
BEGIN
    "#include \"afxres.h\"\r\n"
    "\0"
END

3 TEXTINCLUDE DISCARDABLE
BEGIN

```

```

        "\r\n"
        "\0"
    END
#endif // APSTUDIO_INVOKED

////////////////////////////////////
//
// Dialog
//

IDD_DIALOG1 DIALOG DISCARDABLE 0, 0, 186, 95
STYLE DS_MODALFRAME | WS_POPUP | WS_CAPTION | WS_SYSMENU
CAPTION "Dialog"
FONT 8, "MS Sans Serif"
BEGIN
    DEFPUSHBUTTON "OK", IDOK, 129, 7, 50, 14
    PUSHBUTTON "Cancel", IDCANCEL, 129, 24, 50, 14
END

////////////////////////////////////
//
// DESIGNINFO
//

#ifdef APSTUDIO_INVOKED
GUIDELINES DESIGNINFO DISCARDABLE
BEGIN
    IDD_DIALOG1, DIALOG
    BEGIN
        LEFTMARGIN, 7
        RIGHTMARGIN, 179
        TOPMARGIN, 7
        BOTTOMMARGIN, 88
    END
END
#endif // APSTUDIO_INVOKED

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

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

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

-----
/* FILE: TPC_COM.CPP
* Microsoft TPC-C Kit Ver. 4.20.000
* Copyright Microsoft, 1999
* All Rights Reserved
*
* not yet audited
*

```



```

*      PURPOSE: Source file for TPC-C COM+ class implementation.
*      Contact: Charles Levine (clevine@microsoft.com)
*
* Change history:
*      4.20.000 - first version
*/

// needed for CoInitializeEx
#define _WIN32_WINNT 0x0400

#include <windows.h>

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

#include "..\..\common\src\trans.h" //tpckit transaction header
contains definitions of structures specific to TPC-C
#include "..\..\common\src\error.h"
#include "..\..\common\src\txn_base.h"
#include "tpcc_com.h"

#include "..\..\tpcc_com_ps\src\tpcc_com_ps_i.c"
#include "..\..\tpcc_com_all\src\tpcc_com_all_i.c"

// wrapper routine for class constructor
_declspec(dllexport) CTPCC_COM* CTPCC_COM_new(BOOL bSinglePool)
{
    return new CTPCC_COM(bSinglePool);
}

CTPCC_COM::CTPCC_COM(BOOL bSinglePool)
{
    HRESULT hr = NULL;
    long lRet = 0;

    m_bSinglePool = bSinglePool;

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

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

    hr = CoInitializeEx(NULL, COINIT_MULTITHREADED);
    if (FAILED(hr))
    {
        throw new CCOMERR( hr );
    }

    // create components
    if (m_bSinglePool)
    {
        hr = CoCreateInstance(CLSID_TPCC, NULL, CLSCTX_SERVER,
IID_ITPCC, (void **)&m_pNewOrder);
        if (FAILED(hr))
            throw new CCOMERR(hr);

        // all txns will use same component
        m_pPayment = m_pNewOrder;
        m_pStockLevel = m_pNewOrder;

```

```

        m_pOrderStatus = m_pNewOrder;
    }
    else
    {
        // use different components for each txn

        hr = CoCreateInstance(CLSID_NewOrder, NULL, CLSCTX_SERVER,
IID_ITPCC, (void **)&m_pNewOrder);
        if (FAILED(hr))
            throw new CCOMERR(hr);

        hr = CoCreateInstance(CLSID_Payment, NULL, CLSCTX_SERVER,
IID_ITPCC, (void **)&m_pPayment);
        if (FAILED(hr))
            throw new CCOMERR(hr);

        hr = CoCreateInstance(CLSID_StockLevel, NULL, CLSCTX_SERVER,
IID_ITPCC, (void **)&m_pStockLevel);
        if (FAILED(hr))
            throw new CCOMERR(hr);

        hr = CoCreateInstance(CLSID_OrderStatus, NULL, CLSCTX_SERVER,
IID_ITPCC, (void **)&m_pOrderStatus);
        if (FAILED(hr))
            throw new CCOMERR(hr);
    }

    // call setcomplete to release each component back into pool
    hr = m_pNewOrder->CallSetComplete();
    if (FAILED(hr))
        throw new CCOMERR(hr);

    if (!m_bSinglePool)
    {
        hr = m_pPayment->CallSetComplete();
        if (FAILED(hr))
            throw new CCOMERR(hr);

        hr = m_pStockLevel->CallSetComplete();
        if (FAILED(hr))
            throw new CCOMERR(hr);

        hr = m_pOrderStatus->CallSetComplete();
        if (FAILED(hr))
            throw new CCOMERR(hr);
    }
}

CTPCC_COM::~CTPCC_COM()
{
    if (m_pTxn)
        CoTaskMemFree(m_pTxn);

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

```

```

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

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

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

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

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

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

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

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

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

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

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

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

/* FILE:          TPCC_COM.H
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 * All Rights Reserved
 * not yet audited
 * PURPOSE: Header file for TPC-C COM+ class implementation.
 * Change history:
 * 4.20.000 - first version
 */
#pragma once

```

```

#include <stdio.h>
#include "..\..\tpcc_com_ps\src\tpcc_com_ps.h"

// need to declare functions for import, unless define has already been created
// by the DLL's .cpp module for export.
#ifdef DllDecl
#define DllDecl __declspec( dllimport )
#endif

class CCOMERR : public CBaseErr
{
private:
    char m_szErrorText[64];

public:
    // use this interface for genuine COM errors
    CCOMERR( HRESULT hr )
    {
        m_hr = hr;
        m_iErrorType = 0;
        m_iError = 0;
    }

    // use this interface to impersonate a non-COM error type
    CCOMERR( int iErrorType, int iError )
    {
        m_iErrorType = iErrorType;
        m_iError = iError;
        m_hr = S_OK;
    }

    int m_hr;
    int m_iErrorType;
    int m_iError;

    // A CCOMERR class can impersonate another class, which happens
    // if the error // was not actually a COM Services error, but was simply
    // transmitted back via COM.
    int ErrorType()
    {
        if (m_iErrorType == 0)
            return ERR_TYPE_COM;
        else
            return m_iErrorType;
    }

    int ErrorNum() {return m_hr;}

    char *ErrorText()
    {
        if (m_hr == S_OK)
            sprintf( m_szErrorText, "Error: Class %d,
error # %d", m_iErrorType, m_iError );
        else
            sprintf( m_szErrorText, "Error: COM HRESULT
%x", m_hr );
        return m_szErrorText;
    }
};

class DllDecl CTPCC_COM : public CTPCC_BASE

```

```

{
private:
    BOOL m_bSinglePool;

    // COM Interface pointers
    ITPCC* m_pNewOrder;
    ITPCC* m_pPayment;
    ITPCC* m_pStockLevel;
    ITPCC* m_pOrderStatus;

    struct COM_DATA
    {
        int ErrorType;
        int error;
        union
        {
            NEW_ORDER_DATA NewOrder;
            PAYMENT_DATA Payment;
            DELIVERY_DATA Delivery;
            STOCK_LEVEL_DATA StockLevel;
            ORDER_STATUS_DATA OrderStatus;
        } u;
    } *m_pTxn;

public:
    CTPCC_COM(BOOL bSinglePool);
    ~CTPCC_COM(void);

    inline PNEW_ORDER_DATA BuffAddr_NewOrder()
    { return &m_pTxn->u.NewOrder; };
    inline PPAYMENT_DATA BuffAddr_Payment()
    { return &m_pTxn->u.Payment; };
    inline PDELIVERY_DATA BuffAddr_Delivery()
    { return &m_pTxn->u.Delivery; };
    inline PSTOCK_LEVEL_DATA BuffAddr_StockLevel()
    { return &m_pTxn->u.StockLevel; };
    inline PORDER_STATUS_DATA BuffAddr_OrderStatus()
    { return &m_pTxn->u.OrderStatus; };

    void NewOrder();
    void Payment();
    void StockLevel();
    void OrderStatus();
    void Delivery() { throw new CCOMERR(E_NOTIMPL); };
}; // not supported

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

// wrapper routine for class constructor
extern "C" __declspec(dllexport) CTPCC_COM* CTPCC_COM_new(BOOL);

typedef CTPCC_COM* (TYPE_CTPCC_COM)(BOOL);

```

```

/* FILE: TPCCOM_ALL.CPP
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 * All Rights Reserved
 *
 * Version 4.10.000 audited by Richard Gimarc,
 * Performance Metrics, 3/17/99
 *
 * PURPOSE: Implementation for TPC-C Tuxedo class.
 * Contact: Charles Levine (clevine@microsoft.com)
 *
 * Change history:
 * 4.20.000 - updated rev number to match kit
 */

#define STRICT
#define WIN32_WINNT 0x0400
#define _ATL_APARTMENT_THREADED

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

#include <atlcom.h>
#include <initguid.h>
#include <transact.h>
#include <atlimpl.cpp>
#include <comsvcs.h>

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

#include "tpcc_com_ps.h"
#include "..\..\common\src\trans.h"
//tpckit transaction header contains definations of structures specific to
TPC-C
#include "..\..\common\src\txn_base.h"
#include "..\..\common\src\error.h"
#include "..\..\common\src\ReadRegistry.h"
#include "..\..\db_dblib_dll\src\tpcc_dblib.h" // DBLIB implementation
of TPC-C txns
#include "..\..\db_odbc_dll\src\tpcc_odbc.h" // ODBC implementation
of TPC-C txns

#include "resource.h"
#include "tpcc_com_all.h"
#include "tpcc_com_all_i.c"
#include "Methods.h"
#include "..\..\tpcc_com_ps\src\tpcc_com_ps_i.c"
#include "..\..\common\src\ReadRegistry.cpp"

CComModule _Module;

BEGIN_OBJECT_MAP(ObjectMap)
OBJECT_ENTRY(CLSID_TPCC, CTPCC)
OBJECT_ENTRY(CLSID_NewOrder, CNewOrder)
OBJECT_ENTRY(CLSID_OrderStatus, COrderStatus)
OBJECT_ENTRY(CLSID_Payment, CPayment)

```

```

        OBJECT_ENTRY(CLSID_StockLevel, CStockLevel)
    END_OBJECT_MAP()

// configuration settings from registry
TPCCREGISTRYDATA Reg;
char szMyComputerName[MAX_COMPUTERNAME_LENGTH+1];

static HINSTANCE hLibInstanceDb = NULL;

TYPE_CTPCC_DBLIB *pCTPCC_DBLIB_new;
TYPE_CTPCC_ODBC *pCTPCC_ODBC_new;

////////////////////////////////////
// DLL Entry Point
extern "C"
BOOL WINAPI DllMain(HINSTANCE hInstance, DWORD dwReason, LPVOID /*lpReserved*/)
{
    char szDllName[128];

    try
    {
        if (dwReason == DLL_PROCESS_ATTACH)
        {
            _Module.Init(ObjectMap, hInstance);
            DisableThreadLibraryCalls(hInstance);

            DWORD dwSize = MAX_COMPUTERNAME_LENGTH+1;
            GetComputerName(szMyComputerName, &dwSize);
            szMyComputerName[dwSize] = 0;

            if ( ReadTPCCRegistrySettings( &Reg ) )
                throw new CCOMPONENT_ERR(
ERR_MISSING_REGISTRY_ENTRIES );

            if (Reg.eDB_Protocol == DBLIB)
            {
                strcpy( szDllName, Reg.szPath );
                strcat( szDllName, "tpcc_dblib.dll");
                hLibInstanceDb = LoadLibrary( szDllName );
                if (hLibInstanceDb == NULL)
                    throw new CCOMPONENT_ERR(
ERR_LOADDLL_FAILED, szDllName, GetLastError() );

                // get function pointer to wrapper for class
                constructor
                pCTPCC_DBLIB_new = (TYPE_CTPCC_DBLIB*)
                GetProcAddress(hLibInstanceDb, "CTPCC_DBLIB_new");
                if (pCTPCC_DBLIB_new == NULL)
                    throw new CCOMPONENT_ERR(
ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
            }
            else if (Reg.eDB_Protocol == ODBC)
            {
                strcpy( szDllName, Reg.szPath );
                strcat( szDllName, "tpcc_odbc.dll");
                hLibInstanceDb = LoadLibrary( szDllName );
                if (hLibInstanceDb == NULL)
                    throw new CCOMPONENT_ERR(
ERR_LOADDLL_FAILED, szDllName, GetLastError() );
            }
        }
    }
}

```

```

// get function pointer to wrapper for class
constructor
pCTPCC_ODBC_new = (TYPE_CTPCC_ODBC*)
GetProcAddress(hLibInstanceDb, "CTPCC_ODBC_new");
if (pCTPCC_ODBC_new == NULL)
    throw new CCOMPONENT_ERR(
ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
}
else
    throw new CCOMPONENT_ERR(
ERR_UNKNOWN_DB_PROTOCOL );
}
else if (dwReason == DLL_PROCESS_DETACH)
    _Module.Term();

}
catch (CBaseErr *e)
{
    WriteMessageToEventLog(e->ErrorText());
    delete e;
    return FALSE;
}
catch (...)
{
    WriteMessageToEventLog(TEXT("Unhandled exception in object
DllMain"));
    return FALSE;
}

return TRUE; // OK

////////////////////////////////////
// Used to determine whether the DLL can be unloaded by OLE
STDAPI DllCanUnloadNow(void)
{
    return (_Module.GetLockCount()==0) ? S_OK : S_FALSE;
}

////////////////////////////////////
// Returns a class factory to create an object of the requested type
STDAPI DllGetClassObject(REFCLSID rclsid, REFIID riid, LPVOID* ppv)
{
    return _Module.GetClassObject(rclsid, riid, ppv);
}

////////////////////////////////////
// DllRegisterServer - Adds entries to the system registry
STDAPI DllRegisterServer(void)
{
    // registers object, typelib and all interfaces in typelib
    return _Module.RegisterServer(TRUE);
}

////////////////////////////////////
// DllUnregisterServer - Removes entries from the system registry
STDAPI DllUnregisterServer(void)
{
    _Module.UnregisterServer();
}

```

```

        return S_OK;
    }

static void WriteMessageToEventLog(LPTSTR lpszMsg)
{
    TCHAR    szMsg[256];
    HANDLE   hEventSource;
    LPTSTR   lpszStrings[2];

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

    _stprintf(szMsg, TEXT("Error in COM+ TPC-C Component: "));
    lpszStrings[0] = szMsg;
    lpszStrings[1] = lpszMsg;

    if (hEventSource != NULL)
    {
        ReportEvent(hEventSource, // handle of event source
            EVENTLOG_ERROR_TYPE, // event type
            0, // event category
            0, // event ID
            NULL, // current user's SID
            2, // strings in lpszStrings
            0, // no bytes of raw data
            (LPTSTR *)lpszStrings, // array of error strings
            NULL); // no raw data

        (VOID) DeregisterEventSource(hEventSource);
    }
}

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

/* FUNCTION: CCOMPONENT_ERR::ErrorText
 *
 */

char* CCOMPONENT_ERR::ErrorText(void)
{
    static SERRORMSG errorMsgs[] =
    {
        { ERR_MISSING_REGISTRY_ENTRIES, "Required entries
missing from registry." },
        { ERR_LOADDLL_FAILED, "Load of DLL
failed. DLL=" },
        { ERR_GETPROCADDR_FAILED, "Could not map proc in
DLL. GetProcAddr error. DLL=" },
        { ERR_UNKNOWN_DB_PROTOCOL, "Unknown database
protocol specified in registry." },
        { 0, "" }
    }
}

```

```

};

char szTmp[256];
int i = 0;
while (TRUE)
{
    if (errorMsgs[i].szMsg[0] == 0)
    {
        strcpy( szTmp, "Unknown error number." );
        break;
    }
    if (m_Error == errorMsgs[i].iError)
    {
        strcpy( szTmp, errorMsgs[i].szMsg );
        break;
    }
    i++;
}

if (m_szTextDetail)
    strcat( szTmp, m_szTextDetail );
if (m_SystemErr)
    wsprintf( szTmp+strlen(szTmp), " Error=%d", m_SystemErr );

m_szErrorText = new char[strlen(szTmp)+1];
strcpy( m_szErrorText, szTmp );
return m_szErrorText;
}

CTPCC_Common::CTPCC_Common()
{
    m_pTxn = NULL;
    m_bCanBePooled = TRUE;
}

CTPCC_Common::~CTPCC_Common()
{
    if (m_pTxn)
        delete m_pTxn;
}

HRESULT CTPCC_Common::CallSetComplete()
{
    IObjectContext* pObjectContext = NULL;

    // get our object context
    HRESULT hr = CoGetObjectContext( IID_IObjectContext, (void
**)&pObjectContext );
    pObjectContext->SetComplete();
    ReleaseInterface(pObjectContext);
    return hr;
}

//
// called by the ctor activator
//
STDMETHODIMP CTPCC_Common::Construct(IDispatch * pUnk)
{
    // Code to access construction string, if needed later...
    // if (!pUnk)
    //     return E_UNEXPECTED;
    // IObjectConstructString * pString = NULL;
}

```

```

        // HRESULT hr = pUnk->QueryInterface(IID_IObjectConstructString,
(void **) &pString);
        // pString->Release();

        try
        {
            if (Reg.eDB_Protocol == ODBC)
                m_pTxn = pCTPCC_ODBC_new( Reg.szDbServer,
Reg.szDbUser, Reg.szDbPassword, szMyComputerName, Reg.szDbName );
            else if (Reg.eDB_Protocol == DBLIB)
                m_pTxn = pCTPCC_DBLIB_new( Reg.szDbServer,
Reg.szDbUser, Reg.szDbPassword, szMyComputerName, Reg.szDbName );
        }
        catch (CBaseErr *e)
        {
            WriteMessageToEventLog(e->ErrorText());
            delete e;
            return E_FAIL;
        }
        catch (...)
        {
            WriteMessageToEventLog(TEXT("Unhandled exception in object
::Construct"));
            return E_FAIL;
        }

        return S_OK;
    }

HRESULT CTPCC_Common::NewOrder(int* iSize, UCHAR **txn)
{
    PNEW_ORDER_DATA    pNewOrder;
    COM_DATA            *pData;

    try
    {
        pData = (COM_DATA*) *txn;
        pNewOrder = m_pTxn->BuffAddr_NewOrder();

        memcpy(pNewOrder, &pData->u.NewOrder, sizeof(NEW_ORDER_DATA));
        m_pTxn->NewOrder();
        memcpy( &pData->u.NewOrder, pNewOrder, sizeof(NEW_ORDER_DATA));

        pData->retval = ERR_SUCCESS;
        pData->error = 0;
        return S_OK;
    }
    catch (CBaseErr *e)
    {
        // check for lost database connection; if yes, component is
toast
        if ( ((e->ErrorType() == ERR_TYPE_DBLIB) && (e->ErrorNum() ==
10005)) ||
            ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum()
== 10054)) )
                m_bCanBePooled = FALSE;

        pData->retval = e->ErrorType();
        pData->error = e->ErrorNum();
        delete e;
        return E_FAIL;
    }
    catch (...)

```

```

    {
        WriteMessageToEventLog(TEXT("Unhandled exception."));
        pData->retval = ERR_TYPE_LOGIC;
        pData->error = 0;
        m_bCanBePooled = FALSE;
        return E_FAIL;
    }
}

HRESULT CTPCC_Common::Payment(int* iSize, UCHAR** txn)
{
    PPAYMENT_DATA      pPayment;
    COM_DATA            *pData;

    try
    {
        pData = (COM_DATA*) *txn;
        pPayment = m_pTxn->BuffAddr_Payment();

        memcpy(pPayment, &pData->u.Payment, sizeof(PAYMENT_DATA));
        m_pTxn->Payment();
        memcpy( &pData->u.Payment, pPayment, sizeof(PAYMENT_DATA));

        pData->retval = ERR_SUCCESS;
        pData->error = 0;
        return S_OK;
    }
    catch (CBaseErr *e)
    {
        // check for lost database connection; if yes, component is
toast
        if ( ((e->ErrorType() == ERR_TYPE_DBLIB) && (e->ErrorNum() ==
10005)) ||
            ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum()
== 10054)) )
                m_bCanBePooled = FALSE;

        pData->retval = e->ErrorType();
        pData->error = e->ErrorNum();
        delete e;
        return E_FAIL;
    }
    catch (...)
    {
        WriteMessageToEventLog(TEXT("Unhandled exception."));
        pData->retval = ERR_TYPE_LOGIC;
        pData->error = 0;
        m_bCanBePooled = FALSE;
        return E_FAIL;
    }
}

HRESULT CTPCC_Common::StockLevel(int* iSize, UCHAR** txn)
{
    PSTOCK_LEVEL_DATA  pStockLevel;
    COM_DATA            *pData;

    try
    {
        pData = (COM_DATA*) *txn;
        pStockLevel = m_pTxn->BuffAddr_StockLevel();

```

```

        memcpy(pStockLevel, &pData->u.StockLevel,
sizeof(STOCK_LEVEL_DATA) );
        m_pTxn->StockLevel();
        memcpy( &pData->u.StockLevel, pStockLevel,
sizeof(STOCK_LEVEL_DATA) );

        pData->retval = ERR_SUCCESS;
        pData->error = 0;
        return S_OK;
    }
    catch (CBaseErr *e)
    {
        // check for lost database connection; if yes, component is
toast
        if ( ((e->ErrorType() == ERR_TYPE_DBLIB) && (e->ErrorNum() ==
10005)) ||
== 10054)) )
                ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum()
                m_bCanBePooled = FALSE;

        pData->retval = e->ErrorType();
        pData->error = e->ErrorNum();
        delete e;
        return E_FAIL;
    }
    catch (...)
    {
        WriteMessageToEventLog(TEXT("Unhandled exception."));
        pData->retval = ERR_TYPE_LOGIC;
        pData->error = 0;
        m_bCanBePooled = FALSE;
        return E_FAIL;
    }
}

HRESULT CTPCC_Common::OrderStatus(int* iSize, UCHAR** txn)
{
    PORDER_STATUS_DATA pOrderStatus;
    COM_DATA *pData;

    try
    {
        pData = (COM_DATA*)txn;
        pOrderStatus = m_pTxn->BuffAddr_OrderStatus();

        memcpy(pOrderStatus, &pData->u.OrderStatus,
sizeof(ORDER_STATUS_DATA) );
        m_pTxn->OrderStatus();
        memcpy( &pData->u.OrderStatus, pOrderStatus,
sizeof(ORDER_STATUS_DATA) );

        pData->retval = ERR_SUCCESS;
        pData->error = 0;
        return S_OK;
    }
    catch (CBaseErr *e)
    {
        // check for lost database connection; if yes, component is
toast
        if ( ((e->ErrorType() == ERR_TYPE_DBLIB) && (e->ErrorNum() ==
10005)) ||
== 10054)) )
                ((e->ErrorType() == ERR_TYPE_ODBC) && (e->ErrorNum()

```

```

        m_bCanBePooled = FALSE;
        pData->retval = e->ErrorType();
        pData->error = e->ErrorNum();
        delete e;
        return E_FAIL;
    }
    catch (...)
    {
        WriteMessageToEventLog(TEXT("Unhandled exception."));
        pData->retval = ERR_TYPE_LOGIC;
        pData->error = 0;
        m_bCanBePooled = FALSE;
        return E_FAIL;
    }
}

; tpcc_com_all.def : Declares the module parameters.

LIBRARY      "tpcc_com_all.dll"

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

# Microsoft Developer Studio Project File - Name="tpcc_com_all" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Dynamic-Link Library" 0x0102

CFG=tpcc_com_all - Win32 Debug
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "tpcc_com_all.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tpcc_com_all.mak" CFG="tpcc_com_all - Win32 Debug"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tpcc_com_all - Win32 Release" (based on "Win32 (x86) Dynamic-Link
Library")
!MESSAGE "tpcc_com_all - Win32 Debug" (based on "Win32 (x86) Dynamic-Link Library")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0

```

```

# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD
/c
# ADD CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD /c
# ADD BASE MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /machine:I386
# ADD LINK32 ..\db_dblib_dll\bin\tpcc_dblib.lib ..\db_odbc_dll\bin\tpcc_odbc.lib
kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo /subsystem:windows
/dll /machine:I386

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /MTd /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS"
/YX /FD /c
# ADD CPP /nologo /MTd /W3 /Gm /GX /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX
/ FD /c
# ADD BASE MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "_DEBUG"
# ADD RSC /l 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /pdbtype:sept
# ADD LINK32 ..\db_dblib_dll\bin\tpcc_dblib.lib ..\db_odbc_dll\bin\tpcc_odbc.lib
kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo /subsystem:windows
/dll /debug /machine:I386 /pdbtype:sept

!ENDIF

```

```

# Begin Target

# Name "tpcc_com_all - Win32 Release"
# Name "tpcc_com_all - Win32 Debug"
# Begin Group "Source"

# PROP Default_Filter "*.cpp, *.c"
# Begin Source File

SOURCE=.\src\tpcc_com_all.cpp
# SUBTRACT CPP /YX
# End Source File
# Begin Source File

SOURCE=.\src\tpcc_com_all.def
# End Source File
# Begin Source File

SOURCE=.\src\tpcc_com_all.idl

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

# PROP Ignore_Default_Tool 1
# Begin Custom Build - Performing MIDL step
InputPath=.\src\tpcc_com_all.idl

BuildCmds= \
midl /Oicf /h "tpcc_com_all.h" /iid "tpcc_com_all_i.c"
".\src\tpcc_com_all.idl" /out ".\src"

".\src\tpcc_com_all.tlb" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

".\src\tpcc_com_all.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

".\src\tpcc_com_all_i.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)
# End Custom Build

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

# PROP Ignore_Default_Tool 1
# Begin Custom Build - Performing MIDL step
InputPath=.\src\tpcc_com_all.idl

BuildCmds= \
midl /Oicf /h "tpcc_com_all.h" /iid "tpcc_com_all_i.c"
".\src\tpcc_com_all.idl" /out ".\src"

".\src\tpcc_com_all.tlb" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

".\src\tpcc_com_all.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

".\src\tpcc_com_all_i.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)
# End Custom Build

!ENDIF

```



```

# End Source File
# End Group
# Begin Group "Header"

# PROP Default_Filter "*.h"
# Begin Source File

SOURCE=.\src\Methods.h
# End Source File
# Begin Source File

SOURCE=.\src\resource.h
# End Source File
# End Group
# Begin Source File

SOURCE=.\src\tpcc_com_all.rc
# End Source File
# End Target
# End Project

```

```

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

/* this ALWAYS GENERATED file contains the definitions for the interfaces */

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:20 2000 */
/*
Compiler settings for .\src\tpcc_com_all.idl:
Oicf (OptLev=i2), Wl, ZpB, env=Win32 (32b run), ms_ext, c_ext
error checks: allocation ref bounds_check enum stub_data
VC __declspec() decoration level:
__declspec(uuid()), __declspec(selectany), __declspec(novtable)
DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

/* verify that the <rpcndr.h> version is high enough to compile this file*/
#ifndef __REQUIRED_RPCNDR_H_VERSION__
#define __REQUIRED_RPCNDR_H_VERSION__ 440
#endif

#include "rpc.h"
#include "rpcndr.h"

#ifndef __tpcc_com_all_h__
#define __tpcc_com_all_h__

/* Forward Declarations */

#ifndef __TPCC_FWD_DEFINED__
#define __TPCC_FWD_DEFINED__

#ifdef __cplusplus
typedef class TPCC TPCC;
#else
typedef struct TPCC TPCC;
#endif /* __cplusplus */

#endif /* __TPCC_FWD_DEFINED__ */

```

```

#ifndef __NewOrder_FWD_DEFINED__
#define __NewOrder_FWD_DEFINED__

#ifdef __cplusplus
typedef class NewOrder NewOrder;
#else
typedef struct NewOrder NewOrder;
#endif /* __cplusplus */

#endif /* __NewOrder_FWD_DEFINED__ */

#ifndef __OrderStatus_FWD_DEFINED__
#define __OrderStatus_FWD_DEFINED__

#ifdef __cplusplus
typedef class OrderStatus OrderStatus;
#else
typedef struct OrderStatus OrderStatus;
#endif /* __cplusplus */

#endif /* __OrderStatus_FWD_DEFINED__ */

#ifndef __Payment_FWD_DEFINED__
#define __Payment_FWD_DEFINED__

#ifdef __cplusplus
typedef class Payment Payment;
#else
typedef struct Payment Payment;
#endif /* __cplusplus */

#endif /* __Payment_FWD_DEFINED__ */

#ifndef __StockLevel_FWD_DEFINED__
#define __StockLevel_FWD_DEFINED__

#ifdef __cplusplus
typedef class StockLevel StockLevel;
#else
typedef struct StockLevel StockLevel;
#endif /* __cplusplus */

#endif /* __StockLevel_FWD_DEFINED__ */

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

#ifdef __cplusplus
extern "C"{
#endif

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

/* interface __MIDL_itf_tpcc_com_all_0000 */

```

```

/* [local] */

extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_all_0000_v0_0_c_ifspec;
extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_all_0000_v0_0_s_ifspec;

#ifdef __TPCCLib_LIBRARY_DEFINED__
#define __TPCCLib_LIBRARY_DEFINED__

/* library TPCCLib */
/* [helpstring] [version] [uuid] */

EXTERN_C const IID LIBID_TPCCLib;

EXTERN_C const CLSID CLSID_TPCC;

#ifdef __cplusplus
class DECLSPEC_UUID("122A3128-2520-11D3-BA71-00C04FBFE08B")
TPCC;
#endif

EXTERN_C const CLSID CLSID_NewOrder;

#ifdef __cplusplus
class DECLSPEC_UUID("975BAABF-84A7-11D2-BA47-00C04FBFE08B")
NewOrder;
#endif

EXTERN_C const CLSID CLSID_OrderStatus;

#ifdef __cplusplus
class DECLSPEC_UUID("266836AD-A50D-11D2-BA4E-00C04FBFE08B")
OrderStatus;
#endif

EXTERN_C const CLSID CLSID_Payment;

#ifdef __cplusplus
class DECLSPEC_UUID("CD02F7EF-A4FA-11D2-BA4E-00C04FBFE08B")
Payment;
#endif

EXTERN_C const CLSID CLSID_StockLevel;

#ifdef __cplusplus
class DECLSPEC_UUID("2668369E-A50D-11D2-BA4E-00C04FBFE08B")
StockLevel;
#endif
#endif /* __TPCCLib_LIBRARY_DEFINED__ */

```

```

/* Additional Prototypes for ALL interfaces */
/* end of Additional Prototypes */

#ifdef __cplusplus
}
#endif

#endif

:
-----
/* FILE: TPCC.IDL
 *
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 *
 * All Rights Reserved
 *
 * not yet audited
 *
 * PURPOSE: IDL source for TPCC.dll. This file is processed by the MIDL
tool to
 * produce the type library (TPCC.tlb) and
marshalling code.
 *
 * Change history:
 * 4.20.000 - first version
 */

interface TPCC;
interface NewOrder;
interface OrderStatus;
interface Payment;
interface StockLevel;

import "oidl.idl";
import "ocidl.idl";
import "..\tpcc_com_ps\src\tpcc_com_ps.idl";

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

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

    [
        uuid(975BAABF-84A7-11D2-BA47-00C04FBFE08B),
        helpstring("NewOrder Class")
    ]
}

```

```

coclass NewOrder
{
    [default] interface ITPCC;
};

[
    uuid(266836AD-A50D-11D2-BA4E-00C04FBFE08B),
    helpstring("OrderStatus Class")
]
coclass OrderStatus
{
    [default] interface ITPCC;
};

[
    uuid(CD02F7EF-A4FA-11D2-BA4E-00C04FBFE08B),
    helpstring("Payment Class")
]
coclass Payment
{
    [default] interface ITPCC;
};

[
    uuid(2668369E-A50D-11D2-BA4E-00C04FBFE08B),
    helpstring("StockLevel Class")
]
coclass StockLevel
{
    [default] interface ITPCC;
};
};

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

#define APSTUDIO_READONLY_SYMBOLS
////////////////////////////////////
//
// Generated from the TEXTINCLUDE 2 resource.
//
#include "winres.h"
////////////////////////////////////
#undef APSTUDIO_READONLY_SYMBOLS
////////////////////////////////////
// English (U.S.) resources
////////////////////////////////////

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

#ifdef APSTUDIO_INVOKED
////////////////////////////////////
//

```

```

// TEXTINCLUDE
//
1 TEXTINCLUDE DISCARDABLE
BEGIN
    "resource.h\0"
END

2 TEXTINCLUDE DISCARDABLE
BEGIN
    "#include \"winres.h\"\r\n"
    "\0"
END

3 TEXTINCLUDE DISCARDABLE
BEGIN
    "1 TYPELIB \"tpcc_com_all.tlb\"\r\n"
    "\0"
END

#endif // APSTUDIO_INVOKED

#ifdef _MAC
////////////////////////////////////
//
// Version
//
VS_VERSION_INFO VERSIONINFO
FILEVERSION 1,0,0,1
PRODUCTVERSION 1,0,0,1
FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
FILEFLAGS 0x1L
#else
FILEFLAGS 0x0L
#endif
FILEOS 0x4L
FILETYPE 0x2L
FILESUBTYPE 0x0L
BEGIN
    BLOCK "StringFileInfo"
    BEGIN
        BLOCK "040904B0"
        BEGIN
            VALUE "CompanyName", "\0"
            VALUE "FileDescription", "tpcc_com_all Module\0"
            VALUE "FileVersion", "1, 0, 0, 1\0"
            VALUE "InternalName", "TPCCNEWORDER\0"
            VALUE "LegalCopyright", "Copyright 1997\0"
            VALUE "OriginalFilename", "tpcc_com_all.DLL\0"
            VALUE "ProductName", "tpcc_com_all Module\0"
            VALUE "ProductVersion", "1, 0, 0, 1\0"
            VALUE "OLESelfRegister", "\0"
        END
    END
    BLOCK "VarFileInfo"
    BEGIN
        VALUE "Translation", 0x409, 1200
    END
END
END

```

```

#endif // !_MAC

////////////////////////////////////
//
// REGISTRY
//
IDR_TPCC          REGISTRY DISCARDABLE "tpcc_com_all.rgs"
IDR_NEWORDER     REGISTRY DISCARDABLE "tpcc_com_no.rgs"
IDR_ORDERSTATUS  REGISTRY DISCARDABLE "tpcc_com_os.rgs"
IDR_PAYMENT      REGISTRY DISCARDABLE "tpcc_com_pay.rgs"
IDR_STOCKLEVEL   REGISTRY DISCARDABLE "tpcc_com_sl.rgs"

////////////////////////////////////
//
// String Table
//
STRINGTABLE DISCARDABLE
BEGIN
    IDS_PROJNAME        "tpcc_com_all"
END

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

#ifndef APSTUDIO_INVOKED
////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//
1 TYPELIB "tpcc_com_all.tlb"

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

HKCR
{
    TPCC.AllTxns.1 = s 'All Txns Class'
    {
        CLSID = s '{122A3128-2520-11D3-BA71-00C04FBFE08B}'
    }
    TPCC.AllTxns = s 'TPCC Class'
    {
        CurVer = s 'TPCC.AllTxns.1'
    }
    NoRemove CLSID
    {
        ForceRemove {122A3128-2520-11D3-BA71-00C04FBFE08B} = s 'TPCC
Class'
        {
            ProgID = s 'TPCC.AllTxns.1'
            VersionIndependentProgID = s 'TPCC.AllTxns'
            InprocServer32 = s '%MODULE%'
            {
                val ThreadingModel = s 'Both'
            }
        }
    }
}

```

```

}

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:20 2000
*/
/* Compiler settings for .\src\tpcc_com_all.idl:
    Oicf (OptLev=i2), Wl, Zp8, env=Win32 (32b run), ms_ext, c_ext
error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
        __declspec(uuid()), __declspec(selectany), __declspec(novtable)
        DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

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

#ifdef __cplusplus
extern "C"{
#endif

#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

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

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

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;

```

```

#endif // CLSID_DEFINED

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

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
LIBID_TPCCLib,0x122A3117,0x2520,0x11D3,0xBA,0x71,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_TPCC,0x122A3128,0x2520,0x11D3,0xBA,0x71,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_NewOrder,0x975BAABF,0x84A7,0x11D2,0xBA,0x47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_OrderStatus,0x266836AD,0xA50D,0x11D2,0xBA,0x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_Payment,0xCD02F7EF,0xA4FA,0x11D2,0xBA,0x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_StockLevel,0x2668369E,0xA50D,0x11D2,0xBA,0x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif

#endif /* !defined(_M_IA64) && !defined(_M_AXP64) */

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:20 2000 */
/*
 * Compiler settings for .\src\tpcc_com_all.idl:
 *   Oicf (OptLev=i2), Wl, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
 *   error checks: allocation ref bounds_check enum stub_data
 *   VC __declspec() decoration level:
 *     __declspec(uuid()), __declspec(selectany), __declspec(novtable)
 *     DECLSPEC_UUID(), MIDL_INTERFACE()
 */
//@@MIDL_FILE_HEADING( )

#ifdef _M_IA64 || defined(_M_AXP64)

#ifdef __cplusplus
}
#endif

#endif

```

```

extern "C"{
#endif

#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

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

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

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

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

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
LIBID_TPCCLib,0x122A3117,0x2520,0x11D3,0xBA,0x71,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_TPCC,0x122A3128,0x2520,0x11D3,0xBA,0x71,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_NewOrder,0x975BAABF,0x84A7,0x11D2,0xBA,0x47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_OrderStatus,0x266836AD,0xA50D,0x11D2,0xBA,0x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

MIDL_DEFINE_GUID(CLSID,
CLSID_Payment,0xCD02F7EF,0xA4FA,0x11D2,0xBA,0x4E,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

```

```

MIDL_DEFINE_GUID(CLSID,
CLSID_StockLevel, 0x2668369E, 0xA50D, 0x11D2, 0xBA, 0x4E, 0x00, 0xC0, 0x4F, 0xBF, 0xE0, 0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif

```

```

#endif /* defined(_M_IA64) || defined(_M_AXP64) */

```

```

//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc_com_all.rc
//
#define IDS_PROJNAME 100
#define IDR_TPCC 101
#define IDR_NEWORDER 102
#define IDR_ORDERSTATUS 103
#define IDR_PAYMENT 104
#define IDR_STOCKLEVEL 105

```

```

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifdef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE 202
#define _APS_NEXT_COMMAND_VALUE 32768
#define _APS_NEXT_CONTROL_VALUE 201
#define _APS_NEXT_SYMED_VALUE 106
#endif
#endif

```

```

HKCR
{
    TPCC.NewOrder.1 = s 'NewOrder Class'
    {
        CLSID = s '{975BAABF-84A7-11D2-BA47-00C04FBFE08B}'
    }
    TPCC.NewOrder = s 'NewOrder Class'
    {
        CurVer = s 'TPCC.NewOrder.1'
    }
    NoRemove CLSID
    {
        ForceRemove {975BAABF-84A7-11D2-BA47-00C04FBFE08B} = s 'NewOrder
Class'
        {
            ProgID = s 'TPCC.NewOrder.1'
            VersionIndependentProgID = s 'TPCC.NewOrder'
            InprocServer32 = s '%MODULE%'
            {
                val ThreadingModel = s 'Both'
            }
        }
    }
}

```

```

HKCR
{
    TPCC.OrderStatus.1 = s 'OrderStatus Class'
    {
        CLSID = s '{266836AD-A50D-11D2-BA4E-00C04FBFE08B}'
    }
    TPCC.OrderStatus = s 'OrderStatus Class'
    {
        CurVer = s 'TPCC.OrderStatus.1'
    }
    NoRemove CLSID
    {
        ForceRemove {266836AD-A50D-11D2-BA4E-00C04FBFE08B} = s
'OrderStatus Class'
        {
            ProgID = s 'TPCC.OrderStatus.1'
            VersionIndependentProgID = s 'TPCC.OrderStatus'
            InprocServer32 = s '%MODULE%'
            {
                val ThreadingModel = s 'Both'
            }
        }
    }
}

```

```

HKCR
{
    TPCC.Payment.1 = s 'Payment Class'
    {
        CLSID = s '{CD02F7EF-A4FA-11D2-BA4E-00C04FBFE08B}'
    }
    TPCC.Payment = s 'Payment Class'
    {
        CurVer = s 'TPCC.Payment.1'
    }
    NoRemove CLSID
    {
        ForceRemove {CD02F7EF-A4FA-11D2-BA4E-00C04FBFE08B} = s 'Payment
Class'
        {
            ProgID = s 'TPCC.Payment.1'
            VersionIndependentProgID = s 'TPCC.Payment'
            InprocServer32 = s '%MODULE%'
            {
                val ThreadingModel = s 'Both'
            }
        }
    }
}

```

```

LIBRARY "tpcc_com_ps"

DESCRIPTION 'Proxy/Stub DLL'

EXPORTS
DllGetClassObject @1 PRIVATE
DllCanUnloadNow @2 PRIVATE
GetProxyDllInfo @3 PRIVATE
DllRegisterServer @4 PRIVATE
DllUnregisterServer @5 PRIVATE

```

```

# Microsoft Developer Studio Project File - Name="tpcc_com_ps" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 6.00
# ** DO NOT EDIT **

# TARGETTYPE "Win32 (x86) Application" 0x0101

CFG=tpcc_com_ps - Win32 Debug
!MESSAGE This is not a valid makefile. To build this project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "tpcc_com_ps.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running NMAKE
!MESSAGE by defining the macro CFG on the command line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tpcc_com_ps.mak" CFG="tpcc_com_ps - Win32 Debug"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tpcc_com_ps - Win32 Release" (based on "Win32 (x86) Application")
!MESSAGE "tpcc_com_ps - Win32 Debug" (based on "Win32 (x86) Application")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName ""
# PROP Scc_LocalPath ""
CPP=cl.exe
MTL=midl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir "Release"
# PROP BASE Intermediate_Dir "Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX /FD /c
# ADD CPP /nologo /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WIN32_WINNT=0x0400" /D
"REGISTER_PROXY_DLL" /FD /c
# SUBTRACT CPP /YX
# ADD BASE MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "NDEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "NDEBUG"
# ADD RSC /l 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbccp32.lib
/nologo /subsystem:windows /machine:I386
# ADD LINK32 kernel32.lib rpcndr.lib rpcns4.lib rpcrt4.lib oleaut32.lib uuid.lib
/nologo /entry:"DllMain" /subsystem:windows /dll /pdb:none /machine:I386
/def:".src\tpcc_com_ps.def"

```

```

# Begin Custom Build - Copying tpcc_com_ps.h
InputPath=.bin\tpcc_com_ps.dll
SOURCE="$(InputPath)"

"..tpcc_com_all\src\tpcc_com_ps.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
copy .\src\tpcc_com_ps.h ..tpcc_com_all\src\

# End Custom Build

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir "Debug"
# PROP BASE Intermediate_Dir "Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\obj"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /W3 /Gm /GX /Zi /Od /D "WIN32" /D "_DEBUG" /D "_WINDOWS" /YX
/FD /c
# ADD CPP /nologo /ZI /Od /D "WIN32" /D "_DEBUG" /D "_WIN32_WINNT=0x0400" /D
"REGISTER_PROXY_DLL" /FD /c
# ADD BASE MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD MTL /nologo /D "_DEBUG" /mktyplib203 /o "NUL" /win32
# ADD BASE RSC /l 0x409 /d "_DEBUG"
# ADD RSC /l 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbccp32.lib
/nologo /subsystem:windows /debug /machine:I386 /pdbtype:sept
# ADD LINK32 kernel32.lib rpcndr.lib rpcns4.lib rpcrt4.lib oleaut32.lib uuid.lib
/nologo /entry:"DllMain" /dll /debug /machine:IX86 /def:".src\tpcc_com_ps.def"
/pdbtype:sept
# SUBTRACT LINK32 /pdb:none
# Begin Custom Build - Copying tpcc_com_ps.h
InputPath=.bin\tpcc_com_ps.dll
SOURCE="$(InputPath)"

"..tpcc_com_all\src\tpcc_com_ps.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
copy .\src\tpcc_com_ps.h ..tpcc_com_all\src\

# End Custom Build

!ENDIF

# Begin Target

# Name "tpcc_com_ps - Win32 Release"
# Name "tpcc_com_ps - Win32 Debug"
# Begin Group "Source"

# PROP Default_Filter ""
# Begin Source File

SOURCE=.src\dll\data.c
# End Source File

```

```

# Begin Source File

SOURCE=.\src\tpcc_com_ps.def
# PROP Exclude_From_Build 1
# End Source File
# Begin Source File

SOURCE=.\src\tpcc_com_ps.idl

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

# PROP Ignore_Default_Tool 1
# Begin Custom Build
InputPath=.\src\tpcc_com_ps.idl

BuildCmds= \
    midl /Oicf /h "tpcc_com_ps.h" /iid "tpcc_com_ps_i.c"
"\src\tpcc_com_ps.idl" /out ".\src"

"\src\tpcc_com_ps.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\tpcc_com_ps_i.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\dllldata.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\tpcc_com_ps_p.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)
# End Custom Build

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

# PROP Ignore_Default_Tool 1
# Begin Custom Build
InputPath=.\src\tpcc_com_ps.idl

BuildCmds= \
    midl /Oicf /h "tpcc_com_ps.h" /iid "tpcc_com_ps_i.c"
"\src\tpcc_com_ps.idl" /out ".\src"

"\src\tpcc_com_ps.h" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\tpcc_com_ps_i.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\dllldata.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)

"\src\tpcc_com_ps_p.c" : $(SOURCE) "$(INTDIR)" "$(OUTDIR)"
$(BuildCmds)
# End Custom Build

!ENDIF

# End Source File
# Begin Source File

SOURCE=.\src\tpcc_com_ps_i.c
# End Source File
# Begin Source File

```

```

SOURCE=.\src\tpcc_com_ps_p.c
# End Source File
# End Group
# End Target
# End Project



---


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

/* this ALWAYS GENERATED file contains the definitions for the interfaces */

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:07 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf (OptLev=i2), Wl, Zp8, env=Win32 (32b run), ms_ext, c_ext
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
        __declspec(uuid()), __declspec(selectany), __declspec(novtable)
        DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

/* verify that the <rpcndr.h> version is high enough to compile this file*/
#ifndef __REQUIRED_RPCNDR_H_VERSION__
#define __REQUIRED_RPCNDR_H_VERSION__ 440
#endif

#include "rpc.h"
#include "rpcndr.h"

#ifndef __RPCNDR_H_VERSION__
#error this stub requires an updated version of <rpcndr.h>
#endif // __RPCNDR_H_VERSION__

#ifndef COM_NO_WINDOWS_H
#include "windows.h"
#include "ole2.h"
#endif /*COM_NO_WINDOWS_H*/

#ifndef _tpcc_com_ps_h_
#define _tpcc_com_ps_h_

/* Forward Declarations */

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

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

#ifdef __cplusplus
extern "C"{
#endif

void __RPC_FAR * __RPC_USER MIDL_user_allocate(size_t);

```



```

void __RPC_USER MIDL_user_free( void __RPC_FAR * );

#ifndef __ITPCC_INTERFACE_DEFINED__
#define __ITPCC_INTERFACE_DEFINED__

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

EXTERN_C const IID IID_ITPCC;

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

MIDL_INTERFACE("FEEB6AA2-84B1-11d2-BA47-00C04FBFE08B")
ITPCC : public IUnknown
{
public:
    virtual HRESULT STDMETHODCALLTYPE NewOrder(
        /* [out][in] */ int __RPC_FAR *iSize,
        /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn) = 0;

    virtual HRESULT STDMETHODCALLTYPE Payment(
        /* [out][in] */ int __RPC_FAR *iSize,
        /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn) = 0;

    virtual HRESULT STDMETHODCALLTYPE Delivery(
        /* [in] */ int __RPC_FAR *iSize,
        /* [size_is][size_is][in] */ unsigned char __RPC_FAR * __RPC_FAR *txn) =
0;

    virtual HRESULT STDMETHODCALLTYPE StockLevel(
        /* [out][in] */ int __RPC_FAR *iSize,
        /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn) = 0;

    virtual HRESULT STDMETHODCALLTYPE OrderStatus(
        /* [out][in] */ int __RPC_FAR *iSize,
        /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn) = 0;

    virtual HRESULT STDMETHODCALLTYPE CallSetComplete( void ) = 0;

};

#else /* C style interface */

typedef struct ITPCCVtbl
{
    BEGIN_INTERFACE

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

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

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

```

```

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *NewOrder )(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn);

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *Payment )(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn);

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *Delivery )(
    ITPCC __RPC_FAR * This,
    /* [in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][in] */ unsigned char __RPC_FAR * __RPC_FAR *txn);

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *StockLevel )(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn);

HRESULT ( STDMETHODCALLTYPE __RPC_FAR *OrderStatus )(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR * __RPC_FAR
*txn);

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

    END_INTERFACE
} ITPCCVtbl;

interface ITPCC
{
    CONST_VTBL struct ITPCCVtbl __RPC_FAR *lpVtbl;
};

#ifndef COBJMACROS

#define ITPCC_QueryInterface(This,riid,ppvObject) \
    (This)->lpVtbl -> QueryInterface(This,riid,ppvObject)

#define ITPCC_AddRef(This) \
    (This)->lpVtbl -> AddRef(This)

#define ITPCC_Release(This) \
    (This)->lpVtbl -> Release(This)

#define ITPCC_NewOrder(This,iSize,txn) \
    (This)->lpVtbl -> NewOrder(This,iSize,txn)

#define ITPCC_Payment(This,iSize,txn) \
    (This)->lpVtbl -> Payment(This,iSize,txn)

#define ITPCC_Delivery(This,iSize,txn) \
    (This)->lpVtbl -> Delivery(This,iSize,txn)

```

```

#define ITPCC_StockLevel(This,iSize,txn) \
    (This)->lpVtbl -> StockLevel(This,iSize,txn)

#define ITPCC_OrderStatus(This,iSize,txn) \
    (This)->lpVtbl -> OrderStatus(This,iSize,txn)

#define ITPCC_CallSetComplete(This) \
    (This)->lpVtbl -> CallSetComplete(This)

#endif /* COBJMACROS */

#endif /* C style interface */

HRESULT STDMETHODCALLTYPE ITPCC_NewOrder_Proxy(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR *__RPC_FAR *txn);

void __RPC_STUB ITPCC_NewOrder_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *pRpcChannelBuffer,
    PRPC_MESSAGE_pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT STDMETHODCALLTYPE ITPCC_Payment_Proxy(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR *__RPC_FAR *txn);

void __RPC_STUB ITPCC_Payment_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *pRpcChannelBuffer,
    PRPC_MESSAGE_pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT STDMETHODCALLTYPE ITPCC_Delivery_Proxy(
    ITPCC __RPC_FAR * This,
    /* [in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][in] */ unsigned char __RPC_FAR *__RPC_FAR *txn);

void __RPC_STUB ITPCC_Delivery_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *pRpcChannelBuffer,
    PRPC_MESSAGE_pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT STDMETHODCALLTYPE ITPCC_StockLevel_Proxy(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR *__RPC_FAR *txn);

void __RPC_STUB ITPCC_StockLevel_Stub(

```

```

IRpcStubBuffer *This,
IRpcChannelBuffer *pRpcChannelBuffer,
PRPC_MESSAGE_pRpcMessage,
DWORD *_pdwStubPhase);

HRESULT STDMETHODCALLTYPE ITPCC_OrderStatus_Proxy(
    ITPCC __RPC_FAR * This,
    /* [out][in] */ int __RPC_FAR *iSize,
    /* [size_is][size_is][out][in] */ unsigned char __RPC_FAR *__RPC_FAR *txn);

void __RPC_STUB ITPCC_OrderStatus_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *pRpcChannelBuffer,
    PRPC_MESSAGE_pRpcMessage,
    DWORD *_pdwStubPhase);

HRESULT STDMETHODCALLTYPE ITPCC_CallSetComplete_Proxy(
    ITPCC __RPC_FAR * This);

void __RPC_STUB ITPCC_CallSetComplete_Stub(
    IRpcStubBuffer *This,
    IRpcChannelBuffer *pRpcChannelBuffer,
    PRPC_MESSAGE_pRpcMessage,
    DWORD *_pdwStubPhase);

#endif /* __ITPCC_INTERFACE_DEFINED__ */

/* Additional Prototypes for ALL interfaces */
/* end of Additional Prototypes */

#ifdef __cplusplus
}
#endif

#endif

=====
/* FILE: ITPCC.IDL
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 * All Rights Reserved
 * not yet audited
 * PURPOSE: Defines the interface used by TPC-C. This interface can be
 * implemented by C++ components.
 * Change history:
 * 4.20.000 - first version
 */
// Forward declare all types defined
//interface ITPCC;
import "oidl.idl";

```

```

import "ocidl.idl";

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

        HRESULT STDMETHODCALLTYPE NewOrder

        (
            [in, out] int* iSize,
            [in, out, size_is( ,
*iSize)] char** txn
        );

        HRESULT STDMETHODCALLTYPE Payment

        (
            [in, out] int* iSize,
            [in, out, size_is( ,
*iSize)] char** txn
        );

        HRESULT STDMETHODCALLTYPE Delivery

        (
            [in] int* iSize,
            [in, size_is( , *iSize)]
char** txn
        );

        HRESULT STDMETHODCALLTYPE StockLevel

        (
            [in, out] int* iSize,
            [in, out, size_is( ,
*iSize)] char** txn
        );

        HRESULT STDMETHODCALLTYPE OrderStatus

        (
            [in, out] int* iSize,
            [in, out, size_is( ,
*iSize)] char** txn
        );

        HRESULT STDMETHODCALLTYPE CallSetComplete

        (
        );

    }; // interface ITPCC

=====

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */

/* File created by MIDL compiler version 5.03.0280 */

```

```

/* at Mon Jan 24 20:00:07 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), W1, Zp8, env=Win32 (32b run), ms_ext, c_ext
error checks: allocation ref bounds_check enum stub_data
VC __declspec() decoration level:
__declspec(uuid()), __declspec(selectany), __declspec(novtable)
DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

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

#ifdef __cplusplus
extern "C"{
#endif

#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

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

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

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char c[8];
} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

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

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
IID_ITPCC, 0xFEEE6AA2, 0x84B1, 0x11d2, 0xBA, 0x47, 0x00, 0xC0, 0x4F, 0xBF, 0xE0, 0x8B);

#undef MIDL_DEFINE_GUID

```

```

#ifdef __cplusplus
}
#endif

#endif /* !defined(_M_IA64) && !defined(_M_AXP64) */

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:07 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), Wl, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
error checks: allocation ref bounds_check enum stub_data
VC __declspec() decoration level:
__declspec(uuid()), __declspec(selectany), __declspec(novtable)
DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

#ifdef _M_IA64 || defined(_M_AXP64)

#ifdef __cplusplus
extern "C"{
#endif

#include <rpc.h>
#include <rpcndr.h>

#ifdef _MIDL_USE_GUIDDEF_

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

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

#else // !_MIDL_USE_GUIDDEF_

#ifndef __IID_DEFINED__
#define __IID_DEFINED__

typedef struct _IID
{
    unsigned long x;
    unsigned short s1;
    unsigned short s2;
    unsigned char c[8];

```

```

} IID;

#endif // __IID_DEFINED__

#ifndef CLSID_DEFINED
#define CLSID_DEFINED
typedef IID CLSID;
#endif // CLSID_DEFINED

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

#endif !_MIDL_USE_GUIDDEF_

MIDL_DEFINE_GUID(IID,
IID_ITPCC,0xFEEB6AA2,0x84B1,0x11d2,0xBA,0x47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B);

#undef MIDL_DEFINE_GUID

#ifdef __cplusplus
}
#endif

#endif /* defined(_M_IA64) || defined(_M_AXP64) */



---


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

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

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:07 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), Wl, Zp8, env=Win32 (32b run), ms_ext, c_ext
error checks: allocation ref bounds_check enum stub_data
VC __declspec() decoration level:
__declspec(uuid()), __declspec(selectany), __declspec(novtable)
DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING( )

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

/* verify that the <rpcproxy.h> version is high enough to compile this file*/
#ifndef __REDQ_RPCPROXY_H_VERSION__
#define __REQUIRED_RPCPROXY_H_VERSION__ 440
#endif

#include "rpcproxy.h"
#ifdef __RPCPROXY_H_VERSION__
#error this stub requires an updated version of <rpcproxy.h>
#endif // __RPCPROXY_H_VERSION__

#include "tpcc_com_ps.h"

```

```

#define TYPE_FORMAT_STRING_SIZE 33
#define PROC_FORMAT_STRING_SIZE 193
#define TRANSMIT_AS_TABLE_SIZE 0
#define WIRE_MARSHAL_TABLE_SIZE 0

typedef struct _MIDL_TYPE_FORMAT_STRING
{
    short        Pad;
    unsigned char Format[ TYPE_FORMAT_STRING_SIZE ];
} MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
{
    short        Pad;
    unsigned char Format[ PROC_FORMAT_STRING_SIZE ];
} MIDL_PROC_FORMAT_STRING;

extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;

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

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

extern const MIDL_STUB_DESC Object_StubDesc;

extern const MIDL_SERVER_INFO ITPCC_ServerInfo;

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

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

static const MIDL_STUBLESS_PROXY_INFO ITPCC_ProxyInfo =
{
    &Object_StubDesc,
    __MIDL_ProcFormatString.Format,

```

```

    &ITPCC_FormatStringOffsetTable[-3],
    0,
    0,
    0
};

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

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

static const MIDL_STUB_DESC Object_StubDesc =
{
    0,
    NdrOleAllocate,
    NdrOleFree,
    0,
    0,
    0,
    0,
    0,
    0,
    __MIDL_TypeFormatString.Format,
    1, /* -error bounds_check flag */
    0x20000, /* Ndr library version */
    0,
    0x5030118, /* MIDL Version 5.3.280 */
    0,
    0,
    0, /* notify & notify_flag routine table */
    0x1, /* MIDL flag */
    0, /* Reserved3 */
    0, /* Reserved4 */
    0 /* Reserved5 */
};

#pragma data_seg(".rdata")

#if !defined(__RPC_WIN32__)
#error Invalid build platform for this stub.
#endif

#if !(TARGET_IS_NT40_OR_LATER)

```

```

#error You need a Windows NT 4.0 or later to run this stub because it uses these
features:
#error -Oif or -Oicf.
#error However, your C/C++ compilation flags indicate you intend to run this app on
earlier systems.
#error This app will die there with the RPC_X_WRONG_STUB_VERSION error.
#endif

static const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString =
{
    0,
    {
        /* Procedure NewOrder */

                0x33,          /* FC_AUTO_HANDLE */
                0x6c,          /* Old Flags: object, Oi2 */

/* 2 */ NdrFcLong( 0x0 ), /* 0 */
/* 6 */ NdrFcShort( 0x3 ), /* 3 */
#ifdef _ALPHA_
/* 8 */ NdrFcShort( 0x10 ), /* x86, MIPS, PPC Stack size/offset = 16 */
#else
                NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 10 */ NdrFcShort( 0x8 ), /* 8 */
/* 12 */ NdrFcShort( 0x10 ), /* 16 */
/* 14 */ 0x7, /* Oi2 Flags: srv must size, clt must size, has
return, */
                0x3,          /* 3 */

        /* Parameter iSize */

/* 16 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
#ifdef _ALPHA_
/* 18 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else
                NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 20 */ 0x8, /* FC_LONG */
                0x0,          /* 0 */

        /* Parameter txn */

/* 22 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
#ifdef _ALPHA_
/* 24 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else
                NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 26 */ NdrFcShort( 0x6 ), /* Type Offset=6 */

        /* Return value */

/* 28 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#ifdef _ALPHA_
/* 30 */ NdrFcShort( 0xc ), /* x86, MIPS, PPC Stack size/offset = 12 */
#else
                NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 32 */ 0x8, /* FC_LONG */

```

```

                0x0,          /* 0 */

        /* Procedure Payment */

/* 34 */ 0x33, /* FC_AUTO_HANDLE */
                0x6c,          /* Old Flags: object, Oi2 */

/* 36 */ NdrFcLong( 0x0 ), /* 0 */
/* 40 */ NdrFcShort( 0x4 ), /* 4 */
#ifdef _ALPHA_
/* 42 */ NdrFcShort( 0x10 ), /* x86, MIPS, PPC Stack size/offset = 16 */
#else
                NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 44 */ NdrFcShort( 0x8 ), /* 8 */
/* 46 */ NdrFcShort( 0x10 ), /* 16 */
/* 48 */ 0x7, /* Oi2 Flags: srv must size, clt must size, has
return, */
                0x3,          /* 3 */

        /* Parameter iSize */

/* 50 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
#ifdef _ALPHA_
/* 52 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else
                NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 54 */ 0x8, /* FC_LONG */
                0x0,          /* 0 */

        /* Parameter txn */

/* 56 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
#ifdef _ALPHA_
/* 58 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else
                NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 60 */ NdrFcShort( 0x6 ), /* Type Offset=6 */

        /* Return value */

/* 62 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#ifdef _ALPHA_
/* 64 */ NdrFcShort( 0xc ), /* x86, MIPS, PPC Stack size/offset = 12 */
#else
                NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 66 */ 0x8, /* FC_LONG */
                0x0,          /* 0 */

        /* Procedure Delivery */

/* 68 */ 0x33, /* FC_AUTO_HANDLE */
                0x6c,          /* Old Flags: object, Oi2 */

/* 70 */ NdrFcLong( 0x0 ), /* 0 */
/* 74 */ NdrFcShort( 0x5 ), /* 5 */
#ifdef _ALPHA_
/* 76 */ NdrFcShort( 0x10 ), /* x86, MIPS, PPC Stack size/offset = 16 */
#else
                NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */

```

```

#endif
/* 78 */ NdrFcShort( 0x8 ), /* 8 */
/* 80 */ NdrFcShort( 0x8 ), /* 8 */
/* 82 */ 0x6, /* Oi2 Flags: clt must size, has return, */
/* 0x3, /* 3 */

/* Parameter iSize */

/* 84 */ NdrFcShort( 0x148 ), /* Flags: in, base type, simple ref, */
#ifndef ALPHA
/* 86 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else
NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 88 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Parameter txn */

/* 90 */ NdrFcShort( 0x200b ), /* Flags: must size, must free, in, srv
alloc size=8 */
#ifndef ALPHA
/* 92 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else
NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 94 */ NdrFcShort( 0x18 ), /* Type Offset=24 */

/* Return value */

/* 96 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#ifndef ALPHA
/* 98 */ NdrFcShort( 0xc ), /* x86, MIPS, PPC Stack size/offset = 12 */
#else
NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 100 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Procedure StockLevel */

/* 102 */ 0x33, /* FC_AUTO_HANDLE */
/* 0x6c, /* Old Flags: object, Oi2 */
/* 104 */ NdrFcLong( 0x0 ), /* 0 */
/* 108 */ NdrFcShort( 0x6 ), /* 6 */
#ifndef ALPHA
/* 110 */ NdrFcShort( 0x10 ), /* x86, MIPS, PPC Stack size/offset = 16 */
#else
NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 112 */ NdrFcShort( 0x8 ), /* 8 */
/* 114 */ NdrFcShort( 0x10 ), /* 16 */
/* 116 */ 0x7, /* Oi2 Flags: srv must size, clt must size, has
return, */
/* 0x3, /* 3 */

/* Parameter iSize */

/* 118 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
#ifndef ALPHA
/* 120 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else

```

```

NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 122 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Parameter txn */

/* 124 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
#ifndef ALPHA
/* 126 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else
NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 128 */ NdrFcShort( 0x6 ), /* Type Offset=6 */

/* Return value */

/* 130 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#ifndef ALPHA
/* 132 */ NdrFcShort( 0xc ), /* x86, MIPS, PPC Stack size/offset = 12 */
#else
NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 134 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Procedure OrderStatus */

/* 136 */ 0x33, /* FC_AUTO_HANDLE */
/* 0x6c, /* Old Flags: object, Oi2 */
/* 138 */ NdrFcLong( 0x0 ), /* 0 */
/* 142 */ NdrFcShort( 0x7 ), /* 7 */
#ifndef ALPHA
/* 144 */ NdrFcShort( 0x10 ), /* x86, MIPS, PPC Stack size/offset = 16 */
#else
NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 146 */ NdrFcShort( 0x8 ), /* 8 */
/* 148 */ NdrFcShort( 0x10 ), /* 16 */
/* 150 */ 0x7, /* Oi2 Flags: srv must size, clt must size, has
return, */
/* 0x3, /* 3 */

/* Parameter iSize */

/* 152 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
#ifndef ALPHA
/* 154 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else
NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 156 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Parameter txn */

/* 158 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
#ifndef ALPHA
/* 160 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else

```

```

                                NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 162 */ NdrFcShort( 0x6 ), /* Type Offset=6 */
                                /* Return value */

/* 164 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
#ifndef _ALPHA_
/* 166 */ NdrFcShort( 0xc ), /* x86, MIPS, PPC Stack size/offset = 12 */
#else
                                NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 168 */ 0x8, /* FC_LONG */
                                0x0, /* 0 */

                                /* Procedure CallSetComplete */

/* 170 */ 0x33, /* FC_AUTO_HANDLE */
                                0x6c, /* Old Flags: object, Oi2 */
/* 172 */ NdrFcLong( 0x0 ), /* 0 */
/* 176 */ NdrFcShort( 0x8 ), /* 8 */
#ifndef _ALPHA_
/* 178 */ NdrFcShort( 0x8 ), /* x86, MIPS, PPC Stack size/offset = 8 */
#else
                                NdrFcShort( 0x10 ), /* Alpha Stack size/offset = 16 */
#endif
/* 180 */ NdrFcShort( 0x0 ), /* 0 */
/* 182 */ NdrFcShort( 0x8 ), /* 8 */
/* 184 */ 0x4, /* Oi2 Flags: has return, */
                                0x1, /* 1 */

                                /* Return value */

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

                                0x0

    };

static const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString =
{
    0,
    {
/* 2 */
                                NdrFcShort( 0x0 ), /* 0 */

/* 4 */ 0x8, /* FC_LONG */
                                0x11, 0x8, /* FC_RP [simple_pointer] */
                                0x5c, /* FC_PAD */

/* 6 */
                                0x11, 0x14, /* FC_RP [allocated_on_stack]

[pointer_deref] */
/* 8 */ NdrFcShort( 0x2 ), /* Offset= 2 (10) */
/* 10 */
                                0x13, 0x0, /* FC_OP */

/* 12 */ NdrFcShort( 0x2 ), /* Offset= 2 (14) */
/* 14 */

```

```

                                0x1b, /* FC_CARRAY */
                                0x0, /* 0 */
/* 16 */ NdrFcShort( 0x1 ), /* 1 */
/* 18 */ 0x28, /* Corr desc: parameter, FC_LONG */
                                0x54, /* FC_DEREFERENCE */
#ifndef _ALPHA_
/* 20 */ NdrFcShort( 0x4 ), /* x86, MIPS, PPC Stack size/offset = 4 */
#else
                                NdrFcShort( 0x8 ), /* Alpha Stack size/offset = 8 */
#endif
/* 22 */ 0x2, /* FC_CHAR */
                                0x5b, /* FC_END */

/* 24 */
                                0x11, 0x14, /* FC_RP [allocated_on_stack]

[pointer_deref] */
/* 26 */ NdrFcShort( 0x2 ), /* Offset= 2 (28) */
/* 28 */
                                0x12, 0x0, /* FC_UP */
/* 30 */ NdrFcShort( 0xfffff0 ), /* Offset= -16 (14) */

                                0x0

    };

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[] =
{
    ( CInterfaceProxyVtbl *) &ITPCCProxyVtbl,
    0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
    ( CInterfaceStubVtbl *) &ITPCCStubVtbl,
    0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[] =
{
    "ITPCC",
    0
};

#define _tpcc_com_ps_CHECK_IID(n) IID_GENERIC_CHECK_IID( _tpcc_com_ps, pIID, n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID, int * pIndex )
{
    if(! _tpcc_com_ps_CHECK_IID(0))
    {
        *pIndex = 0;
        return 1;
    }

    return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
    (PCInterfaceProxyVtblList *) &_tpcc_com_ps_ProxyVtblList,
    (PCInterfaceStubVtblList *) &_tpcc_com_ps_StubVtblList,
    (const PCInterfaceName *) &_tpcc_com_ps_InterfaceNamesList,

```



```

0, // no delegation
& _tpcc_com_ps_IID_Lookup,
1,
2,
0, /* table of [async_uuid] interfaces */
0, /* Filler1 */
0, /* Filler2 */
0 /* Filler3 */
};

#endif /* !defined(_M_IA64) && !defined(_M_AXP64) */

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

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

/* File created by MIDL compiler version 5.03.0280 */
/* at Mon Jan 24 20:00:07 2000
*/
/* Compiler settings for .\src\tpcc_com_ps.idl:
Oicf (OptLev=i2), Wl, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
error checks: allocation ref bounds_check enum stub_data
VC __declspec() decoration level:
__declspec(uuid()), __declspec(selectany), __declspec(novtable)
DECLSPEC_UUID(), MIDL_INTERFACE()
*/
/**MIDL_FILE_HEADING( )

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

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

#include "rpcproxy.h"
#ifndef __RPCPROXY_H_VERSION__
#error this stub requires an updated version of <rpcproxy.h>
#endif // __RPCPROXY_H_VERSION__

#include "tpcc_com_ps.h"

#define TYPE_FORMAT_STRING_SIZE 35
#define PROC_FORMAT_STRING_SIZE 253
#define TRANSMIT_AS_TABLE_SIZE 0
#define WIRE_MARSHAL_TABLE_SIZE 0

typedef struct _MIDL_TYPE_FORMAT_STRING
{
    short Pad;
    unsigned char Format[ TYPE_FORMAT_STRING_SIZE ];
} MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
{
    short Pad;

```

```

    unsigned char Format[ PROC_FORMAT_STRING_SIZE ];
} MIDL_PROC_FORMAT_STRING;

extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;

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

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

extern const MIDL_STUB_DESC Object_StubDesc;

extern const MIDL_SERVER_INFO ITPCC_ServerInfo;

#pragma code_seg(".orpc")
static const unsigned short ITPCC_FormatStringOffsetTable[] =
{
    0,
    44,
    88,
    132,
    176,
    220
};

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

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

CINTERFACE_PROXY_VTABLE(9) _ITPCCProxyVtbl =
{
    &ITPCC_ProxyInfo,
    &IID_ITPCC,
    IUnknown_QueryInterface_Proxy,
    IUnknown_AddRef_Proxy,
    IUnknown_Release_Proxy ,
    (void *)-1 /* ITPCC::NewOrder */ ,
    (void *)-1 /* ITPCC::Payment */ ,

```



```

/* 80 */ NdrFcShort( 0x6 ), /* Type Offset=6 */
        /* Return value */
/* 82 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
/* 84 */ NdrFcShort( 0x18 ), /* ia64, axp64 Stack size/offset = 24 */
/* 86 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Procedure Delivery */
/* 88 */ 0x33, /* FC_AUTO_HANDLE */
        0x6c, /* Old Flags: object, Oi2 */
/* 90 */ NdrFcLong( 0x0 ), /* 0 */
/* 94 */ NdrFcShort( 0x5 ), /* 5 */
/* 96 */ NdrFcShort( 0x20 ), /* ia64, axp64 Stack size/offset = 32 */
/* 98 */ NdrFcShort( 0x8 ), /* 8 */
/* 100 */ NdrFcShort( 0x8 ), /* 8 */
/* 102 */ 0x46, /* Oi2 Flags: clt must size, has return, has ext, */
        0x3, /* 3 */
/* 104 */ 0xa, /* 10 */
        0x5, /* Ext Flags: new corr desc, srv
corr check, */
/* 106 */ NdrFcShort( 0x0 ), /* 0 */
/* 108 */ NdrFcShort( 0x1 ), /* 1 */
/* 110 */ NdrFcShort( 0x0 ), /* 0 */
/* 112 */ NdrFcShort( 0x0 ), /* 0 */
        /* Parameter iSize */
/* 114 */ NdrFcShort( 0x148 ), /* Flags: in, base type, simple ref, */
/* 116 */ NdrFcShort( 0x8 ), /* ia64, axp64 Stack size/offset = 8 */
/* 118 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Parameter txn */
/* 120 */ NdrFcShort( 0x200b ), /* Flags: must size, must free, in, srv
alloc size=8 */
/* 122 */ NdrFcShort( 0x10 ), /* ia64, axp64 Stack size/offset = 16 */
/* 124 */ NdrFcShort( 0x1a ), /* Type Offset=26 */
        /* Return value */
/* 126 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
/* 128 */ NdrFcShort( 0x18 ), /* ia64, axp64 Stack size/offset = 24 */
/* 130 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Procedure StockLevel */
/* 132 */ 0x33, /* FC_AUTO_HANDLE */
        0x6c, /* Old Flags: object, Oi2 */
/* 134 */ NdrFcLong( 0x0 ), /* 0 */
/* 138 */ NdrFcShort( 0x6 ), /* 6 */
/* 140 */ NdrFcShort( 0x20 ), /* ia64, axp64 Stack size/offset = 32 */
/* 142 */ NdrFcShort( 0x8 ), /* 8 */
/* 144 */ NdrFcShort( 0x10 ), /* 16 */
/* 146 */ 0x47, /* Oi2 Flags: srv must size, clt must size, has
return, has ext, */
        0x3, /* 3 */
/* 148 */ 0xa, /* 10 */

```

```

                                0x7, /* Ext Flags: new corr desc, clt
corr check, srv corr check, */
/* 150 */ NdrFcShort( 0x1 ), /* 1 */
/* 152 */ NdrFcShort( 0x1 ), /* 1 */
/* 154 */ NdrFcShort( 0x0 ), /* 0 */
/* 156 */ NdrFcShort( 0x0 ), /* 0 */
        /* Parameter iSize */
/* 158 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
/* 160 */ NdrFcShort( 0x8 ), /* ia64, axp64 Stack size/offset = 8 */
/* 162 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Parameter txn */
/* 164 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
/* 166 */ NdrFcShort( 0x10 ), /* ia64, axp64 Stack size/offset = 16 */
/* 168 */ NdrFcShort( 0x6 ), /* Type Offset=6 */
        /* Return value */
/* 170 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
/* 172 */ NdrFcShort( 0x18 ), /* ia64, axp64 Stack size/offset = 24 */
/* 174 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Procedure OrderStatus */
/* 176 */ 0x33, /* FC_AUTO_HANDLE */
        0x6c, /* Old Flags: object, Oi2 */
/* 178 */ NdrFcLong( 0x0 ), /* 0 */
/* 182 */ NdrFcShort( 0x7 ), /* 7 */
/* 184 */ NdrFcShort( 0x20 ), /* ia64, axp64 Stack size/offset = 32 */
/* 186 */ NdrFcShort( 0x8 ), /* 8 */
/* 188 */ NdrFcShort( 0x10 ), /* 16 */
/* 190 */ 0x47, /* Oi2 Flags: srv must size, clt must size, has
return, has ext, */
        0x3, /* 3 */
/* 192 */ 0xa, /* 10 */
        0x7, /* Ext Flags: new corr desc, clt
corr check, srv corr check, */
/* 194 */ NdrFcShort( 0x1 ), /* 1 */
/* 196 */ NdrFcShort( 0x1 ), /* 1 */
/* 198 */ NdrFcShort( 0x0 ), /* 0 */
/* 200 */ NdrFcShort( 0x0 ), /* 0 */
        /* Parameter iSize */
/* 202 */ NdrFcShort( 0x158 ), /* Flags: in, out, base type, simple ref,
*/
/* 204 */ NdrFcShort( 0x8 ), /* ia64, axp64 Stack size/offset = 8 */
/* 206 */ 0x8, /* FC_LONG */
        0x0, /* 0 */
        /* Parameter txn */
/* 208 */ NdrFcShort( 0x201b ), /* Flags: must size, must free, in, out,
srv alloc size=8 */
/* 210 */ NdrFcShort( 0x10 ), /* ia64, axp64 Stack size/offset = 16 */
/* 212 */ NdrFcShort( 0x6 ), /* Type Offset=6 */

```

```

/* Return value */

/* 214 */ NdrFcShort( 0x70 ), /* Flags: out, return, base type, */
/* 216 */ NdrFcShort( 0x18 ), /* ia64, axp64 Stack size/offset = 24 */
/* 218 */ 0x8, /* FC_LONG */
/* 0x0, /* 0 */

/* Procedure CallSetComplete */

/* 220 */ 0x33, /* FC_AUTO_HANDLE */
/* 0x6c, /* Old Flags: object, Oi2 */
/* 222 */ NdrFcLong( 0x0 ), /* 0 */
/* 226 */ NdrFcShort( 0x8 ), /* 8 */
/* 228 */ NdrFcShort( 0x10 ), /* ia64, axp64 Stack size/offset = 16 */
/* 230 */ NdrFcShort( 0x0 ), /* 0 */
/* 232 */ NdrFcShort( 0x8 ), /* 8 */
/* 234 */ 0x44, /* Oi2 Flags: has return, has ext, */
/* 0x1, /* 1 */
/* 236 */ 0xa, /* 10 */
/* 0x1, /* Ext Flags: new corr desc, */
/* 238 */ NdrFcShort( 0x0 ), /* 0 */
/* 240 */ NdrFcShort( 0x0 ), /* 0 */
/* 242 */ NdrFcShort( 0x0 ), /* 0 */
/* 244 */ NdrFcShort( 0x0 ), /* 0 */

/* Return value */

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

0x0
}
};

static const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString =
{
0,
{
NdrFcShort( 0x0 ), /* 0 */
/* 2 */
0x11, 0x8, /* FC_RP [simple_pointer] */
/* 4 */ 0x8, /* FC_LONG */
0x5c, /* FC_PAD */
/* 6 */
0x11, 0x14, /* FC_RP [allocated_on_stack]
[pointer_deref] */
/* 8 */ NdrFcShort( 0x2 ), /* Offset= 2 (10) */
/* 10 */
0x13, 0x0, /* FC_OP */
/* 12 */ NdrFcShort( 0x2 ), /* Offset= 2 (14) */
/* 14 */
0x1b, /* FC_CARRAY */
0x0, /* 0 */
/* 16 */ NdrFcShort( 0x1 ), /* 1 */
/* 18 */ 0x2b, /* Corr desc: parameter, FC_LONG */
0x54, /* FC_DEREFERENCE */
/* 20 */ NdrFcShort( 0x8 ), /* ia64, axp64 Stack size/offset = 8 */
/* 22 */ NdrFcShort( 0x1 ), /* Corr flags: early, */
/* 24 */ 0x2, /* FC_CHAR */
0x5b, /* FC_END */
}
}
};

```

```

/* 26 */
0x11, 0x14, /* FC_RP [allocated_on_stack]
[pointer_deref] */
/* 28 */ NdrFcShort( 0x2 ), /* Offset= 2 (30) */
/* 30 */
0x12, 0x0, /* FC_UP */
/* 32 */ NdrFcShort( 0xfffffee ), /* Offset= -18 (14) */

0x0
}
};

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[] =
{
( CInterfaceProxyVtbl *) &ITPCCProxyVtbl,
0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
( CInterfaceStubVtbl *) &ITPCCStubVtbl,
0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[] =
{
"ITPCC",
0
};

#define _tpcc_com_ps_CHECK_IID(n) IID_GENERIC_CHECK_IID( _tpcc_com_ps, pIID,
n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID, int * pIndex )
{
if(!_tpcc_com_ps_CHECK_IID(0))
{
*pIndex = 0;
return 1;
}

return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
(PCInterfaceProxyVtblList *) &_tpcc_com_ps_ProxyVtblList,
(PCInterfaceStubVtblList *) &_tpcc_com_ps_StubVtblList,
(const PCInterfaceName *) &_tpcc_com_ps_InterfaceNamesList,
0, // no delegation
&_tpcc_com_ps_IID_Lookup,
1,
2,
0, /* table of [async_uuid] interfaces */
0, /* Filler1 */
0, /* Filler2 */
0 /* Filler3 */
};

#endif /* defined(_M_IA64) || defined(_M_AXP64)*/

```

```

HKCR
{
    TPCC.StockLevel.1 = s 'StockLevel Class'
    {
        CLSID = s '{2668369E-A50D-11D2-BA4E-00C04FBFE08B}'
    }
    TPCC.StockLevel = s 'StockLevel Class'
    {
        CurVer = s 'TPCC.StockLevel.1'
    }
    NoRemove CLSID
    {
        ForceRemove {2668369E-A50D-11D2-BA4E-00C04FBFE08B} = s
'StockLevel Class'
        {
            ProgID = s 'TPCC.StockLevel.1'
            VersionIndependentProgID = s 'TPCC.StockLevel'
            InprocServer32 = s '%MODULE%'
            {
                val ThreadingModel = s 'Both'
            }
        }
    }
}

/* FILE: TPCC_DBLIB.CPP
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 *
 * All Rights Reserved
 *
 * Version 4.10.000 audited by Richard Gimarc,
Performance Metrics, 3/17/99
 *
 * PURPOSE: Implements dblink calls for TPC-C txns.
 * Contact: Charles Levine (clevine@microsoft.com)
 *
 * Change history:
 * 4.20.000 - updated rev number to match kit
 * 4.10.001 - not deleting error class in catch handler on deadlock
retry;
 *
 * not a functional bug, but a memory leak
 * - had to tweak some declarations to compile
with latest SDK; no functional change
 */

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

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

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

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

```

```

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

#define DEFCLPACKSIZE 4096

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

const iMaxRetries = 10; // how many retries on
deadlock
static long iConnectionCount = 0; // number of current dblink connections

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

BOOL WINAPI DllMain(HMODULE hModule, DWORD ul_reason_for_call, LPVOID lpReserved)
{
    switch( ul_reason_for_call )
    {
        case DLL_PROCESS_ATTACH:
            DisableThreadLibraryCalls(hModule);
            dbinit(); // initialize dblink
            break;

        case DLL_PROCESS_DETACH:
            dbexit(); // close all dblink
            // structures/connections
            break;

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

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

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

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

/* FUNCTION: int msg_handler(DBPROCESS *dbproc, DBINT msgno, int msgstate, int
severity, char *msgtext)
 *
 * PURPOSE: This function handles DB-Library SQL Server error messages
 *
 * ARGUMENTS: DBPROCESS *dbproc DBPROCESS id
pointer message number DBINT msgno
 *

```

```

*          int
*      msgstate      message state
*          int
*      severity      message severity
*          char
*      printable message description
*          *msgtext
* RETURNS:      int
*      continue if error is SQLETIME else INT_CANCEL action
*          INT_CONTINUE
*          INT_CANCEL      cancel operation
* COMMENTS:      This function also sets the dead lock dbproc variable if
*      necessary.
*
*/

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

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

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

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

    return 0;
}

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

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

    return;
}

```

```

}

/* FUNCTION: CTPCC_DBLIB_ERR::ErrorText
*
*/

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

    static SERRORMSG errorMsgs[] =
    {
        { ERR_WRONG_SP_VERSION,          "Wrong version of stored
procs on database server" },
        { ERR_INVALID_CUST,              "Invalid Customer
id,name." },
        { ERR_NO_SUCH_ORDER,             "No orders found for
customer." },
        { ERR_RETRIED_TRANS,             "Retries before
transaction succeeded." },
        { 0,                              ""
    }
    };

    static char szNotFound[] = "Unknown error number.";

    for(i=0; errorMsgs[i].szMsg[0]; i++)
    {
        if ( m_errno == errorMsgs[i].iError )
            break;
    }

    if ( !errorMsgs[i].szMsg[0] )
        return szNotFound;
    else
        return errorMsgs[i].szMsg;
}

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

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

```

```

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

m_MaxRetries = 10;          // how many retries on deadlock

// increase max number of connections if getting close
if ( dbgetmaxprocs() < (iConnectionCount+5) )
{
    if ( dbsetmaxprocs(iConnectionCount+10) == FAIL )
        ThrowError(CDBLIBERR::eDbSetMaxProcs);
}

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

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

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

DBSETLUSER(login, szUser);
DBSETLPWD(login, szPassword);
DBSETLHOST(login, szHost);
DBSETLPACKET(login, (unsigned short)DEFCLPACKSIZE);
DBSETLVERSION(login, DBVER60);          // use dlib ver 6.0
client behavior

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

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

m_dbproc = dbopen(login, szServer);

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

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

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

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

dbcmd(m_dbproc, "set nocount on ");          // do not
return row counts
dbcmd(m_dbproc, "set XACT_ABORT ON");        // rollback transaction
on abort

```

```

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

DiscardNextResults(2);

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

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

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

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

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

DiscardNextRows(0);
DiscardNextResults(0);
}

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

void CTPCC_DBLIB::SetDbLibError(int severity, int dberr, int oserr, LPCSTR dberrstr,
LPCSTR oserrstr)
{
    delete m_DbLibErr;
    m_DbLibErr = new CDBLIBERR(CDBLIBERR::eUnknown, severity, dberr, oserr);

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

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

```

```

}

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

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

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

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

    // check for SQL Server error first; if yes, throw it and ignore any
    DBLib error.
    if (m_SqlErr != NULL)
    {
        CSQLERR *pSqlErr;
        pSqlErr = m_SqlErr;
        m_SqlErr = NULL; // clear our pointer to instance; catch
        handler will delete
        throw pSqlErr;
    }

    CDBLIBERR *pDbLibErr;
    if (m_DbLibErr == NULL)
    {
        // this case isn't expected to happen, since it means that an
        error was returned
        // but the error handlers were not called.
        pDbLibErr = new CDBLIBERR(eAction);
    }
    else
    {
        pDbLibErr = m_DbLibErr;
        pDbLibErr->m_eAction = eAction;
        m_DbLibErr = NULL; // clear our pointer to instance;
        catch handler will delete
    }

    throw pDbLibErr;
}

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

```

```

int iRowsRead = 0;
RETCODE rc;

while (TRUE)
{
    rc = dbnextrow(m_dbproc);
    if (rc == NO_MORE_ROWS)
        break;
    if (rc == FAIL)
    {
        if (iExpectedCount >= 0)
            ThrowError(CDBLIBERR::eDbNextRow);
        else
            break;
    }
    iRowsRead++;
}

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

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

    while (TRUE)
    {
        rc = dbresults(m_dbproc);
        if (rc == NO_MORE_RESULTS)
            break;
        if (rc == FAIL)
        {
            if (iExpectedCount >= 0)
                ThrowError(CDBLIBERR::eDbResults);
            else
                break;
        }

        DiscardNextRows(-1);
        iResultsRead++;
    }

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

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

    ResetError();

```



```

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

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

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

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

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

        if (pData=dbdata(m_dbproc, 1))
            m_txn.StockLevel.low_stock = *((long *)
pData);

        DiscardNextRows(0);
        DiscardNextResults(0);

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

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

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

void CTPCC_DBLIB::NewOrder()
{
    int            i;
    DBINT          commit_flag;
    DBDATETIME     datetime;
    DBDATERECD     daterec;

```

```

int                iTryCount = 0;
const BYTE        *pData;

ResetError();

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

        dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.NewOrder.w_id);
        dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.NewOrder.d_id);
        dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_txn.NewOrder.c_id);
        dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.NewOrder.o_ol_cnt);

        // check whether any order lines are for a remote
        warehouse
        m_txn.NewOrder.o_all_local = 1;
        for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
        {
            if (m_txn.NewOrder.OL[i].ol_supply_w_id !=
m_txn.NewOrder.w_id)
            {
                m_txn.NewOrder.o_all_local = 0;
                break;
            }
        }
        dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.NewOrder.o_all_local);

        for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
        {
            dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_i_id);
            dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_supply_w_id);
            dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_quantity);
        }

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

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

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

            if (dbnextrow(m_dbproc) != REG_ROW)

```

```

        ThrowError(CDBLIBERR::eDbNextRow);
        if(pData=dbdata(m_dbproc, 1))
            UtilStrCpy(m_txn.NewOrder.OL[i].ol_i_name, pData, dbdatlen(m_dbproc, 1));
        if(pData=dbdata(m_dbproc, 2))
            m_txn.NewOrder.OL[i].ol_stock =
            (* (DBSMALLINT *) pData);
        if(pData=dbdata(m_dbproc, 3))
            UtilStrCpy(m_txn.NewOrder.OL[i].ol_brand_generic, pData,
            dbdatlen(m_dbproc, 3));
        if(pData=dbdata(m_dbproc, 4))
            dbconvert(m_dbproc, SQLNUMERIC,
            (LPCBYTE)pData, dbdatlen(m_dbproc, 4),
            SQLFLT8, (BYTE
            *)&m_txn.NewOrder.OL[i].ol_i_price, 8);
        if(pData=dbdata(m_dbproc, 5))
            dbconvert(m_dbproc, SQLNUMERIC,
            (LPCBYTE)pData, dbdatlen(m_dbproc, 5),
            SQLFLT8, (BYTE
            *)&m_txn.NewOrder.OL[i].ol_amount, 8);
        m_txn.NewOrder.total_amount =
        m_txn.NewOrder.total_amount + m_txn.NewOrder.OL[i].ol_amount;
        DiscardNextRows(0);
    }

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

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

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

    if (pData=dbdata(m_dbproc, 1))
        dbconvert(m_dbproc, SQLNUMERIC,
        (LPCBYTE)pData, dbdatlen(m_dbproc,1), SQLFLT8, (BYTE *)&m_txn.NewOrder.w_tax, 8);
    if (pData=dbdata(m_dbproc, 2))
        dbconvert(m_dbproc, SQLNUMERIC,
        (LPCBYTE)pData, dbdatlen(m_dbproc,2), SQLFLT8, (BYTE *)&m_txn.NewOrder.d_tax, 8);
    if (pData=dbdata(m_dbproc, 3))
        m_txn.NewOrder.o_id = (*(DBINT *) pData);
    if (pData=dbdata(m_dbproc, 4))
        UtilStrCpy(m_txn.NewOrder.c_last, pData,
        dbdatlen(m_dbproc, 4));
    if (pData=dbdata(m_dbproc, 5))
        dbconvert(m_dbproc, SQLNUMERIC,
        (LPCBYTE)pData, dbdatlen(m_dbproc,5), SQLFLT8, (BYTE *)&m_txn.NewOrder.c_discount,
        8);
    if (pData=dbdata(m_dbproc, 6))
        UtilStrCpy(m_txn.NewOrder.c_credit, pData,
        dbdatlen(m_dbproc, 6));

```

```

        if (pData=dbdata(m_dbproc, 7))
        {
            datetime = *((DBDATETIME *) pData);
            dbdatecrack(m_dbproc, &daterec, &datetime);
            m_txn.NewOrder.o_entry_d.year =
            m_txn.NewOrder.o_entry_d.month =
            m_txn.NewOrder.o_entry_d.day =
            m_txn.NewOrder.o_entry_d.hour =
            m_txn.NewOrder.o_entry_d.minute =
            m_txn.NewOrder.o_entry_d.second =
        }
        if (pData=dbdata(m_dbproc, 8))
            commit_flag = (*(DBTINYINT *) pData);
        DiscardNextRows(0);
        DiscardNextResults(0);

        if (commit_flag == 1)
        {
            m_txn.NewOrder.total_amount *= ((1 +
            m_txn.NewOrder.w_tax + m_txn.NewOrder.d_tax) * (1 - m_txn.NewOrder.c_discount));
            m_txn.NewOrder.exec_status_code = eOK;
        }
        else
            m_txn.NewOrder.exec_status_code =
            eInvalidItem;

        return;
    }
    catch (CSQLERR *e)
    {
        if ((e->m_msgno == 1205 ||
            (e->m_msgno == iErrOleDbProvider &&
            strstr(e->m_msgtext, sErrTimeoutExpired) !=
            NULL)) &&
            (++iTryCount <= iMaxRetries))
        {
            // hit deadlock; backoff for increasingly
            delete e;
            Sleep(10 * iTryCount);
        }
        else
            throw;
    }
} // while (TRUE)

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

void CTPCC_DBLIB::Payment()
{
    DBDATETIME datetime;

```

```

DBDATEREC daterec;

int          iTryCount = 0;
const BYTE  *pData;

ResetError();

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

*) &m_txn.Payment.w_id);      dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.Payment.c_w_id);   dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.Payment.h_amount); dbrpcparam(m_dbproc, NULL, 0, SQLFLT8, -1, -1, (BYTE
*) &m_txn.Payment.d_id);     dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.Payment.c_d_id);   dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.Payment.c_id);     dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE

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

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

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

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

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

        if (pData=dbdata(m_dbproc, 1))
            m_txn.Payment.c_id = *((DBINT *) pData);
        if (pData=dbdata(m_dbproc, 2))
            UtilStrCpy(m_txn.Payment.c_last, pData,
dbdatlen(m_dbproc, 2));

        if (pData=dbdata(m_dbproc, 3))
        {
            datetime = *((DBDATETIME *) pData);
            dbdatecrack(m_dbproc, &daterec, &datetime);
            m_txn.Payment.h_date.year  = daterec.year;
            m_txn.Payment.h_date.month = daterec.month;
            m_txn.Payment.h_date.day   = daterec.day;
            m_txn.Payment.h_date.hour  = daterec.hour;
            m_txn.Payment.h_date.minute =

            daterec.minute;
            daterec.second;

            m_txn.Payment.h_date.second =

        }
        if (pData=dbdata(m_dbproc, 4))

```

```

        UtilStrCpy(m_txn.Payment.w_street_1, pData,
dbdatlen(m_dbproc, 4));

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

        if (pData=dbdata(m_dbproc, 22))
        {
            datetime = *((DBDATETIME *) pData);
            dbdatecrack(m_dbproc, &daterec, &datetime);
            m_txn.Payment.c_since.year  = daterec.year;
            m_txn.Payment.c_since.month =

            daterec.month;

            m_txn.Payment.c_since.day   = daterec.day;
            m_txn.Payment.c_since.hour  = daterec.hour;

```

```

                m_txn.Payment.c_since.minute =
daterec.minute;
                m_txn.Payment.c_since.second =
daterec.second;
            }
            if(pData=dbdata(m_dbproc, 23))
                UtilStrCpy(m_txn.Payment.c_credit, pData,
dbdatlen(m_dbproc, 23));
            if(pData=dbdata(m_dbproc, 24))
                dbconvert(m_dbproc, SQLNUMERIC,
(LPCBYTE)pData, dbdatlen(m_dbproc,24), SQLFLT8, (BYTE *)&m_txn.Payment.c_credit_lim,
8);
            if(pData=dbdata(m_dbproc, 25))
                dbconvert(m_dbproc, SQLNUMERIC,
(LPCBYTE)pData, dbdatlen(m_dbproc,25), SQLFLT8, (BYTE *)&m_txn.Payment.c_discount,
8);
            if(pData=dbdata(m_dbproc, 26))
                dbconvert(m_dbproc, SQLNUMERIC,
(LPCBYTE)pData, dbdatlen(m_dbproc,26), SQLFLT8, (BYTE *)&m_txn.Payment.c_balance,
8);
            if(pData=dbdata(m_dbproc, 27))
                UtilStrCpy(m_txn.Payment.c_data, pData,
dbdatlen(m_dbproc, 27));

            DiscardNextRows(0);
            DiscardNextResults(0);

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

            return;
        }
        catch (CSQLERR *e)
        {
            if ((e->m_msgno == 1205 ||
(e->m_msgno == iErrOleDbProvider &&
strchr(e->m_msgtext, sErrTimeoutExpired) !=
NULL)) &&
                (++iTryCount <= iMaxRetries)
            {
                // hit deadlock; backoff for increasingly
                longer period
                delete e;
                Sleep(10 * iTryCount);
            }
            else
                throw;
        }
    } // while (TRUE)

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

void CTPCC_DBLIB::OrderStatus()
{

```

```

        int i;
        DBDATETIME datetime;
        DBDATEREC daterec;

        int iTryCount = 0;
        RETCODE rc;
        const BYTE *pData;

        ResetError();

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

                dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.OrderStatus.w_id);
                dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.OrderStatus.d_id);
                dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_txn.OrderStatus.c_id);

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

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

                // Get order lines
                if (dbresults(m_dbproc) != SUCCEED)
                {
                    if ((m_DbLibErr == NULL) && (m_SqlErr ==
NULL))
                        throw new CTPCC_DBLIB_ERR(
CTPCC_DBLIB_ERR::ERR_NO_SUCH_ORDER );
                    else
                        ThrowError(CDBLIBERR::eDbResults);
                }

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

                i = 0;
                while (TRUE)
                {
                    rc = dbnextrow(m_dbproc);
                    if (rc == NO_MORE_ROWS)
                        break;
                    if (rc != REG_ROW)
                        ThrowError(CDBLIBERR::eDbNextRow);

                    if (pData=dbdata(m_dbproc, 1))

                        m_txn.OrderStatus.OL[i].ol_supply_w_id = (*(DBSMALLINT *) pData);
                    if (pData=dbdata(m_dbproc, 2))
                        m_txn.OrderStatus.OL[i].ol_i_id =
                    (* (DBINT *) pData);

                    if (pData=dbdata(m_dbproc, 3))

```

```

        m_txn.OrderStatus.OL[i].ol_quantity = (*(DBSMALLINT *) pData);
        if (pData=dbdata(m_dbproc, 4))
            dbconvert(m_dbproc, SQLNUMERIC,
(LPCBYTE)pData, dbdatlen(m_dbproc,4),
                                SQLFLT8,
(BYTE *)&m_txn.OrderStatus.OL[i].ol_amount, 8);
        if (pData=dbdata(m_dbproc, 5))
            {
                datetime = *((DBDATETIME *)
                                dbdatecrack(m_dbproc, &daterec,
&datetime));
        m_txn.OrderStatus.OL[i].ol_delivery_d.year = daterec.year;
        m_txn.OrderStatus.OL[i].ol_delivery_d.month = daterec.month;
        m_txn.OrderStatus.OL[i].ol_delivery_d.day = daterec.day;
        m_txn.OrderStatus.OL[i].ol_delivery_d.hour = daterec.hour;
        m_txn.OrderStatus.OL[i].ol_delivery_d.minute = daterec.minute;
        m_txn.OrderStatus.OL[i].ol_delivery_d.second = daterec.second;
            }
        i++;
    }
    m_txn.OrderStatus.o_ol_cnt = i;

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

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

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

    if (pData=dbdata(m_dbproc, 1))
        m_txn.OrderStatus.c_id = (*(DBINT *) pData);
    if (pData=dbdata(m_dbproc, 2))
        UtilStrCpy(m_txn.OrderStatus.c_last, pData,
dbdatlen(m_dbproc,2));
    if (pData=dbdata(m_dbproc, 3))
        UtilStrCpy(m_txn.OrderStatus.c_first, pData,
dbdatlen(m_dbproc,3));
    if (pData=dbdata(m_dbproc, 4))
        UtilStrCpy(m_txn.OrderStatus.c_middle,
pData, dbdatlen(m_dbproc, 4));
    if (pData=dbdata(m_dbproc, 5))
    {
        datetime = *((DBDATETIME *) pData);
        dbdatecrack(m_dbproc, &daterec, &datetime);
        m_txn.OrderStatus.o_entry_d.year =
            daterec.year;
        m_txn.OrderStatus.o_entry_d.month =
            daterec.month;
        m_txn.OrderStatus.o_entry_d.day =
            daterec.day;
        m_txn.OrderStatus.o_entry_d.hour =
            daterec.hour;
    }

```

```

        m_txn.OrderStatus.o_entry_d.minute =
            daterec.minute;
        m_txn.OrderStatus.o_entry_d.second =
            daterec.second;
    }
    if (pData=dbdata(m_dbproc, 6))
        m_txn.OrderStatus.o_carrier_id =
            (*(DBSMALLINT *) pData);
    if (pData=dbdata(m_dbproc, 7))
        dbconvert(m_dbproc, SQLNUMERIC,
(LPCBYTE)pData, dbdatlen(m_dbproc,7),
                                SQLFLT8, (BYTE
*)&m_txn.OrderStatus.c_balance, 8);
    if (pData=dbdata(m_dbproc, 8))
        m_txn.OrderStatus.o_id = (*(DBINT *) pData);

    DiscardNextRows(0);
    DiscardNextResults(0);

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

    return;
}
catch (CSQLERR *e)
{
    if ((e->m_msgno == 1205 ||
(e->m_msgno == iErrOleDbProvider &&
strstr(e->m_msgtext, sErrTimeoutExpired) !=
NULL) &&
        (++iTryCount <= iMaxRetries))
    {
        // hit deadlock; backoff for increasingly
        // longer period
        delete e;
        Sleep(10 * iTryCount);
    }
    else
        throw;
}
// while (TRUE)
// if (iTryCount)
// throw new CTPCC_DBLIB_ERR(CTPCC_DBLIB_ERR::ERR_RETRIED_TRANS,
iTryCount);
}

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

    ResetError();
}

```

```

while (TRUE)
{
    try
    {
        dbrpcinit(m_dbproc, "tpcc_delivery", 0);
        dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -1, (BYTE
*) &m_txn.Delivery.w_id);
        dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.Delivery.o_carrier_id);
        if (dbrpcexec(m_dbproc) == FAIL)
            ThrowError(CDBLIBERR::eDbRpcExec);
        if (dbresults(m_dbproc) != SUCCEED)
            ThrowError(CDBLIBERR::eDbResults);
        if (dbnextrow(m_dbproc) != REG_ROW)
            ThrowError(CDBLIBERR::eDbNextRow);
        if (dbnumcols(m_dbproc) != 10)
            ThrowError(CDBLIBERR::eWrongNumCols);
        for (i=0; i<10; i++)
        {
            if (pData = dbdata(m_dbproc, i+1))
                m_txn.Delivery.o_id[i] = *(DBINT
*)pData);
        }
        DiscardNextRows(0);
        DiscardNextResults(0);
        m_txn.Delivery.exec_status_code = eOK;
        return;
    }
    catch (CSQLERR *e)
    {
        if ((e->m_msgno == 1205 ||
(e->m_msgno == iErrOleDbProvider &&
strstr(e->m_msgtext, sErrTimeoutExpired) !=
NULL)) &&
        {
            (++iTryCount <= iMaxRetries)
            {
                // hit deadlock; backoff for increasingly
                longer period
                delete e;
                Sleep(10 * iTryCount);
            }
            else
                throw;
        }
        // while (TRUE)
        // if (iTryCount)
        //     throw new CTPCC_DBLIB_ERR(CTPCC_DBLIB_ERR::ERR_RETRIED_TRANS,
iTryCount);
    }
}

void CTPCC_DBLIB::ResetError()
{
    if (m_DbLibErr != NULL)

```

```

{
    delete m_DbLibErr;
    m_DbLibErr = (CDBLIBERR*)NULL;
}

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

/* FILE: TPC_C_DBLIB.H
* Microsoft TPC-C Kit Ver. 4.20.000
* Copyright Microsoft, 1999
* All Rights Reserved
* Version 4.10.000 audited by Richard Gimarc,
Performance Metrics, 3/17/99
* PURPOSE: Header file for TPC-C txn class implementation.
* Change history:
* 4.20.000 - updated rev number to match kit
*/
#pragma once

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

// need to declare functions for import, unless define has already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl __declspec( dllimport )
#endif

class CSQLERR : public CBaseErr
{
public:
    CSQLERR(void)
    {
        m_msgno = 0;
        m_msgstate = 0;
        m_severity = 0;
        m_msgtext = NULL;
    };
    ~CSQLERR()
    {
        delete [] m_msgtext;
    };
    int m_msgno;
    int m_msgstate;
    int m_severity;
    char *m_msgtext;

    int ErrorType() {return ERR_TYPE_SQL;};
    int ErrorNum() {return m_msgno;};
}

```

```

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

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

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

        m_dberrstr = NULL;
        m_oserrstr = NULL;
    };

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

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

    int ErrorType() {return ERR_TYPE_DBLIB;};
    int ErrorNum() {return m_dberror;};
};

```

```

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

class CTPCC_DBLIB_ERR : public CBaseErr
{
public:
    enum CTPCC_DBLIB_ERRS
    {
        ERR_WRONG_SP_VERSION = 1, // "Wrong version of
stored procs on database server"
        ERR_INVALID_CUST, // "Invalid
Customer id,name."
        ERR_NO_SUCH_ORDER, // "No orders
found for customer."
        ERR_RETRIED_TRANS, // "Retries
before transaction succeeded."
    };

    CTPCC_DBLIB_ERR( int iErr ) { m_errno = iErr; m_iTryCount = 0;
};

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

    int m_errno;
    int m_iTryCount;

    int ErrorType() {return ERR_TYPE_TPCC_DBLIB;};
    int ErrorNum() {return m_errno;};

    char *ErrorText();
};

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

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

    union
    {
        NEW_ORDER_DATA NewOrder;
        PAYMENT_DATA Payment;
        DELIVERY_DATA Delivery;
        STOCK_LEVEL_DATA StockLevel;
        ORDER_STATUS_DATA OrderStatus;
        m_txn;
    }

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

```

```

~CTPCC_DBLIB(void);

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

    void NewOrder      ();
    void Payment       ();
    void Delivery      ();
    void StockLevel    ();
    void OrderStatus   ();

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

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

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

```

```

/* FILE: TRANS.H
 *
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999
 *
 * All Rights Reserved
 *
 * Version 4.10.000 audited by Richard Gimarc,
Performance Metrics, 3/17/99
 *
 * PURPOSE: Header file for TPC-C structure templates.
 *
 * Change history:
 * 4.20.000 - updated rev number to match kit
 */
#pragma once

// String length constants
#define SERVER_NAME_LEN 20
#define DATABASE_NAME_LEN 20
#define USER_NAME_LEN 20
#define PASSWORD_LEN 20
#define TABLE_NAME_LEN 20
#define I_DATA_LEN 50
#define I_NAME_LEN 24
#define BRAND_LEN 1
#define LAST_NAME_LEN 16
#define W_NAME_LEN 10
#define ADDRESS_LEN 20

```

```

#define STATE_LEN 2
#define ZIP_LEN 9
#define S_DIST_LEN 24
#define S_DATA_LEN 50
#define D_NAME_LEN 10
#define FIRST_NAME_LEN 16
#define MIDDLE_NAME_LEN 2
#define PHONE_LEN 16
#define DATETIME_LEN 30
#define CREDIT_LEN 2
#define C_DATA_LEN 250
#define H_DATA_LEN 24
#define DIST_INFO_LEN 24
#define MAX_OL_NEW_ORDER_ITEMS 15
#define MAX_OL_ORDER_STATUS_ITEMS 15
#define STATUS_LEN 25
#define OL_DIST_INFO_LEN 24

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

// possible values for exec_status_code after transaction completes
enum EXEC_STATUS
{
    eOK, // 0 "Transaction committed."
    eInvalidItem, // 1 "Item number is not valid."
    eDeliveryFailed // 2 "Delivery Post Failed."
};

// transaction structures
typedef struct
{
    // input params
    short ol_supply_w_id;
    long ol_i_id;
    short ol_quantity;

    // output params
    char ol_i_name[I_NAME_LEN+1];
    char ol_brand_generic[BRAND_LEN+1];
    double ol_i_price;
    double ol_amount;
    short ol_stock;
} OL_NEW_ORDER_DATA;

typedef struct

```



```

{
    // input params
    short      w_id;
    short      d_id;
    long       c_id;
    short      o_ol_cnt;

    // output params
    EXEC_STATUS      exec_status_code;
    char             c_last[LAST_NAME_LEN+1];
    char             c_credit[CREDIT_LEN+1];
    double          c_discount;
    double          w_tax;
    double          d_tax;
    long           o_id;
    short          o_commit_flag;
    TIMESTAMP_STRUCT o_entry_d;
    short         o_all_local;
    double        total_amount;
    OL_NEW_ORDER_DATA OL[MAX_OL_NEW_ORDER_ITEMS];
} NEW_ORDER_DATA, *PNEW_ORDER_DATA;

typedef struct
{
    // input params
    short      w_id;
    short      d_id;
    long       c_id;
    short      c_d_id;
    short      c_w_id;
    double     h_amount;
    char       c_last[LAST_NAME_LEN+1];

    // output params
    EXEC_STATUS      exec_status_code;
    TIMESTAMP_STRUCT h_date;
    char             w_street_1[ADDRESS_LEN+1];
    char             w_street_2[ADDRESS_LEN+1];
    char             w_city[ADDRESS_LEN+1];
    char             w_state[STATE_LEN+1];
    char             w_zip[ZIP_LEN+1];
    char             d_street_1[ADDRESS_LEN+1];
    char             d_street_2[ADDRESS_LEN+1];
    char             d_city[ADDRESS_LEN+1];
    char             d_state[STATE_LEN+1];
    char             d_zip[ZIP_LEN+1];
    char             c_first[FIRST_NAME_LEN+1];
    char             c_middle[MIDDLE_NAME_LEN + 1];
    char             c_street_1[ADDRESS_LEN+1];
    char             c_street_2[ADDRESS_LEN+1];
    char             c_city[ADDRESS_LEN+1];
    char             c_state[STATE_LEN+1];
    char             c_zip[ZIP_LEN+1];
    char             c_phone[PHONE_LEN+1];
    TIMESTAMP_STRUCT c_since;
    char             c_credit[CREDIT_LEN+1];
    double          c_credit_lim;
    double          c_discount;
    double          c_balance;
    char            c_data[200+1];
} PAYMENT_DATA, *PPAYMENT_DATA;

typedef struct
{

```

```

    long           ol_i_id;
    short          ol_supply_w_id;
    short          ol_quantity;
    double         ol_amount;
    TIMESTAMP_STRUCT ol_delivery_d;
} OL_ORDER_STATUS_DATA;

typedef struct
{
    // input params
    short      w_id;
    short      d_id;
    long       c_id;
    char       c_last[LAST_NAME_LEN+1];

    // output params
    EXEC_STATUS      exec_status_code;
    char             c_first[FIRST_NAME_LEN+1];
    char             c_middle[MIDDLE_NAME_LEN+1];
    double          c_balance;
    long           o_id;
    TIMESTAMP_STRUCT o_entry_d;
    short          o_carrier_id;
    OL_ORDER_STATUS_DATA OL[MAX_OL_ORDER_STATUS_ITEMS];
    short          o_ol_cnt;
} ORDER_STATUS_DATA, *PORDER_STATUS_DATA;

typedef struct
{
    // input params
    short      w_id;
    short      o_carrier_id;

    // output params
    EXEC_STATUS      exec_status_code;
    SYSTEMTIME       queue_time;
    long             o_id[10];           // id's of
} DELIVERED_ORDERS, *PDELIVERED_ORDERS;

//This structure is used for posting delivery transactions and for writing them to
the delivery server.
typedef struct _DELIVERY_TRANSACTION
{
    SYSTEMTIME       queue;           //time delivery
    transaction queued
    short            w_id;           //delivery warehouse
    short            o_carrier_id;   //carrier id
} DELIVERY_TRANSACTION;

typedef struct
{
    // input params
    short      w_id;
    short      d_id;
    short      threshold;

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

/* FILE: TXN_BASE.H
 * Microsoft TPC-C Kit Ver. 4.20.000
 * Copyright Microsoft, 1999

```

```

*           All Rights Reserved
*
*           Version 4.10.000 audited by Richard Gimarc,
Performance Metrics, 3/17/99
*
*           PURPOSE: Header file for TPC-C txn class implementation.
*
* Change history:
*           4.20.000 - updated rev number to match kit
*/

#pragma once

// need to declare functions for import, unless define has already been created
// by the DLL's .cpp module for export.
#ifndef DllDecl
#define DllDecl __declspec( dllimport )
#endif

class DllDecl CTPCC_BASE
{
public:
    CTPCC_BASE(void) {};
    virtual ~CTPCC_BASE(void) {};

    virtual PNEW_ORDER_DATA          BuffAddr_NewOrder()
= 0;
    virtual PPAYMENT_DATA            BuffAddr_Payment()
= 0;
    virtual PDELIVERY_DATA           BuffAddr_Delivery()
= 0;
    virtual PSTOCK_LEVEL_DATA         BuffAddr_StockLevel() = 0;
    virtual PORDER_STATUS_DATA       BuffAddr_OrderStatus() = 0;

    virtual void NewOrder             () = 0;
    virtual void Payment              () = 0;
    virtual void Delivery              () = 0;
    virtual void StockLevel           () = 0;
    virtual void OrderStatus          () = 0;
};

/* FILE: TXNLOG.H
* Microsoft TPC-C Kit Ver. 4.10.000
*
* NOTE: this file is RTE specific and should
not be included
*
* in Full Disclosure Reports.
*
* Copyright Microsoft, 1999
*
* PURPOSE: Structure definitions for logging delivery txn completion stats.
* Contact: Charles Levine (clevine@microsoft.com)
*/

typedef struct _TXN_NEWORDER
{
    BYTE    OL_Count;           //range 0 to 31
    BYTE    OL_Remote_Count;    //range 0 to 31
    WORD    c_id;
    int     o_id;
} TXN_NEWORDER;

```

```

typedef struct _TXN_PAYMENT
{
    BYTE    CustByName;
    BYTE    IsRemote;
} TXN_PAYMENT;

typedef struct _TXN_ORDERSTATUS
{
    BYTE    CustByName;
} TXN_ORDERSTATUS;

typedef union _TXN_DETAILS
{
    TXN_NEWORDER      NewOrder;
    TXN_PAYMENT       Payment;
    TXN_ORDERSTATUS   OrderStatus;
} TXN_DETAILS;

// Common header for all records in txn log. The TxnType field is
// a switch which identifies the particular variant.
#define TXN_REC_TYPE_CONTROL      1 //
#define TXN_REC_TYPE_TPCC        2 // replaces
TRANSACTION_TYPE_TPCC
#define TXN_REC_TYPE_TPCC_DELIV_DEF 3

typedef struct _TXN_RECORD_HEADER
{
    JULIAN_TIME      TxnStartT0;           // start of
txn
    BYTE    TxnType;           // one of TXN_REC_TYPE_*
    BYTE    TxnSubType;       // depends on
TxnType
} TXN_RECORD_HEADER, *PTXN_RECORD_HEADER;

typedef struct _TXN_RECORD_CONTROL
{
    // common header; must exactly match TXN_RECORD_HEADER
    JULIAN_TIME      TxnStartT0;           // start of
txn
    BYTE    TxnType;           // =
TXN_REC_TYPE_CONTROL
    BYTE    TxnSubType;       // depends on
TxnType
    // end of common header
    DWORD    Len;             // number of
bytes after this field
} TXN_RECORD_CONTROL, *PTXN_RECORD_CONTROL;

// TPC-C Txn Record Layout:
//
// 'TxnStartT0' is a Julian timestamp corresponding to the moment the
// txn is sent to the SUT, i.e., beginning of response time. Deltas
// are in milliseconds. Note that if RTDelay > 0, then the txn was
// delayed by this amount. The delay occurs at the beginning of the
// response time. So if RTDelay > 0, then the txn was actually sent
// at TxnStartT0 + RTDelay.
//
// Graphically:
//

```

```

// time -->
//
// |--- Menu ---|--- Keying ---|--- Response ---|--- Think ---|
//   <- DeltaT1 -> <- DeltaT2 -> <- DeltaT4 -> <- DeltaT3 ->
//
//           ^
//           ^ TxnStartT0
//
//RTDelay is the amount of response time delay included in DeltaT4.
//RTDelay is recorded per txn because this value can be changed on
//the fly, and so may vary from txn to txn.
//
//TxnStatus is the txn completion code. It is used to indicate errors.
//For example, in the New Order txn, 1% of txns abort. TxnStatus will
//reflect this.

typedef struct _TXN_RECORD_TPCC
{
    // common header; must exactly match TXN_RECORD_HEADER
    JULIAN_TIME    TxnStartT0;           // start of
txn
    BYTE          TxnType;               // = TXN_REC_TYPE_TPCC
    BYTE          TxnSubType;           // depends on
TxnType
    // end of common header

    int           DeltaT1;               // menu time (ms)
    int           DeltaT2;               // keying time (ms)
    int           DeltaT3;               // think time (ms)
    int           DeltaT4;               // response time (ms)
    int           RTDelay;               // response time delay (ms)
    int           TxnError;              // error code providing
more detail for TxnStatus
    WORD          w_id;                  // warehouse ID
    BYTE          d_id;                  // assigned district ID
for this thread
    BYTE          d_id_ThisTxn;         // district ID chosen for this
particular
    BYTE          TxnStatus;             // completion status for
txn to indicate errors
    BYTE          reserved;              // for word alignment
    TXN_DETAILS   TxnDetails;           //
} TXN_RECORD_TPCC, *PTXN_RECORD_TPCC;

// TPC-C Deferred Delivery Txn Record Layout:
//
//Incorporating delivery transaction information into the above
//structure would increase the size of TXN_DETAILS from 8 to 42 bytes.
//Hence, we store delivery transaction details in a separate structure.
//
typedef struct _TXN_RECORD_TPCC_DELIV_DEF
{
    // common header; must exactly match TXN_RECORD_HEADER
    JULIAN_TIME    TxnStartT0;           // start of
txn
    BYTE          TxnType;               // =
TXN_REC_TYPE_TPCC_DELIV_DEF
    BYTE          TxnSubType;           // = 0
    // end of common header

    int           DeltaT4;               // response time (ms)
    int           DeltaTxnExec;          // execution time (ms)
    WORD          w_id;                  // warehouse ID

```

```

    BYTE          TxnStatus;             // completion status for
txn to indicate errors
    BYTE          reserved;              // for word alignment
    short         o_carrier_id;         // carrier id
    long          o_id[10];             // returned delivery transaction
ids
} TXN_RECORD_TPCC_DELIV_DEF, *PTXN_RECORD_TPCC_DELIV_DEF;

#define TXN_LOG_VERSION 1
#define TXN_DATA_START 4096           // offset in log file
where log records start
#define TXN_LOG_EYE_CATCHER "BC"     // signature bytes at the start of
log file

////////////////////////////////////
//
// The transaction log has a header as the first 4K block.
//
typedef struct _TXN_LOG_HEADER
{
    char          EyeCatcher[2];        // signature
bytes; should always be "BC"
    int           LogVersion;
    // set to TXN_LOG_VERSION
    JULIAN_TIME   BeginTxnTS;          //
timestamp of first (lowest) txn start
    JULIAN_TIME   EndTxnTS;           // timestamp
of last (highest) txn completion time
    int           iRecCount;
    // number of records in log file
    BOOL          bLogSorted;
    int           iFileSize;
    // file size in bytes

    // the record map provides a fast way to get close to a
particular timestamp in a sorted log file.
    //
    //
    //
    //
    // timestamp of record
    int           TS;
    //
    // byte position in file
    int           iPos;
    //
    //
    //
} TXN_LOG_HEADER, *PTXN_LOG_HEADER;

#define READ_BUFFER_SIZE 64*1024
#define WRITE_BUFFER_SIZE 8*1024

#define NUM_READ_BUFFERS 1
#define NUM_WRITE_BUFFERS 2
#define MAX_NUM_BUFFERS 2

// flags passed in to the constructor
#define TXN_LOG_WRITE 0x01
#define TXN_LOG_READ 0x02

```

```

#define TXN_LOG_SORTED          0x04

#define TXN_LOG_OS_ERROR      1
#define TXN_LOG_NOT_SORTED    2

#define SKIP_CTRL_RECS        1

class CTxnLog
{
private:
    DWORD          iBufferSize;
    //buffer allocated size
    DWORD          iBytesFreeInBuffer;          //total bytes
available for use in buffer
    int            iNumBuffers;
    //buffers in use
    int            iActiveBuffer;
    //indicates which buffer is active: 0 or 1
    int            iIoBuffer;
    //buffer for any pending IO operation
    int            iFilePointer;
    //position in file.
    int            iNextRec;
    //when reading, ordinal value of next record

    // A "save point" is remembered each time GetNextRecord is
called with a start time specified.
    // The next time it is called, if start time is after the save
point, we start scanning from the
    // save point. This is particularly useful in FindBestInterval,
where the log is scanned repeatedly.
    JULIAN_TIME    SavePtTime;
    int            iSavePtFilePointer;
    int            iSavePtNextRec;

    JULIAN_TIME    lastTS;
    //when writing sorted output, used to verify records are sorted
    BOOL           bWrite;
    //writing log file

    BOOL           bLogSorted;
    // is log file sorted? applies to both input and output
    JULIAN_TIME    BeginTxnTS;
    // timestamp of first (lowest) txn start
    JULIAN_TIME    EndTxnTS;          //
timestamp of last (highest) txn completion time
    int            iRecCount;
    // number of records in log file

    BYTE           *pCurrent;
    //ptr to current buffer
    BYTE           *pBuffer[MAX_NUM_BUFFERS];

    PTXN_RECORD_HEADER *TxnArray;          //transaction
record pointer array for sort

    DWORD          dwError;
    HANDLE         hTxnFile;
    //handle to log file
    HANDLE         hMapFile;
    //map file used when sorting the log
    HANDLE         hIoComplete;
    //event to signify that there are no pending IOs

```

```

        HANDLE         hLogFileIo;
    //event to signal the IO thread to write the inactive buffer

    Spinlock Spin;
    //spin lock to protect the txn log file buffers

    int Write(BYTE *ptr, DWORD Size);
    static void LogFileIO(CTxnLog *);

public:
    CTxnLog::CTxnLog(LPCTSTR szFileName, DWORD dwOpts);
    ~CTxnLog(void);

    int WriteToLog(PTXN_RECORD_TPCC pTxnRcld);
    int WriteToLog(PTXN_RECORD_TPCC_DELIV_DEF pTxnRcld);
    int WriteToLog(PTXN_RECORD_CONTROL pCtrlRec);
    int WriteToLog(PTXN_RECORD_HEADER pCtrlRec);

    int WriteCtrlRecToLog(BYTE SubType, LPTSTR lpStr, DWORD dwLen);

    void CloseTransactionLogFile(void);

    PTXN_RECORD_HEADER GetNextRecord(BOOL bSkipCtrlRecs = FALSE);
    PTXN_RECORD_HEADER GetNextRecord(JULIAN_TIME SeekTimeT0, BOOL
bSkipCtrlRecs = FALSE);

    int Sort(void);
    PTXN_RECORD_HEADER GetSortedRecord(int index);

    inline BOOL IsSorted(void) { return bLogSorted; };
    inline JULIAN_TIME BeginTS(void) { return BeginTxnTS; };
    inline JULIAN_TIME EndTS(void) { return EndTxnTS; };
    inline int RecordCount(void) { return iRecCount; };
};

class CTXNLOG_ERR : public CBaseErr
{
public:
    enum CTPCC_DBLIB_ERRS
    {
        ERR_BAD_FILE_FORMAT = 1,          // "File format is
invalid."
        ERR_UNKNOWN_LOG_VERSION,          // "Log file version is
unknown."
        ERR_BROKEN_LOG_FILE,              // "Log file
is broken."
        ERR_LOG_NOT_SORTED,               // "Log file
is not sorted"
        ERR_INVALID_TIME_SEQ,             // "Internal
Error: Record Time Sequence invalid."
    };

    CTXNLOG_ERR( int iErr ) { m_errno = iErr; };

    int m_errno;

    int ErrorType() {return ERR_TYPE_TXNLOG;};
    int ErrorNum() {return m_errno;};

    // TODO: need to complete...
    char *ErrorText() {return "";};
};

```

Appendix B: Database Design

The TPC-C database was created with the following Transact-SQL scripts:

```

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

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

dump database tpcc to tpccback1, tpccback2,
tpccback3, tpccback4 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

-- 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','tpccback1','Z:\tpccback1.dmp'
go
exec sp_addumpdevice
'disk','tpccback2','Z:\tpccback2.dmp'
go
exec sp_addumpdevice
'disk','tpccback3','Z:\tpccback3.dmp'
go
exec sp_addumpdevice
'disk','tpccback4','Z:\tpccback4.dmp'
go

-- File:      CREATEDB.SQL

```

```

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

use master
go

-- Create temporary table for timing

if exists ( select name from sysobjects where name =
'tpcc_timer' )
drop table tpcc_timer
go

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

insert into tpcc_timer values (0,0)
go

-- Store starting time

update tpcc_timer
set start_date = (select
convert(char(30), getdate(),9))
go

-- create main database files
CREATE DATABASE tpcc
ON PRIMARY
(
NAME = MSSQL70_tpcc_root,
FILENAME = "C:\MSSQL70_tpcc_root.mdf",
SIZE = 8MB,
FILEGROWTH =0),
FILEGROUP MSSQL70_fg
(
NAME = MSSQL70_1,
FILENAME = "G:",
SIZE = 6400MB,
FILEGROWTH = 0),
(
NAME = MSSQL70_2,
FILENAME = "H:",
SIZE = 14000MB,
FILEGROWTH = 0),
(
NAME = MSSQL70_3,
FILENAME = "I:",
SIZE = 14000MB,
FILEGROWTH = 0),
(
NAME = MSSQL70_4,
FILENAME = "J:",
SIZE = 14000MB,
FILEGROWTH = 0),
(
NAME = MSSQL70_5,
FILENAME = "K:",
SIZE = 14000MB,
FILEGROWTH = 0),
(
NAME = MSSQL70_6,
FILENAME = "L:",

```

```

SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_7,
FILENAME = "M:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_8,
FILENAME = "N:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_9,
FILENAME = "O:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_10,
FILENAME = "P:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_11,
FILENAME = "Q:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_12,
FILENAME = "R:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_13,
FILENAME = "S:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_14,
FILENAME = "T:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_15,
FILENAME = "U:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_16,
FILENAME = "V:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_17,
FILENAME = "W:",
SIZE = 14000MB,
FILEGROWTH = 0),
NAME = MSSQL70_18,
FILENAME = "X:",
SIZE = 14000MB,
FILEGROWTH = 0)
LOG ON
(
NAME =MSSQL70_tpcc_log,
FILENAME = "F:",
SIZE =92000MB,
FILEGROWTH =0)
go

-- Store ending time
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))

--      remove temporary table

if exists ( select name from sysobjects where name =
'tpcc_timer' )
      drop table tpcc_timer
go

-----
-- 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
go

use tpcc
go

checkpoint
go

-----
-- 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)

IF (SELECT (SUBSTRING((SELECT @@version),1,25))) =
'Microsoft SQL Server 2000'

```

```

      BEGIN
--
--      OPTIONS FOR SQL SERVER
8.0      --
--      Set option values for user-
defined indexes --
--
--
--      SET      @msg      = ' '
--      PRINT     @msg
--
--      SET      @msg      = 'Setting
SQL Server 8.0 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
--      END
ELSE
      BEGIN
--
--      OPTIONS FOR SQL SERVER
7.0      --
--      Set option values for user-
defined indexes --
--
--
--      SET      @msg      = ' '
--      PRINT     @msg
--
--      SET      @msg      = 'Setting
SQL Server 7.0 indexoptions'
--      PRINT     @msg
--      SET      @msg      = ' '
--      PRINT     @msg
--
--
--      EXEC sp_indexoption 'customer',
'AllowPageLocks', FALSE
--      EXEC sp_indexoption 'district',
'AllowPageLocks', FALSE

```

```

--      EXEC sp_indexoption 'warehouse',
'AllowPageLocks', FALSE
--      EXEC sp_indexoption 'stock',
'AllowPageLocks', FALSE
--      EXEC sp_indexoption 'order_line',
'AllowRowLocks', FALSE
--      EXEC sp_indexoption 'orders',
'AllowRowLocks', FALSE
--      EXEC sp_indexoption 'new_order',
'AllowRowLocks', FALSE
--      EXEC sp_indexoption 'item',
'AllowRowLocks', FALSE
--      EXEC sp_indexoption 'item',
'AllowPageLocks', FALSE
--      END
GO

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

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

sp_configure 'allow updates',0
GO

RECONFIGURE WITH OVERRIDE
GO

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

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
-----
-- 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)

            where      no_w_id = @w_id and
                        no_d_id = @d_id
            order      by no_o_id asc

            uplock)

```

```

      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
-----
-- 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_d_id, c_id)
      on MSSQL70_fg

select @enddate = getdate()

```

```

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

```

go

```

-----
-- 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)
on MSSQL70_fg

```

```

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

```

go

```

-----
-- 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 MSSQL70_fg

```

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

```

go

```

-----
-- 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 MSSQL70_fg

```

```

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

```

go

```

-----
-- 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)

```

on MSSQL70_fg

```

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

```

go

```

-----
-- 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 MSSQL70_fg

```

```

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

```

go

```

-----
-- 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_cl on
orders(o_w_id, o_d_id, o_id)
    on MSSQL70_fg

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

go

-- File:      IDXORDNC.SQL
--           Microsoft TPC-C Benchmark Kit Ver. 4.21
--           Copyright Microsoft, 1999, 2000
-- Purpose:   Creates non-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_ncl' )
    drop index orders.orders_ncl

create index orders_ncl on orders(o_w_id, o_d_id,
o_c_id, o_id)
    on MSSQL70_fg

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

go

-- 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_cl' )

```

```

drop index stock.stock_cl

create unique clustered index stock_cl on
stock(s_i_id, s_w_id)
    on MSSQL70_fg

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

go

-- 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_cl' )
    drop index warehouse.warehouse_cl

create unique clustered index warehouse_cl on
warehouse(w_id)
    with fillfactor=100 on MSSQL70_fg

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

go

-- File:      NEWORD.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 = 0,
@ol_qty15 smallint = 0

as
declare @w_tax          numeric(4,4),

```

```

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

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

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

-- process orderlines

while (@li_no < @o_ol_cnt)
begin
select @li_no = @li_no + 1

-- set i_id, s_w_id, and qty for this lineitem
select @li_id = case @li_no
@i_id1      when 1 then
@i_id2      when 2 then
@i_id3      when 3 then
@i_id4      when 4 then
@i_id5      when 5 then
@i_id6      when 6 then

```

```

@i_id7      when 7 then
@i_id8      when 8 then
@i_id9      when 9 then
@i_id10     when 10 then
@i_id11     when 11 then
@i_id12     when 12 then
@i_id13     when 13 then
@i_id14     when 14 then
@i_id15     when 15 then
end,
@li_s_w_id = case
when 1
when 2
when 3
when 4
when 5
when 6
when 7
when 8
when 9
when 10
when 11
when 12
when 13
when 14
when 15
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
repeatable read)
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 =
@s_dist
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

-- 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

-- 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

```

```

(repeatableread) from customer
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
(repeatableread) from customer
where c_last =
@c_last and
@c_w_id =
@d_id and
@d_id =
c_d_id
order by c_w_id, c_d_id,
c_last, c_first

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
@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)

```

```

end goto custnotfound

-- get order info

select @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 asc

-- select order lines for the current order

select ol_supply_w_id,
ol_i_id,
ol_quantity,
ol_amount,
ol_delivery_d
from order_line (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

-- 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),
@data char(500),
@c_data char(500),
@datetime datetime,
@w_ytd numeric(12,2),
@d_ytd numeric(12,2),
@cnt smallint,
@val smallint,
@screen_data char(200),
@d_id_local tinyint,
@w_id_local 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

(repeatableread)
        select      @c_id     = c_id
        from        customer

        where      c_last     = @c_last and
                  c_w_id     = @c_w_id and
                  c_d_id     = @c_d_id

        order     by c_last, c_first

        set        rowcount 0

        end

-- get customer info and update balances

        update     customer
        set        @c_balance      = c_balance
                 = c_balance - @h_amount,
                 c_payment_cnt    =
c_payment_cnt + 1,
                 c_ytd_payment    =
c_ytd_payment + @h_amount,
                 @c_first = c_first,
                 @c_middle = c_middle,
                 @c_last  = c_last,
                 @c_street_1 = c_street_1,
                 @c_street_2 = c_street_2,
                 @c_city   = c_city,
                 @c_state  = c_state,
                 @c_zip    = c_zip,
                 @c_phone  = c_phone,
                 @c_credit = c_credit,
                 @c_credit_lim =

c_credit_lim,
                 @c_discount = c_discount,
                 @c_since = c_since,
                 @data      = c_data,

        where     @c_id_local    = c_id
                  c_id         = @c_id and
                  c_w_id       = @c_w_id and
                  c_d_id       = @c_d_id

-- if customer has bad credit get some more info

        if (@c_credit = "BC")
        begin

```

```

-- compute new info

        select @c_data      =
convert(char(5),@c_id) +
convert(char(4),@c_d_id) +
convert(char(5),@c_w_id) +
convert(char(4),@d_id) +
convert(char(5),@w_id) +
convert(char(19),@h_amount) +
substring(@data, 1, 458)

-- update customer info

        update     customer
        set        c_data      = @c_data

        where     c_id         = @c_id and
                  c_w_id       = @c_w_id and
                  c_d_id       = @c_d_id

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

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

        update     district
        set        d_ytd      = d_ytd +
@h_amount,
                 @d_street_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

-- 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 'tpccback1'

```

```

exec sp_dropdevice 'tpccback2'
exec sp_dropdevice 'tpccback3'
exec sp_dropdevice 'tpccback4'
go

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

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

load database tpcc from tpccback1, tpccback2,
tpccback3, tpccback4 with stats = 1, replace

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

go

-- 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

-- 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 MSSQL70_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 MSSQL70_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
        char(500)
    ) on MSSQL70_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 MSSQL70_fg
go

create table new_order
(
    no_o_id
    int,
    no_d_id
    tinyint,
    no_w_id
    smallint
) on MSSQL70_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 MSSQL70_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 MSSQL70_fg
go

create table item
(
    i_id
    int,
    i_im_id
    int,
    i_name
    char(24),
    i_price
    numeric(5,2),
    i_data
    char(50)
) on MSSQL70_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
        char(50)
    ) on MSSQL70_fg
    go

-- 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 rows
from sysindexes
where id = object_id("warehouse")
go

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

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

print 'ITEM TABLE = 100,000'

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

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

select rows

```

```

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

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

```

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

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

```

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

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

```

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

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

```

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

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

```

select rows
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
```

```

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

```

-- 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
```

```

=====
-- File: VERSION.SQL
-- Microsoft TPC-C Benchmark Kit Ver.
4.21.000
-- Copyright Microsoft, 1999, 2000
-- Purpose: Returns version level of TPC-C stored
procs
-- Note: Always update the return value of this
proc for
-- any interface changes or "must have"
bug fixes.
--
-- The value returned by this SP defines the
"interface level",
-- which must match between the stored procs and the
client code.
```

```

-- The interface level may be down rev from the
current kit. This
-- indicates that the interface hasn't changed since
that version.

use tpcc
go

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

create proc tpcc_version
as
declare @version char(8)

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

end

go
```

```

=====
// 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,
TPCCCLR_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 =
DEFLDPACKSIZE;
    pargs->starting_warehouse =
DEF_STARTING_WAREHOUSE;
    pargs->build_index =
BUILD_INDEX;
    pargs->index_order =
INDEX_ORDER;
    pargs->index_script_path =
INDEX_SCRIPT_PATH;
    pargs->scale_down =
SCALE_DOWN;

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

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

        ptr = argv[i];

        switch (ptr[1])
        {
            case 'h': /* Fall through */
            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
%d\n", (long) BATCH);
        printf("-p TDS packet size
%d\n", (long) DEFLDPAKSIZE);
        printf("-f Loader Results Output Filename
%s\n", LOADER_RES_FILE);
        printf("-s Starting Warehouse
%d\n", (long) DEF_STARTING_WAREHOUSE);
        printf("-i Build Option (data = 0, data and
index = 1) %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);
}

// 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;
}

```

```

}

// 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
char *city,
char *state,
char *zip)
{
#ifdef DEBUG
    printf("[%ld]DBG: Entering MakeAddress()\n",
(int) GetCurrentThreadId());
#endif

    MakeAlphaString (10, 20, ADDRESS_LEN, street_1);
    MakeAlphaString (10, 20, ADDRESS_LEN, street_2);
    MakeAlphaString (10, 20, ADDRESS_LEN, city);
    MakeAlphaString ( 2, 2, STATE_LEN, state);
    MakeZipNumberString ( 9, 9, ZIP_LEN, zip);

#ifdef DEBUG
    printf("[%ld]DBG: MakeAddress: street_1: %s,
street_2: %s, city: %s, state: %s, zip: %s\n",
(int)
GetCurrentThreadId(), street_1, street_2, city,
state, zip);
#endif

    return;
}

//=====
//
// Function name: LastName
//

```

```

//=====
void LastName(int num,
              char *name)
{
    static char *n[] =
    {
        "BAR" , "OUGHT" , "ABLE" , "PRI"
, "PRES" ,
        "ESE" , "ANTI" , "CALLY" ,
"ATION" , "EING"
    };

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

    if ((num >= 0) && (num < 1000))
    {
        strcpy(name, n[(num/100)%10]);
        strcat(name, n[(num/10)%10]);
        strcat(name, n[(num/1)%10]);

        if (strlen(name) < LAST_NAME_LEN)
        {
            PaddString(LAST_NAME_LEN, name);
        }
    }
    else
    {
        printf("\nError in LastName()...
num <=%ld> out of range (0,999)\n", num);
        exit(-1);
    }

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

    return;
}

//-----
//
// Function name: MakeAlphaString
//
//-----

```

```

//philipdu 08/13/96 Changed MakeAlphaString to use A-
Z, a-z, and 0-9 in
//accordance with spec see below:
//The spec says:
//4.3.2.2 The notation random a-string [x .. y]
//(respectively, n-string [x .. y]) represents a
string of random alphanumeric
//(respectively, numeric) characters of a random
length of minimum x, maximum y,
//and mean (y+x)/2. Alphanumerics are A..Z, a..z, and
0..9. The only other
//requirement is that the character set used "must be
able to represent a minimum
//of 128 different characters". We are using 8-bit
chars, so this is a non issue.
//It is completely unreasonable to stuff non-printing
chars into the text fields.
//--CLevine 08/13/96

int MakeAlphaString( int x, int y, int z, char
*str)
{
    int len;
    int i;
    char cc = 'a';
    static char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
    static int chArrayMax = 61;

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

    len= RandomNumber(x, y);

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

    return len;
}

//-----
//
// Function name: MakeOriginalAlphaString
//
//-----
int MakeOriginalAlphaString(int x,
                           int y,

```

```

                           int z,
                           char *str,
                           int percent)
{
    int len;
    int val;
    int start;

#ifdef DEBUG
    printf("[%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;
}

// 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;
}

// 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 DEFLOADPACKSIZE
32768
#define LOADER_RES_FILE
"logsql\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();

// 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
    c_balance;
    char
    c_balance[6];

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

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

typedef struct
{
    long            time_start;
} LOADER_TIME_STRUCT;

// Global variables

char    szLastError[300];

HENV    henv;

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

TPCCCLR_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("idxitmc1");
    InitString(i_name, I_NAME_LEN+1);
    InitString(i_data, I_DATA_LEN+1);
    sprintf(name, "%s.%s", aptr->database,
"item");
    rc = bcp_init(i_hdbc1, name, NULL,
"logs\\item.err", DB_IN);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    if ((aptr->build_index == 1) && (aptr-
>index_order == 1))
    {
        sprintf(bcphint, "tablock, order
(i_id), ROWS_PER_BATCH = 100000");
        rc = bcp_control(i_hdbc1,
BCPHINTS, (void*) bcphint);
        if (rc != SUCCEEDED)
            HandleErrorDBC(i_hdbc1);
    }
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_id, 0,
SQL_VARLEN_DATA, NULL, 0, SQLINT4, 1);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_im_id,
0, SQL_VARLEN_DATA, NULL, 0, SQLINT4, 2);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) i_name, 0,
I_NAME_LEN, NULL, 0, 0, 3);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) &i_price,
0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 4);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    rc = bcp_bind(i_hdbc1, (BYTE *) i_data, 0,
I_DATA_LEN, NULL, 0, 0, 5);
    if (rc != SUCCEEDED)
        HandleErrorDBC(i_hdbc1);
    time_start = (TimeNow() / MILLI);
    item_rows_loaded = 0;

```

```

        for (i_id = 1; i_id <= max_items; i_id++)
        {
            i_im_id = RandomNumber(1L,
10000L);
            MakeAlphaString(14, 24,
I_NAME_LEN, i_name);
            i_price = ((float)
RandomNumber(100L, 10000L))/100.0;
            MakeOriginalAlphaString(26, 50,
I_DATA_LEN, i_data, 10);
            rc = bcp_sendrow(i_hdbc1);
            if (rc != SUCCEEDED)
                HandleErrorDBC(i_hdbc1);
            item_rows_loaded++;
            CheckForCommit(i_hdbc1, i_hstmt1,
item_rows_loaded, "item", &time_start);
        }
        rcint = bcp_done(i_hdbc1);
        if (rcint < 0)
            HandleErrorDBC(i_hdbc1);
        printf("Finished loading item table.\n");
        SQLFreeStmt(i_hstmt1, SQL_DROP);
        SQLDisconnect(i_hdbc1);
        SQLFreeConnect(i_hdbc1);
        // if build index after load
        if ((aptr->build_index == 1) && (aptr-
>index_order == 0))
            BuildIndex("idxitmc1");
    }
}

//=====
//
// Function : LoadWarehouse
//
// Loads WAREHOUSE table and loads Stock and District
as Warehouses are created
//
//=====
void LoadWarehouse()
{
    short w_id;
    char w_name[W_NAME_LEN+1];
    char w_street_1[ADDRESS_LEN+1];
    char w_street_2[ADDRESS_LEN+1];

```

```

char w_city[ADDRESS_LEN+1];
char w_state[STATE_LEN+1];
char w_zip[ZIP_LEN+1];
double w_tax;
double w_ytd;
char name[20];
long time_start;
RETCODE rc;
DBINT rcint;
char bcp hint[128];

// 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("idxwarc1");

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

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

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

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

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

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

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

rc = bcp_bind(w_hdbc1, (BYTE *) w_street_2,
0, ADDRESS_LEN, NULL, 0, 0, 4);

```

```

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

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

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

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

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

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

time_start = (TimeNow() / MILLI);

warehouse_rows_loaded = 0;

for (w_id = (short)aptr-
>starting_warehouse; w_id <= aptr->num_warehouses;
w_id++)
{
    w_name);
    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("idxwarc1");

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 bcp hint[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("idxdiscl1");

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 != SUCCEEDED)
            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 != SUCCEEDED)

                HandleErrorDBC(w_hdbc1);
        }

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

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

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

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

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

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

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

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

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

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

```

```

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

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

        d_ytd = 30000.0;
        d_next_o_id = orders_per_district+1;
        time_start = (TimeNow() / MILLI);

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

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

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

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

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

                    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 != SUCCEEDED)
        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 != SUCCEEDED)

            HandleErrorDBC(w_hdbc1);
    }
}

```

```

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

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

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

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

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

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

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

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

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

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

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

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

        rc = bcp_bind(w_hdbc1, (BYTE *) s_dist_10,
0, S_DIST_LEN, NULL, 0, 0, 13);

```

```

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

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

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

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

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

        s_ytd = s_order_cnt = s_remote_cnt = 0;
        time_start = (TimeNow() / MILLI);
        printf("...Loading stock table\n");

        for (s_i_id=1; s_i_id <= max_items;
s_i_id++)
        {
            for (s_w_id = (short)aptr-
>starting_warehouse; s_w_id <= aptr->num_warehouses;
s_w_id++)
                {
                    s_quantity =
(short)RandomNumber(10L,100L);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_01);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_02);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_03);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_04);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_05);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_06);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_07);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_08);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_09);
                    len =
MakeAlphaString(24,24,S_DIST_LEN, s_dist_10);

```

```

                    len =
MakeOriginalAlphaString(26,50, S_DATA_LEN,
s_data,10);
                    rc =
bcp_sendrow(w_hdbc1);
                    if (rc != SUCCEEDED)
                        HandleErrorDBC(w_hdbc1);

                    stock_rows_loaded++;
                    CheckForCommit(w_hdbc1,
w_hstmt1, stock_rows_loaded, "stock", &time_start);
                }
            }
        rcint = bcp_done(w_hdbc1);
        if (rcint < 0)
            HandleErrorDBC(w_hdbc1);

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

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

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

        return;
    }

//=====
//
// Function : LoadCustomer
//
//=====
void LoadCustomer()
{
    LOADER_TIME_STRUCT
customer_time_start;
    LOADER_TIME_STRUCT      history_time_start;
    short                    w_id;
    short                    d_id;
    DWORD
dwThreadID[MAX_CUSTOMER_THREADS];
    HANDLE
hThread[MAX_CUSTOMER_THREADS];
    char                      name[20];
    RETCODE
rc;
    DBINT
rcint;
    char
bcpint[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");

// 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");
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);

loading threads here...

thread

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

                hThread[0] =
CreateThread(NULL,

(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);
                }

thread

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

                hThread[1] =
CreateThread(NULL,

```

```

(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;

            data // Generate CUSTOMER and HISTORY

            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] =
'0';
            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 != SUCCEED)
            HandleErrorDBC(c_hdbc1);

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

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

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

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

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

        rc = bcp_bind(c_hdbc1, (BYTE *) c_state, 0,
STATE_LEN, NULL, 0, 0, 10);

```

```

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

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

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

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

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

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

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

        // fix to avoid ODBC float to numeric
conversion problem.
        // rc = bcp_bind(c_hdbc1, (BYTE *) &c_balance,
0, SQL_VARLEN_DATA, NULL, 0, SQLFLT8, 17);
        // if (rc != SUCCEED)
        //     HandleErrorDBC(c_hdbc1);
        rc = bcp_bind(c_hdbc1, (BYTE *) c_balance, 0, 5,
NULL, 0, SQLCHARACTER, 17);
        if (rc != SUCCEED)
            HandleErrorDBC(c_hdbc1);

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

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

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

```

```

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

```

```

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

//=====
//
// Function : LoadHistoryTable
//
//=====
void LoadHistoryTable(LOADER_TIME_STRUCT
*history_time_start)
{
    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 != SUCCEEDED)
    HandleErrorDBC(c_hdbc2);

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

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

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

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

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

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

```

```

HandleErrorDBC(c_hdbc2);

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

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

    FormatDate(&h_date);

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

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

//=====
//
// Function : LoadOrders
//
//=====
void LoadOrders()
{
    LOADER_TIME_STRUCT orders_time_start;
    LOADER_TIME_STRUCT
new_order_time_start;
    LOADER_TIME_STRUCT
order_line_time_start;
    short d_id;
    short w_id;
    DWORD
dwThreadId[MAX_ORDER_THREADS];
    HANDLE
hThread[MAX_ORDER_THREADS];
    char name[20];
    RETCODE
rc;
    char
bcpint[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_de
livery_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_deliver
y_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 != SUCCEEDED)
        HandleErrorDBC(o_hdbc1);

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

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

```

```

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

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

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

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

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

    for (i = 0; i < orders_per_district; i++)
    {
        o_id         =
orders_buf[i].o_id;
        o_d_id       =
orders_buf[i].o_d_id;
        o_w_id       =
orders_buf[i].o_w_id;
        o_c_id       =
orders_buf[i].o_c_id;
        o_carrier_id =
orders_buf[i].o_carrier_id;
        o_ol_cnt     =
orders_buf[i].o_ol_cnt;
        o_all_local  =
orders_buf[i].o_all_local;

        FormatDate(&o_entry_d);

        // send data to server
        rc = bcp_sendrow(o_hdbc1);
        if (rc != SUCCEEDED)
            HandleErrorDBC(o_hdbc1);

        orders_rows_loaded++;

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

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

```

```

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

        if (rcint < 0)
            HandleErrorDBC(o_hdbc1);

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

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

        // build non-clustered index
        if (aptr->build_index == 1)
            BuildIndex("idxordnc");
    }
}

//=====
//
// Function   : LoadNewOrderTable
//
//=====
void LoadNewOrderTable(LOADER_TIME_STRUCT
*new_order_time_start)
{
    int         i;
    long        o_id;
    short       o_d_id;
    short       o_w_id;

    RETCODE     rc;
    DBINT       rcint;

    // Bind NEW-ORDER data

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

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

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

    for (i = first_new_order; i <
last_new_order; i++)
}

```

```

    {
        o_id = orders_buf[i].o_id;
        o_d_id = orders_buf[i].o_d_id;
        o_w_id = orders_buf[i].o_w_id;

        rc = bcp_sendrow(o_hdbc2);
        if (rc != SUCCEEDED)

        HandleErrorDBC(o_hdbc2);

        new_order_rows_loaded++;

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

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

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

        if (rcint < 0)

        HandleErrorDBC(o_hdbc2);

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

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

    }

}

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

    long ol;
    long ol_i_id;

```

```

    short ol_supply_w_id;
    short ol_quantity;
    double ol_amount;
    char ol_dist_info[DIST_INFO_LEN+1];

    char
    ol_delivery_d[OL_DELIVERY_D_LEN+1];
    RETCODE rc;
    DBINT rcint;

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

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

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

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

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

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

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

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

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

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

    for (i = 0; i < orders_per_district; i++)
    {

```

```

        o_id = orders_buf[i].o_id;
        o_d_id = orders_buf[i].o_d_id;
        o_w_id = orders_buf[i].o_w_id;

        for (j=0; j <
orders_buf[i].o_ol_cnt; j++)
        {
            ol =
orders_buf[i].o_ol[j].ol;
            ol_i_id =
orders_buf[i].o_ol[j].ol_i_id;
            ol_supply_w_id =
orders_buf[i].o_ol[j].ol_supply_w_id;
            ol_quantity =
orders_buf[i].o_ol[j].ol_quantity;
            ol_amount =
orders_buf[i].o_ol[j].ol_amount;

            strcpy(ol_delivery_d,orders_buf[i].o_ol[j].
ol_delivery_d);

            strcpy(ol_dist_info,orders_buf[i].o_ol[j].o
l_dist_info);

            rc =
bcp_sendrow(o_hdbc3);
            if (rc != SUCCEEDED)

            HandleErrorDBC(o_hdbc3);

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

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

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

    rc = SQLDriverConnect ( w_hdbc1,

        NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

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

    rc = SQLDriverConnect ( c_hdbc1,

        NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

        SQL_DRIVER_NOPROMPT );
    if (rc != SUCCEEDED)
        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 != SUCCEEDED)
        HandleErrorDBC(c_hdbc2);

    rc = SQLDriverConnect ( c_hdbc2,

        NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

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

    rc = SQLDriverConnect ( o_hdbc1,

        NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

```

```

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

        SQL_DRIVER_NOPROMPT );
    if (rc != SUCCEEDED)
        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 != SUCCEEDED)
        HandleErrorDBC(o_hdbc2);

    rc = SQLDriverConnect ( o_hdbc2,

        NULL,

        (SQLCHAR*)&szDriverString[0] ,

        SQL_NTS,

        (SQLCHAR*)&szDriverStringOut[0],

        sizeof(szDriverStringOut),

        &cbDriverStringOut,

        SQL_DRIVER_NOPROMPT );
    if (rc != SUCCEEDED)
        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 != SUCCEEDED)
        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);

    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];

    while (( rc2 = SQLGetDiagRec(SQL_HANDLE_DBC,
                                hdbc1, i, SqlState,
                                &NativeError,
                                sizeof(Msg), &MsgLen) != SQL_NO_DATA )
    {
        printf( " [%s : %s] %s\n" ,
            datebuf, timebuf, szLastError );

        _strtime(timebuf);
        _strdate(datebuf);

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

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

        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          *fpl;

    i = 1;
    while (( rc2 =
    SQLGetDiagRec(SQL_HANDLE_STMT, hstmt1, i, SqlState,
    &NativeError,
    sizeof(Msg), &MsgLen) != SQL_NO_DATA )
    {
        printf( " [%s : %s] %s\n" ,
            datebuf, timebuf, szLastError );

        _strtime(timebuf);
        _strdate(datebuf);

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

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

        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;
}

```

```

char          datebuf[128];
FILE          *fpl;

i = 1;
while (( rc2 = SQLGetDiagRec(SQL_HANDLE_DBC,
                                hdbc1, i, SqlState,
                                &NativeError,
                                sizeof(Msg), &MsgLen) != SQL_NO_DATA )
    {
        printf( " [%s : %s] %s\n" ,
            datebuf, timebuf, szLastError );

        _strtime(timebuf);
        _strdate(datebuf);

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

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

        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          *fpl;

    i = 1;
    while (( rc2 =
    SQLGetDiagRec(SQL_HANDLE_STMT, hstmt1, i, SqlState,
    &NativeError,
    sizeof(Msg), &MsgLen) != SQL_NO_DATA )
    {
        printf( " [%s : %s] %s\n" ,
            datebuf, timebuf, szLastError );

        _strtime(timebuf);
        _strdate(datebuf);

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

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

        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;
}

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{
    RETCODE          rc;

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

```

```

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

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

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

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

    mktime( &when );

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

    return;
}

//=====
//
// Function : CheckDataBase
//
//=====
void CheckDataBase()
{
    RETCODE          rc;

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

```

```

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

ExitFlag = 0;

SQLAllocHandle(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv );

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

SQLAllocHandle(SQL_HANDLE_DBC, henv ,
&v_hdbc);

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

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

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

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

// if the rc is SQL_ERROR, the the TPCC
database probably does not exist
if (rc == SQL_ERROR)
{
    printf("The database TPCC does
not appear to exist!\n");
}

```

```

printf("\nCheck LOGS\\ directory
for database creation errors.\n");

and handles // cleanup database connections
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
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;
                }
            }
        }
        // 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;
}
# Microsoft Developer Studio Project File -
Name="tpccldr" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File,
Format Version 6.00
# ** DO NOT EDIT **

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

CFG=tpccldr - Win32 Release
!MESSAGE This is not a valid makefile. To build this
project using NMAKE,
!MESSAGE use the Export Makefile command and run
!MESSAGE
!MESSAGE NMAKE /f "tpccldr.mak".
!MESSAGE
!MESSAGE You can specify a configuration when running
NMAKE
!MESSAGE by defining the macro CFG on the command
line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tpccldr.mak" CFG="tpccldr - Win32
Release"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tpccldr - Win32 Release" (based on "Win32
(x86) Console Application")
!MESSAGE "tpccldr - Win32 Debug" (based on "Win32
(x86) Console Application")
!MESSAGE

# Begin Project
# PROP AllowPerConfigDependencies 0
# PROP Scc_ProjName
"$\mstpcc.400/setup/loader/mssql70", QROAAAAA"
# PROP Scc_LocalPath "."
CPP=cl.exe
RSC=rc.exe

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 0
# PROP BASE Output_Dir ".\Release"
# PROP BASE Intermediate_Dir ".\Release"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 0
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\objects"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /W3 /GX /O2 /D "WIN32" /D
"NDEBUG" /D "_CONSOLE" /YX /c
# ADD CPP /nologo /MT /W3 /GX /O2 /D "NDEBUG" /D
"WIN32" /D "_CONSOLE" /D "DBNTWIN32" /FD /c
# ADD BASE RSC /1 0x409 /d "NDEBUG"

```

```

# ADD RSC /1 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbc32.lib /nologo /subsystem:console /machine:I386
# ADD LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbc32.lib /nologo /subsystem:console
/pdb:none /machine:I386

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

# PROP BASE Use_MFC 0
# PROP BASE Use_Debug_Libraries 1
# PROP BASE Output_Dir ".\Debug"
# PROP BASE Intermediate_Dir ".\Debug"
# PROP BASE Target_Dir ""
# PROP Use_MFC 0
# PROP Use_Debug_Libraries 1
# PROP Output_Dir ".\bin"
# PROP Intermediate_Dir ".\objects"
# PROP Ignore_Export_Lib 0
# PROP Target_Dir ""
# ADD BASE CPP /nologo /W3 /Gm /GX /Zi /Od /D "WIN32"
/D "_DEBUG" /D "_CONSOLE" /YX /c
# ADD CPP /nologo /MTd /W3 /Gm /GX /ZI /Od /D
"_DEBUG" /D "WIN32" /D "_CONSOLE" /D "DBNTWIN32" /FR
/FD /c
# ADD BASE RSC /1 0x409 /d "_DEBUG"
# ADD RSC /1 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbc32.lib /nologo /subsystem:console /debug
/machine:I386
# ADD LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbc32.lib
odbc32.lib /nologo /subsystem:console
/pdb:none /debug /machine:I386

!ENDIF

# Begin Target

# Name "tpccldr - Win32 Release"
# Name "tpccldr - Win32 Debug"
# Begin Group "Source Files"

# PROP Default_Filter
"cpp;c;cx;rc;def;r;odl;hpj;bat;for;f90"
# Begin Source File

SOURCE=. \src\getargs.c

```

```

# End Source File
# Begin Source File

SOURCE=. \src\random.c
# End Source File
# Begin Source File

SOURCE=. \src\strings.c
# End Source File
# Begin Source File

SOURCE=. \src\time.c
# End Source File
# Begin Source File

SOURCE=. \src\tpccldr.c
# End Source File
# End Group
# Begin Group "Header Files"

# PROP Default_Filter "h;hpp;hxx;hm;inl;fi;fd"
# Begin Source File

SOURCE=..\..\..\Program Files\Microsoft Visual
Studio\VC98\Include\BASETSD.H"
# End Source File
# Begin Source File

SOURCE="C:\Program Files\Microsoft SQL
Server\80\Tools\DevTools\Include\odbcss.h"
# End Source File
# Begin Source File

SOURCE=. \src\tpcc.h
# End Source File
# End Group
# Begin Group "Resource Files"

# PROP Default_Filter
"ico;cur;bmp;dlg;rc2;rct;bin;cnt;rtf;gif;jpg;jpeg;jpe"
"
# End Group
# End Target
# End Project

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

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

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

!IF "$(CFG)" != "tpccldr - Win32 Release" && "$(CFG)"
!=\
"tpccldr - Win32 Debug"
!MESSAGE Invalid configuration "$(CFG)" specified.
!MESSAGE You can specify a configuration when running
NMAKE on this makefile

```

```

!MESSAGE by defining the macro CFG on the command
line. For example:
!MESSAGE
!MESSAGE NMAKE /f "tpccldr.mak" CFG="tpccldr - Win32
Debug"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "tpccldr - Win32 Release" (based on "Win32
(x86) Console Application")
!MESSAGE "tpccldr - Win32 Debug" (based on "Win32
(x86) Console Application")
!MESSAGE
!ERROR An invalid configuration is specified.
!ENDIF

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

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

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

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

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

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

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

# ADD BASE CPP /nologo /W3 /GX /O2 /D "WIN32" /D
"NDEBUG" /D "_CONSOLE" /YX /c

```

```

# ADD CPP /nologo /MT /W3 /GX /O2 /I
"c:\mssql\dblib\include" /D "NDEBUG" /D "WIN32" /D
"_CONSOLE" /D "DBNTWIN32" /c
# SUBTRACT CPP /YX
CPP_PROJ=/nologo /MT /W3 /GX /O2 /I
"c:\mssql\dblib\include" /D "NDEBUG" /D\
"WIN32" /D "_CONSOLE" /D "DBNTWIN32" /Fo"${INTDIR}"/
/c
CPP_OBJS=.\objects/
CPP_SBRS=.\
# ADD BASE RSC /1 0x409 /d "NDEBUG"
# ADD RSC /1 0x409 /d "NDEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
BSC32_FLAGS=/nologo /o"${OUTDIR}/tpccldr.bsc"
BSC32_SBRS= \

LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbcc32.lib
odbc32.lib /nologo /subsystem:console /machine:I386
# ADD LINK32 c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib uuid.lib odbcc32.lib /nologo
/subsystem:console /pdb:none /machine:I386
LINK32_FLAGS=c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib\
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib\
uuid.lib odbcc32.lib /nologo
/subsystem:console /pdb:none\
/machine:I386 /out:"${OUTDIR}/tpccldr.exe"
LINK32_OBJS= \
    "${INTDIR}\getargs.obj" \
    "${INTDIR}\random.obj" \
    "${INTDIR}\strings.obj" \
    "${INTDIR}\time.obj" \
    "${INTDIR}\tpccldr.obj"

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

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

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

```

```

ALL : "${OUTDIR}\tpccldr.exe"

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

"${OUTDIR}" :
    if not exist "${OUTDIR}/$(NULL)" mkdir
"${OUTDIR}"

"${INTDIR}" :
    if not exist "${INTDIR}/$(NULL)" mkdir
"${INTDIR}"

# ADD BASE CPP /nologo /W3 /Gm /GX /Zi /Od /D "WIN32"
/D "_DEBUG" /D "_CONSOLE" /YX /c
# ADD CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /I
"c:\mssql\dblib\include" /D "_DEBUG" /D "WIN32" /D
"_CONSOLE" /D "DBNTWIN32" /c
# SUBTRACT CPP /YX
CPP_PROJ=/nologo /MTd /W3 /Gm /GX /Zi /Od /I
"c:\mssql\dblib\include" /D\
    "_DEBUG" /D "WIN32" /D "_CONSOLE" /D "DBNTWIN32"
/Fo"${INTDIR}"/\
    /Fd"${INTDIR}"/ /c
CPP_OBJS=.\objects/
CPP_SBRS=.\
# ADD BASE RSC /1 0x409 /d "_DEBUG"
# ADD RSC /1 0x409 /d "_DEBUG"
BSC32=bscmake.exe
# ADD BASE BSC32 /nologo
# ADD BSC32 /nologo
BSC32_FLAGS=/nologo /o"${OUTDIR}/tpccldr.bsc"
BSC32_SBRS= \

LINK32=link.exe
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib uuid.lib odbcc32.lib
odbc32.lib /nologo /subsystem:console /debug
/machine:I386
# ADD LINK32 c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib
oleaut32.lib uuid.lib odbcc32.lib /nologo
/subsystem:console /pdb:none /debug /machine:I386
LINK32_FLAGS=c:\mssql\dblib\lib\ntwdblib.lib
kernel32.lib user32.lib gdi32.lib\
winspool.lib comdlg32.lib advapi32.lib shell32.lib
ole32.lib oleaut32.lib\
uuid.lib odbcc32.lib /nologo
/subsystem:console /pdb:none /debug\
/machine:I386 /out:"${OUTDIR}/tpccldr.exe"
LINK32_OBJS= \
    "${INTDIR}\getargs.obj" \
    "${INTDIR}\random.obj" \
    "${INTDIR}\strings.obj" \

```

```

    "${INTDIR}\time.obj" \
    "${INTDIR}\tpccldr.obj"

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

!ENDIF

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

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

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

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

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

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

#####
# Begin Target

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

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

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

!ENDIF

#####
# Begin Source File

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

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

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

```

```

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

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

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

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

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

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

SOURCE=. \src\tpccldr.c
DEP_CPP_TPCCL=\
    ".\src\tpcc.h"\
    "\mssql\dblib\include\sqldb.h"\
    "\mssql\dblib\include\sqlfront.h"\

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

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

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

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

```

```

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

```

Appendix C: Tunable Parameters

Microsoft SQL Server 7.0 (SP2)Startup Parameters

```
C:\MSSQL7\BINN\SQLSERV  
-eC:\MSSQL7\LOG\ERRORLOG -x -c -t3502  
-g37
```

Where:

- -c Start SQL Server independently of the Windows NT Service Control Manager
- -x Disables the keeping of CPU time and cache-hit ratio statistics
- -t3502 Prints a message to the SQL Server log at the start and end of each checkpoint
- -g40 Specify the amount of virtual address space in MB, SQL Server will leave available for memory allocations, excluding the buffer pool and threads stack, 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.

Microsoft Windows NT 4.0 Enterprise Edition Configuration Parameters

No services were disabled in the Windows NT Control Panel/Services on the Server systems.

Set Control Panel -> System -> Performance -> Forground Application Boost to Maximum

Set Control Panel -> Network -> Services -> Server -> Maximize Throughput For Network Applications

Microsoft Windows 2000 Configuration Parameters

No services were disabled in the Windows 2000 Control Panel/Services on the Client systems.

Boot.ini Parameters

4GB Tuning was enabled for Windows NT Server 4.0, Enterprise Edition by setting the “/3GB” switch in the boot.ini file as documented in the “Windows NT Server,

Enterprise Edition Administrator’s Guide and Release Notes”.

SQL Server Stack Size

The default stack size for Microsoft SQL Server was changed using the EDITBIN utility. The EDITBIN utility ships with Microsoft Visual C++ V4.0. The command used to change the stack size is:

```
editbin /Stack:131072 sqlservr.exe
```

This command is fully documented as an article in the Microsoft Knowledge Base on the Microsoft Web Site at www.microsoft.com/support.

Compaq Device Drivers for Windows NT

The following Microsoft Windows NT device drivers were replaced with Compaq-specific device drivers:

- The Microsoft SMART-4200 Array Controller default device driver (CPQARRY2.SYS) was replaced with the Compaq SMART-4200 Array Controller ECI Driver version 1.09 for Microsoft Windows NT 4.0 (CPQSMRT2.SYS). This driver is now available on the Compaq Computer Corporation World

Microsoft COM Component Configuration Parameters

The component services tool in Windows 2000 was used to change the queue settings for the TPCC COM+ single queue component. The single queue component was set to enable object pooling, object construction, just in time activation, and component supports events and statistics. The min and max pool size for the single queue component on each client was 84. Delivery threads were set under the TPCC key in the registry. The construction string was "Server = myserver;UID=sa;pwd=;DATABASE=tpcc;"

```

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  3 2000 10:22:07:357AM

(1 row affected)

1> 2> 3>
select @@version

```

```

-----
-----
-----
Microsoft SQL Server 7.00 - 7.00.805 (Intel X86)
Jun 11 1999 11:48:12
Cop
yright (c) 1988-1998 Microsoft Corporation
Enterprise Edition on Windo
ws NT 4.0 (Build 1381: Service Pack 6)

(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  3 2000 10:22:08:153AM

(1 row affected)

1> 2> 3> DBCC execution completed. If DBCC printed
error messages, contact your system administrator.
Configuration option changed. 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
0 2147483647 63 63
allow updates
0 1 0 0
cost threshold for parallelism
0 32767 5 5
cursor threshold
-1 2147483647 -1 -1
default language
0 9999 0 0
default sortorder id
0 255 50 50

```

```

extended memory size (MB)
0 2147483647 0 0
fill factor (%)
0 100 0 0
index create memory (KB)
704 1600000 704 704
language in cache
3 100 3 3
language neutral full-text
0 1 0 0
lightweight pooling
0 1 1 1
locks
5000 2147483647 0 0
max async IO
1 255 255 255
max degree of parallelism
0 32 1 1
max server memory (MB)
4 2147483647 2147483647 2147483647
max text repl size (B)
0 2147483647 65536 65536
max worker threads
10 1024 370 370
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 1 1
network packet size (B)
512 65535 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 32767 32767
remote access
0 1 1 1
remote login timeout (s)
0 2147483647 5 5
remote proc trans
0 1 0 0
remote query timeout (s)
0 2147483647 0 0
resource timeout (s)
5 2147483647 10 10
scan for startup procs
0 1 0 0
set working set size
0 1 0 0
show advanced options
0 1 1 1
spin counter
1 2147483647 10000 10000

```

```

time slice (ms)
50      1000      100      100
two digit year cutoff
1753    9999      2049      2049
Unicode comparison style
0 2147483647      0      0
Unicode locale id
0 2147483647      33280      33280
user connections
0      32767      0      0
user options
0      4095      0      0

```

l>

```

Profile: potter
File Path: C:\potter.prc
Version: 1.0.1

```

Number of Engines: 16

```

Name: nlp0
Description: N1 Proc 0
Directory: e:\nlp0.log
Machine: N1
Parameter Set: Full Tilt
Index: 0
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER11715987171
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 0

```

```

Name: nlp1
Description: N1 Proc 1
Directory: e:\nlp1.log
Machine: N1
Parameter Set: Full Tilt
Index: 100000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER21716040875
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 1

```

```

Name: nlp2
Description: N1 Proc 2
Directory: e:\nlp2.log
Machine: N1
Parameter Set: Full Tilt
Index: 200000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER31716065781
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 2

```

```

Name: nlp3
Description: N1 Proc 3
Directory: e:\nlp3.log
Machine: N1
Parameter Set: Full Tilt
Index: 300000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER41717701000
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 3

```

```

Name: n2p0
Description: N2 Proc 0
Directory: c:\n2p0.log
Machine: N2
Parameter Set: Full Tilt
Index: 400000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER51717746812
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 0

```

```

Name: n2p1
Description: N2 Proc 1
Directory: c:\n2p1.log
Machine: N2
Parameter Set: Full Tilt
Index: 500000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER61718118656
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 1

```

```

Name: n2p2
Description: N2 Proc 2
Directory: c:\n2p2.log
Machine: N2
Parameter Set: Full Tilt
Index: 600000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER71718153671
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 2

```

```

Name: n2p3
Description: N2 Proc 3
Directory: c:\n2p3.log
Machine: N2
Parameter Set: Full Tilt
Index: 700000000
Seed: 27753

```

```

Configured Users: 1700
Pipe Name: DRIVER81718260468
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 3

```

```

Name: n3p0
Description: N3 Proc 0
Directory: c:\n3p0.log
Machine: N3
Parameter Set: Full Tilt
Index: 800000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER91718302578
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 0

```

```

Name: n3p1
Description: N3 Proc 1
Directory: c:\n3p1.log
Machine: N3
Parameter Set: Full Tilt
Index: 900000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER101718338578
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 1

```

```

Name: n3p2
Description: N3 Proc 2
Directory: c:\n3p2.log
Machine: N3
Parameter Set: Full Tilt
Index: 1000000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER111718355531
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 2

```

```

Name: n3p3
Description: N3 Proc 3
Directory: c:\n3p3.log
Machine: N3
Parameter Set: Full Tilt
Index: 1100000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER121718385421
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 3

```

Name: n4p0
Description: N4 Proc 0
Directory: c:\n4p0.log
Machine: N4
Parameter Set: Full Tilt
Index: 1200000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER131718407843
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: n4p1
Description: N4 Proc 1
Directory: c:\n4p1.log
Machine: N4
Parameter Set: Full Tilt
Index: 1300000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER141718444953
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: n4p2
Description: N4 Proc 2
Directory: c:\n4p2.log
Machine: N4
Parameter Set: Full Tilt
Index: 1400000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER151718466828
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: n4p3
Description: N4 Proc 3
Directory: c:\n4p3.log
Machine: N4
Parameter Set: Full Tilt
Index: 1500000000
Seed: 27753
Configured Users: 1700
Pipe Name: DRIVER161718491796
Connect Rate: 0
Start Rate: 0
CLIENT_NURAND: 233
CPU: 3

Number of User groups: 16

Driver Engine: nlp0
IIS Server: felc
SQL Server: potter_ip
User: sa
Protocol: Html

w_id Range: 1 - 170
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n4p0
IIS Server: fe4c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 2041 - 2210
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n4p1
IIS Server: fe4c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 2211 - 2380
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n4p2
IIS Server: fe4c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 2381 - 2550
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n4p3
IIS Server: fe4c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 2551 - 2720
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: nlp1
IIS Server: felc
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 171 - 340
w_id Max Warehouse: 2720
Scale: Normal

User Count: 1700
District id: 1
Scale Down: No

Driver Engine: nlp2
IIS Server: felc
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 341 - 510
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: nlp3
IIS Server: felc
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 511 - 680
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n2p0
IIS Server: fe2c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 681 - 850
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n2p1
IIS Server: fe2c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 851 - 1020
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n2p2
IIS Server: fe2c
SQL Server: potter_ip
User: sa
Protocol: Html
w_id Range: 1021 - 1190
w_id Max Warehouse: 2720
Scale: Normal
User Count: 1700
District id: 1
Scale Down: No

Driver Engine: n2p3
 IIS Server: fe2c
 SQL Server: potter_ip
 User: sa
 Protocol: Html
 w_id Range: 1191 - 1360
 w_id Max Warehouse: 2720
 Scale: Normal
 User Count: 1700
 District id: 1
 Scale Down: No

Driver Engine: n3p0
 IIS Server: fe5c
 SQL Server: potter_ip
 User: sa
 Protocol: Html
 w_id Range: 1361 - 1530
 w_id Max Warehouse: 2720
 Scale: Normal
 User Count: 1700
 District id: 1
 Scale Down: No

Driver Engine: n3p1
 IIS Server: fe5c
 SQL Server: potter_ip
 User: sa
 Protocol: Html
 w_id Range: 1531 - 1700
 w_id Max Warehouse: 2720
 Scale: Normal
 User Count: 1700
 District id: 1
 Scale Down: No

Driver Engine: n3p2
 IIS Server: fe5c
 SQL Server: potter_ip
 User: sa
 Protocol: Html
 w_id Range: 1701 - 1870
 w_id Max Warehouse: 2720
 Scale: Normal
 User Count: 1700
 District id: 1
 Scale Down: No

Driver Engine: n3p3
 IIS Server: fe5c
 SQL Server: potter_ip
 User: sa
 Protocol: Html
 w_id Range: 1871 - 2040
 w_id Max Warehouse: 2720
 Scale: Normal
 User Count: 1700
 District id: 1
 Scale Down: No

Number of Parameter Sets: 8

| 3.5 3.5x Think Time | | | | | | |
|-----------------------------------|-------|-------|--------------|--------|-------|--|
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 42.00 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 42.00 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 17.50 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 17.50 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 35.70 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| 3.0 3x Think Time | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 36.00 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 36.00 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 15.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 15.00 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 30.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| 2.5 2.5x Think Time | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 30.00 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 30.00 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 12.50 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 12.50 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 25.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| -Default Default Parameter Set | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 10.00 | | |
| 12.05 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 10.00 | | |
| 12.05 | 3.01 | | 0.10 | 5.00 | 0.10 | |

| 5.05 | 2.01 | | Delivery | 1.00 | | |
|-----------------------|-------|-------|--------------|--------|-------|--|
| | | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 1.00 | | |
| 5.05 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 1.00 | | |
| 10.05 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| 2.0 2.0 Think Time | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 24.00 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 24.00 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 10.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 10.00 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 20.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| 1.1 Think Time | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 13.20 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 13.20 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 5.50 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 5.50 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 11.00 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| 1.06 Think Time | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |
| Time | Delay | Fence | Delay | Weight | Time | |
| | | | New Order | 44.74 | | |
| 12.72 | 18.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Payment | 43.09 | | |
| 12.72 | 3.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Delivery | 4.05 | | |
| 5.30 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| | | | Stock Level | 4.07 | | |
| 5.30 | 2.01 | | 0.10 | 20.00 | 0.10 | |
| | | | Order Status | 4.05 | | |
| 10.60 | 2.01 | | 0.10 | 5.00 | 0.10 | |
| Full Tilt | | | | | | |
| Key | RT | RT | Menu | Txn | Think | |


```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\afd\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\afd\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,72,00,76,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,03,00,04,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,03,00,04
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,03,00,04,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\afd\Enum]
"0"="Root\LEGACY_AFD\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Aha154x]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000006

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Aha174x]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000008

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\aic78xx]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001e
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"DisplayName"="Alerter"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6
b,73,74,61,74,69,6f,6e,00,\
00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter\Parameters]
"AlertNames"=hex(7):00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,20,02,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,00,00,00,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,00
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,00,00,00,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Alerter\Enum]
"0"="Root\LEGACY_ALERTER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Always]
"Type"=dword:00000001
```

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"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000014

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ami0nt]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000d

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\amsint]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000024

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Arrow]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000015

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rexecd Server]
"Type"=dword:00000010
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,52,4
5,58,45,43,44,2e,45,58,45,\
00
"DisplayName"="Ataman Rexecd Server"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rexecd Server\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,74,00,73,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,76,00,63,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,76,00,63
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,76,00,63,00,00,00,18,\
```

```

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rexecd Server\Enum]
"0"="Root\LEGACY_ATAMAN REXECD SERVER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rlogind Server]
"Type"=dword:00000010
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,52,4
c,4f,47,49,4e,44,2e,45,58,\
45,00
"DisplayName"="Ataman Rlogind Server"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rlogind Server\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,74,00,73,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,76,00,63,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,76,00,63
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00
,76,00,63,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Rlogind Server\Enum]
"0"="Root\LEGACY_ATAMAN RLOGIND SERVER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Telnetd Server]
"Type"=dword:00000010
"Start"=dword:00000002

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"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,54,4
5,4c,4e,45,54,44,2e,45,58,\
45,00
"DisplayName"="Ataman Telnetd Server"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Telnetd Server\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,74,00,73,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,76,00,63,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,76,00,63
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00
,76,00,63,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ataman Telnetd Server\Enum]
"0"="Root\LEGACY_ATAMAN TELNETD SERVER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\atapi]
"Type"=dword:00000001
"Start"=dword:00000000
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000019
"ImagePath"=hex(2):53,79,73,74,65,6d,33,32,5c,44,52,4
9,56,45,52,53,5c,61,74,61,\
70,69,2e,73,79,73,00
"PlugPlayServiceType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\atapi\Enum]
"0"="Root\LEGACY_ATAPI\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Atdisk]
"Type"=dword:00000001

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"Start"=dword:00000004
"ErrorControl"=dword:00000000
"Group"="Primary disk"
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ati]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Video"
"ErrorControl"=dword:00000000
"ImagePath"=hex(2):53,79,73,74,65,6d,33,32,5c,44,52,4
9,56,45,52,53,5c,61,74,69,\
2e,73,79,73,00
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ati\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):61,74,69,00,00
"Device Description"="ATI Technologies Inc. 3D RAGE
IIC"
"AllowedPixelDepth"=hex:00
"AllowedRefreshRate"=hex:00
"AllowedResolution"=hex:00
"BlockWriteDisabled"=dword:00000000
"DDC2Disabled"=dword:00000001
"FastFillDisabled"=dword:00000000
"HDTVEnabled"=dword:00000000
"TimingSelection"=dword:00000002
"HardwareInformation.Crc32"=hex:49,b3,15,f1
"DDC2Supported"=hex:01,00,00,00
"MonitorID"=hex:01,00,00,00,03,00,00,00,00,00,00,00,0
0,00,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\

52,00,41,00,47,00,45,00,20,00,49,00,49,00,43,00,20,00
,28,00,55,00,4d,00,43,\
00,20,00,47,00,54,00,2d,00,42,00,29,00,00,00
"HardwareInformation.DacType"=hex:41,00,54,00,49,00,2
0,00,49,00,6e,00,74,00,65,\

00,72,00,6e,00,61,00,6c,00,20,00,44,00,41,00,43,00,00
,00
"HardwareInformation.MemorySize"=hex:00,00,20,00
"HardwareInformation.AdapterString"=hex:41,00,54,00,4
9,00,20,00,47,00,72,00,61,\

```

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00,70,00,68,00,69,00,63,00,73,00,20,00,41,00,63,00,63
,00,65,00,6c,00,65,00,\
72,00,61,00,74,00,6f,00,72,00,00,00
"HardwareInformation.BiosString"=hex:41,00,54,00,49,0
0,20,00,56,00,69,00,64,00,\
65,00,6f,00,20,00,42,00,49,00,4f,00,53,00,00,00
"CustomCRTTimings"=hex:00
"TVOutAdjustments"=hex:00
"FileToRead"=hex:5c,00,53,00,79,00,73,00,74,00,65,00,
6d,00,52,00,6f,00,6f,00,\
74,00,5c,00,53,00,79,00,73,00,74,00,65,00,6d,00,33,00,
32,00,5c,00,64,00,72,\
00,69,00,76,00,65,00,72,00,73,00,5c,00,61,00,74,00,69
,00,76,00,64,00,69,00,\
66,00,2e,00,64,00,61,00,74,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ati\Enum]
"0"="Root\\LEGACY_ATI\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Beep]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Base"
"ErrorControl"=dword:00000001
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Beep\Enum]
"0"="Root\\LEGACY_BEEP\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser]
"Type"=dword:00000020
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"DisplayName"="Computer Browser"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6
b,73,74,61,74,69,6f,6e,00,\
4c,61,6e,6d,61,6e,53,65,72,76,65,72,00,4c,6d,48,6f,73
,74,73,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser\Linkage\Disabled]

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser\Parameters]
"MaintainServerList"="Auto"
"IsDomainMaster"="FALSE"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,c8,00,14,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,00,00,00,00,00,c8,00,14
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00
,c8,00,14,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Browser\Enum]
"0"="Root\\LEGACY_BROWSER\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\BusLogic]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001b

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Busmouse]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Pointer Port"
"ErrorControl"=dword:00000000
"Tag"=dword:00000003

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Busmouse\Parameters]
"MouseDataQueueSize"=dword:00000064
"NumberOfButtons"=dword:00000002
"SampleRate"=dword:00000032
"PointerDeviceBaseName"="PointerPort"

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdaudio]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Filter"
"ErrorControl"=dword:00000000
"Tag"=dword:00000006

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdaudio\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdfs]
"Type"=dword:00000002
"Start"=dword:00000004
"Group"="File system"
"ErrorControl"=dword:00000001
"DependOnGroup"=hex(7):53,43,53,49,20,43,44,52,4f,4d,
20,43,6c,61,73,73,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdfs\Enum]
"0"="Root\\LEGACY_CDFS\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdrom]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="SCSI CDROM Class"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002
"DependOnGroup"=hex(7):53,43,53,49,20,6d,69,6e,69,70,
6f,72,74,00,00
"Autorun"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Cdrom\Enum]
"0"="Root\\LEGACY_CDROM\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Changer]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Filter"
"ErrorControl"=dword:00000000
"Tag"=dword:00000005

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Changer\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cirrus]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"

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>ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cirrus\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,63,69,72,72,75,73,00,76,67,61,32,\
35,36,00,76,67,61,36,34,4b,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ClipSrv]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\
32,5c,63,6c,69,70,73,72,76,2e,65,78,65,00
"DependOnService"=hex(7):4e,65,74,44,44,45,00,00
"DisplayName"="ClipBook Server"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ClipSrv\Security]
"Security"=hex:01,00,14,80,9c,00,00,00,a8,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,68,00,04,00,00,00,03,18,00,8d,00,02,00,01,01,00,\
00,00,00,01,00,00,00,00,00,00,00,00,03,18,00,ff,01,0f,00,01,02,00,00,\
00,00,05,20,00,00,00,20,02,00,00,03,18,00,8f,00,02,00,01,02,00,00,00,\
00,00,05,20,00,00,00,23,02,00,00,03,18,00,9d,00,00,00,01,01,00,00,00,00,\
00,05,04,00,00,00,23,02,00,00,01,01,00,00,00,00,05,12,00,00,00,01,01,00,\
00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Cpqarray]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000100

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqarry2]
"Type"=dword:00000001
"Start"=dword:00000000
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"ImagePath"="system32\drivers\cpqarry2.sys"
"tag"=dword:00000102
"RequestedSystemResources"=hex(a):c8,00,00,00,05,00,0,0,00,0d,00,00,00,02,00,00,\

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00,00,00,00,00,00,00,00,00,00,00,00,00,01,00,00,00,01,00,01,00,05,00,00,00,\
00,02,03,00,00,00,00,00,08,00,00,00,08,00,00,00,00,00,00,00,00,00,00,\
00,00,00,00,00,00,01,03,01,00,00,00,00,00,10,00,00,00,10,00,00,00,\
fe,f7,00,00,00,00,ff,0f,fe,f7,00,00,00,00,08,03,01,00,00,00,00,00,10,00,\
00,00,10,00,00,00,fe,f7,00,00,00,ff,0f,fe,f7,00,00,00,01,01,01,00,\
01,00,00,00,00,01,00,00,00,01,00,00,00,54,00,00,00,00,00,ff,54,00,00,00,\
00,00,00,08,01,01,00,01,00,00,00,00,01,00,00,00,01,00,00,54,00,00,00,\
00,00,ff,54,00,00,00,00,00
"PlugPlayServiceType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqarry2\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqarry2\Parameters\Device]
"NumberOfRequests"=dword:00000080

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqarry2\Enum]
"0"="Root\LEGACY_CPQARRY2\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqfws2e]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000026

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CpqSMRT2]
"Type"=dword:00000001
"Start"=dword:00000000
"ErrorControl"=dword:00000001
"Tag"=dword:00000001
"ImagePath"=hex(2):53,79,73,74,65,6d,33,32,5c,64,72,69,76,65,72,73,5c,43,50,51,\
53,4d,52,54,32,2e,53,59,53,00
"Group"="Primary disk"
"PlugPlayServiceType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CpqSMRT2\Parameters]
"InterruptMask"=dword:fffffffe
"DynamicMask"=dword:fffffffe

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CpqSMRT2\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,74,00,6f,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,72,00,00,00,00,00,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,05,20,00,00,00,20,02,00,00,72,00,00,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,72,00,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CpqSMRT2\Enum]
"0"="Root\SCSIADAPTER\OEM0.INF&CPQSMRT2"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\dac960nt]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000020

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\dce376nt]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000016

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Delldsa]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000101

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Delldgx]
"Type"=dword:00000001
"Start"=dword:00000004

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"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Dell_DGX\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):66,72,61,6d,65,62,75
,66,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP]
"Type"=dword:00000020
"Start"=dword:00000004
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"DisplayName"="DHCP Client"
"Group"="TDI"
"DependOnService"=hex(7):54,63,70,69,70,00,41,66,64,0
0,4e,65,74,42,54,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\1]
"RegLocation"="System\CurrentControlSet\Services\?
\Parameters\Tcpip\DhcpSubnetMaskOpt"
"KeyType"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\15]
"RegLocation"="System\CurrentControlSet\Services\T
cpip\Parameters\DhcpDomain"
"KeyType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\3]
"RegLocation"="System\CurrentControlSet\Services\?
\Parameters\Tcpip\DhcpDefaultGateway"
"KeyType"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\44]
"RegLocation"="System\CurrentControlSet\Services\N
etBT\Adapters\?\DhcpNameServer"
"KeyType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\46]

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"RegLocation"="System\CurrentControlSet\Services\N
etBT\Parameters\DhcpNodeType"
"KeyType"=dword:00000004

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\47]
"RegLocation"="System\CurrentControlSet\Services\N
etBT\Parameters\DhcpScopeID"
"KeyType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Parameters\Options\6]
"RegLocation"="System\CurrentControlSet\Services\T
cpip\Parameters\DhcpNameServer"
"KeyType"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DHCP\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,20,02,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,69,00,64,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,69,00,64
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,69,00,64,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Disk]
"Type"=dword:00000001
"Start"=dword:00000000
"Group"="SCSI Class"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002
"DependOnGroup"=hex(7):53,43,53,49,20,6d,69,6e,69,70,
6f,72,74,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Disk\Enum]
"0"="Root\LEGACY_DISK\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Diskperf]

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"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Filter"
"ErrorControl"=dword:00000001
"Tag"=dword:00000004

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Diskperf\Enum]
"0"="Root\LEGACY_DISKPERF\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
DptScsi]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000009

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
dte329x]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000017

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
et4000]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
et4000\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,77,33,32
,00,76,67,61,32,35,36,00,\
76,67,61,36,34,4b,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
EventLog]
"Type"=dword:00000020
"Start"=dword:00000002
"Group"="Event log"
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,73,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"ObjectName"="LocalSystem"
"PlugPlayServiceType"=dword:00000003

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
EventLog\Application]
"File"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,
73,79,73,74,65,6d,33,32,\
5c,63,6f,6e,66,69,67,5c,41,70,70,45,76,65,6e,74,2e,45
,76,74,00
"MaxSize"=dword:00080000
"Retention"=dword:00093a80

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"Sources"=hex(7):57,69,6e,6c,6f,67,6f,6e,00,57,69,6e,64,6f,77,73,20,33,2e,31,\
20,4d,69,67,72,61,74,69,6f,6e,00,56,42,52,75,6e,74,69,6d,65,00,55,73,65,72,\
65,6e,76,00,54,79,70,65,20,31,20,49,6e,73,74,61,6c,6c,65,72,00,54,61,72,64,\
69,73,00,53,51,4c,53,65,72,76,65,72,50,72,6f,66,69,6c,65,72,00,53,51,4c,53,\
65,72,76,65,72,41,67,65,6e,74,00,53,51,4c,43,54,52,37,30,00,52,65,70,6c,69,\
63,61,74,6f,72,00,50,65,72,66,6d,6f,6e,00,50,65,72,66,6c,69,62,00,50,65,72,\
66,63,74,72,73,00,6e,74,62,61,63,6b,75,70,00,4d,53,53,51,4c,53,65,72,76,65,\
72,00,4d,53,44,54,43,00,4c,69,63,65,6e,73,65,53,65,72,76,69,63,65,00,4a,61,\
76,61,20,56,4d,00,68,70,6d,6f,6e,00,44,72,57,61,74,73,6f,6e,00,44,61,74,61,\
54,72,61,6e,73,66,6f,72,6d,61,74,69,6f,6e,53,65,72,76,69,63,65,73,00,41,75,\
74,6f,63,68,6b,00,41,74,61,6d,61,6e,20,54,65,6c,6e,65,74,64,20,53,65,72,76,\
65,72,00,41,74,61,6d,61,6e,20,52,6c,6f,67,69,6e,64,20,53,65,72,76,65,72,\
41,74,61,6d,61,6e,20,52,65,78,65,63,64,20,53,65,72,76,65,72,00,41,74,61,6d,\
61,6e,20,43,6f,6d,6d,61,6e,64,20,54,72,61,6e,73,6c,61,74,6f,72,00,41,74,61,\
6d,61,6e,20,43,6f,6d,6d,61,6e,64,20,53,74,61,72,74,65,72,00,41,70,70,6c,69,\
63,61,74,69,6f,6e,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Ataman Command Starter]
"TypesSupported"=dword:00000007
"EventMessageFile"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,73,74,61,72,74,63,6d,\
64,2e,65,78,65,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Ataman Command Translator]
"TypesSupported"=dword:00000007
"EventMessageFile"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,74,72,61,6e,73,63,6d,\
64,2e,65,78,65,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Ataman Rexecd Server]
"TypesSupported"=dword:00000007

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"EventMessageFile"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,72,65,78,65,63,64,2e,\
65,78,65,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Ataman Rlogind Server]
"TypesSupported"=dword:00000007
"EventMessageFile"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,72,6c,6f,67,69,6e,64,\
2e,65,78,65,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Ataman Telnetd Server]
"TypesSupported"=dword:00000007
"EventMessageFile"=hex(2):43,3a,5c,61,74,61,6d,61,6e,5c,74,65,6c,6e,65,74,64,\
2e,65,78,65,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Autochk]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,77,69,6e,6c,6f,67,6f,6e,2e,65,78,65,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\DataTransformationServices]
"EventMessageFile"="C:\MSSQL7\Binn\dtspkg.dll"
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\DrWatson]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,64,72,77,74,73,6e,33,32,2e,65,78,65,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\hpmon]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,68,70,6d,6f,6e,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Java VM]
"EventMessageFile"="C:\WINNT40\System32\vmhelper.dll"
"TypesSupported"=hex:07,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\LicenseService]
"TypesSupported"=dword:00000007
"EventMessageFile"="%SystemRoot%\System32\llsrpc.dll"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\MSDTC]
"EventMessageFile"=hex(2):43,3a,5c,57,49,4e,4e,54,34,30,5c,53,79,73,74,65,6d,\
33,32,5c,45,4e,55,64,74,63,2e,64,6c,6c,00

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"TypesSupported"=dword:00000007
"CategoryMessageFile"=hex(2):43,3a,5c,57,49,4e,4e,54,34,30,5c,53,79,73,74,65,\
6d,33,32,5c,45,4e,55,64,74,63,2e,64,6c,6c,00
"CategoryCount"=dword:00000006

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\MSSQLServer]
"TypesSupported"=dword:000000ff
"CategoryCount"=dword:00000008
"EventMessageFile"="C:\MSSQL7\BINN\SQLLEVN70.DLL"
"CategoryMessageFile"="C:\MSSQL7\BINN\SQLLEVN70.DLL"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\ntbackup]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,6e,74,62,61,63,6b,75,70,2e,65,78,65,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Perfctrs]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,70,65,72,66,63,74,72,73,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Perflib]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,70,72,66,6c,62,6d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Perfmon]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,70,65,72,66,6d,6f,6e,2e,65,78,65,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\Replicator]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,4e,65,74,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\SQLCTR70]
"TypesSupported"=dword:00000007
"EventMessageFile"="C:\MSSQL7\BINN\SQLLEVN70.DLL"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application\SQLServerAgent]
"TypesSupported"=dword:00000007
"CategoryCount"=dword:00000004
"EventMessageFile"="C:\MSSQL7\BINN\SQLAGENT.DLL"

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"CategoryMessageFile"="C:\\MSSQL7\\BINN\\SQLAGENT.LDL
"
[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\SQLServerProfiler]
"EventMessageFile"=hex(2):43,3a,5c,4d,53,53,51,4c,37,
5c,42,49,4e,4e,5c,43,4f,\\
4d,4e,45,56,4e,54,2e,44,4c,4c,00
"CategoryMessageFile"=hex(2):43,3a,5c,4d,53,53,51,4c,
37,5c,42,49,4e,4e,5c,43,\\
4f,4d,4e,45,56,4e,54,2e,44,4c,4c,00
"TypesSupported"=dword:00000007
"CategoryCount"=dword:00000008

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\Tardis]
"EventMessageFile"="%SystemRoot%\\System32\\tardis.cp
1"
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\Type 1 Installer]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\\
65,6d,33,32,5c,74,31,69,6e,73,74,61,6c,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\Userenv]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\\
65,6d,33,32,5c,75,73,65,72,65,6e,76,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\VBRuntime]
"EventMessageFile"="C:\\WINNT40\\System32\\MSVBVM60.D
LL"
"TypesSupported"=dword:00000004

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\Windows 3.1 Migration]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\\
65,6d,33,32,5c,61,64,76,61,70,69,33,32,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Application\\Winlogon]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\\
65,6d,33,32,5c,77,69,6e,6c,6f,67,6f,6e,2e,65,78,65,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security]
"File"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,
53,79,73,74,65,6d,33,32,\\

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5c,63,6f,6e,66,69,67,5c,53,65,63,45,76,65,6e,74,2e,45
,76,74,00
"MaxSize"=dword:00080000
"Retention"=dword:00093a80
"PrimaryModule"="Security"
"Sources"=hex(7):53,70,6f,6f,6c,65,72,00,53,65,63,75,
72,69,74,79,20,41,63,63,\\
6f,75,6e,74,20,4d,61,6e,61,67,65,72,00,53,43,20,4d,61
,6e,61,67,65,72,00,4e,\\
65,74,44,44,45,20,4f,62,6a,65,63,74,00,4c,53,41,00,53
,65,63,75,72,69,74,79,\\
00,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\LSA]
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\LSA\\ObjectNames]
"PolicyObject"=dword:00001600
"SecretObject"=dword:00001610
"TrustedDomainObject"=dword:00001620
"UserAccountObject"=dword:00001630

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\NetDDE Object]
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\NetDDE Object\\ObjectNames]
"DDE Share"=dword:00001d00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\SC Manager]
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\SC Manager\\ObjectNames]
"SC_MANAGER Object"=dword:00001c00
"SERVICE Object"=dword:00001c10

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Security]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\\
65,6d,33,32,5c,4d,73,41,75,64,69,74,45,2e,64,6c,6c,00
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00
"CategoryMessageFile"=hex(2):25,53,79,73,74,65,6d,52,
6f,6f,74,25,5c,53,79,73,\\

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74,65,6d,33,32,5c,4d,73,41,75,64,69,74,45,2e,64,6c,6c
,00
"CategoryCount"=dword:00000007
"TypesSupported"=dword:0000001c

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Security\\ObjectNames]
"Device"=dword:00001100
"Directory"=dword:00001110
"Event"=dword:00001120
"EventPair"=dword:00001130
"File"=dword:00001140
"Key"=dword:00001150
"Mutant"=dword:00001160
"Port"=dword:00001170
"Process"=dword:00001180
"Profile"=dword:00001190
"Section"=dword:000011a0
"Semaphore"=dword:000011b0
"SymbolicLink"=dword:000011c0
"Thread"=dword:000011d0
"Timer"=dword:000011e0
"Token"=dword:000011f0
"Type"=dword:00001200
"ToCompletion"=dword:00001300
"MailSlot"=dword:00001140
"NamedPipe"=dword:00001140
"Channel"=dword:00001400
"WindowStation"=dword:00001a00
"Desktop"=dword:00001a10

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Security Account Manager]
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Security Account
Manager\\ObjectNames]
"SAM_SERVER"=dword:00001500
"SAM_DOMAIN"=dword:00001510
"SAM_GROUP"=dword:00001520
"SAM_ALIAS"=dword:00001530
"SAM_USER"=dword:00001540

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Spooler]
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\\
74,65,6d,33,32,5c,4d,73,4f,62,6a,73,2e,64,6c,6c,00

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\Security\\Spooler\\ObjectNames]
"Server"=dword:00001b00
"Printer"=dword:00001b10
"Document"=dword:00001b20

[HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services
\\EventLog\\System]
"File"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,
73,79,73,74,65,6d,33,32,\\

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5c,63,6f,6e,66,69,67,5c,53,79,73,45,76,65,6e,74,2e,45,76,74,00
"MaxSize"=dword:00080000
"Retention"=dword:00093a80
"Sources"=hex(7):78,67,61,00,77,6f,72,6b,73,74,61,74,69,6f,6e,00,77,65,69,74,\

65,6b,70,39,00,77,64,76,67,61,00,77,64,39,30,63,32,34,61,00,77,64,33,33,63,\

39,33,00,56,67,61,53,74,61,72,74,00,56,67,61,53,61,76,65,00,76,37,76,72,61,\

6d,00,55,50,53,00,75,6c,74,72,61,32,34,66,00,75,6c,74,72,61,31,34,66,00,75,\

6c,74,72,61,31,32,34,00,74,6d,76,31,00,74,64,69,00,54,63,70,69,70,00,74,31,\

33,62,00,74,31,32,38,00,53,79,73,4d,67,6d,74,00,73,79,6d,63,38,31,30,00,53,\

72,76,00,73,70,6f,63,6b,00,73,70,61,72,72,6f,77,00,73,6e,64,62,6c,73,74,00,\

73,6c,63,64,33,32,00,53,69,6d,62,61,64,00,73,66,6c,6f,70,70,79,00,53,65,72,\

76,69,63,65,20,43,6f,6e,74,72,6f,6c,20,4d,61,6e,61,67,65,72,00,73,65,72,76,\

65,72,00,73,65,72,6d,6f,75,73,65,00,73,65,72,69,61,6c,00,73,63,73,69,73,63,\

61,6e,00,73,63,73,69,70,72,6e,74,00,73,63,73,69,70,6f,72,74,00,53,63,68,65,\

64,75,6c,65,00,53,61,76,65,20,44,75,6d,70,00,53,41,4d,00,73,33,00,52,64,72,\

00,71,76,00,71,6c,31,30,77,6e,74,00,70,73,69,64,69,73,70,00,50,72,69,6e,74,\

00,70,6e,70,69,73,61,00,70,63,6d,63,69,61,00,70,61,72,76,64,6d,00,70,61,72,\

70,6f,72,74,00,70,61,72,61,6c,6c,65,6c,00,6f,6c,69,73,63,73,69,00,6e,75,6c,\

6c,00,4e,74,53,65,72,76,69,63,65,50,61,63,6b,00,6e,74,66,73,00,6e,70,66,73,\

00,4e,65,74,4c,6f,67,6f,6e,00,4e,65,74,44,44,45,00,4e,65,74,42,54,00,4e,65,\

74,42,49,4f,53,00,6e,64,69,73,00,6e,63,72,63,37,31,30,00,6e,63,72,63,37,30,\

30,00,6e,63,72,37,37,63,32,32,00,6e,63,72,35,33,63,39,78,00,4e,31,30,30,00,\

4d,75,70,00,6d,73,66,73,00,6d,73,61,64,6c,69,62,00,6d,6f,75,63,6c,61,73,73,\

00,4d,6f,64,65,6d,00,6d,6b,65,63,72,35,78,78,00,6d,69,74,73,75,6d,69,00,6d,\

67,61,5f,6d,69,6c,00,6d,67,61,00,4c,6d,48,6f,73,74,73,00,6b,62,64,63,6c,61,\

73,73,00,4a,7a,76,78,6c,34,38,34,00,4a,61,7a,7a,53,6e,64,00,4a,61,7a,7a,47,\

33,36,34,00,4a,61,7a,7a,47,33,30,30,00,69,6e,74,6c,66,78,73,72,00,69,6e,70,\

6f,72,74,00,69,38,30,34,32,70,72,74,00,66,74,64,69,73,6b,00,66,73,5f,72,65,\

63,00,66,6c,6f,70,70,79,00,66,6c,61,73,68,70,6e,74,00,66,64,38,58,58,00,66,\

64,37,30,30,65,78,00,66,64,31,36,5f,37,30,30,00,66,61,73,74,66,61,74,00,\

65,76,65,6e,74,6c,6f,67,00,65,74,34,30,30,00,45,31,30,30,42,00,64,74,63,\

33,32,39,78,00,64,70,74,73,63,73,69,00,64,69,73,6b,70,65,72,66,00,64,69,73,\

6b,00,44,48,43,50,00,64,65,6c,6c,5f,64,67,78,00,64,65,6c,6c,64,73,61,00,44,\

43,4f,4d,00,64,63,65,33,37,36,6e,74,00,64,61,63,39,36,30,6e,74,00,43,70,71,\

53,4d,52,54,32,00,43,50,51,53,45,54,55,50,00,63,70,71,66,77,73,32,65,00,63,\

70,71,61,72,72,79,32,00,63,70,71,61,72,72,61,79,00,63,69,72,72,75,73,00,63,\

68,61,6e,67,65,72,00,63,64,72,6f,6d,00,63,64,66,73,00,63,64,61,75,64,69,6f,\

00,62,75,73,6d,6f,75,73,65,00,62,75,73,6c,6f,67,69,63,00,42,72,6f,77,73,65,\

72,00,62,65,65,70,00,61,74,69,00,61,74,64,69,73,6b,00,61,74,61,70,69,00,61,\

72,72,6f,77,00,41,70,70,6c,69,63,61,74,69,6f,6e,20,50,6f,70,75,70,00,61,6d,\

73,69,6e,74,00,61,6d,69,30,6e,74,00,61,6c,77,61,79,73,00,41,6c,65,72,74,65,\

72,00,61,69,63,37,38,78,78,00,61,68,61,31,37,34,78,00,61,68,61,31,35,34,78,\

00,41,66,64,00,61,62,69,6f,73,64,73,6b,00,53,79,73,74,65,6d,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\abiosdsk]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\Afd]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\ahal154x]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\ahal174x]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\aic78xx]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\Alertx]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,4e,65,74,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\always]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\ami0nt]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007


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"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\DCOM]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00
"TypesSupported"=dword:00000007
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\

74,65,6d,33,32,5c,6b,65,72,6e,65,6c,33,32,2e,64,6c,6c
,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\delldsa]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\delldgdx]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\DHCP]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,64,68,63,70,63,73,76,63,2e,64,6c,6c,00
"TypesSupported"=dword:00000007
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52
,6f,6f,74,25,5c,53,79,73,\

74,65,6d,33,32,5c,6b,65,72,6e,65,6c,33,32,2e,64,6c,6c
,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\disk]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\diskperf]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\dptscsi]

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"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\dtc329x]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\E100B]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\et4000]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\eventlog]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fastfat]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fd16_700]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fd7000hex]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fd8XX]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\flashpnt]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\floppy]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fs_rec]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\fs_rec]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,46,74,\

44,69,73,6b,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\i8042prt]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,64,72,69
,76,65,72,73,5c,69,38,\

30,34,32,70,72,74,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\inport]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

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65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69,76,65,72,73,5c,49,6e,\

50,6f,72,74,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\intlfxsr]

"TypesSupported"=dword:00000007

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,44,72,69,76,65,72,73,5c,69,6e,74,6c,66,78,73,72,2e,73,79,73,\

00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\JazzG300]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\JazzG364]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\JazzSnd]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\Jzvx1484]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\kbdclass]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,64,72,69,76,65,72,73,5c,6b,62,\

64,63,6c,61,73,73,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\lmhosts]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\mga]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69,76,65,72,73,5c,6d,67,\

61,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\mga_mil]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69,76,65,72,73,5c,6d,67,\

61,5f,6d,69,6c,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\mitsumi]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\mkecr5xx]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\Modem]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69,76,65,72,73,5c,4d,6f,\

64,65,6d,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\mouclass]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,64,72,69,76,65,72,73,5c,6d,6f,\

75,63,6c,61,73,73,2e,73,79,73,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\msadlib]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\msfs]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\Mup]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\N100]

"TypesSupported"=dword:00000007

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,4e,65,74,65,76,65,6e,74,2e,64,6c,6c,3b,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69,76,65,72,73,5c,4e,31,\

30,30,4e,54,2e,53,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\ncr53c9x]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\System\ncr77c22]

"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,\

```

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ncrc700]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ncrc710]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ndis]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\NetBIOS]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\NetBT]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\NetDDE]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,6e,65,74,64,64,65,2e,65,78,65,00
"TypesSupported"=dword:0000001f

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\NetLogon]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,4e,65,74,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007
"ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52,
6f,6f,74,25,5c,53,79,73,\

74,65,6d,33,32,5c,4b,65,72,6e,65,6c,33,32,2e,64,6c,6c,
,00

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ntfs]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ntfs]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\NtServicePack]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,73,70,6d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\null]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\oliscsi]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\parallel]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,50,61,\
72,61,6c,6c,65,6c,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\parport]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,50,61,\
72,50,6f,72,74,2e,73,79,73,00

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"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\parvdm]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,50,61,\
72,56,64,6d,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\pcmcia]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,50,63,\
6d,63,69,61,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\pnpsisa]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,70,6e,\
70,69,73,61,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\Print]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,4c,6f,63,61,6c,53,70,6c,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\psidisp]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\qlownt]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00

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| <pre>"TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\qrv] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b ,25,53,79,73,74,65,6d,\ 52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69 ,76,65,72,73,5c,71,76,\ 2e,73,79,73,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Rdr] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\3] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b ,25,53,79,73,74,65,6d,\ 52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69 ,76,65,72,73,5c,73,33,\ 2e,73,79,73,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\SAM] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,73,61,6d,73,72,76,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Save Dump] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,53,61,76,65,44,75,6d,70,2e,65,78,65,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Schedule] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 "ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52 ,6f,6f,74,25,5c,53,79,73,\ 74,65,6d,33,32,5c,6b,65,72,6e,65,6c,33,32,2e,64,6c,6c ,00</pre> | <pre>[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\script] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\scsiport] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\scsiscan] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\serial] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b ,25,53,79,73,74,65,6d,\ 52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69 ,76,65,72,73,5c,53,65,\ 72,69,61,6c,2e,73,79,73,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\sermouse] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b ,25,53,79,73,74,65,6d,\ 52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69 ,76,65,72,73,5c,53,65,\ 72,4d,6f,75,73,65,2e,73,79,73,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\server] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Service Control Manager] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\</pre> | <pre>65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 "ParameterMessageFile"=hex(2):25,53,79,73,74,65,6d,52 ,6f,6f,74,25,5c,53,79,73,\ 74,65,6d,33,32,5c,6b,65,72,6e,65,6c,33,32,2e,64,6c,6c ,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\sfloppy] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Simbad] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\slcd32] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\sndblst] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\sparrow] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\spock] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00 "TypesSupported"=dword:00000007 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \EventLog\System\Srv] "EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f, 6f,74,25,5c,53,79,73,74,\ 65,6d,33,32,5c,6e,65,74,65,76,65,6e,74,2e,64,6c,6c,00</pre> |
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"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\symc810]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\SysMgmt]
"TypesSupported"=dword:00000007
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,44,72,69,76,65,72,73,5c,53,59,53,4d,47
,4d,54,2e,53,59,53,3b,\

25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65
,6d,33,32,5c,49,4f,4c,\
4f,47,4d,53,47,2e,44,4c,4c,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\t128]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\t13b]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\t13d]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\tmvl]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ultra124]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ultra14f]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\ultra24f]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\UPS]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,6e,65,74,6d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\v7vram]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\vgaSave]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,76,67,\
61,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\vgaStart]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,76,67,\
61,2e,73,79,73,00

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"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\wd33c93]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\wd90c24a]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\wdvga]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\weitekp9]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,77,65,\
69,74,65,6b,70,39,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\workstation]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\
65,6d,33,32,5c,4e,65,74,4d,73,67,2e,64,6c,6c,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\EventLog\System\xga]
"EventMessageFile"=hex(2):25,53,79,73,74,65,6d,52,6f,
6f,74,25,5c,53,79,73,74,\

65,6d,33,32,5c,49,6f,4c,6f,67,4d,73,67,2e,64,6c,6c,3b
,25,53,79,73,74,65,6d,\

52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,32,5c,44,72,69
,76,65,72,73,5c,78,67,\
61,2e,73,79,73,00
"TypesSupported"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Fastfat]
"Type"=dword:00000002
"Start"=dword:00000004

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"Group"="Boot file system"
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fastfat\Enum]
"0"="Root\LEGACY_FASTFAT\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fd16_700]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000010

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fd700ex]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000e

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fd8xx]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000f

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fd8xx\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fd8xx\Parameters\Device0]
"DriverParameter"="IRQ=5"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\flashpnt]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000025

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Floppy]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Primary disk"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Floppy\Enum]
"0"="Root\LEGACY_FLOPPY\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fs_Rec]
"Type"=dword:00000008
"Start"=dword:00000001
"Group"="Boot file system"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Fs_Rec\Enum]
"0"="Root\LEGACY_FS_REC\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Ftdisk]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Filter"
"ErrorControl"=dword:00000000
"Tag"=dword:00000003

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\i8042prt]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Keyboard Port"
"ErrorControl"=dword:00000001
"Tag"=dword:00000002
"DisplayName"="i8042 Keyboard and PS/2 Mouse Port Driver"
"ImagePath"=hex(2):53,79,73,74,65,6d,33,32,5c,44,52,49,56,45,52,53,5c,69,38,30,\34,32,70,72,74,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\i8042prt\Parameters]
"ResendIterations"=dword:00000003
"PollingIterations"=dword:00002ee0
"PollingIterationsMaximum"=dword:00002ee0
"PollStatusIterations"=dword:00000001
"KeyboardDataQueueSize"=dword:00000064
"KeyboardDeviceBaseName"="KeyboardPort"
"MouseDataQueueSize"=dword:00000064
"NumberOfButtons"=dword:00000002
"SampleRate"=dword:0000003c
"MouseResolution"=dword:00000003
"PointerDeviceBaseName"="PointerPort"
"MouseSynchIn100ms"=dword:01312d00
"EnableWheelDetection"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\i8042prt\Description]
"\Device\KeyboardPort0"=hex:01,00,00,00,00,00,00,00,16,00,00,00,00,00,00,00,20,00,00,00,00,00,00,00
"\Device\PointerPort0"=hex:01,00,00,00,00,00,00,00,15,00,00,00,00,00,00,00,1f,00,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\i8042prt\Enum]
"0"="Root\PNP0301\1_0_22_0_32_0"
"Count"=dword:00000005

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"NextInstance"=dword:00000005
"1"="Root\PNP030b\1_0_22_0_32_0"
"2"="Root\PNP030b\1_17_22_0_32_0"
"3"="Root\PNP0F03\1_0_21_0_31_0"
"4"="Root\PNP0F03\1_17_21_0_31_0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\inetaccs]
@=""

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\inetaccs\Parameters]
@=""

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Inport]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Pointer Port"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Inport\Parameters]
"MouseDataQueueSize"=dword:00000064
"NumberOfButtons"=dword:00000002
"SampleRate"=dword:00000032
"HzMode"=dword:00000002
"PointerDeviceBaseName"="PointerPort"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\intlfxsr]
"Type"=dword:00000001
"Start"=dword:00000000
"Group"="Base"
"ErrorControl"=dword:00000001
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\intlfxsr\Enum]
"0"="Root\LEGACY_INTLFXSR\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jazzg300]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jazzg300\Device0]
"VgaCompatible"=dword:00000000
"Monitor"="drivers\jazz.bvp"
"InstalledDisplayDrivers"=hex(7):66,72,61,6d,65,62,75,66,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jazzg364]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"

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| <pre> "ErrorControl"=dword:00000000 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jazzg364\Device0] "VgaCompatible"=dword:00000000 "Monitor"="drivers\jazz.bvp" "InstalledDisplayDrivers"=hex(7):66,72,61,6d,65,62,75,66,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jzvx1484] "Type"=dword:00000001 "Start"=dword:00000004 "Group"="Video" "ErrorControl"=dword:00000000 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Jzvx1484\Device0] "VgaCompatible"=dword:00000000 "Monitor"="drivers\jazz.bvp" "InstalledDisplayDrivers"=hex(7):6a,7a,76,78,6c,34,38,34,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Kbdclass] "Type"=dword:00000001 "Start"=dword:00000001 "Group"="Keyboard Class" "ErrorControl"=dword:00000001 "Tag"=dword:00000001 "DisplayName"="Keyboard Class Driver" "ImagePath"=hex(2):53,79,73,74,65,6d,63,32,5c,44,52,49,56,45,52,53,5c,6b,62,64,\63,6c,61,73,73,2e,73,79,73,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Kbdclass\Parameters] "KeyboardDataQueueSize"=dword:00000064 "MaximumPortsServiced"=dword:00000003 "ConnectMultiplePorts"=dword:00000000 "KeyboardDeviceBaseName"="KeyboardClass" [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Kbdclass\Enum] "0"="Root\LEGACY_KBDCLASS\0000" "Count"=dword:00000001 "NextInstance"=dword:00000001 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\KSecDD] "Type"=dword:00000001 "Start"=dword:00000001 "Group"="Base" "ErrorControl"=dword:00000001 "Tag"=dword:00000001 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\KSecDD\Enum] "0"="Root\LEGACY_KSECDD\0000" "Count"=dword:00000001 "NextInstance"=dword:00000001 </pre> | <pre> [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer] "Type"=dword:00000020 "Start"=dword:00000003 "ErrorControl"=dword:00000001 "ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00 "DisplayName"="Server" "ObjectName"="LocalSystem" "DependOnService"=hex(7):00 "DependOnGroup"=hex(7):54,44,49,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\AutotunedParameters] [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Linkage] "Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,65,74,42,54,5f,4e,31,30,30,31,00,00 "Export"=hex(7):5c,44,65,76,69,63,65,5c,4c,61,6e,6d,61,6e,53,65,72,76,65,72,5c,\4e,65,74,42,54,5f,4e,31,30,30,31,00,00 "Route"=hex(7):22,4e,65,74,42,54,22,20,22,4e,31,30,30,22,20,22,4e,31,30,30,31,\22,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Linkage\Disabled] "Bind"=hex(7):00 "Export"=hex(7):00 "Route"=hex(7):00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters] "NullSessionPipes"=hex(7):43,4f,4d,4e,41,50,00,43,4f,4d,4e,4f,44,45,00,53,51,\4c,5c,51,55,45,52,59,00,53,50,4f,4f,4c,53,53,00,4c,4c,53,52,50,43,00,45,50,\4d,41,50,50,45,52,00,4c,4f,43,41,54,4f,52,00,00 "NullSessionShares"=hex(7):43,4f,4d,43,46,47,00,44,46,53,24,00,00 "Size"=dword:00000003 "lmanounce"=dword:00000000 "MaxMpxCt"=dword:000001ff [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Security] "Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,8d,01,02,00,01,01,00,\00,00,00,00,01,00,00,00,00,20,02,00,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\00,00,00,05,20,00,00,00,23,02,00,00,00,00,00,00,00,00,1c,00,ff,01,0f,00,01,\ </pre> | <pre> 02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,00,00,00,00,00,00,00,05,20,00,00,00,25,02,00,00,00,00,00,00,00,00,18,\0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00,00,00,00,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Shares] [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Shares\Security] [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Enum] "0"="Root\LEGACY_LANMANSERVER\0000" "Count"=dword:00000001 "NextInstance"=dword:00000001 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation] "Type"=dword:00000020 "Start"=dword:00000003 "ErrorControl"=dword:00000001 "ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00 "DisplayName"="Workstation" "Group"="NetworkProvider" "ObjectName"="LocalSystem" "DependOnService"=hex(7):00 "DependOnGroup"=hex(7):54,44,49,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Linkage] "Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,65,74,42,54,5f,4e,31,30,30,31,00,00 "Export"=hex(7):5c,44,65,76,69,63,65,5c,4c,61,6e,6d,61,6e,57,6f,72,6b,73,74,61,\74,69,6f,6e,5c,4e,65,74,42,54,5f,4e,31,30,30,31,00,00 "Route"=hex(7):22,4e,65,74,42,54,22,20,22,4e,31,30,30,22,20,22,4e,31,30,30,31,\22,00,00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Linkage\Disabled] "Bind"=hex(7):00 "Export"=hex(7):00 "Route"=hex(7):00 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\networkprovider] "Devicename"="\Device\LanmanRedirector" "ProviderPath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,\33,32,5c,6e,74,6c,61,6e,6d,61,6e,2e,64,6c,6c,00 </pre> |
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"Name"="Microsoft Windows Network"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LanmanWorkstation\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LanmanWorkstation\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,20,02,00,00,00,00,1c,00,fd,
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,00,00,00,00,00,00,
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,00,
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,
,00,00,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LanmanWorkstation\Enum]
"0"="Root\LEGACY_LANMANWORKSTATION\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseInfo]
"ErrorControl"=dword:00000001
"Start"=dword:00000003
"Type"=dword:00000004

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseInfo\FilePrint]
"Mode"=dword:00000001
"ConcurrentLimit"=dword:0000270f
"FlipAllow"=dword:00000001
"FamilyDisplayName"="Windows NT Server"
"DisplayName"="Windows NT Server"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseInfo\MSSQL7_00]
"DisplayName"="Microsoft SQL Server 7.0"
"ConcurrentLimit"=dword:0001869f
"FlipAllow"=dword:00000000
"FamilyDisplayName"="Microsoft SQL Server"
"Mode"=dword:00000001

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,6c,6c,73,73,72,76,2e,65,78,65,00
"DisplayName"="License Logging Service"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\FilePrint]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\FilePrint\KSecDD]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\FilePrint\MSAfpSrv]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\FilePrint\SMBServer]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\FilePrint\TCP/IP Print Server]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\Parameters]
"UseEnterprise"=dword:00000000
"ReplicationType"=dword:00000000
"ReplicationTime"=dword:00015180
"EnterpriseServer"=""

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,2f,2a,ed,56,00,00,1c,00,fd,
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,c3,f5,d3,11,00,00,
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,20,02,00,00,c3,f5,d3,
11,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,
,c3,f5,d3,11,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,
,00,00

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LicenseService\Enum]
"0"="Root\LEGACY_LICENSESERVICE\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts]
"Type"=dword:00000020
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"DisplayName"="TCP/IP NetBIOS Helper"
"DependOnService"=hex(7):00
"DependOnGroup"=hex(7):4e,65,74,77,6f,72,6b,50,72,6f,
76,69,64,65,72,00,00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,4d,00,41,00,00,00,1c,00,fd,
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,43,00,48,00,00,00,
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,20,02,00,00,43,00,48,
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,
,43,00,48,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
LmHosts\Enum]
"0"="Root\LEGACY_LMHOSTS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"DisplayName"="Messenger"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6b,73,74,61,74,69,6f,6e,00,\
4e,65,74,42,69,6f,73,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,05,00,00,1c,00,fd,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,03,00,07,00,00,00,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,05,20,00,00,00,20,02,00,00,03,00,07,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,03,00,07,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\
00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Messenger\Enum]
"0"="Root\LEGACY_MESSENGER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mga]
"Type"=dword:00000001

```

```

"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mga\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):6d,67,61,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mga_mil]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mga_mil\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):6d,67,61,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mitsumi]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001f

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\mkcr5xx]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001d

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Modem]
"Type"=dword:00000001
"Start"=dword:00000003
"Group"="Extended base"
"ErrorControl"=dword:00000000
"Tag"=dword:00000004
"PlugPlayServiceType"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Modem\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Mouclass]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Pointer Class"
"ErrorControl"=dword:00000001
"Tag"=dword:00000001
"DisplayName"="Mouse Class Driver"
"ImagePath"=hex(2):53,79,73,74,65,6d,33,32,5c,44,52,49,56,45,52,53,5c,6d,6f,75,\
63,6c,61,73,73,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Mouclass\Parameters]

```

```

"MouseDataQueueSize"=dword:00000064
"MaximumPortsServiced"=dword:00000003
"ConnectMultiplePorts"=dword:00000001
"PointerDeviceBaseName"="PointerClass"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Mouclass\Enum]
"0"="Root\LEGACY_MOUCLASS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSDTC]
"Type"=dword:00000110
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,57,49,4e,4e,54,34,30,5c,53,79,73,74,65,6d,33,32,5c,\
6d,73,64,74,63,2e,65,78,65,00
"DisplayName"="MSDTC"
"Group"="MS Transactions"
"DependOnService"=hex(7):52,50,43,53,53,00,4e,54,4c,4d,53,53,50,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSDTC\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,74,00,73,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,76,00,63,00,00,00,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,05,20,00,00,20,02,00,00,76,00,63,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,07,00,63,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\
00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSDTC\Enum]
"0"="Root\LEGACY_MSDTC\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Msfs]
"Type"=dword:00000002
"Start"=dword:00000001
"Group"="File system"
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Msfs\Enum]
"0"="Root\LEGACY_MSFS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSMQ]
"DependOnService"=hex(7):50,72,6f,74,65,63,74,65,64,5
3,74,6f,72,61,67,65,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,4d,53,53,51,4c,37,5c,62,6
9,6e,6e,5c,73,71,6c,73,65,\
72,76,72,2e,65,78,65,00
"DisplayName"="MSSQLServer"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer\Performance]
"Collect"="CollectSQLPerformanceData"
"Library"="SQLCTR70.DLL"
"Close"="CloseSQLPerformanceData"
"Open"="OpenSQLPerformanceData"
"Last Counter"=dword:0000083a
"Last Help"=dword:0000083b
"First Counter"=dword:00000738
"First Help"=dword:00000739

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,51,00,4b,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,44,00,44,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,44,00,44
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,44,00,44,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer\PerformanceData]
"Library"="SQLCTR70.DLL"
"Close"="CloseSQLPerformanceData"
"Open"="OpenSQLPerformanceData"
"Last Counter"=dword:0000083a
"Last Help"=dword:0000083b
"First Counter"=dword:00000738
"First Help"=dword:00000739

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,74,00,69,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,6f,00,6e,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,6f,00,6e
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,6f,00,6e,00,00,00,18,\

```

```

00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
MSSQLServer\Enum]
"0"="Root\LEGACY_MSSQLSERVER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Mup]
"Type"=dword:00000002
"Start"=dword:00000003
"DisplayName"="Mup"
"Group"="Network"
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,6d,75,70,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Mup\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Mup\Enum]
"0"="Root\LEGACY_MUP\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100]
"Type"=dword:00000001
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,44,72,69,76,65,72,73,5c,4e,31,30,30,4e,54,2e,73,79
,73,00
"DisplayName"="Compaq Ethernet or Fast Ethernet NIC
Driver"
"Group"="NDIS"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100\Linkage]
"Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,31,
00,00
"Export"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,3
1,00,00
"Route"=hex(7):22,4e,31,30,30,31,22,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100\Linkage\Disabled]
"Bind"=hex(7):00
"Export"=hex(7):00
"Route"=hex(7):00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100\Parameters]

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,51,00,4b,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,44,00,44,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,44,00,44
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,44,00,44,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N100\Enum]
"0"="Root\LEGACY_N100\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N1001]
"Type"=dword:00000004
"Start"=dword:00000003
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N1001\Linkage]
"Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,31,
00,00
"Export"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,3
1,00,00
"Route"=hex(7):22,4e,31,30,30,31,22,00,00,00,00,00,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N1001\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
N1001\Parameters]
"NetworkAddress"=""
"Adaptive_IPS"=dword:00000001
"NumCoalesce"=dword:00000008
"NumRfd"=dword:00000020
"NumTbdPerTcb"=dword:0000000c
"NumTcb"=dword:00000010
"Threshold"=dword:00000010

```

```
"UnderrunRetry"=dword:00000001
"LogErrorMessages"=dword:00000001
"Txmitwait"=dword:00000001
"RxDMACount"=dword:00000000
"Rx Fifo"=dword:0000000c
"TxDMACount"=dword:00000000
"Tx Fifo"=dword:00000000
"UseManualPciAssign"=dword:00000001
"BoardHasBridge"=dword:00000000
"BusTypeLocal"=dword:00000005
"UcodeSW"=dword:00000001
"MsPciScan"=dword:00000001
"MediaType"=dword:00000001
"BusType"=dword:00000005
"PerfOptims"=dword:00000000
"MapRegisters"=dword:00000040
"ForceDpx"=dword:00000000
"Speed"=dword:00000000
"PhySlotNumber"=dword:00000007
"BusNumber"=dword:00000000
"SlotNumber"=dword:00000001
"IRQ"=dword:00000004
"IOBaseAddress"=dword:00002000
"MemoryMappedBaseAddress"=dword:f7df0000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\N1001\Parameters\Tcpip]
"EnableDHCP"=dword:00000000
"UseZeroBroadcast"=dword:00000000
"LLInterface"=""
"PPPPFiltering"=dword:00000000
"IPAddress"=hex(7):31,33,30,2e,31,36,38,2e,32,30,36,2e,38,38,00,00
"SubnetMask"=hex(7):32,35,35,2e,32,35,35,2e,30,2e,30,00,00
"TCPAllowedPorts"=hex(7):30,00,00
"UDPAllowedPorts"=hex(7):30,00,00
"RawIPAllowedProtocols"=hex(7):30,00,00
"DefaultGateway"=hex(7):00,00
"IPInterfaceContext"=dword:00000001
"IPInterfaceContextMax"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Ncr53c9x]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ncr77c22]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ncr77c22\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,76,67,61,32,35,36,00,00
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Ncr700]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000004
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Ncr710]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000005
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="NDIS"
"DisplayName"="Microsoft NDIS System Driver"
"ErrorControl"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\MediaTypes]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\3C592]
"Id"=dword:20596d50
"Mask"=dword:f0ffffff
"token"="3C592"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\3C597]
"Id"=dword:70596d50
"Mask"=dword:f0ffffff
"token"="3C597"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\BONSAI]
"Id"=dword:0062110e
"Mask"=dword:00ffffff
"token"="BONSAI"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\C320TNT]
"Id"=dword:0032530e
"Mask"=dword:00ffffff
"token"="C320TNT"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\DE425]
"Id"=dword:5042a310
"Mask"=dword:f0ffffff
"token"="DE425"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\DEC300]
"Id"=dword:0230a310
"Mask"=dword:0fffffff
"token"="DEC300"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\DEC422]
"Id"=dword:2042a310
"Mask"=dword:f0ffffff
"token"="DEC422"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\DURANGO]
"Id"=dword:0260110e
"Mask"=dword:0fffffff
"token"="DURANGO"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\ELNK3EISA]
"Id"=dword:90506d50
"Mask"=dword:f0ffffff
"token"="ELNK3EISA"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\ES3210]
"Id"=dword:00012949
"Mask"=dword:00ffffff
"token"="ES3210"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\F70XX]
"Id"=dword:0006690e
"Mask"=dword:00ffffff
"token"="F70XX"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\FL32]
"Id"=dword:1010d425
"Mask"=dword:ffffff
"token"="FL32"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\FLNK]
"Id"=dword:00776d50
"Mask"=dword:00ffffff
"token"="FLNK"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\J2577A]
"Id"=dword:4019f022
"Mask"=dword:f0ffffff
"token"="J2577A"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\MAPLE]
"Id"=dword:0160110e
"Mask"=dword:0fffffff
"token"="MAPLE"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NDIS\NetDetect\EISA\NE3200]
"Id"=dword:0007cc3a
```

```

"Mask"=dword:00ffffff
"token"="NE3200"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NETFLEX3]
"Id"=dword:20f1110e
"Mask"=dword:f0ffffff
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NETFLEX3.1]
"Id"=dword:40f1110e
"Mask"=dword:f0ffffff
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NETFLX]
"Id"=dword:0061110e
"Mask"=dword:00ffffff
"token"="NETFLX"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NF3500]
"Id"=dword:0084633a
"Mask"=dword:00ffffff
"token"="NF3500"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NPEISA.1]
"Id"=dword:0002093a
"Mask"=dword:00ffffff
"token"="NPEISA"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\NPEISA.2]
"Id"=dword:0003093a
"Mask"=dword:00ffffff
"token"="NPEISA"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\P1990]
"Id"=dword:00604f42
"Mask"=dword:00ffffff
"token"="P1990"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\RODAN]
"Id"=dword:0063110e
"Mask"=dword:00ffffff
"token"="RODAN"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\SKETHNT]
"Id"=dword:0002644d
"Mask"=dword:000fffff
"token"="SKETHNT"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\SKFENT]
"Id"=dword:0001644d
"Mask"=dword:000fffff
"token"="SKFENT"

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\SMC8232]
"Id"=dword:0080a34d
"Mask"=dword:00ffffff
"token"="SMC8232"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\TLNK3E]
"Id"=dword:9c616d50
"Mask"=dword:f0ffffff
"token"="TLNK3E"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\EISA\TLNK3EISA]
"Id"=dword:90616d50
"Mask"=dword:f0ffffff
"token"="TLNK3EISA"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA]
"Id"=dword:00006413
"token"="AT1700"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\AT1700]
"Id"=dword:00006413
"token"="AT1700"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\EE16MC]
"token"="EE16MC"
"Id"=dword:0000628b

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\EINK527]
"Id"=dword:00000041
"token"="EINK527"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNK3MCA.1]
"token"="ELNK3MCA"
"Id"=dword:0000627c

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNK3MCA.2]
"token"="ELNK3MCA"
"Id"=dword:0000627d

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNK3MCA.3]
"token"="ELNK3MCA"
"Id"=dword:000061db

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNK3MCA.4]
"token"="ELNK3MCA"
"Id"=dword:000062f6

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNK3MCA.5]
"token"="ELNK3MCA"
"Id"=dword:000062f7

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\ELNKMC]

```

```

"token"="ELNKMC"
"Id"=dword:00006042

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\F30XX]
"Id"=dword:00000070
"token"="F30XX"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\HPMCA]
"Id"=dword:000063ca
"token"="HPMCA"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\IBMENIIN]
"Id"=dword:0000ffe0
"token"="IBMENIIN"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\IBMTOKA]
"token"="IBMTOKA"
"Id"=dword:0000e000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\IBMTOKMC]
"token"="IBMTOKMC"
"Id"=dword:0000e001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\IRMATrac.1]
"Id"=dword:00005c1c
"token"="IRMATrac"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\IRMATrac.2]
"Id"=dword:00005c1d
"token"="IRMATrac"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\NCR TOK]
"Id"=dword:00001000
"token"="NCR TOK"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\NPMCA]
"token"="NPMCA"
"Id"=dword:00000069

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\OCTK16.1]
"Id"=dword:00000a84
"token"="OCTK16"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\OCTK16.2]
"Id"=dword:00000a85
"token"="OCTK16"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\MCA\OCTK16.3]
"Id"=dword:00000a86
"token"="OCTK16"

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\QUADENET.1]
"Id"=dword:00008f6d
"token"="QUADENET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\QUADENET.2]
"Id"=dword:00008f6a
"token"="QUADENET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\SKFMNT.1]
"Id"=dword:00000083
"token"="SKFMNT"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\SKFMNT.2]
"Id"=dword:000000ab
"token"="SKFMNT"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\STREAMER.1]
"Id"=dword:00008fa0
"token"="STREAMER"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\STREAMER.2]
"Id"=dword:00008fa2
"token"="STREAMER"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\STREAMER.3]
"Id"=dword:00008fa8
"token"="STREAMER"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\STREAMER.4]
"Id"=dword:00008faa
"token"="STREAMER"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\TC$4046E]
"Id"=dword:00000051
"token"="TC$4046E"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\UBPS]
"token"="UBPS"
"Id"=dword:00007012

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\WAVELAN_MCA]
"Id"=dword:00006a14
"token"="WAVELAN_MCA"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\WD8003EA]
"token"="WD8003EA"
"Id"=dword:000067c0

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\WD8003WA]
"token"="WD8003WA"

```

```

"Id"=dword:000067c2

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\WD8013EPA]
"token"="WD8013EPA"
"Id"=dword:000061c8

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\MCA\WD8013WPA]
"token"="WD8013WPA"
"Id"=dword:000061c9

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\3C590]
"Id"=dword:59010b7
"token"="3C590"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\3C595]
"Id"=dword:595010b7
"token"="3C595"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\3C905]
"Id"=dword:905010b7
"token"="3C905"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\ALANE0]
"Id"=dword:59009004
"token"="ALANE0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\AMDPCI]
"token"="AMDPCI"
"Id"=dword:20001022

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\DC21040]
"token"="DC21040"
"Id"=dword:00021011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\DC21041]
"token"="DC21041"
"Id"=dword:00141011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\DC21140]
"token"="DC21140"
"Id"=dword:00091011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\DC21142]
"token"="DC21142"
"Id"=dword:00191011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\DEPPA]
"token"="DEPPA"

```

```

"Id"=dword:000f1011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\E100BPCI]
"Id"=dword:12298086
"token"="E100BPCI"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\E10PCI]
"Id"=dword:12268086
"token"="E10PCI"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\LEC]
"Id"=dword:100110b6
"token"="LEC"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NCPF]
"Id"=dword:000111bc
"token"="NCPF"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.1]
"Id"=dword:f1300e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.2]
"Id"=dword:ae320e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.3]
"Id"=dword:ae340e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.4]
"Id"=dword:ae350e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.5]
"Id"=dword:ae430e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.6]
"Id"=dword:ae400e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\NETFLEX3.7]
"Id"=dword:f1500e11
"token"="NETFLEX3"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NDIS\NetDetect\PCI\O100PCI]
"Id"=dword:0011108d
"token"="O100PCI"

```



```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\OCB4XMP]
"Id"=dword:0013108d
"token"="OCB4XMP"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\OCTK16]
"Id"=dword:0001108d
"token"="OCTK16"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\RNSFPDDI]
"Id"=dword:22001112
"token"="RNSFPDDI"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\RTL8029]
"Id"=dword:802910ec
"token"="RTL8029"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\SKFPNT]
"Id"=dword:40001148
"token"="SKFPNT"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\SKTOKNT_PCI]
"Id"=dword:42001148
"token"="SKTOKNT_PCI"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\NetDetect\PCI\STREAMER]
"Id"=dword:00181014
"token"="STREAMER"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NDIS\Parameters]
"ProcessorAffinityMask"=dword:ffffffff

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\Enum]
"0"="Root\LEGACY_NDIS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS]
"Type"=dword:00000002
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,6e,65,74,62,69,6f,73,2e,73
,79,73,00
"DisplayName"="NetBIOS Interface"
"Group"="NetBIOSGroup"
"DependOnService"=hex(7):00
"DependOnGroup"=hex(7):54,44,49,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Linkage]
"LanaMap"=hex:01,00

```

```

"Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,65,74,42,54,
5f,4e,31,30,30,31,00,00
"Export"=hex(7):5c,44,65,76,69,63,65,5c,4e,65,74,62,6
9,6f,73,5c,4e,65,74,42,54,\
5f,4e,31,30,30,31,00,00
"Route"=hex(7):22,4e,65,74,42,54,22,20,22,4e,31,30,30
,22,20,22,4e,31,30,30,31,\
22,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Linkage\Disabled]
"Bind"=hex(7):00
"Export"=hex(7):00
"Route"=hex(7):00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Parameters\Winsock]
"HelperDllName"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,
74,25,5c,73,79,73,74,65,\
6d,33,32,5c,77,73,68,6e,65,74,62,73,2e,64,6c,6c,00
"MaxSockAddrLength"=dword:00000014
"MinSockAddrLength"=dword:00000014
"Mapping"=hex:02,00,00,00,03,00,00,00,11,00,00,00,05,
00,00,00,00,00,00,11,\
00,00,00,02,00,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Security]
"Security"=hex:01,00,14,80,cc,00,00,00,d8,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,98,00,06,00,00,00,03,18,00
,00,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,03,18,00,ff
,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,ff,01
,0f,00,01,01,00,00,00,\
00,00,05,12,00,00,20,02,00,00,03,18,00,00,00,02
,00,01,02,00,00,00,00,\
00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00
,01,01,00,00,00,00,00,\
05,04,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01
,02,00,00,00,00,00,05,\
20,00,00,00,21,02,00,00,01,01,00,00,00,00,00,05,12,00
,00,00,01,01,00,00,00,\
00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOS\Enum]
"0"="Root\LEGACY_NETBIOS\0000"
"Count"=dword:00000001

```

```

"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOSInformation]
"Type"=dword:00000004
"Start"=dword:00000003
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOSInformation\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOSInformation\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBIOSInformation\Parameters]
"Route"=hex(7):22,4e,65,74,42,54,22,20,22,4e,31,30,30
,22,20,22,4e,31,30,30,31,\
22,00,00
"MaxLana"=dword:00000000
"LanaNum1"=dword:00000000
"EnumExport1"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBT]
"Type"=dword:00000001
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,6e,65,74,62,74,2e,73,79,73
,00
"DisplayName"="WINS Client (TCP/IP)"
"Group"="PNP_TDI"
"DependOnService"=hex(7):54,63,70,69,70,00,00
"DependOnGroup"=hex(7):00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBT\Adapters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBT\Adapters\N1001]
"NameServer"=""
"NameServerBackup"=""

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBT\Linkage]
"OtherDependencies"=hex(7):54,63,70,69,70,00,00
"Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,31,
00,00
"Export"=hex(7):5c,44,65,76,69,63,65,5c,4e,65,74,42,5
4,5f,4e,31,30,30,31,00,00
"Route"=hex(7):22,4e,31,30,30,22,20,22,4e,31,30,30,31
,22,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\NetBT\Linkage\Disabled]
"Bind"=hex(7):00
"Export"=hex(7):00
"Route"=hex(7):00

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetBT\Parameters]
"NbProvider"=" tcp"
"NameServerPort"=dword:00000089
"EnableLMHOSTS"=dword:00000001
"EnableProxy"=dword:00000000
"EnableDNS"=dword:00000000
"CacheTimeout"=dword:000927c0
"BroadcastNameQueryCount"=dword:00000003
"BroadcastQueryTimeout"=dword:000002ee
"NameSrvQueryCount"=dword:00000003
"NameSrvQueryTimeout"=dword:000005dc
"Size/Small/Medium/Large"=dword:00000001
"SessionKeepAlive"=dword:000493e0
"ScopeID"=""
"TransportBindName"="\Device\"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetBT\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,01,01,00,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,00,00,05,00,00,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,05,00,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,00,00,05,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetBT\Enum]
"0"="Root\LEGACY_NETBT\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDDE]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\
32,5c,6e,65,74,64,64,65,2e,65,78,65,00
"DependOnService"=hex(7):4e,65,74,44,44,45,44,53,44,4d,00,00
"DisplayName"="Network DDE"

```

```

"ObjectName"="LocalSystem"
"Group"="NetDDEGroup"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDDE\Security]
"Security"=hex:01,00,14,80,9c,00,00,00,a8,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,68,00,04,00,00,00,00,03,18,00,8d,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,03,18,00,ff,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,8f,00,02,00,01,02,00,00,\
00,00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,01,00,00,00,00,\
00,05,04,00,00,00,23,02,00,00,01,01,00,00,00,00,05,12,00,00,00,01,01,00,\
00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDDEsdm]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\
32,5c,6e,65,74,64,64,65,2e,65,78,65,00
"DependOnService"=hex(7):00,00
"DisplayName"="Network DDE DSDM"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDDEsdm\Security]
"Security"=hex:01,00,14,80,9c,00,00,00,a8,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,68,00,04,00,00,00,00,03,18,00,8d,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,03,18,00,ff,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,8f,00,02,00,01,02,00,00,\
00,00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,01,00,00,00,00,\
00,05,04,00,00,00,23,02,00,00,01,01,00,00,00,00,05,12,00,00,00,01,01,00,\
12,00,00,00,01,01,00,\
00,00,00,00,05,12,00,00,00

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDetect]
"Type"=dword:00000001
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"DisplayName"="NetDetect"
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5c,73,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,6e,65,74,64,74,65,63,74,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetDetect\Enum]
"0"="Root\LEGACY_NETDETECT\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\
32,5c,6c,73,61,73,73,2e,65,78,65,00
"DisplayName"="Net Logon"
"Group"="RemoteValidation"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6b,73,74,61,74,69,6f,6e,00,\
4c,6d,48,6f,73,74,73,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon\Parameters]
"DisablePasswordChange"=dword:00000000
"Update"="no"
"Scripts"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\
32,5c,72,65,70,6c,5c,69,6d,70,6f,72,74,5c,73,63,72,69,70,74,73,00
"DBFlag"="0"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00,8d,01,02,00,01,01,00,\

```

```

00,00,00,00,01,00,00,00,00,25,02,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,00,23,02,00,00,00,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00
,00,00,00,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Npfs]
"Type"=dword:00000002
"Start"=dword:00000001
"Group"="File system"
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Npfs\Aliases]
"Isass"=hex(7):6e,65,74,6c,6f,67,6f,6e,00,6c,73,61,72
,70,63,00,73,61,6d,72,00,\
00
"ntsvcs"=hex(7):73,72,76,73,76,63,00,77,6b,73,73,76,6
3,00,65,76,65,6e,74,6c,6f,\

67,00,62,72,6f,77,73,65,72,00,6d,73,67,73,76,63,00,73
,76,63,63,74,6c,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Npfs\Enum]
"0"="Root\LEGACY_NPFS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ntfs]
"Type"=dword:00000002
"Start"=dword:00000004
"Group"="File system"
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ntfs\Enum]
"0"="Root\LEGACY_NTFS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp]
"Type"=dword:00000020
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\

```

```

32,5c,53,45,52,56,49,43,45,53,2e,45,58,45,00
"DisplayName"="NT LM Security Support Provider"
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp\Security]
"Security"=hex:01,00,14,80,cc,00,00,00,d8,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,98,00,06,00,00,00,03,18,00
,00,00,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,00,00,00,00,03,18,00,ff
,01,0f,00,01,02,00,00,\

00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,ff,01
,0f,00,01,01,00,00,00,\

00,00,05,12,00,00,00,20,02,00,00,00,03,18,00,00,00,02
,00,01,02,00,00,00,00,\

00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00
,01,01,00,00,00,00,00,\

05,04,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01
,02,00,00,00,00,00,05,\

20,00,00,00,21,02,00,00,01,01,00,00,00,00,00,05,12,00
,00,00,01,01,00,00,00,\
00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\NtLmSsp\Enum]
"0"="Root\LEGACY_NTLMSSP\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Null]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Base"
"ErrorControl"=dword:00000001
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Null\Enum]
"0"="Root\LEGACY_NULL\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Oliscsi]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000003

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Parallel]
"DependOnGroup"=hex(7):50,61,72,61,6c,6c,65,6c,20,61,
72,62,69,74,72,61,74,6f,\
72,00,00
"DependOnService"=hex(7):50,61,72,70,6f,72,74,00,00
"Type"=dword:00000001
"Start"=dword:00000002
"Group"="Extended base"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Parallel\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Parallel\Enum]
"0"="Root\LEGACY_PARALLEL\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Parport]
"Type"=dword:00000001
"Start"=dword:00000002
"Group"="Parallel arbitrator"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Parport\Enum]
"0"="Root\LEGACY_PARPORT\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ParVdm]
"DependOnGroup"=hex(7):50,61,72,61,6c,6c,65,6c,20,61,
72,62,69,74,72,61,74,6f,\
72,00,00
"DependOnService"=hex(7):50,61,72,70,6f,72,74,00,00
"Type"=dword:00000001
"Start"=dword:00000002
"Group"="Extended base"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ParVdm\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ParVdm\Enum]
"0"="Root\LEGACY_PARVDM\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\PCIDump]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="PCI Configuration"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\PCIDump\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia]
"ErrorControl"=dword:00000001
"Group"="System Bus Extender"
"Start"=dword:00000004
"Tag"=dword:00000001
"Type"=dword:00000001
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\3Com Corporation]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\3Com Corporation\3CS59]
"Driver"="elnk3"
"Option"="ELNK3ISA509"
"InfFileName"="oemmad3.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Accton]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Accton\EN2212]
"DeviceType"="NET"
"Driver"="ne2000"
"InfFileName"="oemmadzz.inf"
"Option"="ACCTONEN2216"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Accton\EN2216-PCMCIA-ETHERNET]
"DeviceType"="NET"
"Driver"="ne2000"
"InfFileName"="oemmadzz.inf"
"Option"="ACCTONEN2216"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Adaptec, Inc.]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Adaptec, Inc.\APA-1460 SCSI Host
Adapter]
"Driver"="sparrow"
"DeviceType"="SCSI"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Compaq]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Compaq\Ethernet LAN Card]
"AttributeMemorySize"=dword:00001000
"DeviceType"="NET"
"Driver"="cpqndis"
"InfFileName"="oemmadzz.inf"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\D-Link]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\D-Link\DE-650]
"Driver"="ne2000"
"DeviceType"="NET"
"Option"="DLINKDE650"
"InfFileName"="oemmadzz.inf"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Diehl ISDN]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Diehl ISDN\ISDN-DIVA/PCM]
"DeviceType"="NET"
"Driver"="Diehl_DIVA_TED5ES"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Future Domain Corporation]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Future Domain Corporation\SCSI
PCMCIA Credit Card Controller]
"Driver"="fd16_700"
"DeviceType"="SCSI"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\IBM]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\IBM\TOKEN RING]
"Driver"="ibmtok"
"DeviceType"="NET"
"InfFileName"="oemmadtk.inf"
"Option"="IBMTOK"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\IBM Corp.]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\IBM Corp.\Ethernet]
"AttributeMemorySize"=dword:00001000
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000IBMPAT"
"InfFileName"="oemmadni.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Kingston Technology Corp.]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Kingston Technology Corp.\EtheRx]
"AttributeMemorySize"=dword:00001000
```

```
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000IBMPAT"
"InfFileName"="oemmadni.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\KME]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\KME\KXLC002]
"Driver"="qlmini"
"DeviceType"="SCSI"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\MADGE]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\MADGE\SMART 16/4 PCMCIA RINGNODE]
"Driver"="madgempport"
"Option"="MSMDGMPPCMCIA"
"InfFileName"="oemmadma.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Microdyne]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\Microdyne\NE4200]
"AttributeMemorySize"=dword:00001000
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000IBMPAT"
"InfFileName"="oemmadni.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\National Semiconductor]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\National Semiconductor\InfoMover
NE4100]
"AttributeMemorySize"=dword:00001000
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000IBMPAT"
"InfFileName"="oemmadni.inf"
"DeviceType"="NET"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\OLICOM]
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\OLICOM\ETHERCOM]
"DeviceType"="NET"
"Driver"="oce2xm"
"Option"="GOCARD"
"InfFileName"="oemmadzz.inf"
```

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Pcmcia\DataBase\OLICOM\TR 16/4 II]
"DeviceType"="NET"
"Driver"="octk16"
```

```

"Option"="PCMCIA"
"InfFileName"="oemadzz.inf"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Socket Communications Inc]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Socket Communications Inc\Socket EA
PCMCIA LAN Adapter Revision D]
"AttributeMemorySize"=dword:00000000
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000SOCKETEUA"
"InfFileName"="oemadn2.inf"
"DeviceType"="NET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Socket Communications Inc\Socket EA
PCMCIA LAN Adapter Revision E]
"AttributeMemorySize"=dword:00000000
"CardMemorySize"=dword:00000000
"Driver"="ne2000"
"Option"="NE2000SOCKETEUA"
"InfFileName"="oemadn2.inf"
"DeviceType"="NET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T]
"Option"=""
"InfFileName"="oemadzz.inf"
"DeviceType"="NET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\5331]
"Driver"="ce2xps"
"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\5FFA]
"Driver"="cendis3"
"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\64BA]
"AttributeMemorySize"=dword:00001000
"Driver"="ce2xps"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\9C9B]
"Driver"="cendis3"
"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\9F5B]
"Driver"="ce2ndis3"
"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\9FAB]
"Driver"="cendis3"

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"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard 10Base-T\B00D]
"Driver"="cendis3"
"AttributeMemorySize"=dword:00001000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard Ethernet+Modem
28.8]
"AttributeMemorySize"=dword:00001000
"DeviceType"="NET"
"Driver"="cem28xps"
"InfFileName"="oemadzz.inf"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard Ethernet+Modem II]
"Driver"="cm2ndis3"
"AttributeMemorySize"=dword:00001000
"Option"=""
"InfFileName"="oemadzz.inf"
"DeviceType"="NET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\DataBase\Xircom\CreditCard Token Ring]
"Driver"="ctndnt"
"AttributeMemorySize"=dword:00001000
"Option"=""
"InfFileName"="oemadzz.inf"
"DeviceType"="NET"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
Pcmcia\Parameters]
"Interrupt"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
PlugPlay]
"Type"=dword:00000020
"Start"=dword:00000003
"Group"="PlugPlay"
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,73,79,73,74,65,6d,33,\
32,5c,73,65,72,76,69,63,65,73,2e,65,78,65,00
"ObjectName"="LocalSystem"
"DisplayName"="Plug and Play"
"PlugPlayServiceType"=dword:00000003

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
pnpsia]
"DisplayName"="PnP ISA Enabler Driver"
"ErrorControl"=dword:00000000
"Group"="Base"
"Start"=dword:00000001
"Tag"=dword:0000000e
"Type"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
pnpsia\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
PROSet]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
PROSet\Adapters]
"EPRO100"="Intel 82557-based PCI Ethernet"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
PROSet\EPRO100]
"Configure"="EPRO100_Configure"
"Detect"="EPRO100_Detect"
"Diagnose"="EPRO100_Diagnose"
"DLL"="EPRO100.DLL"
"Help"="E100SET.HLP"
"RegistryKey"="EPRO100_GetRegistryKey"
"AdapterDescription"="EPRO100_GetAdapterDescription"
"InstallAnyway"="EPRO100_InstallAnyway"
"DeviceExist"="EPRO100_DeviceExist"
"Summary"="EPRO100_Resource_Summary"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
PROSet\EPRO100\Parameters]
"BusNumber"="0,7,BusNumber,0,2,0,0,16,1"
"BusType"="0,7,BusType,0,2,5,2,5,1"
"BusTypeLocal"="0,7,BusTypeLocal,0,2,5,2,5,1"
"Bid"="0,7,Bid,0,2,0,0,4294967295,1"
"Fifo"="0,3,Fifo_Depth,0,2,12,0,15,1"
"ForceDpx"="1,4,Duplex_Mode,0,1,Auto,Auto,Half,Full"
"MapRegisters"=""
"MediaType"="0,7,MediaType,0,2,1,1,1,1"
"MsPciScan"="0,4,MsPciScan,0,2,1,0,1,1"
"NumCoalesce"="1,7,Coalesce_Buffers,0,2,8,1,32,1"
"NumRfd"="1,7,Receive_Buffers,0,2,16,1,128,1"
"NumTbd"="0,3,Transmit_Buffer
Descriptors,0,2,64,1,65535,1"
"NumTbdPerTcb"="0,4,Transmit_Buffers_per
Frame,0,2,8,1,16,1"
"NumTcb"="1,7,Transmit_Control_Blocks,0,2,16,1,80,1"
"Off"="1,3,Off_Timer,0,2,2,1,65535,1"
"On"="1,3,On_Timer,0,2,32768,1,65535,1"
"RxDmaCount"="0,4,RxDmaCount,0,2,0,0,63,1"
"RxFifo"="0,4,Receive_Fifo_Depth,0,2,8,0,15,1"
"Slot"="0,3,Slot,0,2,0,0,64,1"
"Speed"="1,7,Network
Speed,0,4,Auto,Auto,0,10Mbps,10,100Mbps,100"
"Threshold"="0,7,Transmit_Threshold,0,2,16,0,200,1"
"TxDmaCount"="0,4,TxDmaCount,0,2,0,0,63,1"
"TxFifo"="0,4,Transmit_Fifo_Depth,0,2,8,0,15,1"
"Ucode"="0,4,Ucode,0,2,0,0,1,1"
"UnderrunRetry"="0,4,UnderrunRetry,0,2,1,0,3,1"
"PerfOptims"="0,4,PerfOptims,0,2,0,0,65535,1"
"UcodeSW"="0,7,UcodeSW,0,2,1,0,1,1"
"Adaptive_IFS"="0,7,Adaptive_IFS,0,2,1,0,255,1"
"Txmitwait"="0,7,Txmitwait,0,2,1,0,255,1"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
ProtectedStorage]
"Type"=dword:00000110
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):63,3a,5c,77,69,6e,6e,74,34,30,5c,7
3,79,73,74,65,6d,33,32,5c,\
70,73,74,6f,72,65,73,2e,65,78,65,00

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"DisplayName"="Protected Storage"
"DependOnService"=hex(7):52,70,63,53,73,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ProtectedStorage\Parameters]
"AuthCodeCfg"=dword:00000001
"Configuration"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ProtectedStorage\Parameters\S2]
"pstores.exe"=hex:ee,10,e4,33,e4,d7,2c,85,0f,28,db,5f
,0b,fa,7e,d0,6b,03,0a,90,\

e7,9f,3e,65,d2,27,0d,c4,35,17,42,20,96,ff,8f,48,69,e5
,21,4a,59,59,74,f3,79,\

5b,61,ef,69,01,e3,a3,19,de,8c,b4,2d,4f,54,24,37,c5,61
,ce,d0,31,39,e3,78,da,\

24,d2,60,e6,63,25,3f,05,9f,4b,35,f3,b7,21,80,75,a3,19
,ab,46,fb,43,39,34,e6,\

16,b4,4e,13,7c,c6,68,41,6d,cf,4d,e8,a6,18,b1,20,07,96
,35,ad,91,22,75,d2,7f,\
    b0,bd,d1,19,a3,ee,7e,a3,00,00,00,00,00,00,00,00
"psbase.dll"=hex:b7,15,79,e8,01,2b,d6,a2,91,01,98,28
,ff,35,b8,74,70,0d,01,20,\

3a,b4,37,ce,41,c7,75,4e,9a,45,37,84,21,d4,bf,69,a0,b9
,d0,17,ad,ac,45,f7,6e,\

cd,3e,bd,fd,3e,fe,7d,43,25,36,2f,7d,35,83,8d,ea,b8,a1
,56,c1,9a,d4,0d,46,03,\

ad,6a,64,f3,a1,b6,97,8a,a0,65,64,8d,5d,c7,2b,4a,f9,f8
,d4,e0,43,09,fc,b1,ba,\

46,e7,57,32,89,9f,62,70,84,fe,da,c3,cc,7c,f9,6c,4e,dc
,95,d5,bd,0d,81,e7,e7,\
    12,92,ef,d6,35,79,23,25,00,00,00,00,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ProtectedStorage\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,00,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,01,01,00,00,00,00,05,12,00
,00,00,\

02,00,00,00,00,05,20,00,00,20,02,00,00,00,00,00,00
,00,00,00,1c,00,ff,01,\

```

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0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00
,00,00,00,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ProtectedStorage\Enum]
"0"="Root\LEGACY_PROTECTEDSTORAGE\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\psdisp]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\psdisp\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):70,73,69,64,69,73,70
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\ql10wnt]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000023

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\qv]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\qv\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,71,76,00
,00
"HardwareInformation.AdapterString"=hex:51,00,56,00,4
7,00,41,00,20,00,4e,00,65,\
    00,77,00,00,00
"HardwareInformation.ChipType"=hex:51,00,56,00,47,00,
41,00,20,00,4e,00,65,00,\
    77,00,00,00
"HardwareInformation.DacType"=hex:55,00,6e,00,6b,00,6
e,00,6f,00,77,00,6e,00,00,\
    00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr]
"Type"=dword:00000002
"Start"=dword:00000003

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"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
    5c,64,72,69,76,65,72,73,5c,72,64,72,2e,73,79,73,00
"DisplayName"="Rdr"
"Group"="Network"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\

00,20,00,01,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\

00,00,00,00,01,00,00,00,00,00,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\

00,00,00,05,20,00,00,00,23,02,00,00,02,00,04,00,00,00
,1c,00,ff,01,0f,00,01,\

02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,02,00,04
,00,00,00,1c,00,ff,01,\

0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00
,02,00,04,00,00,00,18,\

00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\

00,00,00,05,12,00,00,00,01,01,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Rdr\Enum]
"0"="Root\LEGACY_RDR\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Replicator]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
    32,5c,6c,6d,72,65,70,6c,2e,65,78,65,00
"DisplayName"="Directory Replicator"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6
b,73,74,61,74,69,6f,6e,00,\
    4c,61,6e,6d,61,6e,53,65,72,76,65,72,00,00

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"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Exports]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Imports]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Parameters]
"Replicate"=dword:00000002
"ImportPath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,\
33,32,5c,52,65,70,6c,5c,49,6d,70,6f,72,74,00
"ExportPath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,\
33,32,5c,52,65,70,6c,5c,45,78,70,6f,72,74,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Replicator\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,02,00,04,00,00,00,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,05,20,00,00,00,20,02,00,00,02,00,04,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00,02,00,04,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,00,01,01,00,00,00,05,12,00,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RPCLOCATOR]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\
32,5c,4c,4f,43,41,54,4f,52,2e,45,58,45,00
"DisplayName"="Remote Procedure Call (RPC) Locator"

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"ObjectName"="LocalSystem"
"DependOnService"=hex(7):4c,61,6e,6d,61,6e,57,6f,72,6b,73,74,61,74,69,6f,6e,00,\
52,64,72,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RPCLOCATOR\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RPCLOCATOR\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RPCLOCATOR\Parameters]
"ExpirationAge"=dword:00000e10

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RPCLOCATOR\Security]
"Security"=hex:01,00,14,80,cc,00,00,00,d8,00,00,00,14,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,98,00,06,00,00,00,00,03,18,00,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,03,18,00,ff,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,ff,01,0f,00,01,01,00,00,00,\
00,00,05,12,00,00,00,20,02,00,00,00,03,18,00,00,00,02,00,01,02,00,00,00,\
00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,01,00,00,00,00,00,\
05,04,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,02,00,00,00,00,05,\
20,00,00,00,21,02,00,00,01,01,00,00,00,00,05,12,00,00,00,01,01,00,00,00,\
00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RpcSs]
"Type"=dword:00000010
"DisplayName"="Remote Procedure Call (RPC) Service"
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\
32,5c,52,70,63,53,73,2e,65,78,65,00
"ObjectName"="LocalSystem"
"Start"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RpcSs\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RpcSs\Security]
"Security"=hex:01,00,14,80,cc,00,00,00,d8,00,00,00,14,00,00,00,34,00,00,00,02,\

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00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,98,00,06,00,00,00,00,03,18,00,00,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,03,18,00,ff,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,ff,01,0f,00,01,01,00,00,\
00,00,05,12,00,00,00,20,02,00,00,00,03,18,00,00,00,02,00,01,02,00,00,00,\
00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,01,00,00,00,00,00,\
05,04,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00,01,02,00,00,00,00,05,\
20,00,00,00,21,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00,01,01,00,00,00,\
00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\RpcSs\Enum]
"0"="Root\LEGACY_RPCSS\00000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\3]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\3\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):73,33,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Schedule]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,53,79,73,74,65,6d,33,\
32,5c,41,74,53,76,63,2e,45,78,65,00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Scsprint]
"Type"=dword:00000001
"Start"=dword:00000002
"Group"="Extended base"
"ErrorControl"=dword:00000000
"DependOnGroup"=hex(7):53,43,53,49,20,6d,69,6e,69,70,6f,72,74,00,00
"Tag"=dword:00000003

```

```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Scsiprnt\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Scsiscan]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="SCSI Class"
"ErrorControl"=dword:00000000
"Tag"=dword:00000003
"DependOnGroup"=hex(7):53,43,53,49,20,6d,69,6e,69,70,6f,72,74,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Scsiscan\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial]
"Type"=dword:00000001
"Start"=dword:00000002
"Group"="Extended base"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001
"ForceFifoEnable"=dword:00000001
"RxFIFO"=dword:00000008
"TxFIFO"=dword:00000001
"PermitShare"=dword:00000000
"LogFifo"=dword:00000000
"ShareInterrupt"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial\Enum]
"0"="Root\LEGACY_SERIAL\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sermouse]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Pointer Port"
"ErrorControl"=dword:00000000
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sermouse\Parameters]
"MouseDataQueueSize"=dword:00000064
"NumberOfButtons"=dword:00000002
"SampleRate"=dword:00000028
"PointerDeviceBaseName"="PointerPort"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sfloppy]
"Type"=dword:00000001
"Start"=dword:00000001

```

```

"Group"="Primary disk"
"ErrorControl"=dword:00000000
"Tag"=dword:00000004
"DependOnGroup"=hex(7):53,43,53,49,20,6d,69,6e,69,70,6f,72,74,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sfloppy\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Simbad]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Filter"
"ErrorControl"=dword:00000001
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\slcd32]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001c

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sparrow]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000007

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Spock]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000002

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Spooler]
"Type"=dword:00000110
"Start"=dword:00000003
"Group"="SpoolerGroup"
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,25,5c,73,79,73,74,65,6d,33,\32,5c,73,70,6f,6f,6c,73,73,2e,65,78,65,00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Spooler\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Spooler\Enum]
"0"="Root\LEGACY_SPOOLER\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

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```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SQLServerAgent]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,4d,53,53,51,4c,37,5c,62,69,6e,6e,5c,73,71,6c,61,67,\65,6e,74,2e,65,78,65,00
"DisplayName"="SQLServerAgent"
"DependOnService"=hex(7):4d,53,53,51,4c,53,65,72,76,65,72,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SQLServerAgent\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14,00,00,00,34,00,00,00,02,\00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00,00,00,00,01,00,00,\00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,18,00,8d,01,02,00,01,01,00,\00,00,00,00,01,00,00,00,76,00,63,00,00,00,1c,00,fd,01,02,00,01,02,00,00,\00,00,00,05,20,00,00,00,23,02,00,00,00,00,17,00,00,00,1c,00,ff,01,0f,00,01,\02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,17,00,00,00,1c,00,ff,01,\0f,00,01,02,00,00,00,00,05,20,00,00,00,25,02,00,00,00,00,17,00,00,00,18,\00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25,02,00,00,01,01,00,00,\00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Srv]
"Type"=dword:00000002
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5c,53,79,73,74,65,6d,33,32,\5c,64,72,69,76,65,72,73,5c,73,72,76,2e,73,79,73,00
"DisplayName"="Srv"
"Group"="Network"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Srv\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Srv\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Srv\Parameters]

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Srv\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,76,00,69,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,63,00,65,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,63,00,65
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,25,02,00,00
,63,00,65,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Srv\Enum]
"0"="Root\LEGACY_SRV\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\sync810]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000001a

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt]
"Type"=dword:00000001
"Start"=dword:00000001
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):53,59,53,54,45,4d,33,32,5c,44,52,4
9,56,45,52,53,5c,53,59,53,\
4d,47,4d,54,2e,53,59,53,00
"DisplayName"="Compaq System Management Driver"
"Group"="System Management"
"InstalledBySetup"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt\Parameters]

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"DriverMode"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,00,00,00,00,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,00,00,00
,00,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,25,02,00,00
,00,00,00,00,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\SysMgmt\Enum]
"0"="Root\LEGACY_SYSMGMT\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T128]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000012

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T128\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T128\Parameters\Device0]
"DriverParameter"="IRQ=5"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T13B]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000013

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T13B\Parameters]

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\T13B\Parameters\Device0]
"DriverParameter"="IRQ=5"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\TapiSrv]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,73,79,73,74,65,6d,33,\
32,5c,74,61,70,69,73,72,76,2e,65,78,65,00
"ObjectName"="LocalSystem"
"DisplayName"="Telephony Service"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\TapiSrv\Performance]
"Close"="CloseTapiPerformanceData"
"Collect"="CollectTapiPerformanceData"
"Library"="tapiperf.dll"
"Open"="OpenTapiPerformanceData"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\TapiSrv\Security]
"Security"=hex:01,00,14,80,b4,00,00,00,c0,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,02,00,80,00,05,00,00,00,00,03,18,00
,8d,00,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,00,00,00,00,00,00,03,18,00,ff
,01,0f,00,01,02,00,00,\
00,00,00,05,20,00,00,00,20,02,00,00,00,03,18,00,8f,00
,02,00,01,02,00,00,00,\
00,00,05,20,00,00,00,23,02,00,00,00,03,18,00,9d,00,00
,00,01,01,00,00,00,00,\
00,05,04,00,00,00,23,02,00,00,00,03,18,00,9d,00,00,00
,01,02,00,00,00,00,00,\
05,20,00,00,00,21,02,00,00,01,01,00,00,00,00,00,05,12
,00,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tardis]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,3a,5c,57,49,4e,4e,54,34,30,5c,5
3,79,73,74,65,6d,33,32,5c,\
54,61,72,64,69,73,4e,54,2e,65,78,65,00
"DisplayName"="Tardis time service"
"DependOnService"=hex(7):54,63,70,69,70,00,00
"DependOnGroup"=hex(7):00
"ObjectName"="LocalSystem"

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```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tardis\Parameters]
"Protocol"=dword:000003eb
"Server"="archive.dblab.compaq.com"
"Max"="0"
"Frequency"="1"
"Within"="100"
"SNTPServer"=dword:00000001
"TCPServer"=dword:00000001
"UDPServer"=dword:00000001
"NTPBroadcastServer"=dword:00000000
"Dialup"=dword:00000000
"LogDuplicates"=dword:00000001
"LogWarn"=dword:00000000
"LogError"=dword:00000000
"Logtime"=dword:00000000
"LogServerChange"=dword:00000000
"LogPollChange"=dword:00000000
"AutoAdjust"=dword:00000000
"AutoChange"=dword:00000001
"Servers"="archive.dblab.compaq.com,"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tardis\Security]
"Security"=hex:01,00,14,80,34,00,00,00,40,00,00,00,14
,00,00,00,00,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
00,00,20,02,00,00,01,01,00,00,00,00,00,05,12,00,00,00
,01,01,00,00,00,00,00,\
05,12,00,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tardis\Enum]
"0"="Root\LEGACY_TARDIS\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip]
"Type"=dword:00000001
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,74,63,70,69,70,2e,73,79,73
,00
"DisplayName"="TCP/IP Service"
"Group"="PNP_TDI"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Linkage]
"Bind"=hex(7):5c,44,65,76,69,63,65,5c,4e,31,30,30,31,
00,00
"Export"=hex(7):5c,44,65,76,69,63,65,5c,54,63,70,69,7
0,5c,4e,31,30,30,31,00,00
"Route"=hex(7):22,4e,31,30,30,22,20,22,4e,31,30,30,31
,22,00,00
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```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Linkage\Disabled]
"Bind"=hex(7):00
"Export"=hex(7):00
"Route"=hex(7):00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Parameters]
"DataBasePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,7
4,25,5c,53,79,73,74,65,6d,\
33,32,5c,64,72,69,76,65,72,73,5c,65,74,63,00
"Domain"=""
"Hostname"="potter"
"NameServer"=""
"ForwardBroadcasts"=dword:00000000
"IPEnableRouter"=dword:00000000
"SearchList"=""
"EnableSecurityFilters"=dword:00000000
"KeepAliveTime"=dword:000493e0

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Parameters\PersistentRoutes]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Parameters\Winsock]
"HelperDllName"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,
74,25,5c,53,79,73,74,65,\
6d,33,32,5c,77,73,68,74,63,70,69,70,2e,64,6c,6c,00
"MaxSockAddrLength"=dword:00000010
"MinSockAddrLength"=dword:00000010
"Mapping"=hex:0b,00,00,00,03,00,00,02,00,00,00,01,
00,00,00,06,00,00,00,02,\
00,00,00,01,00,00,00,00,00,00,02,00,00,00,00,00,00
,00,06,00,00,00,00,00,\
00,00,00,00,00,00,06,00,00,00,00,00,00,00,01,00,00,00
,06,00,00,00,02,00,00,\
00,02,00,00,00,11,00,00,00,02,00,00,00,02,00,00,00,00
,00,00,00,02,00,00,00,\
00,00,00,00,11,00,00,00,00,00,00,00,00,00,00,00,11,00
,00,00,00,00,00,00,02,\
00,00,00,11,00,00,00,02,00,00,00,03,00,00,00,00,00,00
,00
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Performance]
"Library"="Perfctrs.dll"
"Open"="OpenTcpIpPerformanceData"
"Collect"="CollectTcpIpPerformanceData"
"Close"="CloseTcpIpPerformanceData"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Security]
"Security"=hex:01,00,14,80,c0,00,00,00,cc,00,00,00,14
,00,00,00,34,00,00,00,02,\
00,20,00,01,00,00,00,02,80,18,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\
```

```
00,00,20,02,00,00,02,00,8c,00,05,00,00,00,00,00,18,00
,8d,01,02,00,01,01,00,\
00,00,00,00,01,00,00,00,00,6d,00,00,00,00,00,1c,00,fd
,01,02,00,01,02,00,00,\
00,00,00,05,20,00,00,00,23,02,00,00,c3,f5,d3,11,00,00
,1c,00,ff,01,0f,00,01,\
02,00,00,00,00,00,05,20,00,00,00,20,02,00,00,c3,f5,d3
,11,00,00,1c,00,ff,01,\
0f,00,01,02,00,00,00,00,00,05,20,00,00,00,25,02,00,00
,c3,f5,d3,11,00,00,18,\
00,fd,01,02,00,01,01,00,00,00,00,05,12,00,00,00,25
,02,00,00,01,01,00,00,\
00,00,00,05,12,00,00,00,01,01,00,00,00,00,00,05,12,00
,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\ServiceProvider]
"Class"=dword:00000008
"DnsPriority"=dword:000007d0
"HostsPriority"=dword:000001f4
"LocalPriority"=dword:000001f3
"ProviderPath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,7
4,25,5c,53,79,73,74,65,6d,\
33,32,5c,77,73,6f,63,6b,33,32,2e,64,6c,6c,00
"NetbtPriority"=dword:000007d1
"Name"="TCP/IP"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Tcpip\Enum]
"0"="Root\LEGACY_TCPIP\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\tga]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\tga\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):74,67,61,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\tmv1]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000018

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\tmv1\Parameters]
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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\tmv1\Parameters\Device0]
"DriverParameter"="IRQ=15"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ultra124]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000b

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ultra14f]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000a

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Ultra24f]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:0000000c

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\update]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Base"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\update\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\UPS]
"Type"=dword:00000010
"Start"=dword:00000003
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):25,53,79,73,74,65,6d,52,6f,6f,74,2
5,5c,53,79,73,74,65,6d,33,\
32,5c,75,70,73,2e,65,78,65,00
"ObjectName"="LocalSystem"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\v7vram]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\v7vram\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,76,67,61
,32,35,36,00,00

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaSave]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Video Save"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,76,67,61,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaSave\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,00
"HardwareInformation.Crc32"=hex:ba,7d,db,8a

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaSave\Enum]
"0"="Root\LEGACY_VGASAVE\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaStart]
"Type"=dword:00000001
"Start"=dword:00000001
"Group"="Video Init"
"ErrorControl"=dword:00000000
"Tag"=dword:00000001
"ImagePath"=hex(2):5c,53,79,73,74,65,6d,52,6f,6f,74,5
c,53,79,73,74,65,6d,33,32,\
5c,64,72,69,76,65,72,73,5c,76,67,61,2e,73,79,73,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaStart\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,00
"ForceVga"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VgaStart\Enum]
"Count"=dword:00000000
"NextInstance"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VXD]
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\VXD\JAVASUP]
"Start"=hex:00
"StaticVxD"="JAVASUP.VXD"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc]
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc\parameters]
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc\parameters\ADCLaunch]

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc\parameters\ADCLaunch\AdvancedDataFactory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc\parameters\ADCLaunch\RDSServer.DataFactory]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\w3svc\parameters\Virtual Roots]
"/MSADC"="C:\\Program Files\\Common
Files\\System\\MSADC,,5"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Wd33c93]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="SCSI miniport"
"ErrorControl"=dword:00000001
"Tag"=dword:00000011

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Wd33c93\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\Wd33c93\Parameters\Device0]
"DriverParameter"="IRQ=10;DMA=6"
"DisableDisconnect"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\wd90c24a]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\wd90c24a\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,76,67,61
,32,35,36,00,77,64,39,30,\
63,32,34,61,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\wdvga]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\wdvga\Device0]
"VgaCompatible"=dword:00000001
"InstalledDisplayDrivers"=hex(7):76,67,61,00,76,67,61
,32,35,36,00,76,67,61,36,\
34,6b,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\weitekp9]
"Type"=dword:00000001
"Start"=dword:00000004
"Group"="Video"
"ErrorControl"=dword:00000000

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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\weitekp9\Device0]
"VgaCompatible"=dword:00000000
"InstalledDisplayDrivers"=hex(7):77,65,69,74,65,6b,70,
,39,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock]
"Type"=dword:00000004
"Start"=dword:00000003
"ErrorControl"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Autodial]
"AutodialDllName32"="wininet.dll"
"AutodialFcnName32"="InternetAutodialCallback"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Linkage]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Linkage\Disabled]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Parameters]
"Transports"=hex(7):54,63,70,69,70,00,4e,65,74,42,49,
4f,53,00,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Setup Migration]
"Setup Version"=dword:00001009
"Provider
List"=hex(7):54,63,70,69,70,00,4e,65,74,42,49,4f,53,0
0,00
"Known Static
Providers"=hex(7):54,63,70,69,70,00,4e,77,6c,6e,6b,49
,70,78,00,\
4e,77,6c,6e,6b,53,70,78,00,41,70,70,6c,65,54,61,6c,6b
,00,49,73,6f,54,70,00,\
00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Setup Migration\Providers]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Setup Migration\Providers\NetBIOS]
"WinSock 1.1 Provider
Data"=hex:0e,10,00,00,11,00,00,00,14,00,00,00,14,00,0
0,0,0,0,05,00,00,00,00,00,00,80,00,fa,00,00,68,00,00,00,09
,12,00,00,11,00,00,00,\
14,00,00,00,14,00,00,00,02,00,00,00,00,00,00,80,00,fa
,00,00,40,00,00,00,5c,\
00,44,00,65,00,76,00,69,00,63,00,65,00,5c,00,4e,00,65
,00,74,00,42,00,54,00,\
5f,00,4e,00,31,00,30,00,30,00,31,00,00,00,5c,00,44,00
,65,00,76,00,69,00,63,\
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00,65,00,5c,00,4e,00,65,00,74,00,42,00,54,00,5f,00,4e
,00,31,00,30,00,30,00,\
31,00,00,00
"WinSock 2.0 Provider
ID"=hex:30,18,5f,8d,73,c2,cf,11,95,c8,00,80,5f,48,a1,
92

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Setup Migration\Providers\Tcpip]
"WinSock 2.0 Provider
ID"=hex:a0,1a,0f,e7,8b,ab,cf,11,8c,a3,00,80,5f,48,a1,
92

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock\Setup Migration\Well Known Guides]
"IsoTp"=hex:b0,cb,e4,89,c1,b9,cf,11,95,c8,00,80,5f,48
,a1,92
"McsXns"=hex:b1,cb,e4,89,c1,b9,cf,11,95,c8,00,80,5f,4
8,a1,92
"AppleTalk"=hex:a0,17,3b,2c,df,c6,cf,11,95,c8,00,80,5
f,48,a1,92

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters]
"WinSock_Registry_Version"="2.0"
"Current_NameSpace_Catalog"="NameSpace_Catalog5"
"Current_Protocol_Catalog"="Protocol_Catalog9"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\NameSpace_Catalog5]
"Num_Catalog_Entries"=dword:00000001
"Next_Provider_ID"=dword:000007d0

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\NameSpace_Catalog5\Catalog_Entri
es]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\NameSpace_Catalog5\Catalog_Entri
es\00000000000001]
"LibraryPath"="%SystemRoot%\System32\rnr20.dll"
"DisplayString"="TCP/IP"
"ProviderId"=hex:40,9d,05,22,9e,7e,cf,11,ae,5a,00,aa,
00,a7,11,2b
"SupportedNameSpace"=dword:0000000c
"Enabled"=dword:00000001
"Version"=dword:00000000
"StoresServiceClassInfo"=dword:00520000

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\Protocol_Catalog9]
"Num_Catalog_Entries"=dword:00000005
"Next_Provider_ID"=dword:00000001
"Next_Catalog_Entry_ID"=dword:000003fa

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\Protocol_Catalog9\Catalog_Entrie
s]
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[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\
\WinSock2\Parameters\Protocol_Catalog9\Catalog_Entrie
s\000000000001]
"PackedCatalogItem"=hex:25,53,79,73,74,65,6d,52,6f,6f
,74,25,5c,73,79,73,74,65,\
6d,33,32,5c,6d,73,61,66,64,2e,64,6c,6c,00,61,66,64,2e
,64,6c,6c,00,74,00,65,\
00,72,00,20,00,6e,00,6f,00,6e,00,20,00,65,00,78,00,63
,00,6c,00,75,00,73,00,\
69,00,76,00,65,00,20,00,31,00,30,00,30,00,29,00,20,00
,28,00,70,00,72,00,65,\
00,73,00,65,00,6e,00,74,00,20,00,6e,00,31,00,30,00,30
,00,53,00,79,00,73,00,\
20,00,6e,00,31,00,30,00,30,00,53,00,79,00,73,00,20,00
,22,00,4e,00,31,00,30,\
00,30,00,53,00,79,00,73,00,22,00,20,00,22,00,4d,00,61
,00,63,00,68,00,69,00,\
6e,00,65,00,5c,00,53,00,4f,00,46,00,54,00,57,00,41,00
,52,00,45,00,5c,00,43,\
00,6f,00,6d,00,70,00,61,00,71,00,5c,00,4e,00,31,00,30
,00,30,00,5c,00,43,00,\
75,00,72,00,72,00,65,00,6e,00,74,00,56,00,65,00,72,00
,73,00,69,00,6f,00,6e,\
00,22,00,29,00,20,00,28,00,64,00,65,00,76,00,54,00,66
,00,02,00,00,00,00,00,\
00,00,00,00,00,00,00,08,00,00,00,a0,1a,0f,e7,8b,ab
,cf,11,8c,a3,00,80,5f,\
48,a1,92,e9,03,00,00,01,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\
00,00,00,00,00,00,00,00,00,00,00,00,00,00,02,00,00,00
,02,00,00,00,10,00,00,\
00,10,00,00,00,01,00,00,00,06,00,00,00,00,00,00,00,00
,00,00,00,00,00,00,\
00,00,00,00,00,00,00,00,4d,00,53,00,41,00,46,00,44,00
,20,00,54,00,63,00,70,\
00,69,00,70,00,20,00,5b,00,54,00,43,00,50,00,2f,00,49
,00,50,00,5d,00,00,00,\
00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,\
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75,00,72,00,72,00,65,00,6e,00,74,00,56,00,65,00,72,00,
,73,00,69,00,6f,00,6e,\

00,22,00,29,00,20,00,28,00,64,00,65,00,76,00,54,00,09,
,06,02,00,00,00,00,00,\

00,00,00,00,00,00,00,00,0c,00,00,00,a0,1a,0f,e7,8b,ab,
,cf,11,8c,a3,00,80,5f,\

48,a1,92,eb,03,00,00,01,00,00,00,00,00,00,00,00,00,
,00,00,00,00,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,02,00,00,00,
,02,00,00,00,10,00,00,\

00,10,00,00,00,03,00,00,00,00,00,00,00,ff,00,00,00,00,
,00,00,00,00,00,00,\

bb,ff,00,00,00,00,00,00,4d,00,53,00,41,00,46,00,44,00,
,20,00,54,00,63,00,70,\

00,69,00,70,00,20,00,5b,00,52,00,41,00,57,00,2f,00,49,
,00,50,00,5d,00,00,00,\

00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,
,00,00,00,00,00,00,\

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00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,
,00,00,00,00,00,00,\

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\WinSock2\Parameters\Protocol_Catalog9\Catalog_Entries
s\000000000004]
"PackedCatalogItem"=hex:25,53,79,73,74,65,6d,52,6f,6f,
,74,25,5c,73,79,73,74,65,\

6d,33,32,5c,6d,73,61,66,64,2e,64,6c,6c,00,61,66,64,2e,
,64,6c,6c,00,74,00,65,\

00,72,00,20,00,6e,00,6f,00,6e,00,20,00,65,00,78,00,63,
,00,6c,00,75,00,73,00,\

69,00,76,00,65,00,20,00,31,00,30,00,30,00,29,00,20,00,
,28,00,70,00,72,00,65,\

00,73,00,65,00,6e,00,74,00,20,00,6e,00,31,00,30,00,30,
,00,53,00,79,00,73,00,\

20,00,6e,00,31,00,30,00,30,00,53,00,79,00,73,00,20,00,
,22,00,4e,00,31,00,30,\

00,30,00,53,00,79,00,73,00,22,00,20,00,22,00,4d,00,61,
,00,63,00,68,00,69,00,\

6e,00,65,00,5c,00,53,00,4f,00,46,00,54,00,57,00,41,00,
,52,00,45,00,5c,00,43,\

00,6f,00,6d,00,70,00,61,00,71,00,5c,00,4e,00,31,00,30,
,00,30,00,5c,00,43,00,\

75,00,72,00,72,00,65,00,6e,00,74,00,56,00,65,00,72,00,
,73,00,69,00,6f,00,6e,\

00,22,00,29,00,20,00,28,00,64,00,65,00,76,00,54,00,0e,
,00,02,00,00,00,00,00,\

00,00,00,00,00,00,00,00,08,00,00,00,30,18,5f,8d,73,c2,
,cf,11,95,c8,00,80,5f,\

48,a1,92,f8,03,00,00,01,00,00,00,00,00,00,00,00,00,
,00,00,00,00,00,00,\

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00,14,00,00,00,05,00,00,00,00,00,00,00,80,00,00,00,00,00,
,00,00,00,00,00,00,\

00,fa,00,00,00,00,00,00,4d,00,53,00,41,00,46,00,44,00,
,20,00,4e,00,65,00,74,\

00,42,00,49,00,4f,00,53,00,20,00,5b,00,5c,00,44,00,65,
,00,76,00,69,00,63,00,\

65,00,5c,00,4e,00,65,00,74,00,42,00,54,00,5f,00,4e,00,
,31,00,30,00,30,00,31,\

00,5d,00,20,00,53,00,45,00,51,00,50,00,41,00,43,00,4b,
,00,45,00,54,00,20,00,\

30,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,
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```

Processor . . . . . Pentium III(R) at
600 MHz
Slot . . . . . 1
Secondary Cache . . . . . 512K
CPU ID . . . . . 0673

Processor(s) Mapped Out . . . . . None

Numeric Coprocessor . . . . . Integrated 387-
Compatible

Expansion Bus . . . . . ISA, PCI

System Identification Number . . D917CNK10304

CPU Mode . . . . . Real Mode

System ROM
Revision . . . . . 12/07/1999
Family . . . . . P8
Flashable . . . . . Yes
Supports F10 partition . . . . . Yes

Video Controller ROM
Revision . . . . . 1.31 (Cirrus)

Option ROMs
Address Range . . . . . C0000 - C7FFF
Data Dump . . . . . (CL-GD5446 PCI VGA
BIOS Version 1.31 Copyright...)

Address Range . . . . . E8000 - EDFFF
Data Dump . . . . . ( CPQSCSI d)

Bootblock ROM . . . . . 04/07/1998

Standby Recovery Server
Status . . . . . Disabled
COM Port . . . . . COM1
Server Configuration . . . . . Recovery
Timeout Value . . . . . 1 minutes

Memory Boards Identified:
System Board
DIMM Slot 1 (SDRAM) . . . . . 128 Megabytes
DIMM Slot 2 (SDRAM) . . . . . 128 Megabytes
DIMM Slot 3 (SDRAM) . . . . . 128 Megabytes
DIMM Slot 4 (SDRAM) . . . . . 128 Megabytes
Total Compaq Memory . . . . . 512 Megabytes

Keyboard . . . . . Enhanced

LPT Ports . . . . . LPT1 (Address 3BC)

COM Ports . . . . . COM1 (Address 3F8)
COM2 (Address 2F8)

Netelligent 10/100 TX Embedded UTP Controller
Device Type . . . . . Other Network
Controller
PCI Bus Number . . . . . 1
Device Number . . . . . 7
Function Number . . . . . 00h
Slot Number . . . . . 0

```

```

Vendor ID . . . . . 0E11h
Device ID . . . . . AE43h
Revision ID . . . . . 10h
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFF0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 2800h
IO Address Length . . . . . 10h
Memory Address Base . . . . . C6FFDDF0h
Memory Address Length . . . . . 10h

Netelligent 10/100TX PCI UTP Controller
Device Type . . . . . Other Network
Controller
PCI Bus Number . . . . . 1
Device Number . . . . . 10
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . AE32h
Revision ID . . . . . 10h
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFF0000h
IRQ Line . . . . . 11
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 2810h
IO Address Length . . . . . 10h
Memory Address Base . . . . . C6FFDDE0h
Memory Address Length . . . . . 10h

Diskette Drive A . . . . . 1.44 Megabyte (3.5
inch)

Graphics Mode . . . . . 03 (80-Column Text)

Primary Monitor attached to . . Cirrus CL-GD5446
Graphics Controller
with Video Graphics

Color Monitor

Total Video Memory . . . . . 1024 Kbytes

Base Memory
System Total . . . . . 640 Kbytes
Amount Free . . . . . 597 Kbytes
(612016 Bytes)

Extended Memory
System Total . . . . . 523264 Kbytes

Expanded Memory
LIM Driver Support . . . . . LIM driver not
loaded

Operating System . . . . . MS-DOS version 7.00
(from diskette)

Status of file: C:\IO.SYS

```

```

Date and Time . . . . . 02/09/2000
17:05:56
Size . . . . . 0 Bytes

Status of file: C:\MSDOS.SYS
Date and Time . . . . . 02/09/2000
17:05:56
Size . . . . . 0 Bytes

-----
** Dump of C:\CONFIG.SYS
-----
** End of file

Status of file: C:\COMMAND.COM
*** File does not exist

-----
** Dump of C:\AUTOEXEC.BAT
-----
** End of file

Environment variables
PATH=
PROMPT=$P$G
COMSPEC=A:\COMMAND.COM
CMDLINE=inspect /u
End of environment

Revisions Table

Previous Revisions
I/O Board Revision . . . . . 04
Assembly Version . . . . . 1
Functional Revision Level . . D

Current Revisions
I/O Board Revision . . . . . 04
Assembly Version . . . . . 1
Functional Revision Level . . D

Memory Allocation (including INSPECT)
PSP SIZE NAME TRAPPED INTERRUPTS
-----
08D0 007200 COMMAND.COM F7h FDh 2Fh 2Eh 24h
23h 22h
0A9B 216448 INSPECT.EXE F8h F1h EFh EBh E7h
3Fh 00h

System Configuration Memory
00 - 0F : 29 00 24 00 09 00 05 24 03 00 26
82 50 80 00 00
10 - 1F : 40 00 00 00 03 80 02 00 3C 00 00
00 00 00 00 02
20 - 2F : 00 00 00 00 7F 20 20 40 00 92 00
00 00 10 02 A4
30 - 3F : 00 3C 20 80 00 00 XX XX XX XX XX
XX XX XX XX XX

```



```

BIOS Data Area
40:0000 : F8 03 F8 02 00 00 00 00 BC 03 00
00 00 00 06 02
40:0010 : 27 44 00 80 02 00 00 00 00 00 1E
00 1E 00 00 00
40:0020 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:0030 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 01 01
40:0040 : 22 00 00 00 00 00 00 0E 02 03 50
00 00 10 00 00
40:0050 : 00 18 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:0060 : 0E 0D 00 D4 03 29 30 C2 11 45 77
00 B9 67 09 00
40:0070 : 00 00 00 12 00 01 00 00 14 14 14
14 01 01 01 01
40:0080 : 1E 00 3E 00 18 10 00 60 F9 11 0B
01 00 00 00 05
40:0090 : 17 00 00 00 00 00 10 00 00 00 00
00 00 00 00 00
40:00A0 : 00 00 00 00 00 00 00 00 42 54 00
C0 00 00 00 00
40:00B0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00C0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00D0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00E0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00F0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00

```

Interrupt Vector Table (including INSPECT)

```

00 - 03 : 0AAB:0555 0070:0465
0807:0016 0070:0465
04 - 07 : 0070:0465 F000:FF54
F000:93CC F000:9BD0
08 - 0B : 0807:001F 0807:0028
F000:9BD0 F000:9BD0
0C - 0F : F000:9BD0 F000:9BD0
0807:009A 0070:0465
10 - 13 : C000:3342 F000:F84D
F000:F841 0070:03EE
14 - 17 : F000:F71E 0247:0240
0070:042D F000:EFD2
18 - 1B : F000:2334 08C8:002F
F000:FE6E 0070:045F
1C - 1F : F000:FF53 C000:1E2B
0000:0522 C000:6032
20 - 23 : 00C9:0FA8 00C9:0FB2
08D0:0314 08D0:016D
24 - 27 : 08D0:0178 00C9:0FBC
00C9:0FC6 00C9:0FD0
28 - 2B : 00C9:106F 0070:0466
00C9:106F 00C9:106F
2C - 2F : 00C9:106F 00C9:106F
08D0:0162 08D1:01CC
30 - 33 : C90F:E4EA F000:9B00
00C9:106F 00C9:106F

```

```

34 - 37 : 00C9:106F 00C9:106F
00C9:106F 00C9:106F
38 - 3B : 00C9:106F 00C9:106F
00C9:106F 00C9:106F
3C - 3F : 00C9:106F 00C9:106F
00C9:106F 1B58:04F3
40 - 43 : F000:EC59 0000:0000
F000:F065 C000:5C32
44 - 47 : F000:9BD0 F000:9BD0
0000:0000 F000:9BD0
48 - 4B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
4C - 4F : F000:9BD0 F000:9BD0
F000:9BD0 0070:04FC
50 - 53 : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
54 - 57 : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
58 - 5B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
5C - 5F : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
60 - 63 : 0000:0000 0000:0000
0000:0000 0000:0000
64 - 67 : 0000:0000 0000:0000
0000:0000 0000:0000
68 - 6B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
6C - 6F : F000:9BD0 C000:3342
F000:9BD0 F000:9BD0
70 - 73 : 0807:0035 E800:28DD
0807:00B2 F000:9BD0
74 - 77 : 0807:00E2 F000:9C28
0807:00FA F000:9BD0
78 - 7B : 0000:0000 0000:0000
0000:0000 0000:0000
7C - 7F : 0000:0000 0000:0000
0000:0000 0000:0000
80 - 83 : 0000:0000 0000:0000
0000:0000 0000:0000
84 - 87 : 0000:0000 0000:0000
0000:0000 0000:0000
88 - 8B : 0000:0000 0000:0000
0000:0000 0000:0000
8C - 8F : 0000:0000 0000:0000
0000:0000 0000:0000
90 - 93 : 0000:0000 0000:0000
0000:0000 0000:0000
94 - 97 : 0000:0000 0000:0000
0000:0000 0000:0000
98 - 9B : 0000:0000 0000:0000
0000:0000 0000:0000
9C - 9F : 0000:0000 0000:0000
0000:0000 0000:0000
A0 - A3 : 0000:0000 0000:0000
0000:0000 0000:0000
A4 - A7 : 0000:0000 0000:0000
0000:0000 0000:0000
A8 - AB : 0000:0000 0000:0000
0000:0000 0000:0000
AC - AF : 0000:0000 0000:0000
0000:0000 0000:0000

```

```

B0 - B3 : 0000:0000 0000:0000
0000:0000 0000:0000
B4 - B7 : 0000:0000 0000:0000
0000:0000 0000:0000
B8 - BB : 0000:0000 0000:0000
0000:0000 0000:0000
BC - BF : 0000:0000 0000:0000
0000:0000 0000:0000
C0 - C3 : 0000:0000 0000:0000
0000:0000 0000:0000
C4 - C7 : 0000:0000 0000:0000
0000:0000 0000:0000
C8 - CB : 0000:0000 0000:0000
0000:0000 0000:0000
CC - CF : 0000:0000 0000:0000
0000:0000 0000:0000
D0 - D3 : 0000:0000 0000:0000
0000:0000 0000:0000
D4 - D7 : 0000:0000 0000:0000
0000:0000 0000:0000
D8 - DB : 0000:0000 0000:0000
0000:0000 0000:0000
DC - DF : 0000:0000 0000:0000
0000:0000 0000:0000
E0 - E3 : 0000:0000 0000:0000
0000:0000 0000:0000
E4 - E7 : 0000:0000 0000:0000
0000:0000 0F10:0CFD
E8 - EB : 0083:0009 0006:1FB9
0006:1FB7 0046:CC00
EC - EF : 0000:1DD3 0020:0203
0000:031F 0202:C000
F0 - F3 : C000:0008 0BE9:0E06
03CE:03DA 0008:5050
F4 - F7 : 00E8:655F 0203:0000
0000:03C4 0A2E:03C4
F8 - FB : 3394:0000 FF01:000F
0000:0000 00F4:5FD8
FC - FF : 0246:0A00 0A00:0000
E0FB:0049 0003:0A1F

```

PCI Devices Information

```

Signature . . . . . PCI
Config Mechanism #1 . . . . . Supported
Config Mechanism #2 . . . . . Not Supported
Spec Cycle for Config #1 . . . . . Supported
Spec Cycle for Config #2 . . . . . Not Supported
BIOS Interface Version . . . . . 2.10
Last PCI Bus Number . . . . . 1
Number of PCI Devices . . . . . 5

PCI Bus Number . . . . . 0
Device Number . . . . . 11
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 1013h
Device ID . . . . . 00B8h
Revision ID . . . . . 45h
Device Type . . . . . VGA Compatible
Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFF0000h
IRQ Line . . . . . 255

```

```

IRQ Pin . . . . . Not Used
Memory Address Base . . . . . C400000h
Memory Address Length . . . . . 200000h
Memory Address Base . . . . . C6EFF00h
Memory Address Length . . . . . 1000h

PCI Bus Number . . . . . 1
Device Number . . . . . 7
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . AE43h
Revision ID . . . . . 10h
Device Type . . . . . Other Network
Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFF000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 2800h
IO Address Length . . . . . 10h
Memory Address Base . . . . . C6FFDDF0h
Memory Address Length . . . . . 10h

PCI Bus Number . . . . . 1
Device Number . . . . . 9
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . 000Fh
Revision ID . . . . . 14h
Device Type . . . . . SCSI Bus Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . 0h
IRQ Line . . . . . 9
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 2000h
IO Address Length . . . . . 100h
Memory Address Base . . . . . C6FFDF00h
Memory Address Length . . . . . 100h
Memory Address Base . . . . . C6FF000h
Memory Address Length . . . . . 1000h

PCI Bus Number . . . . . 1
Device Number . . . . . 9
Function Number . . . . . 01h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . 000Fh
Revision ID . . . . . 14h
Device Type . . . . . SCSI Bus Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . 0h
IRQ Line . . . . . 10
IRQ Pin . . . . . INT#
IO Address Base . . . . . 2400h
IO Address Length . . . . . 100h
Memory Address Base . . . . . C6FFDE00h
Memory Address Length . . . . . 100h
Memory Address Base . . . . . C6FFE000h
Memory Address Length . . . . . 1000h

PCI Bus Number . . . . . 1

```

```

Device Number . . . . . 10
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . AE32h
Revision ID . . . . . 10h
Device Type . . . . . Other Network
Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFF000h
IRQ Line . . . . . 11
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 2810h
IO Address Length . . . . . 10h
Memory Address Base . . . . . C6FFDE0h
Memory Address Length . . . . . 10h

ProLiant 1600 is a trademark of Compaq Computer
Corporation.

Date . . . . . 03/27/2000
Time . . . . . 10:26:25

Product . . . . . PROLIANT 8500

Machine ID
From System Board . . . . . CPQ1608

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 6
Secondary Cache . . . . . 2048K
CPU ID . . . . . 0673

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 5
Secondary Cache . . . . . 2048K
CPU ID . . . . . 0673

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 4
Secondary Cache . . . . . 2048K
CPU ID . . . . . 0673

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 3
Secondary Cache . . . . . 2048K
CPU ID . . . . . 0673

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 2
Secondary Cache . . . . . 2048K
CPU ID . . . . . 0673

```

```

Processor . . . . . Pentium III(R) Xeon
at 550 MHz
Slot . . . . . 1
Secondary Cache . . . . . 2048K

Processor(s) Mapped Out . . . . . None

Numeric Coprocessor . . . . . Integrated 387-
Compatible

Expansion Bus . . . . . ISA, PCI

System Identification Number . . . . . 0927BX710018

CPU Mode . . . . . Real Mode

System ROM
Revision . . . . . 10/11/1999
Family . . . . . P42
Flashable . . . . . Yes
Supports F10 partition . . . . . Yes

Video Controller ROM
Revision . . . . . 3.96

Option ROMs
Address Range . . . . . C0000 - C7FFF
Data Dump . . . . . (1998/10/08 15:41)

Address Range . . . . . C8000 - CBFFF
Data Dump . . . . . (04/22/98
SurefireSmart Array Option ROM/BIOS (C)Co...)

Address Range . . . . . CC000 - CCFFF
Data Dump . . . . . ( Copyright (C)
1997,1998 Intel Corporation )

Address Range . . . . . CD000 - D0FFF
Data Dump . . . . . (04/22/98 ROC
ROC-LCR Option ROM/BIOS (C)Copyri...)

Address Range . . . . . E8000 - EDFFF
Data Dump . . . . . ( CPQSCSI d)

Bootblock ROM . . . . . 04/19/1999

Standby Recovery Server
Status . . . . . Disabled
COM Port . . . . . COM1
Server Configuration . . . . . Recovery
Timeout Value . . . . . 1 minutes

Memory Boards Identified:
Expansion Board
Bank 1 (SDRAM) . . . . . 512 Megabytes
Bank 2 (SDRAM) . . . . . 512 Megabytes
Bank 3 (SDRAM) . . . . . 512 Megabytes
Bank 4 (SDRAM) . . . . . 512 Megabytes
Bank 5 (SDRAM) . . . . . 512 Megabytes
Bank 6 (SDRAM) . . . . . 512 Megabytes
Bank 7 (SDRAM) . . . . . 512 Megabytes

```

```

Bank 8 (SDRAM) . . . . . 512 Megabytes
Total Compaq Memory . . . . . 4096 Megabytes

Keyboard . . . . . Enhanced

LPT Ports . . . . . LPT1 (Address 378)

COM Ports . . . . . COM1 (Address 3F8)
                  COM2 (Address 2F8)

Compaq NC3123 Fast Ethernet NIC
Device Type . . . . . Ethernet Controller
PCI Bus Number . . . . . 0
Device Number . . . . . 1
Function Number . . . . . 00h
Slot Number . . . . . 7
Vendor ID . . . . . 0E11h
Device ID . . . . . 1229h
Subsystem Vendor ID . . . . . 0E11h
Subsystem ID . . . . . B144h
Revision ID . . . . . 08h
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFF00000h
IRQ Line . . . . . 11
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7DF0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 2000h
IO Address Length . . . . . 40h
Memory Address Base . . . . . F7C00000h
Memory Address Length . . . . . 100000h

Diskette Drive A . . . . . 1.44 Megabyte (3.5
inch)

Drive Controller 1, Compaq Integrated Smart Array
Controller
IDA Firmware Revision . . . . . 1.34
Array Accelerator Memory . . . . . 8188 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 0
Batteries charged . . . . . 0
Batteries failed . . . . . 0
Internal ProLiant . . . . . Bus 2, Rev. JB21

Logical Drive 1 . . . . . 9091 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 2176, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LJB9050600001926J38Z
Firmware Revision 1 . . . . . 3208
Model Number . . . . . COMPAQ HD0093172C
Initialized for Monitoring . Yes

```

```

Drive Controller 2, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for writes . . . . . 57344 Kbytes
Accelerator Status . . . . . Enabled
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46
ProLiant . . . . . Bus 3, Rev. JB46

Logical Drive 1 . . . . . 14797 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3542, 255, 32
Array Accelerator . . . . . Enabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . B3133470
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129725
Sectors read . . . . . *1812893263
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261040593
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439824
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 86
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS759351000010200W45
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129725
Sectors read . . . . . *1806966140
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 258999169
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441936

```

```

Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 742
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS757631000010200N2N
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129726
Sectors read . . . . . *1801861920
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 258970983
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439081
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 671
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS7636330000102008YQ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129726
Sectors read . . . . . *1803816016
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260533504
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1094
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS757993000010200MD2
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1801949129
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 258288091
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446160
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 632
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS7497940000102009VR
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1803442948
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259611175
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441936
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 2104
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS7483560000102006LT
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes

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```

Reference time . . . . . 129727
Sectors read . . . . . *1810011090
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260717743
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443696
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 4445
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS761431000010193DTJ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1808433331
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259234512
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 456016
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 683
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS761159000010193E5L
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1804208562
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259780205
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392

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Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 369
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS738338000070190EFV
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1804252552
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259727472
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444224
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 1635
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS7522640000102009RS
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1809682076
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260328626
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441001
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 973
Recovers read failed . . . . 0
Bus faults . . . . . 0

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Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . .
LS75325400007019KYZ7
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1801599801
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 258778341
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444758
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 486
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS76095200001019393Z
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129727
Sectors read . . . . . *1802532822
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259869614
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433671
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 827
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS753733000010193EGW
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes

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Reference time . . . . . 129727
Sectors read . . . . . *1806283817
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260334897
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434903
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 542
Recovers read failed . . . . 0
Bus faults . . . . . 0

Logical Drive 2 . . . . . 14797 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3542, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS758893000010200WBJ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129728
Sectors read . . . . . *1794776218
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260170266
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 432638
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 559
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS723848000010192BAV
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129728
Sectors read . . . . . *1789824762

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259878150
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 432259
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 585
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3129401
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1790801282
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260741636
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431731
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 62
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3132399
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1791858026
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261415232
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433316
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%

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Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 66
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3129620
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1795186473
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259327585
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435252
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 127
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS763675000010200JF8
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1795105285
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259936711
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435955
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 245
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1

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Serial Number . . . . .
LS7349130000101926R9
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1792945551
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 258754852
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 432966
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1372
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS770186000010200VLA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1807598093
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 267408495
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435411
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1417
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3132973
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812649705
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0

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Sectors written . . . . . 268724913
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434730
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 92
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS7486920000101938YJ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812324290
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262063366
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 432439
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 849
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS756666000010200B3B
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812186476
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262626469
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433319
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%

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Seek time full . . . . . 71%
Reallocated sectors . . . 1693
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS73574000070190D5X
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1809863213
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261598320
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 430499
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1624
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS757151000010193937
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812121685
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262925475
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433853
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 684
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3134565

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Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1809619225
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 267447486
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437716
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 70
Recovers read failed . . . . 0
Bus faults . . . . . 0

Logical Drive 3 . . . . . 14797 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3542, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3132281
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812382190
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 267479573
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434355
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 46
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS75836600010200MWR
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes

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Reference time . . . . . 129729
Sectors read . . . . . *1809539586
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260723884
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435960
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 627
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS73869000010191W90
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1809942840
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261655501
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431555
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1196
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3129351
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1813867215
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 268934809
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 430676
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 24
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS717067000010191PX3
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1811780573
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261416434
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433141
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 640
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS739323000010192HA3
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1812632432
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262404037
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434198
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 838
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS73900500007019K857
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1815047265
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 264002599
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431369
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 3123
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3128295
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1797550132
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 268324956
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431555
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 28
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS754388000010200QQY
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1798403676

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263673198
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 430500
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 581
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3126399
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1796052870
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261171577
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 430500
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 89
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3133708
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1798281449
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261476197
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 430323
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%

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Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 66
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS736133000010191Z9Z
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1798116456
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 268425318
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431212
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 573
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3131500
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1796248544
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 267903104
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431733
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 68
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3132291

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Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129729
Sectors read . . . . . *1799700649
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 268966058
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 431535
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 59
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 3, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for writes . . . . . 57344 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46
ProLiant . . . . . Bus 3, Rev. JB46
ProLiant . . . . . Bus 4, Rev. JB46

Logical Drive 1 . . . . . 14776 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3537, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS761303000010200M8E
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4259921210
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191871733
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0

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Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 837
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS757338000010193CNR
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4259118270
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191682613
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 452496
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1234
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS7504270000101934M0
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4259193397
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191925119
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 467936
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1677
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1

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SCSI ID . . . . . 3
Serial Number . . . . .
LS7550690000701403YK
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256143832
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191380267
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 407
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS726096000010191UFX
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4255780907
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 190349007
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448272
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 884
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS738180000010191711
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4257135738
Hard read errors . . . . . 0

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Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 190425824
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 423
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS7022620000101920Y3
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4257880096
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191407677
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446864
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1045
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS7381710000101926UM
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4255535847
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194578527
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447040
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0

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```

Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1916
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS7546140000101923H8
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254173268
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195605659
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446688
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 835
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS73557700007019KV6A
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256685462
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 206672086
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1441
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1

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SCSI ID . . . . . 5
Serial Number . . . . .
LS7262920000101923A3
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4257367814
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195654465
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450336
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1803
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . .
LS73278200007019K813
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4258143655
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 207185222
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449680
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 2374
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . B3133460
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256341129
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 206251133
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 42
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS758339000010200QH
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254555248
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 205560188
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 452976
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 426
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 2 . . . . . 14776 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3537, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3133138
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254105903
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192969020
Hard write errors . . . . . 0

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Write errors retry . . . . . 0
Seek count . . . . . 450960
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 24
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS758152000010200ECY
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254869405
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194229061
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 416
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3132931
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256506182
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 206271071
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447264
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 51
Recovers read failed . . . . . 0

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```

Bus faults . . . . . 0
Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3131389
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254471405
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 205571261
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446816
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 161
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3131606
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4255288871
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193705749
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447744
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 24
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3128852
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4254802018

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 205305866
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449984
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 145
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS73971500007019K815
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4271093151
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195747700
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446512
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 557
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . LS748752000010200PZU
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4255404134
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195455575
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447568
Seek errors . . . . . 0
Spin cycles . . . . . 0

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Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 548
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . LS748106000010200CTX
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256370763
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194865793
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446736
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 986
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . LS7614400000101938RA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4255924686
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194688047
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444928
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 198
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11

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SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS754622000010192L00
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128808
Sectors read . . . . . 4256718806
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195095045
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444880
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 3124
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS753366000010193E7T
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128809
Sectors read . . . . . 4257976033
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 196625557
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444832
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 497
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS7473470000101929BW
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128809
Sectors read . . . . . 4254545817

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194706865
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445408
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 659
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS757462000010200EJT
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128809
Sectors read . . . . . 4256080500
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194507140
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446688
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 520
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 3 . . . . . 14776 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3537, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS75368600007019JVNK
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *74228866
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 194225621
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 454256
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1780
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS73395600007019KRWQ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71815311
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192865408
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450736
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 4719
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS759402000010180ZEX
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *86848343
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194521218
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450032
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%

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Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 510
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3129101
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *73241912
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193761906
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448448
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 33
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3132890
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *72822964
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193512384
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451440
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 65
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3129309
Firmware Revision 1 . . . . . B016

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Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *73812132
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194575048
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 20
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS7255480000101920UW
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *75387118
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193770277
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449680
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 343
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3132467
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *73561359
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193909945
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 449680
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 33
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . LS717995000010191M7Y
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71726048
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193286076
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451088
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 388
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3132203
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *84185654
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193347244
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450208
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 70
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS756981000010200QSC
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *83130343
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192647992
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450560
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 770
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3125288
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *70110414
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193562433
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448800
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . 53
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS73888300007019KJ2R
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932

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Sectors read . . . . . *74481777
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193862685
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447920
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 776
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3133403
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71151460
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192092501
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450384
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 109
Recovers read failed . . . . 0
Bus faults . . . . . 0

Logical Drive 4 . . . . . 14776 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3537, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS740098000010192BG9
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *76217271
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 195218364
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 454608
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 2716
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS760394000010193E32
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *76196380
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195241812
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 453728
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 475
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS73889800007019HR18
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *73479731
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194260717
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449856
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%

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Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1354
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3132393
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *72371153
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194104748
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451264
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 31
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3126225
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71411436
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194278528
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 469744
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 26
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7542840000U01802ER

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Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *72485722
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 194177720
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451968
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1008
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3129345
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71881289
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193743423
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447920
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 64
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS757228000010200QHY
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *70989904
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 197860924
Hard write errors . . . . . 0

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Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 2816
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS7334950000102009PV
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71623937
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 197781335
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1604
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3133416
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *75152910
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 211355065
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449856
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 29
Recovers read failed . . . . . 0

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Bus faults . . . . . 0
Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3133959
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *73601622
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 198129318
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 115
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3125343
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *72074783
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 196410424
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450912
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 160
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3132401
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *71990205

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 196672891
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451088
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 52
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS732430000010191CVUJ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128932
Sectors read . . . . . *72005066
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 198550627
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451440
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 676
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 4, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46
ProLiant . . . . . Bus 3, Rev. JB46
ProLiant . . . . . Bus 4, Rev. JB46

Logical Drive 1 . . . . . 254781 Megabyte
Fault Tolerance . . . . . Mirroring
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) -4553, 255, 32
Array Accelerator . . . . . Disabled

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Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . LS74670700007019KVK2
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129157
Sectors read . . . . . *1270139562
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164893559
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441727
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 4192
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . . LS761371000010193EM9
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1269122744
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164583843
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439120
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 480
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . . LS7617270000101923MC
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes

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Reference time . . . . . 129158
Sectors read . . . . . *1262582399
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164305840
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437008
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 654
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS762959000010200CAP
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1263170940
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164631406
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 146
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS7581170000101933QF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1258993485
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164158857
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445808

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Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 366
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . . B3131514
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1259872670
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 165547620
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446688
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 115
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS756018000010200VKY
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1264070445
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164678124
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447216
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 482
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . . B3132654
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1269652451
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164781119
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451264
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 20
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . . B3131538
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1271637363
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164869640
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448624
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 33
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . . B3134339
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1260659213
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 165382964
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448800
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 73%
Seek time full . . . . . 74%
Reallocated sectors . . . . . 78
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . . B3129347
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1259374709
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164861962
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448976
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 66
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . . LS757814000010200MMU
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1262852097
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 163592926
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439120
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%

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Seek time full . . . . . 72%
Reallocated sectors . . . . . 982
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . B3131915
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1263855110
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164014712
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440352
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 6
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . . LS757725000010200EUL
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1259538264
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164252090
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446336
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1167
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 15
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . LS764047000010200W44

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Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1269754603
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 165152659
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435952
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 723
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 16
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS757215000010200AWU
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1264274843
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164851312
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437360
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 988
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 17
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3133425
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1264545840
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164931249
Hard write errors . . . . . 0

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Write errors retry . . . . . 0
Seek count . . . . . 436589
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 53
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 18
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3131671
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1264859122
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 165446275
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 164
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 19
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3132295
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1262711975
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164200744
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 75
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 20
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3133429
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1262825602
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 164160943
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442816
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 115
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 21
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS763392000010192VXH
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1261738998
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 163686341
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437712
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 950
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 22
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3131651
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1263441921

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Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 171061777
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 51
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 23
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3128178
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1264700332
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 171362983
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 36
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 24
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . LS754553000010200W17
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1262902331
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 166495882
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436304
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0

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Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 642
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 25
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7529610000102007LZ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1263242273
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 166574427
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 552
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 26
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS7599930000102007J4
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1263179306
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 166325640
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1486
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 27
SCSI Bus . . . . . 2

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SCSI ID . . . . . 0
Serial Number . . . . . B3131752
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1266754218
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 165167769
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437712
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 17
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 28
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3134114
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129153
Sectors read . . . . . *1259995496
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 171067890
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437888
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 260
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 29
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS756748000010200S9P
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1248306418
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0

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Sectors written . . . . . 188186000
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437184
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 419
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 30
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS763476000010192VAP
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1246359087
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 187393731
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437008
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 662
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 31
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3131672
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1249063541
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 182503362
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435600
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%

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Reallocated sectors . . . 36
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 32
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3129148
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1250036378
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 182540557
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434896
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . 36
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 33
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS7571760000102003FQ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129158
Sectors read . . . . . *1249308483
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 177649205
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436304
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . 1007
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 34
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS758835000070190CKC
Firmware Revision 1 . . . . . 3B07

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Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1247050183
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 182488936
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436304
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . 327
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 35
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS763453000010200NDB
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1248275500
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 177645954
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436128
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . 326
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 36
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3134965
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1248573926
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 188011388
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 435952
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . 133
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 37
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS7401180000101938BF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1245390767
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 182854304
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435248
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . 493
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 38
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS763879000010200HQH
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1244765876
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 181225315
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434720
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . 996
Recovers read failed . . . 0

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Bus faults . . . . . 0

Hard Drive 39
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS757941000010200V0G
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1246943590
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 182188907
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433136
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1228
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 40
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS7624770000101931ZA
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1247994267
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 188182797
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434720
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1138
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 41
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS757442000010200M4K
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA

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Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1248896315
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 183162233
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435600
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 666
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 42
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS734783000010200MA0
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129159
Sectors read . . . . . *1249002784
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 179104468
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 2082
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 43
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3131835
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1474893233
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 183970614
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000

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Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . 41
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 44
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3125775
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1474955962
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184101335
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441232
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 6
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 45
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3124445
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1478682718
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 177586918
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 41
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 46

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SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3121975
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1474581961
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 178529033
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439824
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 42
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 47
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3117058
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1473580120
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 177389973
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437888
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 30
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 48
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3116264
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1474201645
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0

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Sectors written . . . . . 178156908
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 63
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 49
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3132542
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1475065222
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184280864
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 68
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 50
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3121984
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1480075073
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184120836
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446864
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 24

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Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 51
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3132592
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1474249857
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184049382
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447216
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 75
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 52
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3132964
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1475672767
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184896386
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 101
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 53
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B3132427
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156

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Sectors read . . . . . *1475233886
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 184336270
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 450208
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 22
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 54
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3132884
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1472257544
Hard read errors . . . . . 0
Read errors retry . . . . . 2
ECC read errors . . . . . 0
Sectors written . . . . . 183200792
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446688
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 18
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 55
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS7576440000102000UT
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1476354837
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 183668352
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443872
Seek errors . . . . . 0
Spin cycles . . . . . 0

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Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1113
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 56
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS715842000010192U2X
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129156
Sectors read . . . . . *1477134046
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 177811971
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 659
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 5, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for reads . . . . . 28672 Kbytes
Reserved for writes . . . . . 28672 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. 0.87
ProLiant . . . . . Bus 2, Rev. JB46

Logical Drive 1 . . . . . 109247 Megabyte
Fault Tolerance . . . . . Mirroring
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 26149, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . B2134464
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080

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Sectors read . . . . . *3543545558
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1020534199
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 357632
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 211
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . . B2134603
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3543520075
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1020515031
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 354992
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 358
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . . B2134243
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3543638674
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1020515869
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 357632
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0

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Seek time track . . . . . 36%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . 34
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . . B2134194
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99079
Sectors read . . . . . *3579107355
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1020535687
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 356576
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . 80
Recovers read failed . . . 0
Bus faults . . . . . 1

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . . B2133441
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99004
Sectors read . . . . . *3528806168
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1047601815
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 353056
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . 162
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . . B2134583

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Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99004
Sectors read . . . . . *3528742156
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1047608592
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 350768
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . 90
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B2134620
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3562401945
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1022927859
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 355872
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 59
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B2134315
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3562420064
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1022908716
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 357632
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . 59
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B2134020
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3562398267
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1022909682
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 355344
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . 33
Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B2134115
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99080
Sectors read . . . . . *3597996658
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1022903842
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 355520
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 72%
Reallocated sectors . . . . 15
Recovers read failed . . . 0
Bus faults . . . . . 0

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Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B2127226
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99004
Sectors read . . . . . *3549968912
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1048566779
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 356928
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 32%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 70
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . B2127230
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD018122C9
Initialized for Monitoring . Yes
Reference time . . . . . 99000
Sectors read . . . . . *3585622044
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 1048548975
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 356752
Seek errors . . . . . 0
Spin cycles . . . . . 2
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 73%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 196
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 6, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for writes . . . . . 57344 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46

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ProLiant . . . . . Bus 3, Rev. JB46

Logical Drive 1 . . . . . 14713 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3522, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS812474000010210TFY
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586500590
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217724593
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448096
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1742
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS76326900001020346R
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586315989
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217717175
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446864
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 456
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS8130340000W02107UA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586611535
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217747708
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444224
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 613
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS815466000010210V96
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1585604048
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217031454
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448976
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 410
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS7899670000102101V7
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019

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Sectors read . . . . . *1586308603
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217894108
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 437
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS730703000010211HQ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586587598
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 218024822
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440176
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 258
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS816776000010211GU8
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586857703
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 218526592
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445456
Seek errors . . . . . 0

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Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 2962
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS816671000010211AXK
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1584594107
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217422285
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443344
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 763
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS81553400001021186D
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1584789153
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217482595
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443168
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 244
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS8127450000W02107YS
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1585051440
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217283399
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442640
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1570
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS811239000070211FU6
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1586287223
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217618457
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 462000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 2641
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . .
LS811209000010211BSZ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019

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Sectors read . . . . . *1585364237
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217958390
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445104
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 367
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS7566760000102118FW
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1584589714
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 216157777
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442640
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 686
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS8170120000102117EN
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1585634442
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 217624928
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 471504
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 720
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 2 . . . . . 14713 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3522, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS812588000010211J20
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1634410567
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246181594
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 451088
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1131
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS806193000010211E3X
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1635087656
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246919836
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439824
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0

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Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 466
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS812032000010211BS4
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1633133420
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245562267
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438592
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1122
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS816871000010210V43
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1633977248
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246606835
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441408
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 202
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2

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SCSI ID . . . . . 4
Serial Number . . . . .
LS8148510000102110D2
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1631952910
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246441222
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441056
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 431
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS8179610000102117MA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1634461758
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246778419
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442288
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 301
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS813489000010211196
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1633415308
Hard read errors . . . . . 0

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Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245965477
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439648
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 115
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS80947500001018JH61
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1640187439
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250893117
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440528
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 246
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS81582100001021H09U
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1642684285
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250488216
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0

```

```

Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1911
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS79071000006019JSDL
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1641415985
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 251035580
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438944
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 515
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS817928000010210CT8
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1641643483
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249702672
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 298
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2

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SCSI ID . . . . . 6
Serial Number . . . . .
LS811436000010211DQ7
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130019
Sectors read . . . . . *1640451864
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249414724
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440880
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 492
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS803098000010211EB9
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130020
Sectors read . . . . . *1642226642
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250658514
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 217
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS811187000070211G43
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130020
Sectors read . . . . . *1639320083
Hard read errors . . . . . 0

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Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249365613
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441056
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 442
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 3 . . . . . 14713 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3522, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS702823000010191WV6
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130020
Sectors read . . . . . *1641249027
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249755126
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438768
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 783
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS7210690000101925LW
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1639549315
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0

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Sectors written . . . . . 248641593
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437536
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 504
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS71456000007019HA9E
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1640247612
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249388344
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437712
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 550
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS71985700007019JCD2
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1641009067
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250108024
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438064
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%

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Seek time full . . . . . 71%
Reallocated sectors . . . . . 805
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS713699000010191UGA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1641389757
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 251954045
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439120
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 478
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS8109580000102118AC
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1640829963
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249786402
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439296
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 546
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1

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Serial Number . . . . .
LS792582000010203FYFN
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1639952657
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249738220
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439824
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1053
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS8087080000W02002YR
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1640576549
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249711261
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440000
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 320
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS8177380000102104WS
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1639418260
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 249550677
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 277
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS809180000070211GYV
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1642069087
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250526678
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 412
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7704320000W02102Q8
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1639674024
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248920812
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440528
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%

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Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 649
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS813082000010211GSL
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1643624695
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250969586
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437712
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 194
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS809612000010210J8J
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1642074939
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 250913337
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437888
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 501
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1

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Serial Number . . . . .
LS812454000010211DUW
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130021
Sectors read . . . . . *1642468101
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 251192410
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439120
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 635
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 7, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for writes . . . . . 57344 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0
ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46
ProLiant . . . . . Bus 3, Rev. JB46
ProLiant . . . . . Bus 4, Rev. JB46

Logical Drive 1 . . . . . 14789 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3540, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . . B3128242
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *74960978
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 197944516
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446512
Seek errors . . . . . 0
Spin cycles . . . . . 0

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Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 32
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS7634170000102003LG
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *71572058
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 197034213
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446864
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1664
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS7497980000102006VC
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *74481181
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 210851172
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448448
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 2129
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4

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SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . . B3128293
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *74605266
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 210689073
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 40
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . . B3128193
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *72898559
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 195573020
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448624
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 37
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS717738000010191M3U
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *74938363
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 198978734
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448976
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 3821
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . . B3131061
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *71416808
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 196967635
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448800
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 144
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS73166100001019261Y
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *74630515
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 198327040
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446336
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%

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Seek time full . . . . . 71%
Reallocated sectors . . . . . 668
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS75273700001019307Y
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *77864970
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 199832972
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 280
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS760340000010193ER6
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129078
Sectors read . . . . . *75099034
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 198834368
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448272
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 339
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . . B3128192

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Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
  Reference time . . . . . 129078
  Sectors read . . . . . *72901747
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 196715865
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 447392
  Seek errors . . . . . 0
  Spin cycles . . . . . 0
  Spin up time . . . . . 0
  Seek time track . . . . . 36%
  Seek time third . . . . . 72%
  Seek time full . . . . . 72%
  Reallocated sectors . . . . . 101
  Recovers read failed . . . . . 0
  Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . . B3125801
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
  Reference time . . . . . 129078
  Sectors read . . . . . *77678887
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 198799473
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 448624
  Seek errors . . . . . 0
  Spin cycles . . . . . 0
  Spin up time . . . . . 0
  Seek time track . . . . . 36%
  Seek time third . . . . . 72%
  Seek time full . . . . . 73%
  Reallocated sectors . . . . . 12
  Recovers read failed . . . . . 0
  Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS739319000010191RDC
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
  Reference time . . . . . 129078
  Sectors read . . . . . *76315851
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 199409454
  Hard write errors . . . . . 0

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Write errors retry . . . . . 0
Seek count . . . . . 448976
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 318
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . . B3131742
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
  Reference time . . . . . 129078
  Sectors read . . . . . *73528323
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 197230846
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 447568
  Seek errors . . . . . 0
  Spin cycles . . . . . 0
  Spin up time . . . . . 0
  Seek time track . . . . . 36%
  Seek time third . . . . . 68%
  Seek time full . . . . . 70%
  Reallocated sectors . . . . . 93
  Recovers read failed . . . . . 0
  Bus faults . . . . . 0

Logical Drive 2 . . . . . 14789 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
  Drive geometry (Cyl, Hds, Sec) 3540, 255, 32
  Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS81177000010201QM5
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
  Reference time . . . . . 129646
  Sectors read . . . . . *1676380404
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 261293978
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 444224
  Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1437
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS7551520000W0030546
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
  Reference time . . . . . 129653
  Sectors read . . . . . *1671088634
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 261101438
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 442112
  Seek errors . . . . . 0
  Spin cycles . . . . . 0
  Spin up time . . . . . 0
  Seek time track . . . . . 47%
  Seek time third . . . . . 69%
  Seek time full . . . . . 71%
  Reallocated sectors . . . . . 448
  Recovers read failed . . . . . 0
  Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS756977000010193B42
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
  Reference time . . . . . 129653
  Sectors read . . . . . *1669247596
  Hard read errors . . . . . 0
  Read errors retry . . . . . 0
  ECC read errors . . . . . 0
  Sectors written . . . . . 260956445
  Hard write errors . . . . . 0
  Write errors retry . . . . . 0
  Seek count . . . . . 451264
  Seek errors . . . . . 0
  Spin cycles . . . . . 0
  Spin up time . . . . . 0
  Seek time track . . . . . 47%
  Seek time third . . . . . 69%
  Seek time full . . . . . 72%
  Reallocated sectors . . . . . 796
  Recovers read failed . . . . . 0
  Bus faults . . . . . 0

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Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS763631000010190CTN
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1670474913
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261197437
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448272
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 476
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS76247600001019321X
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1673356861
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259954349
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443696
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1055
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS75459400001020H49D
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653

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Sectors read . . . . . *1677171664
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 1
Sectors written . . . . . 262044471
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 460240
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 418
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS75529600001020H3ND
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1671418649
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262089512
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448272
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1065
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS7555170000102003MQ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1677833618
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262653926
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 423
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS759791000010200L3Y
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1671420471
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261808789
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440528
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1666
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS756945000010200EP2
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1674108639
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260625524
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440352
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 403
Recovers read failed . . . . 0
Bus faults . . . . . 0

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Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS763177000010193BPK
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1668755026
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259671426
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440704
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 561
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS750570000010190RPM
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1669488501
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260626419
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442464
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1475
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS75333900001019367S
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653

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Sectors read . . . . . *1669861231
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260690520
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 551
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS760474000010193CKF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1667812691
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 259685051
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438240
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1823
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 3 . . . . . 14789 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3540, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS7164590000102008LA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1669725169
Hard read errors . . . . . 0

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Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260951360
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435424
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 2235
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS7507780000101938PJ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1670599277
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261022063
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436832
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 3152
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS754692000010200SCK
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1671811700
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260897203
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436128
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0

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Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1427
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS75046200001019388F
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1671492181
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261353237
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435600
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1127
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS75715500001020H6GT
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1669957121
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260580230
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435776
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 269
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2

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SCSI ID . . . . . 5
Serial Number . . . . .
LS76064600007019L14K
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1670273553
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261123412
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 317
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS748661000010192UWA
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1668440005
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 260449781
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438592
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 881
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3127604
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678203752
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 268658645
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436128
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . 66
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS761536000010193CJL
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678612731
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262776444
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438064
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . 558
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS747111000070190DCM
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1681578143
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 264130039
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436656
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%

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Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 494
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7579630000102006EM
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678582169
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263774784
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434896
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 718
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3132293
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1681511478
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 270162924
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435248
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 72
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3133132

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Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678936537
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 269042366
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435600
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 144
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS75502700001020H465
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678565822
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263046003
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435072
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 308
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 4 . . . . . 14789 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3540, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3129606
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes

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Reference time . . . . . 129651
Sectors read . . . . . *1678612914
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 269595985
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434016
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 46
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS754651000010200D1M
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1673996623
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261022936
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433488
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1586
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3129072
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1677327716
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 268624132
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 433664
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 85
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS7401250000101923HL
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129653
Sectors read . . . . . *1678802716
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263427021
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437360
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 614
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS75531300007019KZGA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1678824810
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262596129
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435072
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 825
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS752734000010193E98
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1680145136
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263829206
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438416
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1093
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS75691400001020H4B1
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1678842723
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263477710
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 726
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS763041000010200QRT
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654

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Sectors read . . . . . *1680749231
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 264003443
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434720
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 746
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS760123000010192SSJ
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1678990911
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263061153
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436304
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1093
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS762757000010200M27
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1676223722
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 261831014
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434368
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 668
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS761771000010193BM5
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1678921683
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263245299
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436656
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 5000
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . .
LS75518700007019KTCF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1677510910
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263387601
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435776
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 2325
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS754416000010200PZL
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1677635195
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 262303825
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437712
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 485
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS76269700001020H47D
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 129654
Sectors read . . . . . *1679864827
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 263511076
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437888
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 905
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Drive Controller 8, Compaq Smart Array 4200
Controller
IDA Firmware Revision . . . . . 1.10
Array Accelerator Memory . . . . . 57344 Kbytes
Reserved for writes . . . . . 57344 Kbytes
Accelerator Status . . . . . Not Configured
Battery count . . . . . 3
Batteries charged . . . . . 3
Batteries failed . . . . . 0

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ProLiant . . . . . Bus 1, Rev. JB46
ProLiant . . . . . Bus 2, Rev. JB46
ProLiant . . . . . Bus 3, Rev. JB46
ProLiant . . . . . Bus 4, Rev. JB46

Logical Drive 1 . . . . . 14768 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3535, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS756435000010200WLU
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1792590037
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244956892
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447392
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 266
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS754273000010192L1N
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1786509591
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245259659
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 446512
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1265

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Recovers read failed . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS7581950000101923HX
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1782247513
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244433394
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442816
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 467
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS758094000010200MV2
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1786712675
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246178282
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 445632
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 854
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS752566000010193B79
Firmware Revision 1 . . . . 3B07

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Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1787086242
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246538976
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 443520
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 728
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . . B3116272
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1793756719
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245527380
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441936
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . 46
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS71998700007019K46M
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1787261267
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246835950
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 445984
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 440
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 1
SCSI ID . . . . . 2
Serial Number . . . . .
LS7537370000101936BU
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1792054493
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245774114
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 444048
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 1478
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 1
SCSI ID . . . . . 3
Serial Number . . . . .
LS7495360000101934SQ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1787065579
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 243918052
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442816
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 707
Recovers read failed . . . . 0

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Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 1
SCSI ID . . . . . 4
Serial Number . . . . .
LS758153000010200SGN
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791887030
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245703429
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 440880
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 550
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 1
SCSI ID . . . . . 5
Serial Number . . . . .
LS656455000010180DRJ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1785811014
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244600344
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442992
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . 2017
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 1
SCSI ID . . . . . 6
Serial Number . . . . .
LS68479200001018JZJ
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA

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Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1786261811
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244817250
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442992
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1146
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 1
SCSI ID . . . . . 0
Serial Number . . . . .
LS70325100001019121B
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1783888828
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244663550
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 462176
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 1266
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 1
SCSI ID . . . . . 1
Serial Number . . . . .
LS719493000010191S3L
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1786288451
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245237161
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 444576
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . 427
Recovers read failed . . . . 0
Bus faults . . . . . 0

Logical Drive 2 . . . . . 14768 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3535, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS74813100007019KZOY
Firmware Revision 1 . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1785202207
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244795788
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439472
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . 1308
Recovers read failed . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3134532
Firmware Revision 1 . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1784884996
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245831947
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 460768
Seek errors . . . . . 0
Spin cycles . . . . . 0

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Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 87
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS72593800001019266B
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791594474
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244848057
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 442288
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 710
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS733308000010192ZBD
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1784606221
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245623795
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439120
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1868
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5

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SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS76190800001019389D
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791984029
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 1
Sectors written . . . . . 245523074
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438240
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 353
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS725791000010193E4W
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1789379481
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 244937395
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441529
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 743
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3133624
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1792534951
Hard read errors . . . . . 0

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Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245765598
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439129
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 29
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3133984
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1790689145
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255773943
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439836
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 80
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS754233000070190CYG
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1789728049
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 247846697
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438614
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%

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Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 788
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS752991000010193BKH
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791716550
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248256010
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437018
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 511
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS73368900007019KR05
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791730447
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 247865591
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437544
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 1051
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6

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Serial Number . . . . .
LS735445000070190ECD
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1791438395
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248406093
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437546
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1209
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS758069000010200ECP
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1792446988
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 256049340
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 441239
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 382
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS755294000010200Q94
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130069
Sectors read . . . . . *1790863274
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 247648294
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 439480
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 768
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 3 . . . . . 14768 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3535, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3132297
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1791307319
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255205016
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437898
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 523
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3129320
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1791666759
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255461107
Hard write errors . . . . . 0
Write errors retry . . . . . 0

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Seek count . . . . . 435610
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 72%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 70
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3128133
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1788356071
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 254048783
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438085
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 61
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . .
LS760849000010051JVV
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1789398640
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248704512
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438122
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 480
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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```

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS7498910000102006LG
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1789780271
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 249113954
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435960
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1546
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7381030000W0090BFO
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1787666268
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 246359144
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437372
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 835
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS75186100007019KZOX
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes

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Reference time . . . . . 130062
Sectors read . . . . . *1791196967
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248160711
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437594
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 684
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . .
LS7626570000102009YB
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1790476219
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 248237390
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437720
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 460
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . B3132107
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1788231857
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 245723338
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 438641
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 73%
Reallocated sectors . . . . . 17
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3134182
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1792674643
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255449787
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435134
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 73%
Seek time full . . . . . 74%
Reallocated sectors . . . . . 23
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . LS739984000010192ZJS
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1791001397
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 247472859
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 436893
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 740
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 12

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SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3127183
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1791638528
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255667238
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 437197
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 29
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . B3129628
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1790407427
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 255474776
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 435955
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 72
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS734531000010192ZFPD
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 130062
Sectors read . . . . . *1788860475
Hard read errors . . . . . 0
Read errors retry . . . . . 0

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ECC read errors . . . . . 0
Sectors written . . . . . 255131921
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 434902
Seek errors . . . . . 0
Spin cycles . . . . . 1
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 771
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Logical Drive 4 . . . . . 14768 Megabyte
Fault Tolerance . . . . . None
OS Format . . . . . Multi-Sector
Distribution
Drive geometry (Cyl, Hds, Sec) 3535, 255, 32
Array Accelerator . . . . . Disabled

Hard Drive 1
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . . LS764107000010200V7U
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4260970994
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192797335
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 452496
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 1212
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 2
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . LS75845300001020105R
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4259891647
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192100898

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Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448448
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 398
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 3
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3133105
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4268921899
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192143512
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447040
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 24
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 4
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . LS761635000010193AYE
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4261210233
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193611409
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447744
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 965

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Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 5
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . . B3131867
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4271689116
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193521001
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447872
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 71%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 105
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 6
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . . LS759182000010200VQA
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4270352619
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192211117
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447168
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 645
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 7
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . . B3133392
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes

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Reference time . . . . . 128888
Sectors read . . . . . 4272105783
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 193897320
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449280
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 71%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 33
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 8
SCSI Bus . . . . . 2
SCSI ID . . . . . 2
Serial Number . . . . . B3133799
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4259612488
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192637454
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 447568
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 40%
Seek time third . . . . . 68%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 22
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 9
SCSI Bus . . . . . 2
SCSI ID . . . . . 3
Serial Number . . . . . LS735521000010192VKF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128888
Sectors read . . . . . 4258330800
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192120498
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0

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Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 690
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 10
SCSI Bus . . . . . 2
SCSI ID . . . . . 4
Serial Number . . . . .
LS7237840000101927VR
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128889
Sectors read . . . . . 4269783170
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191939822
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 448448
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 4354
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 11
SCSI Bus . . . . . 2
SCSI ID . . . . . 5
Serial Number . . . . .
LS7462020000101921UG
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128889
Sectors read . . . . . 4268266771
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 190776883
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449328
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 69%
Seek time full . . . . . 72%
Reallocated sectors . . . . . 985
Recovers read failed . . . . . 0
Bus faults . . . . . 0

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Hard Drive 12
SCSI Bus . . . . . 2
SCSI ID . . . . . 6
Serial Number . . . . . B3125758
Firmware Revision 1 . . . . . B016
Model Number . . . . . COMPAQ BD009122C6
Initialized for Monitoring . Yes
Reference time . . . . . 128889
Sectors read . . . . . 4258183908
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192108852
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 449152
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 36%
Seek time third . . . . . 69%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 33
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 13
SCSI Bus . . . . . 2
SCSI ID . . . . . 0
Serial Number . . . . .
LS7575000000101930M2
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128889
Sectors read . . . . . 4271712347
Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 192414737
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 461552
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 4418
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Hard Drive 14
SCSI Bus . . . . . 2
SCSI ID . . . . . 1
Serial Number . . . . .
LS7554810000W00305DF
Firmware Revision 1 . . . . . 3B07
Model Number . . . . . COMPAQ BD009122BA
Initialized for Monitoring . Yes
Reference time . . . . . 128889
Sectors read . . . . . 4275550369

```

```

Hard read errors . . . . . 0
Read errors retry . . . . . 0
ECC read errors . . . . . 0
Sectors written . . . . . 191519577
Hard write errors . . . . . 0
Write errors retry . . . . . 0
Seek count . . . . . 454432
Seek errors . . . . . 0
Spin cycles . . . . . 0
Spin up time . . . . . 0
Seek time track . . . . . 47%
Seek time third . . . . . 70%
Seek time full . . . . . 71%
Reallocated sectors . . . . . 597
Recovers read failed . . . . . 0
Bus faults . . . . . 0

Graphics Mode . . . . . 03 (80-Column Text)

Primary Monitor attached to . . ATI RAGE IIC PCI
Graphics Controller
with Video Graphics Color Monitor

Base Memory
System Total . . . . . 637 Kbytes
Amount Free . . . . . 595 Kbytes
(609984 Bytes)

Extended Memory
System Total . . . . . 4193280 Kbytes

Expanded Memory
LIM Driver Support . . . . . LIM driver not
loaded

Operating System . . . . . MS-DOS version 7.00
(from diskette)

Environment variables
PATH=
PROMPT=$P$G
COMSPEC=A:\COMMAND.COM
CMDLINE=inspect /u
End of environment

Revisions Table

Previous Revisions
I/O Board Revision . . . . . 01
Assembly Version . . . . . 1
Functional Revision Level . A
Memory Board 1 Revision . . . 01
Assembly Version . . . . . 1
Functional Revision Level . A

Current Revisions
I/O Board Revision . . . . . 01
Assembly Version . . . . . 1
Functional Revision Level . A
Memory Board 1 Revision . . . 01
Assembly Version . . . . . 1
Functional Revision Level . A

```

```

Memory Allocation (including INSPECT)
PSP  SIZE  NAME  TRAPPED INTERRUPTS
-----
088F 007200  COMMAND.COM  2Fh 2Eh 24h 23h 22h
0A5A 216048  INSPECT.EXE  F9h F5h F3h F2h F1h
F0h EEh EBh
                3Fh 00h

System Configuration Memory
00 - 0F : 37 00 26 00 10 00 01 27 03 00 26
82 50 80 00 00
10 - 1F : 40 00 00 00 03 80 02 00 3C 00 00
00 00 00 00 02
20 - 2F : 00 00 00 00 7F 20 00 40 00 92 00
00 00 18 02 8C
30 - 3F : 00 3C 20 80 00 00 XX XX XX XX XX XX
XX XX XX XX XX

BIOS Data Area
40:0000 : F8 03 F8 02 00 00 00 00 78 03 00
00 00 00 40 9F
40:0010 : 27 44 00 7D 02 81 00 00 00 00 20
00 20 00 1B 01
40:0020 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:0030 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 01 01
40:0040 : 24 00 00 00 00 00 00 0E 02 03 50
00 00 10 00 00
40:0050 : 00 18 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:0060 : 0E 0D 00 D4 03 29 30 C2 11 C5 76
00 01 71 0A 00
40:0070 : 00 00 00 12 00 01 00 00 14 14 14
14 01 01 01 01
40:0080 : 1E 00 3E 00 18 10 00 60 F9 11 0B
01 00 00 00 05
40:0090 : 17 00 00 00 00 00 10 00 00 00 00
00 00 00 00 00
40:00A0 : 00 00 00 00 00 00 00 00 5C 13 00
C0 00 00 00 00
40:00B0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00C0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00D0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00E0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00
40:00F0 : 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00

Interrupt Vector Table (including INSPECT)
00 - 03 : 0A6A:0555 0070:0465
07C6:0016 0070:0465
04 - 07 : 0070:0465 F000:FF54
F000:8FDD F000:9BD0
08 - 0B : 07C6:001F 07C6:0028
F000:9BD0 F000:9BD0

```

```

0C - 0F : F000:9BD0 07C6:0082
07C6:009A 0070:0465
10 - 13 : C000:12DE F000:F84D
F000:F841 0070:03EE
14 - 17 : F000:DCD3 0206:0240
0070:042D F000:EF83
18 - 1B : CC00:0AA2 0887:002F
F000:FE6E 0070:045F
1C - 1F : F000:FF53 F000:0000
0000:0522 C000:2019
20 - 23 : 00C9:0FA8 00C9:0FB2
088F:0314 088F:016D
24 - 27 : 088F:0178 00C9:0FBC
00C9:0FC6 00C9:0FD0
28 - 2B : 00C9:106F 0070:0466
00C9:106F 00C9:106F
2C - 2F : 00C9:106F 00C9:106F
088F:0162 0890:01CC
30 - 33 : C90F:E4EA F000:9B00
00C9:106F 00C9:106F
34 - 37 : 00C9:106F 00C9:106F
00C9:106F 00C9:106F
38 - 3B : 00C9:106F 00C9:106F
00C9:106F 00C9:106F
3C - 3F : 00C9:106F 00C9:106F
00C9:106F 1B17:04F3
40 - 43 : F000:EC59 CD1F:01C6
F000:F065 C000:242C
44 - 47 : F000:9BD0 F000:9BD0
0000:0000 F000:9BD0
48 - 4B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
4C - 4F : F000:9BD0 F000:9BD0
F000:9BD0 0070:04FC
50 - 53 : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
54 - 57 : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
58 - 5B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
5C - 5F : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
60 - 63 : 0000:0000 0000:0000
0000:0000 0000:0000
64 - 67 : 0000:0000 0000:0000
0000:0000 0000:0000
68 - 6B : F000:9BD0 F000:9BD0
F000:9BD0 F000:9BD0
6C - 6F : F000:9BD0 C000:12DE
F000:9BD0 F000:9BD0
70 - 73 : 07C6:0035 F000:9C1F
F000:9BD0 F000:9BD0
74 - 77 : 07C6:00E2 F000:9C21
07C6:00FA F000:9BD0
78 - 7B : 0000:0000 0000:0000
0000:0000 0000:0000
7C - 7F : 0000:0000 0000:0000
0000:0000 0000:0000
80 - 83 : 0000:0000 0000:0000
0000:0000 0000:0000
84 - 87 : 0000:0000 0000:0000
0000:0000 0000:0000

```

```

88 - 8B : 0000:0000 0000:0000
0000:0000 0000:0000
8C - 8F : 0000:0000 0000:0000
0000:0000 0000:0000
90 - 93 : 0000:0000 0000:0000
0000:0000 0000:0000
94 - 97 : 0000:0000 0000:0000
0000:0000 0000:0000
98 - 9B : 0000:0000 0000:0000
0000:0000 0000:0000
9C - 9F : 0000:0000 0000:0000
0000:0000 0000:0000
A0 - A3 : 0000:0000 0000:0000
0000:0000 0000:0000
A4 - A7 : 0000:0000 0000:0000
0000:0000 0000:0000
A8 - AB : 0000:0000 0000:0000
0000:0000 0000:0000
AC - AF : 0000:0000 0000:0000
0000:0000 0000:0000
B0 - B3 : 0000:0000 0000:0000
0000:0000 0000:0000
B4 - B7 : 0000:0000 0000:0000
0000:0000 0000:0000
B8 - BB : 0000:0000 0000:0000
0000:0000 0000:0000
BC - BF : 0000:0000 0000:0000
0000:0000 0000:0000
C0 - C3 : 0000:0000 0000:0000
0000:0000 0000:0000
C4 - C7 : 0000:0000 0000:0000
0000:0000 0000:0000
C8 - CB : 0000:0000 0000:0000
0000:0000 0000:0000
CC - CF : 0000:0000 0000:0000
0000:0000 0000:0000
D0 - D3 : 0000:0000 0000:0000
0000:0000 0000:0000
D4 - D7 : 0000:0000 0000:0000
0000:0000 0000:0000
D8 - DB : 0000:0000 0000:0000
0000:0000 0000:0000
DC - DF : 0000:0000 0000:0000
0000:0000 0000:0000
E0 - E3 : 0000:0000 0000:0000
0000:0000 0000:0000
E4 - E7 : 0000:0000 0000:0000
0000:0000 00D8:00D8
E8 - EB : 000D:0CFC 00C8:00C8
0078:0CFD 0CFD:0078
EC - EF : 0000:1F07 EE00:7006
1F85:7046 7087:EE00
F0 - F3 : 156B:7046 1C9C:0001
156B:5D37 1400:1C9C
F4 - F7 : F000:4B65 03DA:7007
0000:0000 0000:7289
F8 - FB : 5FFE:0020 1497:6304
0042:0003 0000:0731
FC - FF : 4322:00FC 0000:00F6
EFE2:0000 7246:F000

```

```

PCI Devices Information
Signature . . . . . PCI

```

```

Config Mechanism #1 . . . . . Supported
Config Mechanism #2 . . . . . Not Supported
Spec Cycle for Config #1 . . . . . Supported
Spec Cycle for Config #2 . . . . . Not Supported
BIOS Interface Version . . . . . 2.10
Last PCI Bus Number . . . . . 16
Number of PCI Devices . . . . . 10

PCI Bus Number . . . . . 0
Device Number . . . . . 1
Function Number . . . . . 00h
Slot Number . . . . . 7
Vendor ID . . . . . 0E11h
Device ID . . . . . 1229h
Revision ID . . . . . 08h
Device Type . . . . . Ethernet Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFF00000h
IRQ Line . . . . . 11
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7DF0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 2000h
IO Address Length . . . . . 40h
Memory Address Base . . . . . F7C00000h
Memory Address Length . . . . . 100000h

PCI Bus Number . . . . . 0
Device Number . . . . . 2
Function Number . . . . . 00h
Slot Number . . . . . 8
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 9
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7BF0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 2400h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 0
Device Number . . . . . 3
Function Number . . . . . 00h
Slot Number . . . . . 9
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7BE0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 2800h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 0
Device Number . . . . . 13

```

```

Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 1002h
Device ID . . . . . 4756h
Revision ID . . . . . 7Ah
Device Type . . . . . VGA Compatible
Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFE0000h
IRQ Line . . . . . 255
IRQ Pin . . . . . Not Used
Memory Address Base . . . . . F4000000h
Memory Address Length . . . . . 1000000h
IO Address Base . . . . . 2C00h
IO Address Length . . . . . 100h
Memory Address Base . . . . . F7BB0000h
Memory Address Length . . . . . 1000h

PCI Bus Number . . . . . 0
Device Number . . . . . 14
Function Number . . . . . 00h
Slot Number . . . . . 0
Vendor ID . . . . . 0E11h
Device ID . . . . . 0010h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFF80000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
IO Address Base . . . . . 3000h
IO Address Length . . . . . 100h
Memory Address Base . . . . . F6000000h
Memory Address Length . . . . . 1000000h
Memory Address Base . . . . . F5000000h
Memory Address Length . . . . . 1000000h

PCI Bus Number . . . . . 5
Device Number . . . . . 1
Function Number . . . . . 00h
Slot Number . . . . . 1
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7EF0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 4000h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 5
Device Number . . . . . 3
Function Number . . . . . 00h
Slot Number . . . . . 3
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h

```

```

Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 10
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7EE0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 4400h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 5
Device Number . . . . . 6
Function Number . . . . . 00h
Slot Number . . . . . 6
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7ED0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 4800h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 13
Device Number . . . . . 1
Function Number . . . . . 00h
Slot Number . . . . . 10
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7FF0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 5000h
IO Address Length . . . . . 100h

PCI Bus Number . . . . . 13
Device Number . . . . . 2
Function Number . . . . . 00h
Slot Number . . . . . 11
Vendor ID . . . . . 0E11h
Device ID . . . . . 0046h
Revision ID . . . . . 01h
Device Type . . . . . RAID Controller
Programming Interface . . . . . 00h
Expansion ROM Base Address . . . . . FFFC0000h
IRQ Line . . . . . 5
IRQ Pin . . . . . INTA#
Memory Address Base . . . . . F7FE0000h
Memory Address Length . . . . . 1000h
IO Address Base . . . . . 5400h
IO Address Length . . . . . 100h

```

PROLIANT 8500 is a trademark of Compaq Computer Corporation.

Appendix D: 180-Day Space

TPC-C 180 Day Space Requirements

| Warehouses | 2720 | | | | Tpmc | Total Space KB | MSSQL70 fg |
|--------------|-------------|--------------------|------------------|------------------|-------------------|--------------------|--------------------|
| Table | Rows | Data KB | Index KB | Extra 5% KB | 8hr Space | | |
| Warehouse | 2,720 | 296 | 56 | 18 | | 370 | 370 |
| District | 27,200 | 3,024 | 152 | 159 | | 3335 | 3335 |
| Customer | 81,600,000 | 59,345,456 | 3,810,880 | 3,157,817 | | 66314153 | 66314153 |
| History | 81,600,000 | 4,533,768 | 0 | | 1,494,721 | 4533768 | 6028489 |
| NewOrder | 24,480,000 | 387,040 | 1,344 | 19,419 | | 407803 | 407803 |
| Orders | 81,600,000 | 2,501,152 | 1,381,848 | | 17,400,205 | 3883000 | 21289205 |
| OrderLine | 815,996,127 | 50,999,760 | 127,304 | | 13,012,944 | 51127064 | 64140008 |
| Item | 100,000 | 9,528 | 176 | 485 | | 10189 | 10189 |
| Stock | 272,000,000 | 87,040,000 | 195,160 | 4,361,758 | | 91596918 | 91596918 |
| Total | | 204,820,024 | 5,516,920 | 7,539,656 | 31,907,870 | 217,876,600 | 249,784,470 |

MB

| | | | | | | | |
|---------------|---------|-------------------------------------------------|--|--|--|--|--|
| Dynamic Space | 56,674 | Sum of Data for Order, Orderline and History | | | | | |
| Static Space | 156,096 | Sum of Data+Index+5%-Dynamic Space | | | | | |
| Free Space | na | Total Allocated Spac - (Dynamic + Static Space) | | | | | |
| Daily Growth | 11,207 | (Dynamic Space/(W*62.5))*tpmc | | | | | |
| Daily Spread | - | (Free Space - 1.5*Daily Growth) Zero Assumed | | | | | |

| | | | | | | | |
|-------------------|-------------|----------------|-----------|-----------|----------------|--|--|
| 180 Day Space MB | 2,173,418 | | | | | | |
| 180 Day Space GB | 2,122.48 | GB | | | | | |
| Log Size | 91999.99219 | MB | | | | | |
| KB Per New Order | 5.51 | KB | | | | | |
| 8 hr log MB | 86.851 | MB | | | | | |
| 8 hr log GB | 84.8152 | GB | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Space Usage | GB Needed | Disks Measured | GB Priced | Disk Size | Formatted Size | | |
| 180 Day Space DB | 2,122.48 | 0 | 0.00 | 18GB | 17,300 | | |
| | | 252 | 2135.11 | 9GB | 8,473 | | |
| | | | 0.00 | 4GB | 3,999 | | |
| Total DB | | 252.00 | 2135.11 | 9GB | | | |
| 8-hr log + mirror | 169.6304 | 12 | 207.60 | 18GB | 8,473 | | |
| OS, Swap | 3 | 1 | 8.473 | 9GB | | | |
| Total Storage | 2,295.11 | GB | 2,351.18 | GB | | | |

56.07

| | Data Before KB | Index Before KB | Data After KB | Index After KB | Data Grow KB | KB/New- Order | 8-Hr Growth KB | 8-Hr Growth MB |
|----------------------------|-------------------|--------------------|------------------|-------------------|------------------|------------------|-------------------|-------------------|
| History | 4,533,768 | - | 4,790,936 | - | 257,168 | 0.0926 | 1,494,720.93 | 1,459.69 |
| Order | 2,501,152 | 1,381,848 | 2,719,192 | 2,769,688 | 1,605,880 | 1.0783 | 17,400,205.13 | 16,992.39 |
| Order-Line | 50,999,760 | 127,304 | 53,111,344 | 254,608 | 2,111,584 | 0.8064 | 13,012,943.92 | 12,707.95 |
| | | | | | | | | 31,160.03 |
| | sum(*) Before | | sum(*) After | | Num New-Order | | | |
| d_next_o_id | 81,627,280 | | 84,483,473 | | 2,776,273 | | | |
| | Before MB | | After MB | | Grow MB | KB/New-Order | 8-Hr Growth MB | 8-Hr Growth GB |
| Log | 643.74 | | 15586.48 | | 14942.75 | 5.5115 | 86,850.75 | 84.82 |
| | | | | | | 5,643.7549 | bytes | |
| 91999.99219 | 0.699717 | | 16.941833 | | | | | |
| Database tpcc log used (%) | | | | | | | | |

Appendix E: Third Party Letters

Microsoft

April 3, 2000

Mr. Brean Campbell
Compaq Computer Corp.
P. O. Box 692000
Houston, TX 77269-2000

Dear Mr. Campbell:

Here is the information you requested regarding U.S. pricing for several Microsoft products, to be used in conjunction with TPC-C benchmark testing.


| Part Number | Description | Price |
|-------------|----------------------------------------------------------------------------------------------|-------------------|
| 810-00217 | SQL Server 7.0 Enterprise Edition Unlimited Client Licenses | \$28,999 |
| 779-00399 | Windows NT 4 Server Enterprise Edition 25 Client Licenses | \$3,999 |
| C11-00016 | Windows 2000 Server 5 Client Licenses | \$999 |
| 048-00317 | Visual C++ Professional 6.0 Win32 5-year maintenance for above software (\$2095 per year) | \$549 \$10,475 |

All products are currently available through Microsoft's normal distribution channels.

This quote is valid for the next 90 days.

If I can be of any further assistance, please contact me at (425) 703-3455 or
barryg@microsoft.com.

Yours truly,



Barry Goffe
Product Manager
SQL Server Marketing

Microsoft Corporation is an equal opportunity employer.

MAR 31 '00 10:10AM ALLSTAR TELECOM EXEC
ALLSTAR SYSTEMS

| Item Description | Stock Number | Price Each | QTY | Total | Service |
|-----------------------------------------------------------------|--------------|------------|------|---------------------|--------------------|
| ProLiant 8500-550-4 | 923300-001 | 45,416.00 | 1 | \$45,416.00 | |
| ProLiant Enterprise Server - Parts Exchange - 1 Year | | \$597 | 2 | | \$1,194 |
| Onsite 5x8 4 Hr Service Upgrade from Compaq Standard Service | | | | | \$21,596.97 |
| ProLiant Pent. III Xeon 6/550-2M | 146170-B21 | 5,048.00 | 2 | 12,096.00 | |
| 612MB SD RAM Memory Kit (2x256MB) | 238807-B21 | 1,562.00 | 4 | 6,608.00 | |
| Compaq SMART Array Controller 4200 | 295636-B21 | 2,217.60 | 6 | 13,305.60 | |
| StorageWorks Enclosure Model 4214R | 103381-001 | 2,576.00 | 19 | \$48,944.00 | |
| Dual I/O Module for StorageWorks 4214R | 119829-B21 | 336.00 | 1 | \$336.00 | |
| ProLiant Storage System - Parts Exchange - 1 Year | | | | | \$9,680.00 |
| Compaq V500 Color Monitor | 325900-001 | 202.72 | 38 | \$1,013.80 | |
| 48GB DAT Drive | 286353-B21 | 703.36 | 1 | \$703.36 | |
| Compaq Rack Model 7142 | 165753-001 | 1,680.00 | 2 | \$3,360.00 | |
| Compaq Rack Coupling Kit | 185684-001 | 152.32 | 1 | \$152.32 | |
| Compaq Rack Sidewall Kit | 185852-001 | 208.32 | 1 | \$208.32 | |
| 9.1 GB Hot-Plug Wide U2 10K 1" | 328939-B22 | 502.88 | 253 | \$127,228.64 | |
| 18.2 GB Hot-Plug Wide U2 10K 1" | 128418-B22 | 839.68 | 12 | \$11,276.16 | |
| ProLiant 1600 6/600 - 128MB, 100TX Nic | 153552-001 | 2,688.00 | 4 | \$10,752.00 | |
| ProLiant Workgroup Server - Parts Exchange - 1 Year | FW-L-OPHT-12 | 259.00 | 8 | | \$2,072.00 |
| Onsite 5x8 4 Hr Service Upgrade from Compaq Standard Service | | | | | \$1,838.59 |
| Pentium III 600 MHz Processor Option | 153555-B21 | 1,006.88 | 4 | \$4,027.52 | |
| 128-Megabyte SD DIMM Kit | 313615-B21 | 360.64 | 12 | \$4,327.68 | |
| NC3122 POI Dual 100100 Controller | 317450-B21 | 289.20 | 4 | \$1,052.80 | |
| 9.1GB Wide U2 10K | 328939-B22 | 502.88 | 4 | \$2,011.52 | |
| 9-port 10BaseT hub | | 25.00 | 3745 | \$93,625.00 | |
| Large Purchase and Cash discount | | | | (534,823) | (53,274) |
| Totals: | | | | \$361,621.32 | \$33,107.22 |

Prices include a large volume and cash prepay discount. Prices may vary when items are purchased separately.

Service prices based upon a service contract for all items listed.

On-site 5 day/ 8 hour day / 4 hour response upgrade to Compaq standard 2nd day Service

The above quotation is valid for at least 60 days.

Compaq Parts Exchange contract in years 4 & 5 in lieu of parts warranty.

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