Compaq Computer Corporation

TPC Benchmark™ C
Full Disclosure Report
for
ProLiant DL760-900-256P
using
Microsoft SQL Server 2000 Enterprise Edition
and
Windows 2000 Advanced Server

First Edition
September 19, 2001

COMPAQ

First Edition – September 2001

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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 5.0.

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.

Although these specifications express implementation in terms of a relational data model with conventional locking scheme, the database may be implemented using any commercially available database management system (DBMS), database server, file system, or other data repository that provides a functionally equivalent implementation. The terms "table", "row", and "column" are used in this document only as examples of logical data structures.

TPC-C uses terminology and metrics that are similar to other benchmarks, originated by the TPC or others. Such similarity in terminology does not in any way imply that TPC-C results are comparable to other benchmarks. The only benchmark results comparable to TPC-C are other TPC-C results conformant with the same revision.

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.

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Benchmark results are highly dependent upon workload, specific application requirements, and systems design and implementation. Relative system performance will vary as a result of these and other factors. Therefore, TPC-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.

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Abstract

Overview

This report documents the methodology and results of the TPC Benchmark C test conducted on 32 Compaq ProLiant DL760-900-256P as database servers, 4 Proliant DL580R-700 as DTC servers and 64 Proliant DL360R as clients . The operating system used for the benchmark was Windows 2000 Advanced Server for the database servers and Windows 2000 Server for the DTC servers and clients. The DBMS used was Microsoft SQL Server 2000 Enterprise Edition. The database connection queues used Microsoft COM+. All tests conducted are in compliance with version 5.0 of TPC Benchmark C Standard Specification.

TPC Benchmark C Metrics

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

709,220.08 tpmC
$14.96 per tpmC

The availability date is October 15, 2001.

Standard and Executive Summary Statements

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

Auditor

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

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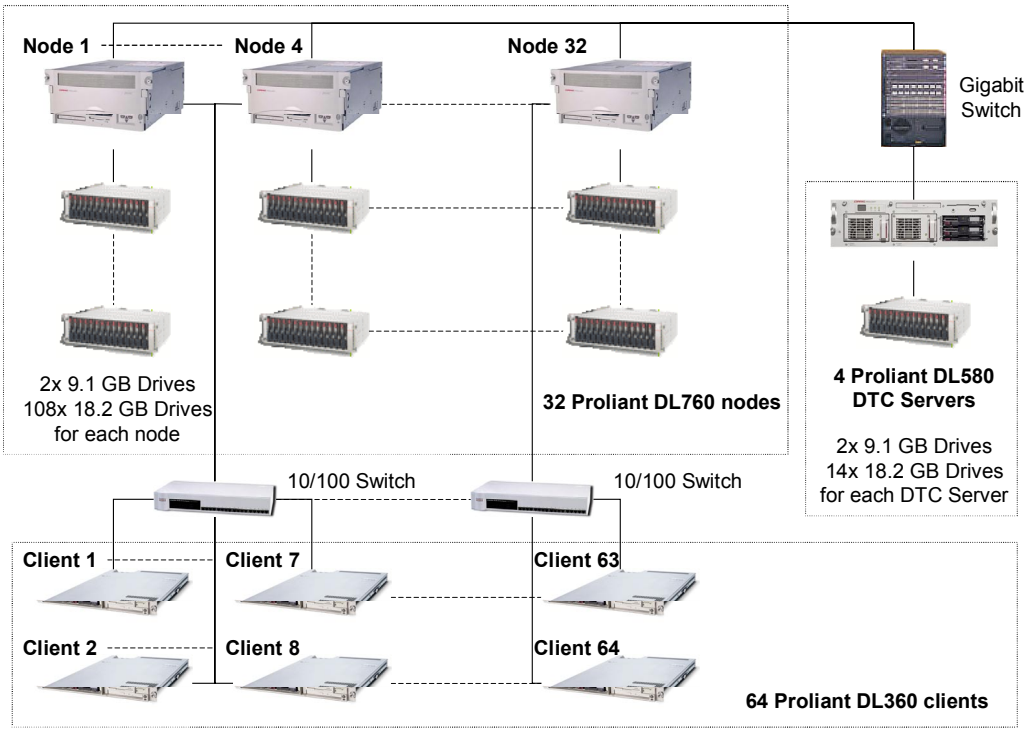
Compaq Computer Corporation	ProLiant DL760-900-256P Client/Server	TPC-C Rev. 5.0 Report Date: Sep 19, 2001

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
$10,603,803	**709,220.08 tpmC**	**$14.96**	**Oct 15, 2001**

Processors	Database	Operating System	Other Software	Number Users
256 -Xeon 900 MHz SQL 16 - Xeon 700 MHz DTC 96 - 800 MHz Clients 32 - 933 MHz Clients	Microsoft SQL Server 2000 Enterprise Edition	Windows 2000 Advanced Server	Microsoft Visual C++ Microsoft COM+	**576,000**



System Components	Qty	Each of 32 Database Servers	Qty	Each of first 48 clients
Processor	8	900MHz Pentium III Xeon w/2MB cache	2	Pentium III 800Mhz/256K
Memory	16	512MB	4	128MB
Disk Controllers	5	Compaq SMART Array 5304 Controllers	1	Integrated SCSI RAID Controller
Disk Drives	2	9 GB 10K U2 SCSI Drives	1	9.1GB 10K Ultra2 SCSI Drive
	108	18GB 15K U3 SCSI Drives		
Total Storage		58.69 TeraBytes		
Tape Drive	1	12/24 GB DAT Drive		
System Components	**Qty**	**Each of 4 DTC Servers**	**Qty**	**Each of last 16 clients**
Processor	4	700MHz Pentium III Xeon w/2MB cache	2	Pentium III 933Mhz/256K
Memory	4	128 MB	4	128MB
Disk Controllers	1	Compaq SMART Array 5304 Controller	1	Integrated SCSI RAID Controller
Disk Drives	2	9 GB 10K U2 SCSI Drives	1	9.1GB 10K Ultra2 SCSI Drive
	14	18GB 15K U3 SCSI Drives		

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Compaq Computer Corporation	ProLiant DL760-900-256P Client/Server				TPC-C Rev. 5.0 Report Date:		19-Sep-01
Description	**Part Number**	**Third Party Brand**	**Pricing**	**Unit Price**	**Qty**	**Extended Price**	**3 yr. Maint. Price**
Server Hardware							
DL760 4xX900 2M 2GB	212692-001		1	45,400	32	1,452,800	
- 4 Pentium III Xeon/900MHz 2MB Cache							
X900 2M Processor Option	177666-B21		1	6,600	128	844,800	
1G-Memory Kit SDRAM	328808-B21		1	2,500	192	480,000	
Compaq SMART Array Controller 5304 - 4 SCSI Chan.	158939-B21		1	2,499	164	409,836	
StorageWorks Enclosure Model 4314R	190209-001		1	2,955	228	673,740	
StorageWorks Enclosure Model 4354	190211-001		1	3,523	32	112,736	
S510 Color Monitor - Carbon - 15 inch CRT	168636-002		1	189	36	6,804	
12/24-Gigabyte DAT Drive (Internal)	295513-B22		1	682	1	682	
Compaq Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21		1	1,352	32	43,264	
Baying Kit - 9000 Series racks (36U and 42U)	120669-B21		1	85	31	2,635	
Side Panel Kit - 9142 Rack	120670-B21		1	212	1	212	
R3000 UPS	242705-001		1	1,431	36	51,516	
ProLiant DL580R X700 2MB 512	155618-001		1	11,899	4	47,596	
XN700 2M S2 Processor Kit	174449-B21		1	3,099	8	24,792	
9.1GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive	142671-B22		1	319	72	22,968	
18.2 GB Hot-Plug Wide U3 15K 1"	188122-B22		1	679	3512	2,384,648	
NC6134 Gigabit NIC 64 PCI 1000 SX	174818-B21		1	625	36	22,500	
Server Keyboard	296435-006		1	14	36	504	
Compaq Scroll Mouse	170299-B21		1	23	36	828	
9.1GB Pluggable Wide SCSI 3 10K Drive (10% Spares)	142671-B22		1	319	8		2,552
18.2 GB Hot-Plug Wide U3 15K 1" (10% Spares)	188122-B22		1	679	352		239,008
CarePaq Service - Depart. Servers 3Yr,7x24,4hr Resp.	FM-MI724-36		1	1,795	4		7,180
CarePaq Service - High End Servers 3Yr,7x24,4hr Resp.	FM-HE724-36		1	3,390	32		108,480
CarePaq Service - 42xx/43xx Enclosure 3Yr,7x24,4hr Resp.	FM-4E724-36		1	157	260		40,820
					Subtotal	**6,582,861**	**398,040**
Server Software							
Microsoft SQL Server 2000 Enterprise	810-00945	Microsoft	2	15,802	256	4,045,312	201,120
Microsoft Visual C++ 6.0	048-00317	Microsoft	2	549	1	549	Incl Above
Microsoft Windows 2000 Advance Server	C10-00475	Microsoft	2	2,399	32	76,768	Incl Above
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	4	2,952	Incl. Above
					Subtotal	**4,125,581**	**201,120**
Client Hardware							
ProLiant DL360R P800/133 128MB M1	161080-001		1	2,273	48	109,104	
PIII 800/133-256 Processor kit	161084-B21		1	366	48	17,568	
ProLiant DL360R P933/133 128MB M1	210645-001		1	2,249	16	35,984	
PIII 933/133-256 Processor kit	210647-B21		1	649	16	10,384	
128 MB 133 DIMM	128277-B21		1	125	192	24,000	
Compaq Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21		1	1,352	2	2,704	
Baying Kit - 9000 Series racks (36U and 42U)	120669-B21		1	85	2	170	
S510 Color Monitor - Carbon - 15 inch CRT	168636-002		1	189	64	12,096	
9.1GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive	142671-B22		1	319	64	20,416	
Server Keyboard	296435-006		1	14	64	896	
Compaq Scroll Mouse	170299-B21		1	23	64	1,472	
CarePaq Service - Entry Level Servers 3Yr,7x24,4hr Resp.	FM-EL724-36		1	750	64		48,000
					Subtotal	**234,794**	**48,000**
Client Software							
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	64	47,232	Incl. Above
					Subtotal	**47,232**	**0**
Connectivity							
LinkSys 16 Port 10/100 Switch DSSX16	387226	LinkSys	3	399	8	3,188	See Note 1
Cisco Catalyst 6500 Gigabit ethernet switch		Cisco	4	98,970	1	98,970	31,200
					Subtotal	**102,158**	**31,200**
Large Purchase and Cash discount	16.0%		1			**($1,090,825)**	**($76,358)**
					Total	**$10,001,802**	**$602,002**

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.

3-Year Cost of Ownership: $10,603,803

tpmC Rating: 709,220.08

$ / tpmC: $14.96

Pricing: 1=Compaq Computer Corporation 2= Microsoft 3=ecost.com 4=Cisco

Note 1 = 3 Year warranty with 10% Spares -

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

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Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput 709,220.08 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.67	1.19	19.97
Payment	0.58	1.09	18.88
Order-Status	0.58	1.10	18.18
Delivery (interactive portion)	0.12	0.11	11.36
Delivery (deferred portion)	0.29	0.38	6.22
Stock-Level	1.45	2.12	18.28
Menu	0.13	0.11	11.61

Transaction Mix, in percent of total transaction	
New-Order	44.83%
Payment	43.05%
Order-Status	4.04%
Delivery	4.04%
Stock-Level	4.04%

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	18.02/12.11	18.08/121.13
Payment	3.00/0.00	3.02/12.11	3.09/121.13
Order-Status	2.00/0.00	2.02/10.10	2.08/101.02
Delivery (interactive)	2.00/0.00	2.02/5.08	2.07/50.72
Stock-Level	2.00/0.00	2.02/5.07	2.07/50.72

Test Duration	
Ramp-up time	122 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	189,830,743
Ramp down time	30 minutes

Checkpointing	
Number of checkpoints	4
Checkpoint interval	30 minutes

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General Items

Test Sponsor

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

Compaq Computer Corporation sponsored this benchmark. 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.

The application is the Microsoft BenchCraft program that emulates a set of users entering transactions that are in compliance with TPC-C specification requirements. These users, through web browsers , communicate with the clients which are hosting the website on Microsoft IIS web server. The clients interact with the database servers via COM+ queues.

Each client IIS loads a custom ISAPI DLL application that communicates with the web browsers using HTTP protocol and with the database server using COM+ and ODBC interface. The application fills in the user's information and forwards this request to the database server via the client interface described above. The result is returned to the application where the formatting takes place before sending back to the user's browser. The Delivery transaction is handled by the application without using COM+.

Parameter Settings

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

- *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 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 the tested and priced systems are the same and includes in the following pages.

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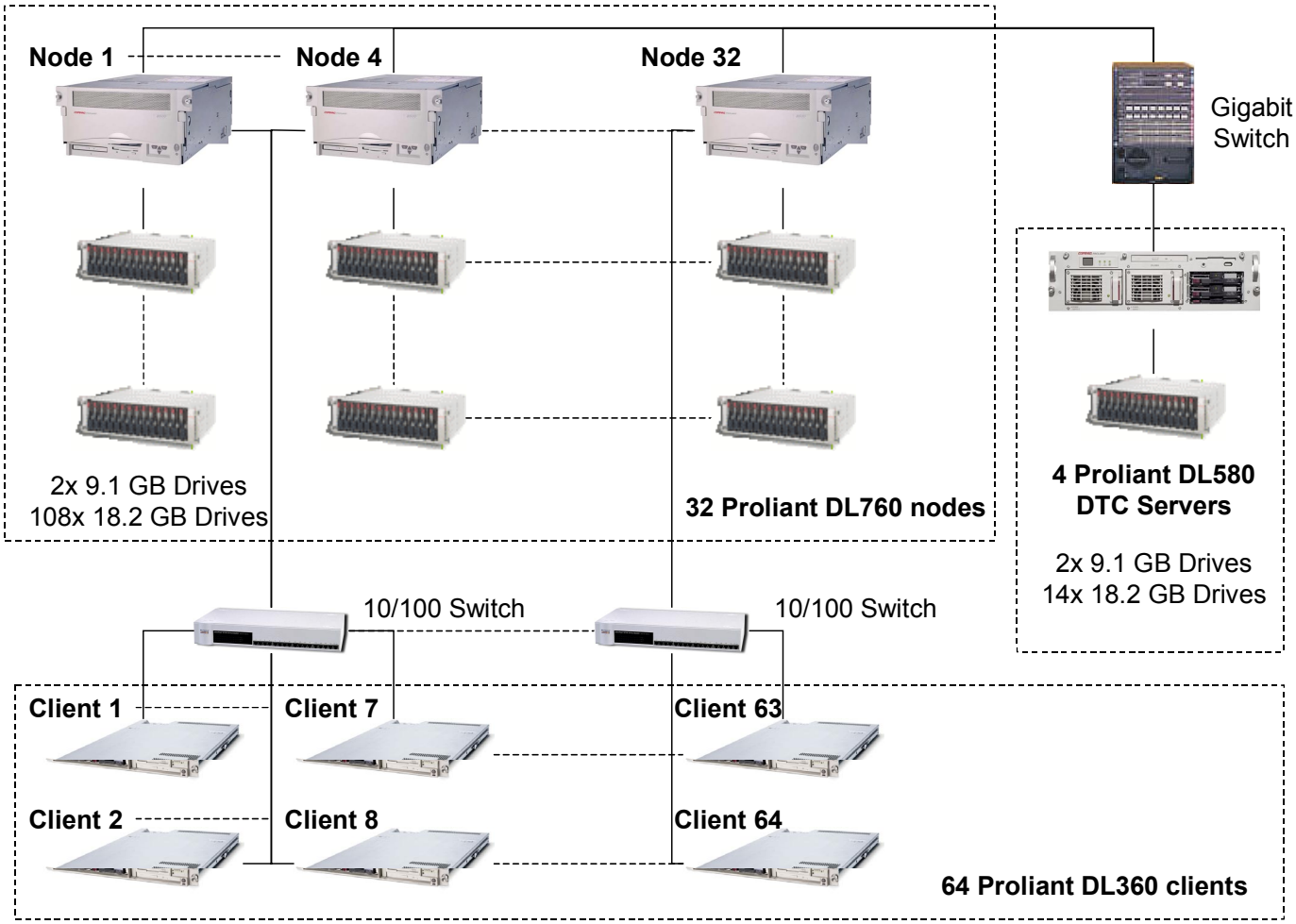

Figure 1. Benchmarked Configuration

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System Configuration

The system configuration used in this benchmark includes 32 Compaq ProLiant DL760-900 as database servers, 4 Proliant DL580R-700 as DTC servers and 64 Proliant DL360R as clients. The database servers and the DTC servers are connected via a Cisco Catalyst 6500 Gigabit Ethernet switch. The clients/database servers' connections use EtherFast 10/100 Linksys switches. Sixteen RTE systems using Proliant DL-580 emulate 576,000 users. The RTE's are connected to 64 clients through 10/100 base T switches. The operating system used for the benchmark was Windows 2000 Advanced Server for the database servers and Windows 2000 Server for the DTC servers and clients. The DBMS used was Microsoft SQL Server 2000 Enterprise Edition. The database connection queues used Microsoft COM+.

The Proliant DL760-900MHz motherboard utilizes Intel/Compaq Profusion chipset with 64-bit multi-peer PCI-X buses. It supports up to 8 processors with the latest Pentium III/900 MHz Xeon technology. The processor cache was 2 MB L2 Cache. The system has 11 64-bit PCI slots (2x 100MHz PCI-X or 66MHz PCI, 6x 50MHz PCI-X or 33 MHz PCI, 3x 33 MHz PCI). The benchmark configuration used 8GB of RAM.

The Proliant DL760 has an Integrated Smart Array Controller supporting Ultra2 and RAID 0, 0+1 and 5. The controller connected to the Internal Hot Plug Drive Storage controls 2x 9GB (RAID 1) and is where the OS located. Each of the Proliant DL760 is configured with 5 Compaq Smart Array Controllers 5304-4 SCSI channels. One of the Compaq Smart Array Controllers 5304 had 2 channels connected to a StorageWorks Enclosure 4354, which contained the database log. For the data drives (RAID 0), three 5304 used 2 channels connected to two StorageWorks Enclosure 4314Rs. The remaining 5304 connected to a StorageWorks Enclosure 4314R. Each StorageWorks Enclosure 4314R has 14x 18.2GB with 15k RPM except for the database log, which held 10x 18.2GB-15k RPM on RAID 0+1.

One PCI slot is used for the NC6134 Gigabit NIC 64 PCI 1000 SX.

Each Proliant DL760 database server is driven by 2 clients using DL360R having dual Pentium III processors at 800MHz or 933Mhz with 512MB of physical memory. The client has 2 embedded Compaq NC3163 Fast Ethernet NICs, and RAID1 2x 9GB drives for OS. There are 48 clients with 800MHz processors and 16 clients with 933MHz processors. On each client one NC3163 NIC is connected to the database server via EtherFast 10/100 Linksys switch. There are a total of 8 clients on each switch. The other NC3163 NIC on the client is connected to RTE via 10/100 base T switch. Each RTE is connected to 4 clients. There are a total of 576,000 emulated users evenly divided between the 64 clients.

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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: 64 drives at 9.1GB and 3456 drives at 18.2GB each.

Benchmarked Configuration (per node):

Embedded Smart Array Controller
(2 9.1GB drive)
EISA UTILITIES PARTITION Total Capacity = 36 MB
Compaq System Configuration Utilities
LOGICAL DRIVE C: Total Capacity = 8.47 GB RAID 0+1
Microsoft Windows 2000 Advanced Server

SMART-5304 Controller, Slot 3, Array A
(28 18,2GB drives)
(0% Read Cache, 100% Write Cache)
Port1:
LOGICAL DRIVE 0: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 1: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 2: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup1
Port3:
LOGICAL DRIVE 3: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 4: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 5: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup2

SMART-5304 Controller, Slot 5, Array A
(28 18,2GB drives)
(0% Read Cache, 100% Write Cache)
Port1:
LOGICAL DRIVE 6: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 7: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 8: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup3
Port3:
LOGICAL DRIVE 9: Total Capacity = 18.55 GB RAID 0 Cache Enabled

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Big_fg
LOGICAL DRIVE 10: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 11: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup4

SMART-5304 Controller, Slot 7, Array B
(28 18,2GB drives)
(0% Read Cache, 100% Write Cache)
Port1:
LOGICAL DRIVE 12: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 13: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 14: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup5
Port3:
LOGICAL DRIVE 15: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 16: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 17: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup6

SMART-5304 Controller, Slot 10, Array A
(10 18.2GB drives)
LOGICAL DRIVE 18: Total Capacity = 84.79 GB RAID 1 Cache Disabled
Tpcc log

SMART-5304 Controller, Slot 11, Array A
(14 18,2GB drives)
(0% Read Cache, 100% Write Cache)
Port1:
LOGICAL DRIVE 19: Total Capacity = 18.55 GB RAID 0 Cache Enabled
Big_fg
LOGICAL DRIVE 20: Total Capacity = 12.88 GB RAID 0 Cache Enabled
Misc_fg
LOGICAL DRIVE 21: Total Capacity = 102.98 GB RAID 0+1 Cache Enabled
TpccBackup7

Priced Configuration vs. Measured Configuration:

The measured and priced configuration only differ in that the measured configuration used disk drives for database backup and the priced configuration used a DAT drive 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

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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.

All database tables were partitioned across database server nodes by warehouse ID, 1800 warehouses per node with the exception of the item table, which was replicated across nodes.

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.

The item table was replicated across all database server nodes.

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Clause 2 Related Items

Random Number Generation

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

In the BenchCraft 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 BenchCraft 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 affected 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 web 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	Home warehouse order lines	99.00%
	Remote warehouse order lines	1.00%
	Rolled back transactions	1.00%
	Average items per order	10.00
Payment	Home warehouse payments	85.00%
	Remote warehouse payments	15.00%

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Statistic		Value
	Accessed by last name	60.01%
Order Status	Accessed by last name	60.05%
Transaction Mix	New Order Payment Order status Delivery Stock level	44.83% 43.05% 4.04% 4.04% 4.04%

Queuing Mechanism

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

The deferred delivery operation is queued by making an entry in an array within the application process (tpcc.dll) running on the middle tier machines. Background threads within the application process asynchronously process the queued delivery transactions.

The source code is listed in Appendix A.

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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.

All atomicity tests were run twice. The first set of atomicity tests were run with database accesses from just a single node. The second set of atomicity tests were run with database accesses from two nodes.

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 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 nine 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.

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For Isolation test seven, case A was followed.

All isolation tests were run twice. The first set of isolation tests were run with database accesses from just a single node. The second set of isolation tests were run with database accesses from two nodes.

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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

Durability from media failure was demonstrated on a database scaled for 7200 warehouses running on 4 of the Proliant DL760 nodes (1800 warehouses on each). The standard driving mechanism was used to generate the transaction load of 72000 users. This fully scaled database under full load would also have passed the following test. Loss of data and loss of log were combined in the same test.

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 72000 users.
- The test was allowed to run for more than 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 automatically recovered from the database 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 14 and 15 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 performed twice, once for a single node and second time for 32 nodes. Both tests were executed on a fully scaled database of 57,600 warehouses under a full load of 576,000 users. The following steps were executed for each test:

- The total number of New Orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table on all database nodes giving the beginning count.
- The RTE was started with 576,000 users.
- The test was allowed to run for a minimum of 10 minutes.
- A checkpoint was performed.
- For the single node and 32 node tests, system crash and loss of memory were induced by switching the power off. In the single node test all nodes were executing transactions,

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but only one node was powered off. In the 32-node test all nodes were powered off. No battery backup or Uninterruptible Power Supply (UPS) were used to preserve the contents of memory.

- The RTE was shutdown.
- All 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 10 and 11 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.

Interconnect Loss

Since the benchmark utilized two different types of internode's interconnects, the interconnect loss test was performed. The first test involved power loss to a Cisco Gigabit switch. The test was executed on a fully scaled database of 57,600 warehouses under a full load of 576,000 users. The following steps were executed for each test:

- The total number of New Orders was determined by the sum of D_NEXT_O_ID of all rows in the DISTRICT table on all database nodes giving the beginning count.
- The RTE was started with 57,600 users.
- The test was allowed to run for a minimum of 10 minutes.
- A checkpoint was performed.
- For the Gigabit Ethernet switch loss test the switch was powered off during the run.
- The RTE was shutdown.
- All 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 10 and 11 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.

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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 Database

Table	Cardinality as built
Warehouse	57,600
District	576,000
Customer	1,728,000,000
History	1,728,000,000
Orders	1,728,000,000
New Order	518,400,000
Order Line	17,279,759,341
Stock	5,760,000,000
Item	100,000

Database Layout

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

The benchmarked configuration used 32 Compaq Proliant DL760 nodes each configured identically with 1800 warehouses each. Each node used 5 SMART-5304 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 0,1,5 per each logical volume configured. On each node, the data tables were stored on 8 logical volumes of 24 drives each (i.e. 2 logical volumes on each controller array of 24 drives). Each data volume was configured with RAID 0 and the Array Accelerator was enabled for all the volumes. On each node, one logical volume of 8 18.2GB drives was configured as RAID 0+1 and stored the transaction log. The transaction log volumes had the Array Accelerator disabled. Also on each node, one logical volume of 2 9.1GB drives was configured as RAID 1 and stored the root database files, along with logs for the Distributed Transaction Coordinator (DTC). For each node, the operating system was stored on a 9.1GB drive on the embedded Smart Array 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 file groups and tables is included in Appendix B.

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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, DL/1, 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 2000 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 item table was replicated across database nodes.

60 Day Space

Details of the 60-day space computations along with proof that the database is configured to sustain 8 hours of growth for the dynamic tables (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)*.
- The 'before' New Order count was measured via the sql command: select sum(d_next_o_id) SumDNextOId from district
- Transactions were run against the database with a full load of users.
- The free space was again queried using dbcc *sqlperf(logspace)*.
- The 'after' New Order count was measured via the sql command: select sum(d_next_o_id) SumDNextOId from district
- The space used was calculated as the difference between the first and second query.
- The number of NEW-ORDERS was calculated as the difference between the after and before sum(d_next_o_id) values covering the entire 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 the dynamic tables Order, Order-Line and History.

The details of both the 8-hour transaction log space requirement and the 60-day space requirement is shown in Appendix D.

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Clause 5 Related Items

Throughput

Measured tpmC must be reported

Measured tpmC 709,220.08 tpmC
Price per tpmC $14.96 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	90th %	Maximum
New-Order	0.67	1.19	19.97
Payment	0.58	1.09	18.88
Order-Status	0.58	1.10	18.18
Interactive Delivery	0.12	0.11	11.36
Deferred Delivery	0.29	0.38	6.22
Stock-Level	1.45	2.12	18.28
Menu	0.13	0.11	11.61

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	18.02	18.08
Payment	3.00	3.02	3.09
Order-Status	2.00	2.02	2.08
Interactive Delivery	2.00	2.02	2.07
Stock-Level	2.00	2.02	2.07

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Table 5.4: Think Times

Type	Minimum	Average	Maximum
New-Order	0.00	12.11	121.13
Payment	0.00	12.11	121.13
Order-Status	0.00	10.10	101.02
Interactive Delivery	0.00	5.08	50.72
Stock-Level	0.00	5.07	50.72

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.

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Figure 3. New Order Response Time Distribution

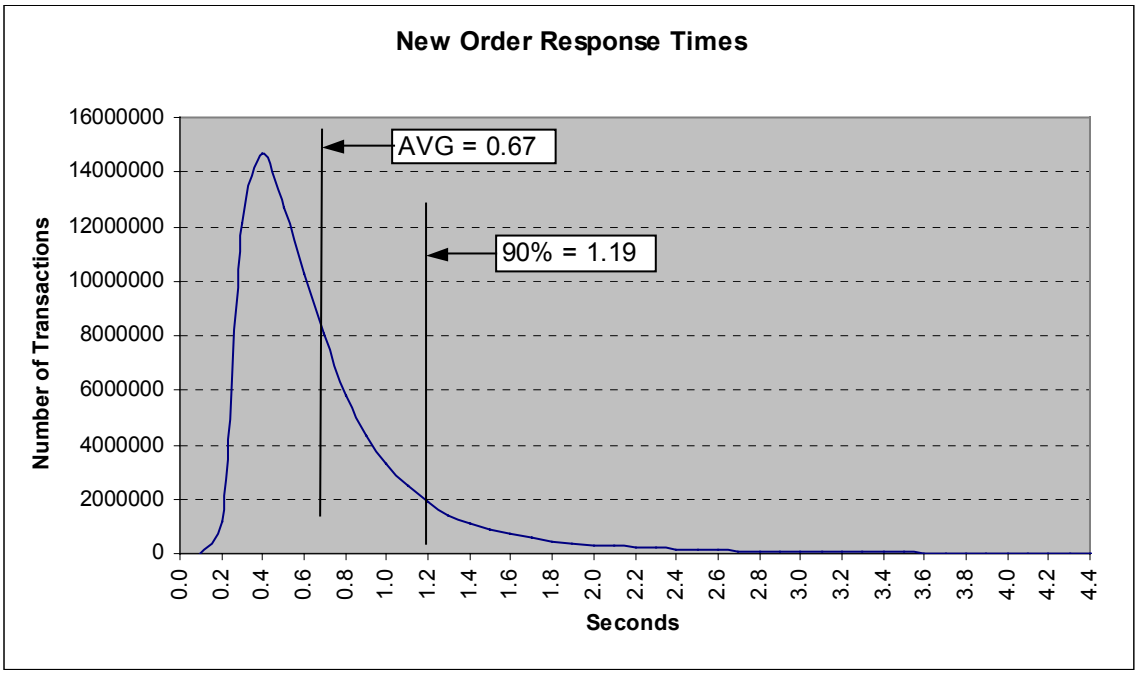

Figure 4. Payment Response Time Distribution

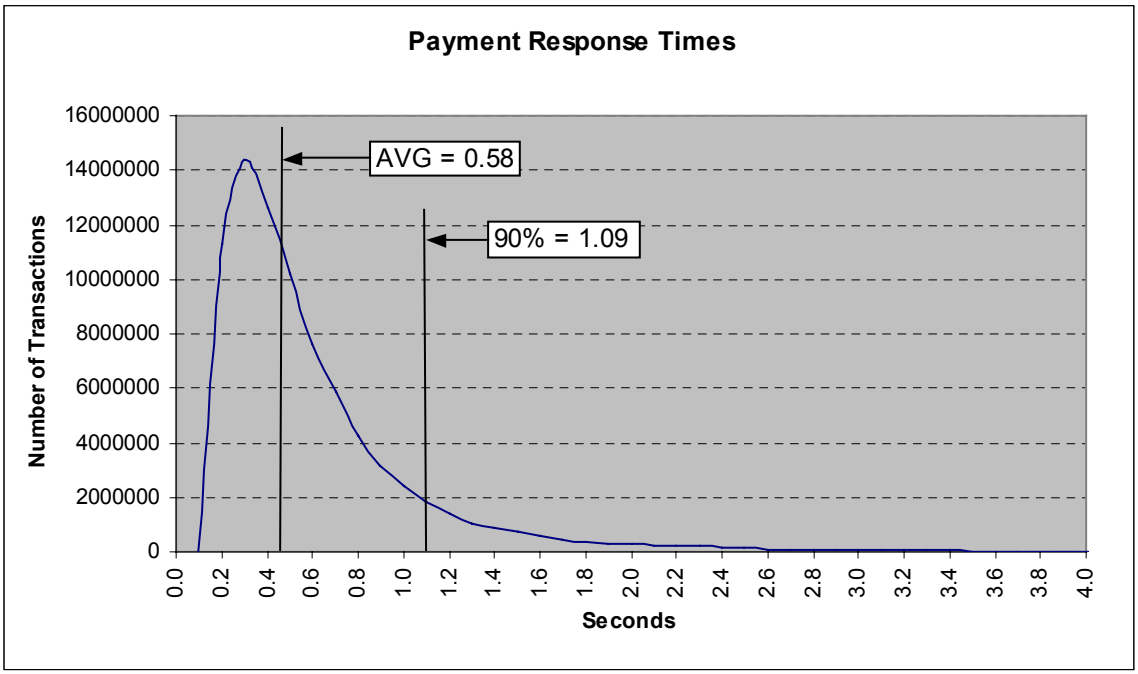

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Figure 5. Order Status Response Time Distribution

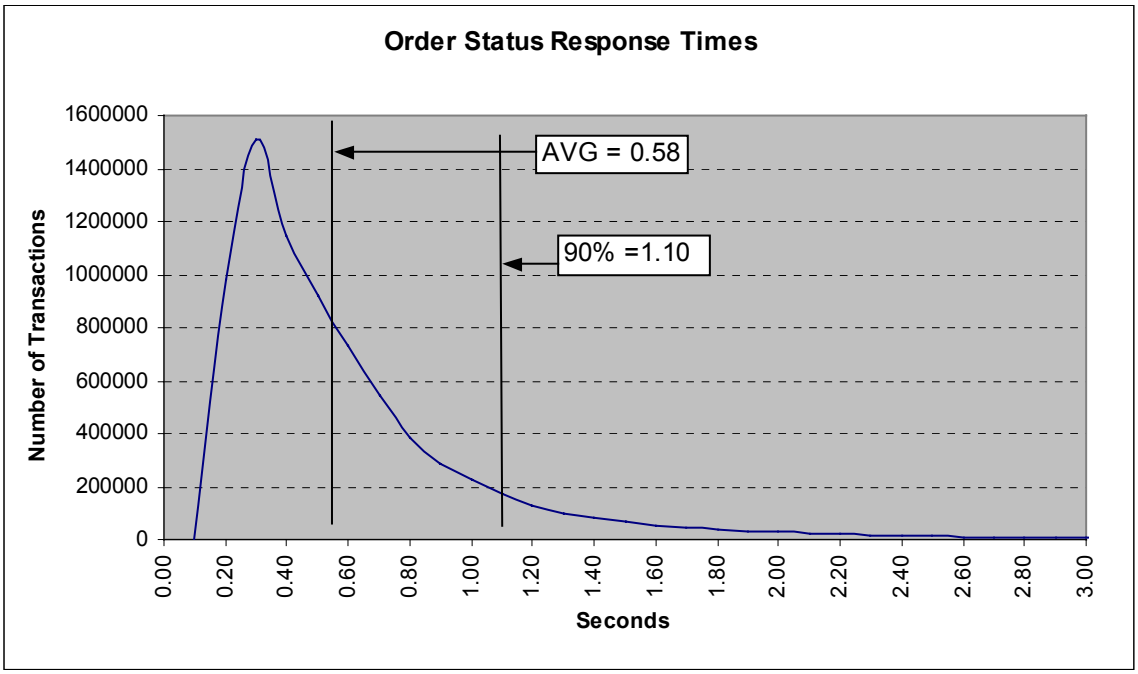

Figure 6. Delivery Response Time Distribution

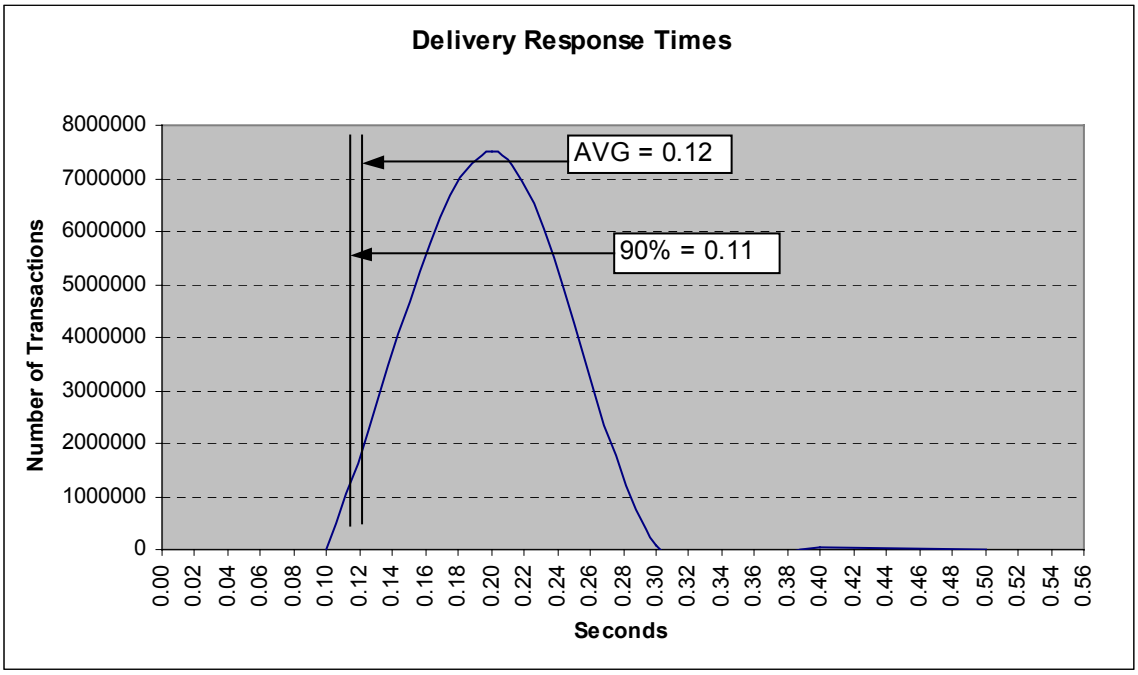

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Figure 7. Stock Level Response Time Distribution

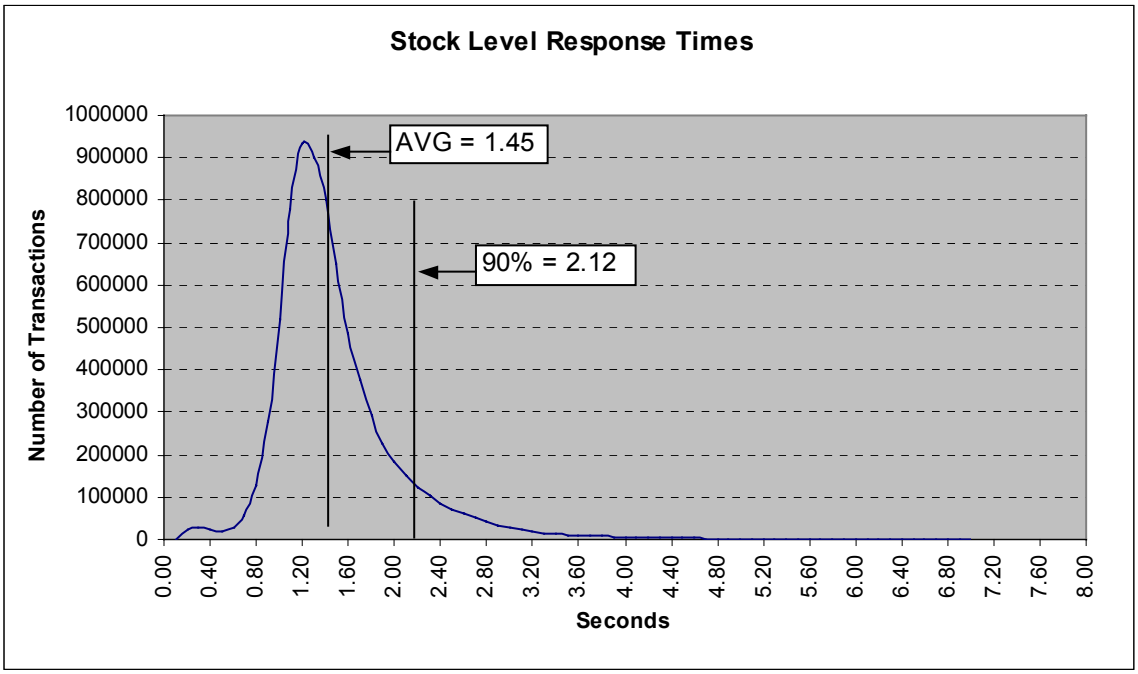

Figure 8. Response Time vs. Throughput

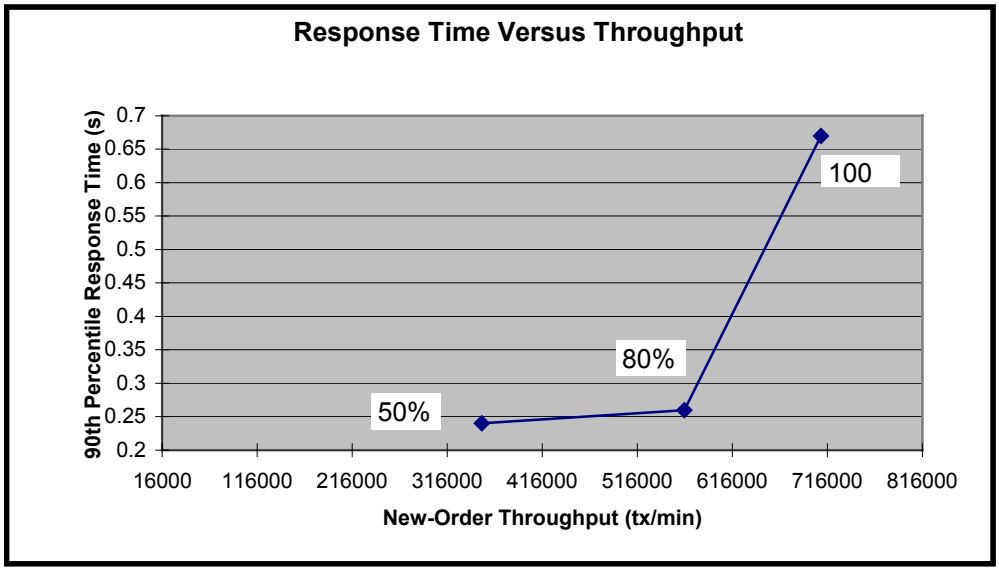

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Figure 9. New Order Think Time Distribution

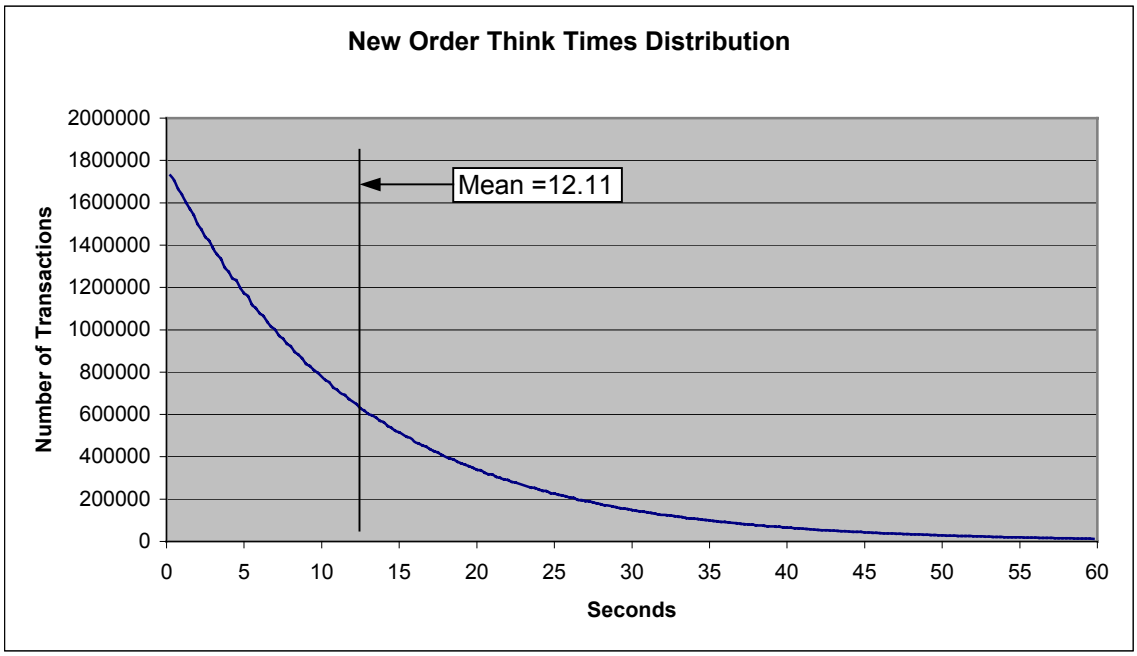
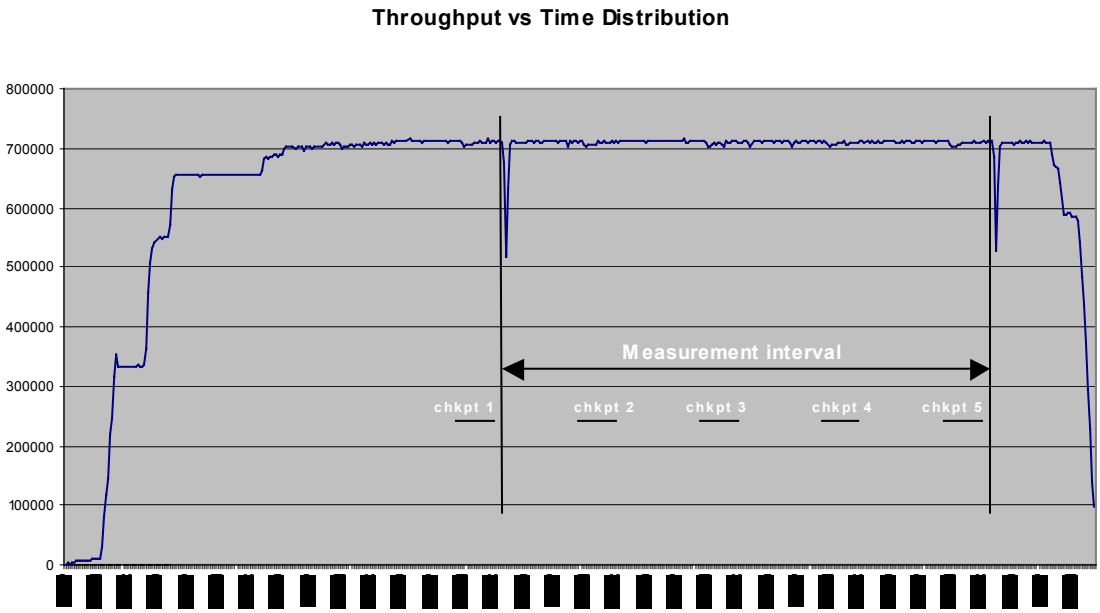


Figure 10. Throughput vs. Time Distribution



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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 time stamped. The input screen for the requested transaction was returned and time stamped. 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 time stamped. The return of the screen with the required response data was time stamped. 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 another Ethernet LAN using COM+, ODBC and RPC calls.

To perform checkpoints at specific intervals, we set SQL Server *recovery interval* to 40 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 30 minutes. The checkpoint script was started manually after the RTE had all users logged in and sending transactions. These manual checkpoints kept SQL Server's automatic checkpoints postponed as long as the script was running.

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.

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 120 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

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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	1.00%
	Average items per order	10.00
Payment	Home warehouse payments	85.00%
	Remote warehouse payments	15.00%
	Accessed by last name	60.01%
Order Status	Accessed by last name	60.05%
Transaction Mix	New Order	44.83%
	Payment	43.05%
	Order status	4.04%
	Delivery	4.04%
	Stock level	4.04%

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.

	Start	End	Duration
Measurement interval	16:04:35	18:04:35	7200
Checkpoint 1	16:24:31	16:33:44	553
Checkpoint 2	16:54:28	17:04:09	580
Checkpoint 3	17:24:25	17:34:17	592
Checkpoint 4	17:54:22	18:03:23	541

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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 16 Compaq ProLiant servers. These driver machines were attached to the 64 Compaq ProLiant DL360R 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, 16 driver (RTE) machines were connected through 100 Mbs switches. These 10/100 switches connect to the 64 client machines at 100Mbs; thus, providing the path from the RTEs to the client. The server (SUT) was connected to the clients via (8) 16-port switches at 100Mb/s connection. The clients are connected to this switch on a different LAN, than the user LAN.

The priced configuration is the same as the tested configuration.

In both the priced and tested configurations, the 32 ProLiant DL760 servers were interconnected using Cisco Catalyst 6500.

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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.

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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** **709,220.08 tpmC**
- **Price per tpmC** **$14.96 per tpmC**
- **Availability** **October 15, 2001**

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:

- 32 Microsoft Windows 2000 Advanced Server
- 68 Microsoft Windows 2000 Server licenses (includes Microsoft COM+)
- 256 Microsoft SQL Server 2000 Enterprise Edition (Per-Processor Licenses)
- One Microsoft Visual C++
- Compaq Servers include 3 years of support.

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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

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PERFORMANCE METRICS INC.
TPC Certified Auditors

September 15, 2001

Mr. Paul Cao
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I have verified on-site and by remote the TPC Benchmark™ C client/server for a 32 node cluster with the following configuration on each node:

Platform: ProLiant DL760 X900
Database Manager: Microsoft SQL Server 2000 Enterprise Edition
Operating System: Microsoft Windows 2000 Advanced Server
Transaction Monitor: Microsoft COM+

Servers: 32 ProLiant SL760 with:				
CPU's	Memory	Disks (total)	90% Response	TpmC
8 Pentium III Xeon@900Mhz	Main: 8192 MB Cache: 2 MB	108 @ 18GB 2 @ 9.1 GB	1.19 sec	709,220.08
48 Clients: DL360R each with:				
2 Pentium III Xeon @ 800 Mhz	Main: 512 MB Cache: 256K	1 @ 9.1GB	Na	Na
16 Clients: DL360R each with:				
2 Pentium III Xeon @ 933 Mhz	Main: 512 MB Cache: 256K	1 @ 9.1GB	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:

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- The transactions were correctly implemented.
- The database files were properly sized and populated.
- The database was properly scaled with 57,600 warehouses.
- All columns in the database could be updated with the same syntax.
- The ACID properties were successfully demonstrated. Both a single node and a full system failure was demonstrated.
- 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 60 day space calculation was verified.
- The controller cache was disabled on the log disk controllers.
- The steady state portion of the test was 120 minutes.
- One checkpoint was taken before the measured interval.
- Four checkpoints were taken during the measured interval.
- The system pricing was checked for major components and maintenance.
- Third party quotes were verified for compliance.

Auditor Notes: None.

Sincerely,

Lorna Livingtree

Lorna Livingtree
Auditor

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Appendix A: Source Code

The client source code is listed below.

Methods.h

```
/*        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(             VARIANT txn_in, VARIANT* txn_out);
          HRESULT __stdcall Payment(              VARIANT txn_in, VARIANT* txn_out);
          HRESULT __stdcall Delivery(             VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
          HRESULT __stdcall StockLevel( VARIANT txn_in, VARIANT* txn_out);
          HRESULT __stdcall OrderStatus(          VARIANT txn_in, VARIANT* txn_out);

          HRESULT __stdcall CallSetComplete();

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

// IObjectConstruct
          STDMETHODIMP Construct(IDispatch * pUnk);

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

          struct COM_DATA
```


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```
        {
                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(             VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall Payment(              VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall StockLevel( VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
        HRESULT __stdcall OrderStatus(          VARIANT txn_in, VARIANT* txn_out)
{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(             VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall Payment(              VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall StockLevel( VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
//      HRESULT __stdcall OrderStatus(          VARIANT txn_in, VARIANT* txn_out)
{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(             VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
//      HRESULT __stdcall Payment(              VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall StockLevel( VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
        HRESULT __stdcall OrderStatus(          VARIANT txn_in, VARIANT* txn_out)
{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)
```


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```
END_COM_MAP()

// ITPCC
public:
        HRESULT __stdcall NewOrder(             VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
        HRESULT __stdcall Payment(              VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
//      HRESULT __stdcall StockLevel( VARIANT txn_in, VARIANT* txn_out) {return
E_NOTIMPL;}
        HRESULT __stdcall OrderStatus(          VARIANT txn_in, VARIANT* txn_out)
{return E_NOTIMPL;}
};
```

ReadRegistry.cpp

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


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

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

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


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```
          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;
}
```

ReadRegistry.h

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

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

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

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

BOOL ReadTPCCRegistrySettings( TPCCREGISTRYDATA *pReg );
```

WEBCLNT.DSP

```
# Microsoft Developer Studio Project File - Name="webclnt" - Package Owner=<4>
# Microsoft Developer Studio Generated Build File, Format Version 5.00
# ** DO NOT EDIT **

# TARGTYPE "Win32 (x86) Application" 0x0101

CFG=webclnt - 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 "Webclnt.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 "Webclnt.mak" CFG="webclnt - Win32 Release"
!MESSAGE
!MESSAGE Possible choices for configuration are:
!MESSAGE
!MESSAGE "webclnt - Win32 Release" (based on "Win32 (x86) Application")
!MESSAGE "webclnt - Win32 Debug" (based on "Win32 (x86) Application")
!MESSAGE

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

!IF  "$(CFG)" == "webclnt - 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 ".\Release"
# PROP Intermediate_Dir ".\Release"
# 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 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

!ELSEIF  "$(CFG)" == "webclnt - 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
```


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```
# PROP Output_Dir ".\Debug"
# PROP Intermediate_Dir ".\Debug"
# 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 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

!ENDIF

# Begin Target

# Name "webclnt - Win32 Release"
# Name "webclnt - Win32 Debug"
# End Target
# End Project
```

WebcInt.dsw

```
Microsoft Developer Studio Workspace File, Format Version 6.00
# WARNING: DO NOT EDIT OR DELETE THIS WORKSPACE FILE!

###############################################################################

Project: "db_dblib_dll"=.\db_dblib_dll\db_dblib_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
}}}

###############################################################################

Project: "db_odbc_dll"=.\db_odbc_dll\db_odbc_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
}}}

###############################################################################

Project: "install"=.\install\install.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
    Begin Project Dependency
    Project_Dep_Name isapi_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tuxapp
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name db_dblib_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name db_odbc_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tm_com_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tm_tuxedo_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tpcc_com_all
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tpcc_com_ps
    End Project Dependency
}}}

###############################################################################

Project: "isapi_dll"=.\isapi_dll\isapi_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
    Begin Project Dependency
    Project_Dep_Name db_dblib_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name db_odbc_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tm_tuxedo_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tm_com_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tm_encina_dll
    End Project Dependency
}}}

###############################################################################
```


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```
Project: "tm_com_dll"=.\tm_com_dll\tm_com_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
    Begin Project Dependency
    Project_Dep_Name tpcc_com_ps
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name tpcc_com_all
    End Project Dependency
}}}

###############################################################################

Project: "tm_encina_dll"=.\tm_encina_dll\tm_encina_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
}}}

###############################################################################

Project: "tm_tuxedo_dll"=.\tm_tuxedo_dll\tm_tuxedo_dll.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
}}}

###############################################################################

Project: "tpcc_com_all"=.\tpcc_com_all\tpcc_com_all.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
    Begin Project Dependency
    Project_Dep_Name tpcc_com_ps
    End Project Dependency
}}}

###############################################################################

Project: "tpcc_com_ps"=.\tpcc_com_ps\tpcc_com_ps.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
}}}

###############################################################################

Project: "tuxapp"=.\tuxapp\tuxapp.dsp - Package Owner=<4>

Package=<5>
{{{
}}}

Package=<4>
{{{
    Begin Project Dependency
    Project_Dep_Name db_dblib_dll
    End Project Dependency
    Begin Project Dependency
    Project_Dep_Name db_odbc_dll
    End Project Dependency
}}}

###############################################################################

Global:

Package=<5>
{{{
}}}

Package=<3>
{{{
}}}

###############################################################################
```

com_all_resource.h

```
//{{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
#ifndef 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
```


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db_dblib_dll.dsp

```
# 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 **

# TARGTYPE "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 odbc32.lib odbccp32.lib
/nologo /subsystem:windows /dll /debug /machine:I386 /pdbtype:sept
# 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 /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
```


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```
# ADD BASE 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 /debug /machine:I386 /out:".\bin/tpcc_dblib.dll"
/pdbtype:sept
# ADD LINK32 icap.lib 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 /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
```

db_odbc_dll.dsp

dlldata.c

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

        DO NOT ALTER THIS FILE

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

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

*********************************************************/


#include <rpcproxy.h>

#ifdef __cplusplus
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 */
```

error.h

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

#pragma once

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

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

//error message structure used in ErrorText routines
typedef struct _SERRORMSG
{
          int                 iError;                                 //error id of
message
```


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```
        char      szMsg[256];                          //message to sent to
browser
} SERRORMSG;

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


#define ERR_TYPE_LOGIC
        -1                  //logic error in program; internal error
#define ERR_SUCCESS
        0                   //success (a non-error error)
#define ERR_BAD_ITEM_ID
        1                   //expected abort record in txnRecord
#define ERR_TYPE_DELIVERY_POST                                          2
                    //expected delivery post failed
#define   ERR_TYPE_WEBDLL
        3                   //tpcc web generated error
#define   ERR_TYPE_SQL
        4                   //sql server generated error
#define   ERR_TYPE_DBLIB
        5                   //dblib generated error
#define   ERR_TYPE_ODBC
        6                   //odbc generated error
#define ERR_TYPE_SOCKET
        7                   //error on communication socket client rte only
#define ERR_TYPE_DEADLOCK                                               8
                  //dblib and odbc only deadlock condition
#define ERR_TYPE_COM
        9                   //error from COM call
#define ERR_TYPE_TUXEDO
        10                  //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
#define ERR_TYPE_RTE
        21                  //Benchcraft rte
#define ERR_TYPE_AUTOMATION                                             22
                  //Benchcraft automation errors
#define ERR_TYPE_DRIVER
        23                  //Driver engine errors
```

```
#define ERR_TYPE_RTE_BASE                                               24
                    //Framework errors

// TPC-W error types
#define ERR_TYPE_TPCW_CONN                                              50
                    //Benchcraft connection class
#define ERR_TYPE_TPCW_HTML                                              51
                    //error from TpcwHtml dll
#define ERR_TYPE_TPCW_USER                                              52
                    //error from TPC-W user class
#define ERR_TYPE_TPCW_ENG_BASE                                          53
#define ERR_TYPE_TPCW_ENG_OS                                      54
#define ERR_TYPE_HTML_RESP                                              55
#define ERR_TYPE_TPCW_ODBC                                              56

#define ERR_INS_MEMORY                          "Insufficient Memory to continue."
#define ERR_UNKNOWN                             "Unknown error."
#define ERR_MSG_BUF_SIZE                512
#define INV_ERROR_CODE                          -1

class CBaseErr
{
public:
        CBaseErr(LPCTSTR szLoc = NULL)
        {
                m_idMsg             = INV_ERROR_CODE;

                if (szLoc)
                {
                        m_szLoc = new char[m_szLoc_size];
                        strcpy(m_szLoc, szLoc);
                }
                else
                        m_szLoc   = NULL;

                m_szApp             = new char[m_szApp_size];
                GetModuleFileName(GetModuleHandle(NULL), m_szApp, m_szApp_size);
        }

        CBaseErr(int idMsg, LPCTSTR szLoc = NULL)
        {
                m_idMsg             = idMsg;

                if (szLoc)
                {
                        m_szLoc = new char[m_szLoc_size];
                        strcpy(m_szLoc, szLoc);
                }
                else
                        m_szLoc   = NULL;

                m_szApp             = new char[m_szApp_size];
                GetModuleFileName(GetModuleHandle(NULL), m_szApp, m_szApp_size);
        }

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


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```
	virtual void Draw(HWND hwnd, LPCTSTR szStr = NULL)
	{
		int		j = 0;
		char	szTmp[512];

		if (szStr)
			j = wsprintf(szTmp, "%s\n",szStr);
		if (ErrorNum() != INV_ERROR_CODE)
			j += wsprintf(szTmp+j, "Error = %d\n", ErrorNum());
		if (m_szLoc)
			j += wsprintf(szTmp+j, "Location = %s\n",
GetLocation());

		j += wsprintf(szTmp+j, "%s\n", ErrorText());

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

	char *GetApp(void) { return m_szApp; }
	char *GetLocation(void) { return m_szLoc; }
	virtual int ErrorNum() { return m_idMsg; }
	virtual int ErrorType() = 0;  // a value which distinguishes the kind of
error that occurred
	virtual char *ErrorText() = 0; // a string (i.e., human readable)
representation of the error

protected:
	char	*m_szApp;
	char	*m_szLoc; // code location where the error occurred
	int		m_idMsg;
};

class CSocketErr : public CBaseErr
{
public:
	enum Action
	{
		eNone = 0,
		eSend,
		eSocket,
		eBind,
		eConnect,
		eListen,
		eHost,
		eRecv,
		eGetHostByName,
		eWSACreateEvent,
		eWSASend,
		eWSAGetOverlappedResult,
		eWSARecv,
		eWSAWaitForMultipleEvents,
		eWSAStartup,
		eWSAResetEvent,
	};

	CSocketErr(Action eAction, LPCTSTR szLocation = NULL);

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

	Action	m_eAction;
	char	*m_szErrorText;

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

};

class CSystemErr : public CBaseErr
{
public:
	enum Action
	{
		eNone = 0,
		eTransactNamedPipe,
		eWaitNamedPipe,
		eSetNamedPipeHandleState,
		eCreateFile,
		eCreateProcess,
		eCallNamedPipe,
		eCreateEvent,
		eCreateThread,
		eVirtualAlloc,
		eReadFile = 10,
		eWriteFile,
		eMapViewOfFile,
		eCreateFileMapping,
		eInitializeSecurityDescriptor,
		eSetSecurityDescriptorDacl,
		eCreateNamedPipe,
		eConnectNamedPipe,
		eWaitForSingleObject,
		eRegOpenKeyEx,
		eRegQueryValueEx = 20,
		ebeginthread,
		eRegEnumValue,
		eRegSetValueEx,
		eRegCreateKeyEx,
		eWaitForMultipleObjects,
		eRegisterClassEx,
		eCreateWindow,
		eCreateSemaphore,
	};

		CSystemErr(Action eAction, LPCTSTR szLocation);
		CSystemErr(int iError, Action eAction, LPCTSTR
szLocation);
		ErrorType() { return ERR_TYPE_OS;};
	int	ErrorType() { return ERR_TYPE_OS;};
	char	*ErrorText(void);
	void	Draw(HWND hwnd, LPCTSTR szStr = NULL);

	Action	m_eAction;

private:
	char m_szMsg[ERR_MSG_BUF_SIZE];
};

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

	int ErrorType() {return ERR_TYPE_MEMORY;}
```


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```
        char *ErrorText() {return ERR_INS_MEMORY;}
};
```

install.c

```
/*      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);
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");
```


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```
                                dwSize = SizeofResource(hInst, hResInfo);
                                hRes = LoadResource(hInst, hResInfo );
                                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)
                {
                        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_THEAD_POOL_LIMIT,
iPoolThreadLimit, FALSE);
                                SetDlgItemInt(hwnd, ED_IIS_THREAD_TIMEOUT,
iThreadTimeout, FALSE);
                                SetDlgItemInt(hwnd, ED_IIS_LISTEN_BACKLOG,
iListenBackLog, FALSE);
```


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```
                        SetDlgItemInt(hwnd, ED_WEB_SERVICE_BACKLOG_QUEUE_SIZE,
iAcceptExOutstanding, FALSE);

                        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
Windows 2000
                        VI.dwOSVersionInfoSize = sizeof(VI);
                        GetVersionEx( &VI );
                        if (VI.dwMajorVersion < 5)
                        {
                                HWND hDlg = GetDlgItem( hwnd, IDC_TM_MTS );
                                EnableWindow( hDlg, 0 );      // disable COM
option
                                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);
                                                return TRUE;
                                        case IDCANCEL:
                                                EndDialog(hwnd, FALSE);
                                                return TRUE;
                                        default:
                                                return FALSE;
                                }
                        }
                        break;
                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_THEAD_POOL_LIMIT, &d,
FALSE);
        iThreadTimeout = GetDlgItemInt(hwnd, ED_IIS_THREAD_TIMEOUT, &d, FALSE);
```


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```
        iListenBackLog = GetDlgItemInt(hwnd, ED_IIS_LISTEN_BACKLOG, &d, FALSE);
        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) occured 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 occured 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 occured when configuring COM
settings." );
                        MessageBox(hwnd, szErrTxt, NULL, MB_ICONSTOP | MB_OK);
                        EndDialog(hwnd, 0);
                        return;
                }
        }

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

                    StopWWWebService();
                    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);

          // 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);
                    StartWWWebService();
          }

          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 )
```


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```
        {
                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;
```


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```
                    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;
}
```

install.h

```
//{{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_THEAD_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
//
```

install.rc

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

#define APSTUDIO_READONLY_SYMBOLS
/////////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 2 resource.
```


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```
//
#include "afxres.h"

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

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

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

/////////////////////////////////////////////////////////////////////////////
//
// 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_THEAD_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 Successfull",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_SYSMENU
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
```


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```
        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"

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

VS_VERSION_INFO VERSIONINFO
 FILEVERSION 0,4,20,0
 PRODUCTVERSION 0,4,20,0
 FILEFLAGSMASK 0x3fL
#ifdef _DEBUG
 FILEFLAGS 0x1L
#else
 FILEFLAGS 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"
```


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```
/////////////////////////////////////////////////////////////////////////////
//
// 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
/////////////////////////////////////////////////////////////////////////////


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


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

install_com.cpp

```
/*        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,
```


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```
        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 (wcscmp(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
        bstrTemp2 =         bstrDllPath + "tpcc_com_all.dll";                //
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)
        {
                hr = pCatalogCollectionCo->get_Item(lCountCo - 1, (IDispatch**)
&pCatalogObjectCo);
                if (!SUCCEEDED(hr)) goto Error;

                // used for debugging (view the name)
                hr = pCatalogObjectCo->get_Name(&vTmp);
```


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```
                    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;

                                        lCountMethod--;
                              }

                              // save changes
                              hr = pCatalogCollectionMethod->SaveChanges(&lActProp);
                              if (!SUCCEEDED(hr)) goto Error;

                              pCatalogObjectItf->Release();
                              pCatalogObjectItf = NULL;

                              lCountItf--;

                    }


                    pCatalogObjectCo->Release();
                    pCatalogObjectCo = NULL;

                    lCountCo--;
          }


          // save changes
          hr = pCatalogCollectionCo->SaveChanges(&lActProp);
          if (!SUCCEEDED(hr)) goto Error;

          pCatalogCollectionApp->Release();
          pCatalogCollectionApp = NULL;

          pCatalogCollectionCo->Release();
          pCatalogCollectionCo = NULL;

          pCatalogCollectionItf->Release();
          pCatalogCollectionItf = NULL;
```


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```
        pCatalogCollectionMethod->Release();
        pCatalogCollectionMethod = NULL;


Error:
        CoUninitialize();

        if (!SUCCEEDED(hr))
        {
                LPTSTR lpBuf;
                DWORD dwRes = FormatMessage(FORMAT_MESSAGE_ALLOCATE_BUFFER |
FORMAT_MESSAGE_FROM_SYSTEM,

        NULL,

        hr,

        MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT),

        (LPTSTR) &lpBuf,

        0,

        NULL);
//              _tprintf(__T("Error adding components.  HRESULT: 0x%x\n%s"), hr,
lpBuf);
                return TRUE;
        }
        else
                return FALSE;
}
```

install_resource.h

```
//{{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 IDR_LICENSE1                    112
#define IDD_DIALOG4                     113
#define IDR_TPCCOBJ1                    117
#define IDR_TPCCSTUB1                   118
#define IDR_DBLIB_DLL                   122
#define IDR_ODBC_DLL                    123
#define IDR_TUXEDO_APP                  124
#define IDR_TUXEDO_DLL                  125
#define IDR_COM_DLL                     126
#define IDR_COMPS_DLL                   127
#define IDR_COMALL_DLL                  128
#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_THEAD_POOL_LIMIT     1015
#define ED_MAXDELIVERIES                1016
#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_LICENSE                     1022
#define IDC_ODBC                        1022
#define IDC_CONNECT_POOL                1023
#define ED_DB_SERVER                    1023
#define ED_USER_CONNECT_DELAY_TIME      1024
#define ED_DB_USER_ID                   1024
#define IDC_MTS                         1025
#define IDC_TM_MTS                      1025
#define IDC_TM_TUXEDO                   1026
#define IDC_TM_NONE                     1027
#define ED_DB_PASSWORD                  1028
#define ED_DB_NAME                      1029
#define IDC_TM_ENCINA                   1030

// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE        129
#define _APS_NEXT_COMMAND_VALUE         40001
#define _APS_NEXT_CONTROL_VALUE         1024
#define _APS_NEXT_SYMED_VALUE           101
#endif
#endif
```

isapi_dll.dsp

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

# TARGTYPE "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
```


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```
# 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
/nodefaultlib:"LIBCMT" /out:".\bin/tpcc.dll"
# SUBTRACT LINK32 /nodefaultlib

!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
/nodefaultlib:"LIBCMTD" /out:".\bin/tpcc.dll" /pdbtype:sept
# SUBTRACT LINK32 /profile /pdb:none /nodefaultlib

!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 /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 /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 odbc32.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"
```


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```
# 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
```

isapi_resource.h

```
//{{NO_DEPENDENCIES}}
// Microsoft Developer Studio generated include file.
// Used by tpcc.rc
//
#define IDD_DIALOG1                     101
// Next default values for new objects
//
#ifdef APSTUDIO_INVOKED
#ifndef APSTUDIO_READONLY_SYMBOLS
#define _APS_NEXT_RESOURCE_VALUE        102
#define _APS_NEXT_COMMAND_VALUE         40001
#define _APS_NEXT_CONTROL_VALUE         1000
#define _APS_NEXT_SYMED_VALUE           101
#endif
#endif
```

rtetime.h

```
/* FILE: rtetime.h : header file
 * Copyright 1997 Microsoft Corp., All rights reserved.
 *
 * Source code licensed to Tandem Computers  for Internal
 * use only.  Redistribution of source or object files or
 * any derivative works is prohibited. By agreement, this
 * notice may not be removed.
 *
 * Authors: Charles Levine, Philip Durr
 *                            Microsoft Corp.
 *
 */

//FILE: RTETIME.H

#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 );
}
```

spinlock.h

```
/*        FILE: SPINLOCK.H
 *
 * Copyright 1997 Microsoft Corp., All rights reserved.
 *
 * Source code licensed to Tandem Computers  for Internal
 * use only.  Redistribution of source or object files or
 * any derivative works is prohibited. By agreement, this
 * notice may not be removed.
 *
 * Authors: Mike Parkes, Charles Levine, Philip Durr
 *                            Microsoft Corp.
 */
```


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```
#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 ClaimLock( BOOL Wait = TRUE );
                              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
```

tm_com_dll.dsp

```
# 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 **

# TARGTYPE "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
```


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```
!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
```

tpcc.cpp

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

#include <windows.h>
#include <process.h>
#include <tchar.h>
#include <stdio.h>
#include <stdarg.h>
#include <malloc.h>
#include <stdlib.h>
```


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```
#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 definations 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                                             *txnDelilog = NULL;
          //used to log delivery transaction information

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

// configuration settings from registry
TPCCREGISTRYDATA              Reg;


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

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

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

BOOL APIENTRY DllMain(HANDLE hModule, DWORD ul_reason_for_call, LPVOID lpReserved)
{
```


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```
        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 CWEBCLNT_ERR(
ERR_MISSING_REGISTRY_ENTRIES );

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

                                TermInit();

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

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

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

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

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

                                                // get function pointer
to wrapper for class constructor
                                                pCTPCC_DBLIB_new =
(TYPE_CTPCC_DBLIB*) GetProcAddress(hLibInstanceDb,"CTPCC_DBLIB_new");
                                                if (pCTPCC_DBLIB_new ==
NULL)
                                                        throw new
CWEBCLNT_ERR( ERR_GETPROCADDR_FAILED, szDllName, GetLastError() );
                                        }
                                        else if (Reg.eDB_Protocol == ODBC)
                                        {
                                                strcpy( szDllName,
Reg.szPath );
                                                strcat( szDllName,
"tpcc_odbc.dll");
```


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```
                                                        hLibInstanceDb =
LoadLibrary( szDllName );
                                                        if (hLibInstanceDb ==
NULL)
                                                                throw new
CWEBCLNT_ERR( ERR_LOADDLL_FAILED, szDllName, GetLastError() );

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

                                        if (dwNumDeliveryThreads)
                                        {
                                                // for deferred delivery txns:
                                                hDoneEvent = CreateEvent( NULL,
TRUE /* manual reset */, FALSE /* initially not signalled */, NULL );

          InitializeCriticalSection(&DelBuffCriticalSection);
                                                hWorkerSemaphore =
CreateSemaphore( NULL, 0, dwDelBuffSize, NULL );
                                                dwDelBuffFreeCount =
dwDelBuffSize;

                                                InitJulianTime(NULL);

                                                // create unique log file name
based on delilog-yymmdd-hhmm.log
                                                SYSTEMTIME Time;
                                                GetLocalTime( &Time );
                                                wsprintf( szLogFile, "%sdelivery-
%2.2d%2.2d%2.2d-%2.2d%2.2d.log",
                                                                        Reg.szPath,
Time.wYear % 100, Time.wMonth, Time.wDay, Time.wHour, Time.wMinute );
                                                txnDelilog = new
CTxnLog(szLogFile, TXN_LOG_WRITE);

                                                //write event into txn log for
START
                                                txnDelilog-
>WriteCtrlRecToLog(TXN_EVENT_START, szMyComputerName, sizeof(szMyComputerName));

                                                // allocate structures for
delivery buffers and thread mgmt
                                                pDeliHandles = new
HANDLE[dwNumDeliveryThreads];
                                                pDelBuff = new
DELIVERY_TRANSACTION[dwDelBuffSize];
                                                // launch DeliveryWorkerThread to
perform actual delivery txns
                                                for(i=0; i<dwNumDeliveryThreads;
i++)
                                                {
                                                        pDeliHandles[i] =
(HANDLE) _beginthread( DeliveryWorkerThread, 0, NULL );
                                                        if (pDeliHandles[i] ==
INVALID_HANDLE_VALUE)
                                                                throw new
CWEBCLNT_ERR( ERR_DELIVERY_THREAD_FAILED );
                                                }
                                        }

                                        break;

                                case DLL_PROCESS_DETACH:
                                        if (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);
```


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```
                    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);
          lstrcpyn(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.
 *                            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;
```


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```
                    case 1:
                              switch( FormId )
                              {
                                        case WELCOME_FORM:
                                        case MAIN_MENU_FORM:
                                                  break;
                                        case NEW_ORDER_FORM:
                                                  ProcessNewOrderForm(pECB, TermId,
szBuffer);
                                                  break;
                                        case PAYMENT_FORM:
                                                  ProcessPaymentForm(pECB, TermId,
szBuffer);
                                                  break;
                                        case DELIVERY_FORM:
                                                  ProcessDeliveryForm(pECB, TermId,
szBuffer);
                                                  break;
                                        case ORDER_STATUS_FORM:
                                                  ProcessOrderStatusForm(pECB,
TermId, szBuffer);
                                                  break;
                                        case STOCK_LEVEL_FORM:
                                                  ProcessStockLevelForm(pECB,
TermId, szBuffer);
                                                  break;
                              }
                              break;
                    case 2:
                              // new-order selected from menu; display new-order
input form
                              MakeNewOrderForm(TermId, NULL, INPUT_FORM, szBuffer);
                              break;
                    case 3:
                              // payment selected from menu; display payment input
form
                              MakePaymentForm(TermId, NULL, INPUT_FORM, szBuffer);
                              break;
                    case 4:
                              // delivery selected from menu; display delivery input
form
                              MakeDeliveryForm(TermId, NULL, INPUT_FORM, szBuffer);
                              break;
                    case 5:
                              // order-status selected from menu; display order-
status input form
                              MakeOrderStatusForm(TermId, NULL, INPUT_FORM,
szBuffer);
                              break;
                    case 6:
                              // stock-level selected from menu; display stock-level
input form
                              MakeStockLevelForm(TermId, NULL, INPUT_FORM,
szBuffer);
                              break;
                    case 7:
                              // ExitCmd
                              TermDelete(TermId);
                              WelcomeForm(pECB, szBuffer);
                              break;
                    case 8:
                              SubmitCmd(pECB, szBuffer);
                              break;
                    case 9:
                                        // menu
                                        MakeMainMenuForm(TermId,
Term.pClientData[TermId].iSyncId, szBuffer);
                                        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 );
          }

#ifdef 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;
```


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```
    lpszStrings[1] = lpszMsg;

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

        (VOID) DeregisterEventSource(hEventSource);
    }
}


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

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

          DELIVERY_TRANSACTION                    delivery;
          PDELIVERY_DATA                                  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

          int                                     iRetryCnt = 0;
          static int                    iMaxRetries = 10;

          assert(txnDelilog != NULL);

Reconnect:
          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;

                    // will retry connection up to ten times
                    if (iRetryCnt++ < iMaxRetries)
                    {
                              Sleep(5000);        // delay for 5 seconds
                              goto Reconnect;
                    }

                    wsprintf( szTmp, "Delivery Txn thread terminating after %d
retries.", iMaxRetries );
                    WriteMessageToEventLog( szTmp );
                    goto ErrorExit;
          }
          catch (...)
          {
                    WriteMessageToEventLog(TEXT("Unhandled exception caught in
DeliveryWorkerThread.  Delivery Txn thread terminating."));
                    goto ErrorExit;
          }


          while (TRUE)
          {
                    try
                    {
                              //while delivery thread running, i.e. user has not
requested termination
                              while (TRUE)
                              {
                                        // need to wait for multiple objects:
program exit or worker semaphore;
                                        handles[0] = hDoneEvent;
                                        handles[1] = hWorkerSemaphore;
                                        index = WaitForMultipleObjects( 2,
&handles[0], FALSE, INFINITE );
                                        if (index == WAIT_OBJECT_0)
                                                  goto ErrorExit;

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

                                        // make a local copy of current entry from
delivery buffer and increment buffer index

          EnterCriticalSection(&DelBuffCriticalSection);
                                        delivery = *(pDelBuff+dwDelBuffBusyIndex);
                                        dwDelBuffFreeCount++;
```


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

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

                dwDelBuffFreeCount--;
                dwDelBuffFreeIndex++;
                if (dwDelBuffFreeIndex == dwDelBuffSize)
                        dwDelBuffFreeIndex = 0;                 // wrap-around
if at end of buffer
        }
        else
                // No free buffers.  Return an error, which indicates that the
delivery buffer is full.
                // Most likely, the number of delivery worker threads needs to
be increased to keep up
                // with the txn rate.
                bError = TRUE;
        LeaveCriticalSection(&DelBuffCriticalSection);

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

        return bError;
}

/* FUNCTION: ProcessQueryString
 *
 * PURPOSE:         This function extracts the 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.
 */
```


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

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

          *pCmd      = 0;               // default is the login screen
          *pTermId = 0;

          // if no params (i.e., empty query string), then return login screen
          if (strlen(pECB->lpszQueryString) == 0)
                    return;

          // parse FORMID, TERMID, and SYNCID
          *pFormId = GetIntKeyValue(&ptr, "FORMID", NO_ERR, NO_ERR);
          *pTermId = GetIntKeyValue(&ptr, "TERMID", NO_ERR, NO_ERR);
          *pSyncId = GetIntKeyValue(&ptr, "SYNCID", NO_ERR, NO_ERR);

          // parse CMD
          GetKeyValue(&ptr, "CMD", szBuffer, sizeof(szBuffer),
ERR_COMMAND_UNDEFINED);

          // see which command it matches
          for(i=0; ; i++)
          {
                    if (szCmds[i][0] == 0)
                              // no more; no match; return error
                              throw new CWEBCLNT_ERR( ERR_COMMAND_UNDEFINED );
                    if ( !strcmp(szCmds[i], szBuffer) )
                    {
                              *pCmd = i+1;
                              break;
                    }
          }
}

/* FUNCTION: void WelcomeForm
 *
 */

void WelcomeForm(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer)
{
          char szTmp[1024];

          //welcome to tpc-c html form buffer, this is first form client sees.
          strcpy( szBuffer,   "<HTML><HEAD><TITLE>TPC-C Web
Client</TITLE></HEAD><BODY>"
                                                                "<B><BIG>Microsoft TPC-C
Web Client (ver 4.20)</BIG></B> <BR> <BR>"
                                                                "<font face=\"Courier
New\"><PRE>"
                                                                "Compiled: "__DATE__",
"__TIME__" <BR>"
                                                                "Source:   "__FILE__"
("__TIMESTAMP__") <BR>"
                                                                "</PRE></font>"
                                                                "<FORM
ACTION=\"tpcc.dll\" METHOD=\"GET\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"STATUSID\" VALUE=\"0\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"ERROR\" VALUE=\"0\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"FORMID\" VALUE=\"1\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"TERMID\" VALUE=\"0\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"SYNCID\" VALUE=\"0\">"
                                                                "<INPUT TYPE=\"hidden\"
NAME=\"VERSION\" VALUE=\"" WEBCLIENT_VERSION "\">"
                                        );

          sprintf( szTmp,     "Configuration Settings: <BR><font face=\"Courier
New\" color=\"blue\"><PRE>"
                                                  "Txn Monitor            =
<B>%s</B><BR>"
                                                  "Database protocol      =
<B>%s</B><BR>"
                                                  "Max Connections        =
<B>%d</B><BR>"
                                                  "# of Delivery Threads  =
<B>%d</B><BR>"
                                                  "Max Pending Deliveries =
<B>%d</B><BR>"
                                        , szTxnMonNames[Reg.eTxnMon],
szDBNames[Reg.eDB_Protocol],
                                        Reg.dwMaxConnections, dwNumDeliveryThreads,
dwDelBuffSize );
          strcat( szBuffer, szTmp);

          if (Reg.eTxnMon == COM)
          {
                    sprintf( szTmp,     "COM Single Pool        = <B>%s</B><BR>",
                              Reg.bCOM_SinglePool ? "YES" : "NO" );
                    strcat( szBuffer, szTmp);
          }
          strcat( szBuffer, "</PRE></font>");

          if (Reg.eTxnMon == None)
                    // connection options may be specified when not using a txn
monitor
                    sprintf( szTmp,     "Please enter your database options for this
connection:<BR>"
                                                                "<font face=\"Courier
New\" color=\"blue\"><PRE>"
                                                                "DB Server    = <INPUT
NAME=\"db_server\" SIZE=20 VALUE=\"%s\"><BR>"
                                                                "DB User ID   = <INPUT
NAME=\"db_user\" SIZE=20 VALUE=\"%s\"><BR>"
                                                                "DB Password  = <INPUT
NAME=\"db_passwd\" SIZE=20 VALUE=\"%s\"><BR>"
                                                                "DB Name      = <INPUT
NAME=\"db_name\" SIZE=20 VALUE=\"%s\"><BR>"
                                                                "</PRE></font>"
                                        , Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, Reg.szDbName );
```


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```
          else
                    // if using a txn monitor, connection options are determined
from registry; can't
                    // set per user.  show options fyi
                    sprintf( szTmp,     "Database options which will be used by the
transaction monitor:<BR>"
                                                                "<font face=\"Courier
New\" color=\"blue\"><PRE>"
                                                                "DB Server
= <B>%s</B><BR>"
                                                                "DB User ID
= <B>%s</B><BR>"
                                                                "DB Password
= <B>%s</B><BR>"
                                                                "DB Name
= <B>%s</B><BR>"
                                                                "</PRE></font>"
                                                  , Reg.szDbServer, Reg.szDbUser,
Reg.szDbPassword, Reg.szDbName );
          strcat( szBuffer, szTmp);

          sprintf( szTmp,     "Please enter your Warehouse and District for this
session:<BR>"
                                                        "<font face=\"Courier New\"
color=\"blue\"><PRE>" );
          strcat( szBuffer, szTmp);
          strcat( szBuffer,   "Warehouse ID = <INPUT NAME=\"w_id\" SIZE=6><BR>"
                                                                "District ID  = <INPUT
NAME=\"d_id\" SIZE=2><BR>"
                                                                "</PRE></font><HR>"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"Submit\">"

          "</FORM></BODY></HTML>");
}

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

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

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

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

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

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

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


          iNewTerm = TermAdd();

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

          try
          {
                    if (Reg.eTxnMon == TUXEDO)
                              Term.pClientData[iNewTerm].pTxn = pCTPCC_TUXEDO_new();
                    else if (Reg.eTxnMon == ENCINA)
                              Term.pClientData[iNewTerm].pTxn = pCTPCC_ENCINA_new();
                    else if (Reg.eTxnMon == COM)
                              Term.pClientData[iNewTerm].pTxn = pCTPCC_COM_new(
Reg.bCOM_SinglePool );
                    else if (Reg.eDB_Protocol == ODBC)
                              Term.pClientData[iNewTerm].pTxn = pCTPCC_ODBC_new(
szServer, szUser, szPassword, szMyComputerName, szDatabase );
                    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.
 *
 */
```


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

          EnterCriticalSection(&TermCriticalSection);

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

          LeaveCriticalSection(&TermCriticalSection);

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

char *CWEBCLNT_ERR::ErrorText()
{
          static SERRORMSG errorMsgs[] =
          {
                    {         ERR_COMMAND_UNDEFINED,
                    "Command undefined."
                                                                                                        },
                    {         ERR_D_ID_INVALID,
                    "Invalid District ID Must be 1 to 10."
                                                                        },
                    {         ERR_DELIVERY_CARRIER_ID_RANGE,
          "Delivery Carrier ID out of range must be 1 - 10."
                              },
                    {         ERR_DELIVERY_CARRIER_INVALID,
          "Delivery Carrier ID invalid must be numeric 1 - 10."
                    },
                    {         ERR_DELIVERY_MISSING_OCD_KEY,
          "Delivery missing Carrier ID key \"OCD*\"."
                                        },
                    {         ERR_DELIVERY_THREAD_FAILED,
          "Could not start delivery worker thread."
                                        },
                    {         ERR_GETPROCADDR_FAILED,
                    "Could not map proc in DLL.  GetProcAddr error.  DLL="
                              },
                    {         ERR_HTML_ILL_FORMED,
                    "Required key field is missing from HTML string."
                              },
                    {         ERR_INVALID_SYNC_CONNECTION,
          "Invalid Terminal Sync ID."
                                                                        },
                    {         ERR_INVALID_TERMID,
                    "Invalid Terminal ID."
                                                                                                        },
                    {         ERR_LOADDLL_FAILED,
                    "Load of DLL failed.  DLL="
                                                                                                  },
                    {         ERR_MAX_CONNECTIONS_EXCEEDED,                                   "No
connections available.  Max Connections is probably too low."   },
                    {         ERR_MISSING_REGISTRY_ENTRIES,
          "Required registry entries are missing.  Rerun INSTALL to correct."   },
                    {         ERR_NEWORDER_CUSTOMER_INVALID,
          "New Order customer id invalid data type, range = 1 to 3000."
          },
                    {         ERR_NEWORDER_CUSTOMER_KEY,
          "New Order missing Customer key \"CID*\"."
                                        },
                    {         ERR_NEWORDER_DISTRICT_INVALID,
          "New Order District ID Invalid range 1 - 10."
                              },
                    {         ERR_NEWORDER_FORM_MISSING_DID,
          "New Order missing District key \"DID*\"."
                                        },
                    {         ERR_NEWORDER_ITEMID_INVALID,                                    "New
Order Item Id is wrong data type, must be numeric."                                         },
                    {         ERR_NEWORDER_ITEMID_RANGE,
          "New Order Item Id is out of range. Range = 1 to 999999."
          },
                    {         ERR_NEWORDER_ITEMID_WITHOUT_SUPPW,                              "New
Order Item_Id field entered without a corresponding Supp_W."          },
                    {         ERR_NEWORDER_MISSING_IID_KEY,                                   "New
Order missing Item Id key \"IID*\"."
                    },
                    {         ERR_NEWORDER_MISSING_QTY_KEY,                                   "New
Order Missing Qty key \"Qty##*\"."
                              },
                    {         ERR_NEWORDER_MISSING_SUPPW_KEY,
          "New Order missing Supp_W key \"SP##*\"."
                                        },
                    {         ERR_NEWORDER_NOITEMS_ENTERED,                                   "New
Order No order lines entered."
                                        },
                    {         ERR_NEWORDER_QTY_INVALID,
          "New Order Qty invalid must be numeric range 1 - 99."
                    },
                    {         ERR_NEWORDER_QTY_RANGE,
                    "New Order Qty is out of range. Range = 1 to 99."
                              },
                    {         ERR_NEWORDER_QTY_WITHOUT_SUPPW,
          "New Order Qty field entered without a corresponding Supp_W."
          },
                    {         ERR_NEWORDER_SUPPW_INVALID,
          "New Order Supp_W invalid data type must be numeric."
                    },
                    {         ERR_NO_SERVER_SPECIFIED,
          "No Server name specified."
                                                                        },
                    {         ERR_ORDERSTATUS_CID_AND_CLT,
          "Order Status Only Customer ID or Last Name may be entered, not both."
          },
                    {         ERR_ORDERSTATUS_CID_INVALID,
          "Order Status Customer ID invalid, range must be numeric 1 - 3000."   },
                    {         ERR_ORDERSTATUS_CLT_RANGE,
          "Order Status Customer last name longer than 16 characters."
          },
                    {         ERR_ORDERSTATUS_DID_INVALID,
          "Order Status District invalid, value must be numeric 1 - 10."
          },
```


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

                                                                  }
        };

        char szTmp[256];
        int i = 0;
        while (TRUE)
        {
                if (errorMsgs[i].szMsg[0] == 0)
                {
                        strcpy( szTmp, "Unknown error number." );
                        break;
                }
                if (m_Error == errorMsgs[i].iError)
                {
                        strcpy( szTmp, errorMsgs[i].szMsg );
                        break;
                }
                i++;
        }

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

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

}

/* FUNCTION: GetKeyValue
 *
 * PURPOSE:         This function parses a http formatted string for specific key
values.
 *
 * ARGUMENTS:       char                          *pQueryString       http string
from client browser
 *                                  char                            *pKey
                  key value to look for
 *                                  char                            *pValue
                  character array into which to place key's value
 *                                  int                                       iMax
                          maximum length of key value array.
 *                                  WEBERROR            err
                  error value to throw
 *
 * RETURNS:                 nothing.
 *
 * ERROR:           if (the pKey value is not found) then
 *                                                  if (err == 0)
```


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```
 *                                                          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;
```


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```
	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)
```


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```
{
          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=\"TERMID\" 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=\"TERMID\" 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=\"TERMID\" VALUE=\"%d\">"
                    "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
                    "<PRE><font face=\"Courier\">
Stock-Level<BR>"
                    "Warehouse: %6.6d   District: %2.2d<BR> <BR>",
                    STOCK_LEVEL_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
                    Term.pClientData[iTermId].w_id, Term.pClientData[iTermId].d_id);

          if ( bInput )
          {
                    strcpy(szForm+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> <BR> <BR> <BR></PRE><HR>"
                              "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\">"
                              "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                              "</FORM></HTML>" );
          }
          else
          {
                    wsprintf(szForm+c,
                              "Stock Level Threshold: %2.2d<BR> <BR>"
                              "low stock: %3.3d</font> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR> <BR>"
                              " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR></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..\">"
                                "</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>";

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

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

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

          if ( bInput )
          {
                    c += wsprintf(szForm+c, "Warehouse: %6.6d   ",
Term.pClientData[iTermId].w_id );

                    strcpy( szForm+c,
                                "District: <INPUT NAME=\"DID*\" SIZE=1>
Date:<BR>"
                                "Customer:  <INPUT NAME=\"CID*\" SIZE=4>   Name:
Credit:      %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 += wsprintf(szForm+c, "Warehouse: %6.6d   District: %2.2d
Date: ",
                                pNewOrderData->w_id,
                                pNewOrderData->d_id);

                    if ( bValid )
                    {
```


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```
                                c += wsprintf(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 += wsprintf(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, "%6.6d   %6.6d   %-
24s  %2.2d    %3.3d    %1.1s   $%6.2f  $%7.2f  <BR>",
                                                pNewOrderData-
>OL[i].ol_supply_w_id,
                                                pNewOrderData->OL[i].ol_i_id,
                                                pNewOrderData->OL[i].ol_i_name,
                                                pNewOrderData->OL[i].ol_quantity,
                                                pNewOrderData->OL[i].ol_stock,
                                                pNewOrderData-
>OL[i].ol_brand_generic,
                                                pNewOrderData->OL[i].ol_i_price,
                                                pNewOrderData->OL[i].ol_amount );
                                }
                        }
                        else
                        {
                                c += wsprintf(szForm+c,
                                        "%Disc:<BR>"
                                        "Order Number: %8.8d  Number of Lines:
W_tax:         D_tax:<BR> <BR>"
                                        " Supp_W  Item_Id  Item Name
Qty  Stock  B/G  Price    Amount<BR>"
                                        , 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
commited.                        Total:  $%8.2f  ",
                                        pNewOrderData->total_amount);
                        else
                                c += wsprintf(szForm+c, "Execution Status: Item number
is not valid.                    Total:");

                        strcpy(szForm+c,
                                " <BR></font></PRE><HR>"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
                                "</FORM></HTML>"
                                );
                }
}

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

void MakePaymentForm(int iTermId, PAYMENT_DATA *pPaymentData, BOOL bInput, char
*szForm)
{
        int c;

        c = 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=\"TERMID\" 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);
        }
```


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```
        if ( bInput )
        {
                c += wsprintf(szForm+c,
                                "<BR> <BR>Warehouse: %6.6d"
                                "                                District: <INPUT
NAME=\"DID*\" SIZE=1><BR> <BR> <BR> <BR> <BR>"
                                "Customer: <INPUT NAME=\"CID*\" SIZE=4>"
                                "Cust-Warehouse: <INPUT NAME=\"CWI*\" SIZE=4>  "
                                "Cust-District: <INPUT NAME=\"CDI*\" SIZE=1><BR>"
                                "Name:                          <INPUT NAME=\"CLT*\"
SIZE=16>                       Since:<BR>"
                                "
Credit:<BR>"
                                "
Disc:<BR>"
                                "
Phone:<BR> <BR>"
                                "Amount Paid:          $<INPUT NAME=\"HAM*\" SIZE=7>
New Cust-Balance:<BR>"
                                "Credit Limit:<BR> <BR>Cust-Data: <BR> <BR> <BR> <BR>
<BR></font></PRE><HR>"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\"><INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                                "</BODY></FORM></HTML>"
                                , Term.pClientData[iTermId].w_id);
        }
        else
        {
                c += wsprintf(szForm+c,
                                "<BR> <BR>Warehouse: %6.6d
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: %6.6d  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 += wsprintf(szForm+c,
                                "        %-20s %-2s %5.5s-%4.4s       Phone:  %6.6s-
%3.3s-%3.3s-%4.4s<BR> <BR>",
                                pPaymentData->c_city, pPaymentData->c_state,
pPaymentData->c_zip, pPaymentData->c_zip+5,
                                pPaymentData->c_phone, pPaymentData->c_phone+6,
pPaymentData->c_phone+9, pPaymentData->c_phone+12 );

                c += sprintf(szForm+c,
                                "Amount Paid:          $%7.2f      New Cust-Balance:
$%14.2f<BR>"
                                "Credit Limit:   $%13.2f<BR> <BR>"
                                , pPaymentData->h_amount, pPaymentData->c_balance
                                , pPaymentData->c_credit_lim
                                );

                if ( pPaymentData->c_credit[0] == 'B' && pPaymentData-
>c_credit[1] == 'C' )
                                c += wsprintf(szForm+c,
                                                "Cust-Data: %-50.50s<BR>
%-50.50s<BR>           %-50.50s<BR>           %-50.50s<BR>",
                                                pPaymentData->c_data,
pPaymentData->c_data+50, pPaymentData->c_data+100, pPaymentData->c_data+150 );
                else
                                strcpy(szForm+c, "Cust-Data: <BR> <BR> <BR> <BR>");

                strcat(szForm,      " <BR></font></PRE><HR>"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..NewOrder..\">"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Payment..\">"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Delivery..\">"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Order-Status..\">"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Stock-Level..\">"
                                                                "<INPUT TYPE=\"submit\"
NAME=\"CMD\" VALUE=\"..Exit..\">"

          "</BODY></FORM></HTML>");
          }

}

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

void MakeOrderStatusForm(int iTermId, ORDER_STATUS_DATA *pOrderStatusData, BOOL
bInput, char *szForm)
{
          int                   i, c;
          static char szBR[] = " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR> <BR> <BR> <BR>";

          c = wsprintf(szForm,
                    "<HTML><HEAD><TITLE>TPC-C Order-Status</TITLE></HEAD><BODY>"
                    "<FORM ACTION=\"tpcc.dll\" METHOD=\"GET\">"
```


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```
                    "<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=\"TERMID\" VALUE=\"%d\">"
                    "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
                    "<PRE><font face=\"Courier\">
Order-Status<BR>"
                    "Warehouse: %6.6d   ",
                    ORDER_STATUS_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
Term.pClientData[iTermId].w_id);

          if ( bInput )
          {
                    strcpy(szForm+c,
                              "District: <INPUT NAME=\"DID*\" SIZE=1><BR>"
                              "Customer: <INPUT NAME=\"CID*\" SIZE=4>   Name:
<INPUT NAME=\"CLT*\" SIZE=23><BR>"
                              "Cust-Balance:<BR> <BR>"
                              "Order-Number:            Entry-Date:
Carrier-Number:<BR>"
                              "Supply-W     Item-Id    Qty     Amount      Delivery-
Date<BR> <BR> <BR> <BR> <BR>"
                              " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR></font></PRE>"
                              "<HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\"><INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                              "</BODY></FORM></HTML>" );
          }
          else
          {
                    c += wsprintf(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 += wsprintf(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, "  %6.6d     %6.6d     %2.2d
$%8.2f      %2.2d-%2.2d-%4.4d<BR>",
                                        pOrderStatusData->OL[i].ol_supply_w_id,
                                        pOrderStatusData->OL[i].ol_i_id,
                                        pOrderStatusData->OL[i].ol_quantity,
                                        pOrderStatusData->OL[i].ol_amount,
                                        pOrderStatusData->OL[i].ol_delivery_d.day,
                                        pOrderStatusData->OL[i].ol_delivery_d.month,
                                        pOrderStatusData->OL[i].ol_delivery_d.year);
                    }

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

                    strcpy(szForm+c,
                              "</font></PRE><HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
                              "<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: 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 = wsprintf(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=\"TERMID\" VALUE=\"%d\">"
                    "<INPUT TYPE=\"hidden\" NAME=\"SYNCID\" VALUE=\"%d\">"
                    "<PRE><font face=\"Courier\">
Delivery<BR>"
                    "Warehouse: %6.6d<BR> <BR>",
                    (!bInput && (pDeliveryData->exec_status_code != eOK)) ?
ERR_TYPE_DELIVERY_POST : 0,
                    DELIVERY_FORM, iTermId, Term.pClientData[iTermId].iSyncId,
Term.pClientData[iTermId].w_id);

          if ( bInput )
          {
                    strcpy( szForm+c,
                              "Carrier Number: <INPUT NAME=\"OCD*\" SIZE=1><BR>
<BR>"
                              "Execution Status: <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR>"
                              " <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
</font></PRE><HR>"
```


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```
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"Process\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"Menu\">"
                                "</BODY></FORM></HTML>" );
          }
          else
          {
                    wsprintf( 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>
</font></PRE>"
                                "<HR><INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..NewOrder..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Payment..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Delivery..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Order-
Status..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\" VALUE=\"..Stock-
Level..\">"
                                "<INPUT TYPE=\"submit\" NAME=\"CMD\"
VALUE=\"..Exit..\">"
                                "</BODY></FORM></HTML>"

                                , pDeliveryData->o_carrier_id,
                                (pDeliveryData->exec_status_code == eOK) ? "Delivery
has been queued." : "Delivery Post Failed     "
                                );
          }
}

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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

          PDELIVERY_DATA      pDelivery;

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

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

          if (dwNumDeliveryThreads)
          {
                    //post delivery info
                    if ( PostDeliveryInfo(pDelivery->w_id, pDelivery->o_carrier_id)
)
                              pDelivery->exec_status_code = eDeliveryFailed;
                    else
                              pDelivery->exec_status_code = eOK;
          }
          else // delivery is done synchronously if no delivery threads configured
                    Term.pClientData[iTermId].pTxn->Delivery();

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

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

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

          PSTOCK_LEVEL_DATA   pStockLevel;

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

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

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

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

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

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

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

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

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


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

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

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

        pNewOrderData->o_ol_cnt = items;
}

/* FUNCTION: GetPaymentData
 *
 * PURPOSE:         This function extracts and validates the payment form data from
an http command string.
 *
 * ARGUMENTS:       LPSTR                           lpszQueryString
        client browser http command string
 *                                       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 CWEBCLNT_ERR( ERR_PAYMENT_CUSTOMER_INVALID
);
                pPaymentData->c_id = atoi(szTmp);
        }

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

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

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

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

/* FUNCTION: GetOrderStatusData
 *
 * PURPOSE:         This function extracts and validates the payment form data from
an http command string.
```


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```
 *
 */
void GetOrderStatusData(LPSTR lpszQueryString, ORDER_STATUS_DATA *pOrderStatusData)
{
          char      szTmp[26];
          char      *ptr = lpszQueryString;

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

          GetKeyValue(&ptr, "CID*", szTmp, sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CID_KEY);
          if ( szTmp[0] == 0 )
          {         // customer id is blank, so last name must be entered
                    pOrderStatusData->c_id = 0;
                    GetKeyValue(&ptr, "CLT*", szTmp, sizeof(szTmp),
ERR_ORDERSTATUS_MISSING_CLT_KEY);
                    if ( szTmp[0] == 0 )
                              throw new CWEBCLNT_ERR(
ERR_ORDERSTATUS_MISSING_CID_CLT );

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

}

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

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

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

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

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

          if ( *ptr == 0 )
                    return FALSE;

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

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

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

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

tpcc.def

```
LIBRARY TPCC.DLL

EXPORTS

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

tpcc.h

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```
/*        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;
          //syncronization 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;
                    //syncronization 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,
```


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```
                    ERR_PAYMENT_CID_AND_CLT,
                    ERR_PAYMENT_CUSTOMER_INVALID,
                    ERR_PAYMENT_CWI_INVALID,
                    ERR_PAYMENT_DISTRICT_INVALID,
                    ERR_PAYMENT_HAM_INVALID,
                    ERR_PAYMENT_HAM_RANGE,
                    ERR_PAYMENT_LAST_NAME_TO_LONG,
                    ERR_PAYMENT_MISSING_CDI_KEY,
                    ERR_PAYMENT_MISSING_CID_CLT,
                    ERR_PAYMENT_MISSING_CID_KEY,
                    ERR_PAYMENT_MISSING_CLT,
                    ERR_PAYMENT_MISSING_CLT_KEY,
                    ERR_PAYMENT_MISSING_CWI_KEY,
                    ERR_PAYMENT_MISSING_DID_KEY,
                    ERR_PAYMENT_MISSING_HAM_KEY,
                    ERR_STOCKLEVEL_MISSING_THRESHOLD_KEY,
                    ERR_STOCKLEVEL_THRESHOLD_INVALID,
                    ERR_STOCKLEVEL_THRESHOLD_RANGE,
                    ERR_VERSION_MISMATCH,
                    ERR_W_ID_INVALID
          };

class CWEBCLNT_ERR : public CBaseErr
{
          public:

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

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

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

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

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

};
```

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

//function prototypes

BOOL APIENTRY DllMain(HANDLE hModule, DWORD ul_reason_for_call, LPVOID lpReserved);
void WriteMessageToEventLog(LPTSTR lpszMsg);
void ProcessQueryString(EXTENSION_CONTROL_BLOCK *pECB, int *pCmd, int *pFormId, int
*pTermId, int *pSyncId);
void WelcomeForm(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void SubmitCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void BeginCmd(EXTENSION_CONTROL_BLOCK *pECB, int iFormId, int iTermId);
void ProcessCmd(EXTENSION_CONTROL_BLOCK *pECB, int iFormId, int iTermId);
void StatsCmd(EXTENSION_CONTROL_BLOCK *pECB, char *szBuffer);
void ErrorMessage(EXTENSION_CONTROL_BLOCK *pECB, int iError, int iErrorType, char
*szMsg, int iTermId);
void GetKeyValue(char **pQueryString, char *pKey, char *pValue, int iMax, WEBERROR
err);
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(long w_id, short o_carrier_id);
BOOL IsNumeric(char *ptr);
BOOL IsDecimal(char *ptr);
void DeliveryWorkerThread(void *ptr);
```

tpcc.rc

```
//Microsoft Developer Studio generated resource script.
//
```


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```
#include "resource.h"

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

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

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

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

#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
/////////////////////////////////////////////////////////////////////////////
```


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```
#ifndef APSTUDIO_INVOKED
////////////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//


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

tpcc_com.cpp

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

// needed for CoinitializeEx
#define _WIN32_WINNT 0x0400

#include <windows.h>

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

#include "..\..\common\src\trans.h"               //tpckit transaction header
contains definations 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;
          ULONG ulTmpSize = 0;

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

          m_bSinglePool       = bSinglePool;

          ulTmpSize = (ULONG) sizeof(COM_DATA);
          VariantInit(&m_vTxn);
          m_vTxn.vt = VT_SAFEARRAY;

          m_vTxn.parray = SafeArrayCreateVector(VT_UI1, ulTmpSize, ulTmpSize);
          if (!m_vTxn.parray)
                    throw new CCOMERR( E_FAIL );

          memset((void*)m_vTxn.parray->pvData,0,ulTmpSize);
          m_pTxn = (COM_DATA*)m_vTxn.parray->pvData;

          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);
```


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```
	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)
		SafeArrayDestroy(m_vTxn.parray);

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

void CTPCC_COM::NewOrder()
{
	VARIANT	vTxn_out;

	HRESULT hr = m_pNewOrder->NewOrder(m_vTxn, &vTxn_out);
	if (FAILED(hr))
		throw new CCOMERR( hr );
	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray-
>rgsabound[0].cElements);
	SafeArrayDestroy(vTxn_out.parray);

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

void CTPCC_COM::Payment()
{
	VARIANT	vTxn_out;

	HRESULT hr = m_pPayment->Payment(m_vTxn, &vTxn_out);
	if (FAILED(hr))
		throw new CCOMERR( hr );
	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray-
>rgsabound[0].cElements);
	SafeArrayDestroy(vTxn_out.parray);

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

void CTPCC_COM::StockLevel()
{
	VARIANT	vTxn_out;

	HRESULT hr = m_pStockLevel->StockLevel(m_vTxn, &vTxn_out);
	if (FAILED(hr))
		throw new CCOMERR( hr );
	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray-
>rgsabound[0].cElements);
	SafeArrayDestroy(vTxn_out.parray);

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

void CTPCC_COM::OrderStatus()
{
	VARIANT	vTxn_out;

	HRESULT hr = m_pOrderStatus->OrderStatus(m_vTxn, &vTxn_out);
	if (FAILED(hr))
		throw new CCOMERR( hr );
	memcpy(m_pTxn, (void *)vTxn_out.parray->pvData,vTxn_out.parray-
>rgsabound[0].cElements);
	SafeArrayDestroy(vTxn_out.parray);

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

tpcc_com.h

```
/*	FILE:		TPCC_COM.H
 *
 *
 *
 *
 *
 *
 *
 *	PURPOSE:	Header file for TPC-C COM+ class implementation.
 *
 *  Change history:
 *
 */

#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.
#ifndef DllDecl
#define DllDecl  __declspec( dllimport )
#endif

class CCOMERR : public CBaseErr
{
	private:
		char m_szErrorText[64];

	public:
		// use this interface for genuine COM errors
```

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not yet audited

4.20.000 - first version

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```
                    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;

                    VARIANT m_vTxn;
          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);
```

tpcc_com_all.cpp

```
/*        FILE:               TPCC_COM_ALL.CPP
 *                                  Microsoft TPC-C Kit Ver. 4.20.000
 *                                  Copyright Microsoft, 1999
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 *
 *                                  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
```


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```
 */

#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();
```


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```
        }
        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
            (LPCTSTR *)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 );
```


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```
                                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(VARIANT txn_in, VARIANT* txn_out)
{
                PNEW_ORDER_DATA     pNewOrder;
                COM_DATA            *pData;
                try
                {
                        pData = (COM_DATA*)txn_in.parray->pvData;
                        pNewOrder = m_pTxn->BuffAddr_NewOrder();

                        memcpy(pNewOrder, &pData->u.NewOrder, sizeof(NEW_ORDER_DATA));

                        m_pTxn->NewOrder();           // do the actual txn

                        VariantInit(txn_out);
                        txn_out->vt = VT_SAFEARRAY;
                        txn_out->parray = SafeArrayCreateVector(VT_UI1,
                                                                                        txn_in.parray-
>rgsabound->cElements,
                                                                                        txn_in.parray-
>rgsabound->cElements);
                        pData = (COM_DATA*) txn_out->parray->pvData;

                        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;
```


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```
                    m_bCanBePooled = FALSE;
                    return E_FAIL;
          }
}

HRESULT CTPCC_Common::Payment(VARIANT txn_in, VARIANT* txn_out)
{
          PPAYMENT_DATA       pPayment;
          COM_DATA            *pData;
          try
          {
                    pData = (COM_DATA*)txn_in.parray->pvData;
                    pPayment = m_pTxn->BuffAddr_Payment();

                    memcpy(pPayment, &pData->u.Payment, sizeof(PAYMENT_DATA));

                    m_pTxn->Payment();            // do the actual txn

                    VariantInit(txn_out);
                    txn_out->vt = VT_SAFEARRAY;
                    txn_out->parray = SafeArrayCreateVector( VT_UI1,
                                                                        txn_in.parray-
>rgsabound->cElements,
                                                                        txn_in.parray-
>rgsabound->cElements);
                    pData = (COM_DATA*) txn_out->parray->pvData;

                    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(VARIANT txn_in, VARIANT* txn_out)
{
          PSTOCK_LEVEL_DATA   pStockLevel;
          COM_DATA                      *pData;
          try
          {
                    pData = (COM_DATA*)txn_in.parray->pvData;
                    pStockLevel = m_pTxn->BuffAddr_StockLevel();

                    memcpy(pStockLevel, &pData->u.StockLevel,
sizeof(STOCK_LEVEL_DATA));

                    m_pTxn->StockLevel();

                    VariantInit(txn_out);
                    txn_out->vt = VT_SAFEARRAY;
                    txn_out->parray = SafeArrayCreateVector( VT_UI1,
                                                                        txn_in.parray-
>rgsabound->cElements,
                                                                        txn_in.parray-
>rgsabound->cElements);
                    pData = (COM_DATA*)txn_out->parray->pvData;

                    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)) ||
                              ((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::OrderStatus(VARIANT txn_in, VARIANT* txn_out)
{
          PORDER_STATUS_DATA  pOrderStatus;
          COM_DATA                      *pData;
          try
          {
                    pData = (COM_DATA*)txn_in.parray->pvData;
                    pOrderStatus = m_pTxn->BuffAddr_OrderStatus();

                    memcpy(pOrderStatus, &pData->u.OrderStatus,
sizeof(ORDER_STATUS_DATA));
```


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```
                    m_pTxn->OrderStatus();

                    VariantInit(txn_out);
                    txn_out->vt = VT_SAFEARRAY;
                    txn_out->parray = SafeArrayCreateVector( VT_UI1,
                                                                        txn_in.parray-
>rgsabound->cElements,
                                                                        txn_in.parray-
>rgsabound->cElements);
                    pData = (COM_DATA*)txn_out->parray->pvData;

                    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)) ||
                              ((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;
          }
}
```

tpcc_com_all.def

```
; 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
```

tpcc_com_all.dsp

```
# 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 **

# TARGTYPE "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
```


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```
# 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
```

tpcc_com_all.h

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

/* this ALWAYS GENERATED file contains the definitions for the interfaces */


 /* File created by MIDL compiler version 5.03.0280 */
/* at Fri Sep 08 11:35:09 2000
```


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```
 */
/* Compiler settings for .\src\tpcc_com_all.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(  )


/* 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;


#ifndef __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
```


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```
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
```

tpcc_com_all.idl

```
/*        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 "oaidl.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;
          };
```


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```
        [
                uuid(2668369E-A50D-11D2-BA4E-00C04FBFE08B),
                helpstring("StockLevel Class")
        ]
        coclass StockLevel
        {
                [default] interface ITPCC;
        };

};
```

tpcc_com_all.rc

```
//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

#ifndef _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

#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
```


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


#ifndef APSTUDIO_INVOKED
/////////////////////////////////////////////////////////////////////////////
//
// Generated from the TEXTINCLUDE 3 resource.
//
1 TYPELIB "tpcc_com_all.tlb"

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

tpcc_com_all.rgs

```
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'
                              }
                    }
          }
}
```

tpcc_com_all_i.c

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 5.03.0280 */
/* at Fri Sep 08 11:35:09 2000
 */
/* Compiler settings for .\src\tpcc_com_all.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,
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);
```


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```
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 Fri Sep 08 11:35:09 2000
 */
/* Compiler settings for .\src\tpcc_com_all.idl:
    Oicf (OptLev=i2), W1, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany), __declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_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)*/
```


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tpcc_com_no.rgs

```
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'
			}
		}
	}
}
```

tpcc_com_os.rgs

```
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'
			}
		}
	}
}
```

tpcc_com_pay.rgs

```
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'
			}
		}
	}
}
```

tpcc_com_ps.def

```
LIBRARY      "tpcc_com_ps"

DESCRIPTION  'Proxy/Stub DLL'

EXPORTS
	DllGetClassObject       @1    PRIVATE
	DllCanUnloadNow         @2    PRIVATE
	GetProxyDllInfo         @3    PRIVATE
	DllRegisterServer             @4        PRIVATE
	DllUnregisterServer           @5        PRIVATE
```

tpcc_com_ps.dsp

```
# 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 **

# TARGTYPE "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
```


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```
# 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 odbc32.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 odbc32.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\dlldata.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)
```


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```
".\src\dlldata.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\dlldata.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
```

tpcc_com_ps.h

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

/* this ALWAYS GENERATED file contains the definitions for the interfaces */


 /* File created by MIDL compiler version 5.03.0280 */
/* at Fri Sep 08 11:35:01 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(  )


/* 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 * );

/* interface __MIDL_itf_tpcc_com_ps_0000 */
/* [local] */




extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_ps_0000_v0_0_c_ifspec;
extern RPC_IF_HANDLE __MIDL_itf_tpcc_com_ps_0000_v0_0_s_ifspec;

#ifndef __ITPCC_INTERFACE_DEFINED__
#define __ITPCC_INTERFACE_DEFINED__

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


EXTERN_C const IID IID_ITPCC;

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


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

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

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

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

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

        virtual HRESULT __stdcall CallSetComplete( void) = 0;

    };

#else     /* C style interface */

    typedef struct ITPCCVtbl
    {
        BEGIN_INTERFACE

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

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

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

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

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

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

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

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

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

        END_INTERFACE
    } ITPCCVtbl;

    interface ITPCC
    {
        CONST_VTBL struct ITPCCVtbl __RPC_FAR *lpVtbl;
    };


#ifdef COBJMACROS


#define ITPCC_QueryInterface(This,riid,ppvObject) \
    (This)->lpVtbl -> QueryInterface(This,riid,ppvObject)

#define ITPCC_AddRef(This)    \
    (This)->lpVtbl -> AddRef(This)

#define ITPCC_Release(This)   \
    (This)->lpVtbl -> Release(This)


#define ITPCC_NewOrder(This,txn_in,txn_out)       \
    (This)->lpVtbl -> NewOrder(This,txn_in,txn_out)

#define ITPCC_Payment(This,txn_in,txn_out)        \
    (This)->lpVtbl -> Payment(This,txn_in,txn_out)

#define ITPCC_Delivery(This,txn_in,txn_out)       \
    (This)->lpVtbl -> Delivery(This,txn_in,txn_out)

#define ITPCC_StockLevel(This,txn_in,txn_out)     \
    (This)->lpVtbl -> StockLevel(This,txn_in,txn_out)

#define ITPCC_OrderStatus(This,txn_in,txn_out)    \
    (This)->lpVtbl -> OrderStatus(This,txn_in,txn_out)

#define ITPCC_CallSetComplete(This)     \
    (This)->lpVtbl -> CallSetComplete(This)

#endif /* COBJMACROS */


#endif    /* C style interface */



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


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


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


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


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


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


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


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


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


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


HRESULT __stdcall ITPCC_CallSetComplete_Proxy(
    ITPCC __RPC_FAR * This);


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



#endif    /* __ITPCC_INTERFACE_DEFINED__ */


/* Additional Prototypes for ALL interfaces */

unsigned long             __RPC_USER  VARIANT_UserSize(     unsigned long __RPC_FAR
*, unsigned long            , VARIANT __RPC_FAR * );
unsigned char __RPC_FAR * __RPC_USER  VARIANT_UserMarshal(  unsigned long __RPC_FAR
*, unsigned char __RPC_FAR *, VARIANT __RPC_FAR * );
unsigned char __RPC_FAR * __RPC_USER  VARIANT_UserUnmarshal(unsigned long __RPC_FAR
*, unsigned char __RPC_FAR *, VARIANT __RPC_FAR * );
void                      __RPC_USER  VARIANT_UserFree(     unsigned long __RPC_FAR
*, VARIANT __RPC_FAR * );

/* end of Additional Prototypes */

#ifdef __cplusplus
}
#endif

#endif
```

tpcc_com_ps.idl

```
/*        FILE:                ITPCC.IDL
 *                                     Microsoft TPC-C Kit Ver. 4.20.000
 *                                     Copyright Microsoft, 1999
 *             All Rights Reserved
 *
 *                                     not yet audited
 *
 *        PURPOSE:  Defines the interface used by TPCC. This interface can be
implemented by C++ components.
 *
 *  Change history:
 *                 4.20.000 - first version
 */

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

          [
                    object,
                    oleautomation,
                    uuid(FEEE6AA2-84B1-11d2-BA47-00C04FBFE08B),
                    helpstring("ITPCC Interface"),
                    pointer_default(unique)
          ]
```


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```
        interface ITPCC : IUnknown
        {

      HRESULT _stdcall NewOrder
                                                    (
                                                    [in] VARIANT  txn_in,
                                                    [out] VARIANT *txn_out
                                                    );

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

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

      HRESULT _stdcall StockLevel
                                                    (
                                                    [in] VARIANT txn_in,
                                                    [out] VARIANT *txn_out
                                                    );

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

      HRESULT _stdcall CallSetComplete
                                                    (
                                                    );

  };    // interface ITPCC
```

tpcc_com_ps_i.c

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

/* this ALWAYS GENERATED file contains the IIDs and CLSIDs */

/* link this file in with the server and any clients */


 /* File created by MIDL compiler version 5.03.0280 */
/* at Fri Sep 08 11:35:01 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)*/
```


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```
#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 Fri Sep 08 11:35:01 2000
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf (OptLev=i2), W1, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany), __declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_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)*/
```

tpcc_com_ps_p.c

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

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


 /* File created by MIDL compiler version 5.03.0280 */
/* at Fri Sep 08 11:35:01 2000
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf (OptLev=i2), W1, Zp8, env=Win32 (32b run), ms_ext, c_ext
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany), __declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_HEADING(  )

#if !defined(_M_IA64) && !defined(_M_AXP64)
#define USE_STUBLESS_PROXY


/* verify that the <rpcproxy.h> version is high enough to compile this file*/
#ifndef __REDQ_RPCPROXY_H_VERSION__
#define __REQUIRED_RPCPROXY_H_VERSION__ 440
#endif


#include "rpcproxy.h"
#ifndef __RPCPROXY_H_VERSION__
#error this stub requires an updated version of <rpcproxy.h>
#endif // __RPCPROXY_H_VERSION__


#include "tpcc_com_ps.h"

#define TYPE_FORMAT_STRING_SIZE   997
#define PROC_FORMAT_STRING_SIZE   193
#define TRANSMIT_AS_TABLE_SIZE    0
#define WIRE_MARSHAL_TABLE_SIZE   1

typedef struct _MIDL_TYPE_FORMAT_STRING
```


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```
    {
    short          Pad;
    unsigned char  Format[ TYPE_FORMAT_STRING_SIZE ];
    } MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
    {
    short          Pad;
    unsigned char  Format[ PROC_FORMAT_STRING_SIZE ];
    } MIDL_PROC_FORMAT_STRING;


extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;


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


/* 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={0xFEEE6AA2,0x84B1,0x11d2,{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
    };

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

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

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

extern const USER_MARSHAL_ROUTINE_QUADRUPLE UserMarshalRoutines[
WIRE_MARSHAL_TABLE_SIZE ];

static const MIDL_STUB_DESC Object_StubDesc =
    {
    0,
    NdrOleAllocate,
    NdrOleFree,
    0,
    0,
    0,
    0,
    0,
    __MIDL_TypeFormatString.Format,
    1, /* -error bounds_check flag */
    0x20000, /* Ndr library version */
    0,
    0x5030118, /* MIDL Version 5.3.280 */
    0,
    UserMarshalRoutines,
    0,  /* notify & notify_flag routine table */
    0x1, /* MIDL flag */
    0,  /* Reserved3 */
    0,  /* Reserved4 */
    0   /* Reserved5 */
    };

#pragma data_seg(".rdata")

static const USER_MARSHAL_ROUTINE_QUADRUPLE UserMarshalRoutines[
WIRE_MARSHAL_TABLE_SIZE ] =
        {

            {
            VARIANT_UserSize
            ,VARIANT_UserMarshal
```


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```
            ,VARIANT_UserUnmarshal
            ,VARIANT_UserFree
            }

        };


#if !defined(__RPC_WIN32__)
#error  Invalid build platform for this stub.
#endif

#if !(TARGET_IS_NT40_OR_LATER)
#error You need a Windows NT 4.0 or later to run this stub because it uses these
features:
#error   -Oif or -Oicf, [wire_marshal] or [user_marshal] attribute.
#error However, your C/C++ compilation flags indicate you intend to run this app on
earlier systems.
#error This app will die there with the RPC_X_WRONG_STUB_VERSION error.
#endif


static const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString =
    {
        0,
        {

          /* Procedure NewOrder */

                                0x33,               /* FC_AUTO_HANDLE */
                                0x6c,               /* Old Flags:  object, Oi2 */
/*  2 */  NdrFcLong( 0x0 ),   /* 0 */
/*  6 */  NdrFcShort( 0x3 ),  /* 3 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/*  8 */  NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
                                NdrFcShort( 0x20 ), /*  MIPS Stack size/offset = 32 */
#endif
#else
                                NdrFcShort( 0x20 ), /* PPC Stack size/offset = 32 */
#endif
#else
                                NdrFcShort( 0x28 ), /* Alpha Stack size/offset = 40 */
#endif
/* 10 */  NdrFcShort( 0x0 ),  /* 0 */
/* 12 */  NdrFcShort( 0x8 ),  /* 8 */
/* 14 */  0x7,                /* Oi2 Flags:  srv must size, clt must size, has
return, */
                                0x3,                /* 3 */

          /* Parameter txn_in */

/* 16 */  NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 18 */  NdrFcShort( 0x4 ),  /* x86 Stack size/offset = 4 */
#else
                                NdrFcShort( 0x8 ),  /*  MIPS Stack size/offset = 8 */
#endif
#else
                                NdrFcShort( 0x8 ),  /* PPC Stack size/offset = 8 */
#endif
#else
                                NdrFcShort( 0x8 ),  /* Alpha Stack size/offset = 8 */
#endif
/* 20 */  NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Parameter txn_out */

/* 22 */  NdrFcShort( 0x4113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 24 */  NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
                                NdrFcShort( 0x18 ), /*  MIPS Stack size/offset = 24 */
#endif
#else
                                NdrFcShort( 0x18 ), /* PPC Stack size/offset = 24 */
#endif
#else
                                NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 26 */  NdrFcShort( 0x3da ),          /* Type Offset=986 */

          /* Return value */

/* 28 */  NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 30 */  NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
#else
                                NdrFcShort( 0x1c ), /*  MIPS Stack size/offset = 28 */
#endif
#else
                                NdrFcShort( 0x1c ), /* PPC Stack size/offset = 28 */
#endif
#else
                                NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 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 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 42 */  NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
                                NdrFcShort( 0x20 ), /*  MIPS Stack size/offset = 32 */
#endif
#else
                                NdrFcShort( 0x20 ), /* PPC Stack size/offset = 32 */
#endif
#else
                                NdrFcShort( 0x28 ), /* Alpha Stack size/offset = 40 */
#endif
```


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```
/* 44 */  NdrFcShort( 0x0 ),  /* 0 */
/* 46 */  NdrFcShort( 0x8 ),  /* 8 */
/* 48 */  0x7,                /* Oi2 Flags:  srv must size, clt must size, has
return, */
                               0x3,                /* 3 */

          /* Parameter txn_in */

/* 50 */  NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 52 */  NdrFcShort( 0x4 ),  /* x86 Stack size/offset = 4 */
#else
                               NdrFcShort( 0x8 ),  /*  MIPS Stack size/offset = 8 */
#endif
#else
                               NdrFcShort( 0x8 ),  /* PPC Stack size/offset = 8 */
#endif
#else
                               NdrFcShort( 0x8 ),  /* Alpha Stack size/offset = 8 */
#endif
/* 54 */  NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Parameter txn_out */

/* 56 */  NdrFcShort( 0x4113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 58 */  NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
                               NdrFcShort( 0x18 ), /*  MIPS Stack size/offset = 24 */
#endif
#else
                               NdrFcShort( 0x18 ), /* PPC Stack size/offset = 24 */
#endif
#else
                               NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 60 */  NdrFcShort( 0x3da ),          /* Type Offset=986 */

          /* Return value */

/* 62 */  NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 64 */  NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
#else
                               NdrFcShort( 0x1c ), /*  MIPS Stack size/offset = 28 */
#endif
#else
                               NdrFcShort( 0x1c ), /* PPC Stack size/offset = 28 */
#endif
#else
                               NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 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 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 76 */  NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
                               NdrFcShort( 0x20 ), /*  MIPS Stack size/offset = 32 */
#endif
#else
                               NdrFcShort( 0x20 ), /* PPC Stack size/offset = 32 */
#endif
#else
                               NdrFcShort( 0x28 ), /* Alpha Stack size/offset = 40 */
#endif
/* 78 */  NdrFcShort( 0x0 ),  /* 0 */
/* 80 */  NdrFcShort( 0x8 ),  /* 8 */
/* 82 */  0x7,                /* Oi2 Flags:  srv must size, clt must size, has
return, */
                               0x3,                /* 3 */

          /* Parameter txn_in */

/* 84 */  NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 86 */  NdrFcShort( 0x4 ),  /* x86 Stack size/offset = 4 */
#else
                               NdrFcShort( 0x8 ),  /*  MIPS Stack size/offset = 8 */
#endif
#else
                               NdrFcShort( 0x8 ),  /* PPC Stack size/offset = 8 */
#endif
#else
                               NdrFcShort( 0x8 ),  /* Alpha Stack size/offset = 8 */
#endif
/* 88 */  NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Parameter txn_out */

/* 90 */  NdrFcShort( 0x4113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 92 */  NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
                               NdrFcShort( 0x18 ), /*  MIPS Stack size/offset = 24 */
#endif
#else
                               NdrFcShort( 0x18 ), /* PPC Stack size/offset = 24 */
#endif
#else
                               NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 94 */  NdrFcShort( 0x3da ),          /* Type Offset=986 */

          /* Return value */
```


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```
/* 96 */  NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 98 */  NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
#else
                              NdrFcShort( 0x1c ), /*  MIPS Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x1c ), /* PPC Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 100 */ 0x8,                /* FC_LONG */
                              0x0,                /* 0 */

          /* Procedure StockLevel */

/* 102 */ 0x33,               /* FC_AUTO_HANDLE */
                              0x6c,               /* Old Flags:  object, Oi2 */
/* 104 */ NdrFcLong( 0x0 ),   /* 0 */
/* 108 */ NdrFcShort( 0x6 ),  /* 6 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 110 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
                              NdrFcShort( 0x20 ), /*  MIPS Stack size/offset = 32 */
#endif
#else
                              NdrFcShort( 0x20 ), /* PPC Stack size/offset = 32 */
#endif
#else
                              NdrFcShort( 0x28 ), /* Alpha Stack size/offset = 40 */
#endif
/* 112 */ NdrFcShort( 0x0 ),  /* 0 */
/* 114 */ NdrFcShort( 0x8 ),  /* 8 */
/* 116 */ 0x7,                /* Oi2 Flags:  srv must size, clt must size, has
return, */
                              0x3,                /* 3 */

          /* Parameter txn_in */

/* 118 */ NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 120 */ NdrFcShort( 0x4 ),  /* x86 Stack size/offset = 4 */
#else
                              NdrFcShort( 0x8 ),  /*  MIPS Stack size/offset = 8 */
#endif
#else
                              NdrFcShort( 0x8 ),  /* PPC Stack size/offset = 8 */
#endif
#else
                              NdrFcShort( 0x8 ),  /* Alpha Stack size/offset = 8 */
#endif
/* 122 */ NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Parameter txn_out */

/* 124 */ NdrFcShort( 0x4113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 126 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
                              NdrFcShort( 0x18 ), /*  MIPS Stack size/offset = 24 */
#endif
#else
                              NdrFcShort( 0x18 ), /* PPC Stack size/offset = 24 */
#endif
#else
                              NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 128 */ NdrFcShort( 0x3da ),          /* Type Offset=986 */

          /* Return value */

/* 130 */ NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 132 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
#else
                              NdrFcShort( 0x1c ), /*  MIPS Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x1c ), /* PPC Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 134 */ 0x8,                /* FC_LONG */
                              0x0,                /* 0 */

          /* Procedure OrderStatus */

/* 136 */ 0x33,               /* FC_AUTO_HANDLE */
                              0x6c,               /* Old Flags:  object, Oi2 */
/* 138 */ NdrFcLong( 0x0 ),   /* 0 */
/* 142 */ NdrFcShort( 0x7 ),  /* 7 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 144 */ NdrFcShort( 0x1c ), /* x86 Stack size/offset = 28 */
#else
                              NdrFcShort( 0x20 ), /*  MIPS Stack size/offset = 32 */
#endif
#else
                              NdrFcShort( 0x20 ), /* PPC Stack size/offset = 32 */
#endif
#else
                              NdrFcShort( 0x28 ), /* Alpha Stack size/offset = 40 */
#endif
/* 146 */ NdrFcShort( 0x0 ),  /* 0 */
/* 148 */ NdrFcShort( 0x8 ),  /* 8 */
/* 150 */ 0x7,                /* Oi2 Flags:  srv must size, clt must size, has
return, */
                              0x3,                /* 3 */

          /* Parameter txn_in */
```


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

          /* Parameter txn_out */

/* 158 */ NdrFcShort( 0x4113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=16 */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 160 */ NdrFcShort( 0x14 ), /* x86 Stack size/offset = 20 */
#else
                              NdrFcShort( 0x18 ), /*  MIPS Stack size/offset = 24 */
#endif
#else
                              NdrFcShort( 0x18 ), /* PPC Stack size/offset = 24 */
#endif
#else
                              NdrFcShort( 0x18 ), /* Alpha Stack size/offset = 24 */
#endif
/* 162 */ NdrFcShort( 0x3da ),          /* Type Offset=986 */

          /* Return value */

/* 164 */ NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
#ifndef _PPC_
#if !defined(_MIPS_)
/* 166 */ NdrFcShort( 0x18 ), /* x86 Stack size/offset = 24 */
#else
                              NdrFcShort( 0x1c ), /*  MIPS Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x1c ), /* PPC Stack size/offset = 28 */
#endif
#else
                              NdrFcShort( 0x20 ), /* Alpha Stack size/offset = 32 */
#endif
/* 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
/* 190 */ 0x8,                /* FC_LONG */
                              0x0,                /* 0 */

                              0x0
        }
    };

static const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString =
    {
        0,
        {
                              NdrFcShort( 0x0 ),  /* 0 */
/*  2 */
                              0x12, 0x0,          /* FC_UP */
/*  4 */  NdrFcShort( 0x3b0 ),          /* Offset= 944 (948) */
/*  6 */
                              0x2b,               /* FC_NON_ENCAPSULATED_UNION */
                              0x9,                /* FC_ULONG */
/*  8 */  0x7,                /* Corr desc: FC_USHORT */
                              0x0,                /*  */
/* 10 */  NdrFcShort( 0xfff8 ),         /* -8 */
/* 12 */  NdrFcShort( 0x2 ),  /* Offset= 2 (14) */
/* 14 */  NdrFcShort( 0x10 ), /* 16 */
/* 16 */  NdrFcShort( 0x2b ), /* 43 */
/* 18 */  NdrFcLong( 0x3 ),   /* 3 */
/* 22 */  NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 24 */  NdrFcLong( 0x11 ),  /* 17 */
/* 28 */  NdrFcShort( 0x8001 ),         /* Simple arm type: FC_BYTE */
/* 30 */  NdrFcLong( 0x2 ),   /* 2 */
/* 34 */  NdrFcShort( 0x8006 ),         /* Simple arm type: FC_SHORT */
/* 36 */  NdrFcLong( 0x4 ),   /* 4 */
/* 40 */  NdrFcShort( 0x800a ),         /* Simple arm type: FC_FLOAT */
/* 42 */  NdrFcLong( 0x5 ),   /* 5 */
/* 46 */  NdrFcShort( 0x800c ),         /* Simple arm type: FC_DOUBLE */
/* 48 */  NdrFcLong( 0xb ),   /* 11 */
/* 52 */  NdrFcShort( 0x8006 ),         /* Simple arm type: FC_SHORT */
/* 54 */  NdrFcLong( 0xa ),   /* 10 */
/* 58 */  NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 60 */  NdrFcLong( 0x6 ),   /* 6 */
/* 64 */  NdrFcShort( 0xd6 ), /* Offset= 214 (278) */
/* 66 */  NdrFcLong( 0x7 ),   /* 7 */
/* 70 */  NdrFcShort( 0x800c ),         /* Simple arm type: FC_DOUBLE */
/* 72 */  NdrFcLong( 0x8 ),   /* 8 */
/* 76 */  NdrFcShort( 0xd0 ), /* Offset= 208 (284) */
/* 78 */  NdrFcLong( 0xd ),   /* 13 */
/* 82 */  NdrFcShort( 0xe2 ), /* Offset= 226 (308) */
/* 84 */  NdrFcLong( 0x9 ),   /* 9 */
/* 88 */  NdrFcShort( 0xee ), /* Offset= 238 (326) */
```


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```
/* 90 */  NdrFcLong( 0x2000 ),          /* 8192 */
/* 94 */  NdrFcShort( 0xfa ), /* Offset= 250 (344) */
/* 96 */  NdrFcLong( 0x24 ),  /* 36 */
/* 100 */ NdrFcShort( 0x308 ),         /* Offset= 776 (876) */
/* 102 */ NdrFcLong( 0x4024 ),         /* 16420 */
/* 106 */ NdrFcShort( 0x302 ),         /* Offset= 770 (876) */
/* 108 */ NdrFcLong( 0x4011 ),         /* 16401 */
/* 112 */ NdrFcShort( 0x300 ),         /* Offset= 768 (880) */
/* 114 */ NdrFcLong( 0x4002 ),         /* 16386 */
/* 118 */ NdrFcShort( 0x2fe ),         /* Offset= 766 (884) */
/* 120 */ NdrFcLong( 0x4003 ),         /* 16387 */
/* 124 */ NdrFcShort( 0x2fc ),         /* Offset= 764 (888) */
/* 126 */ NdrFcLong( 0x4004 ),         /* 16388 */
/* 130 */ NdrFcShort( 0x2fa ),         /* Offset= 762 (892) */
/* 132 */ NdrFcLong( 0x4005 ),         /* 16389 */
/* 136 */ NdrFcShort( 0x2f8 ),         /* Offset= 760 (896) */
/* 138 */ NdrFcLong( 0x400b ),         /* 16395 */
/* 142 */ NdrFcShort( 0x2e6 ),         /* Offset= 742 (884) */
/* 144 */ NdrFcLong( 0x400a ),         /* 16394 */
/* 148 */ NdrFcShort( 0x2e4 ),         /* Offset= 740 (888) */
/* 150 */ NdrFcLong( 0x4006 ),         /* 16390 */
/* 154 */ NdrFcShort( 0x2ea ),         /* Offset= 746 (900) */
/* 156 */ NdrFcLong( 0x4007 ),         /* 16391 */
/* 160 */ NdrFcShort( 0x2e0 ),         /* Offset= 736 (896) */
/* 162 */ NdrFcLong( 0x4008 ),         /* 16392 */
/* 166 */ NdrFcShort( 0x2e2 ),         /* Offset= 738 (904) */
/* 168 */ NdrFcLong( 0x400d ),         /* 16397 */
/* 172 */ NdrFcShort( 0x2e0 ),         /* Offset= 736 (908) */
/* 174 */ NdrFcLong( 0x4009 ),         /* 16393 */
/* 178 */ NdrFcShort( 0x2de ),         /* Offset= 734 (912) */
/* 180 */ NdrFcLong( 0x6000 ),         /* 24576 */
/* 184 */ NdrFcShort( 0x2dc ),         /* Offset= 732 (916) */
/* 186 */ NdrFcLong( 0x400c ),         /* 16396 */
/* 190 */ NdrFcShort( 0x2da ),         /* Offset= 730 (920) */
/* 192 */ NdrFcLong( 0x10 ),  /* 16 */
/* 196 */ NdrFcShort( 0x8002 ),        /* Simple arm type: FC_CHAR */
/* 198 */ NdrFcLong( 0x12 ),  /* 18 */
/* 202 */ NdrFcShort( 0x8006 ),        /* Simple arm type: FC_SHORT */
/* 204 */ NdrFcLong( 0x13 ),  /* 19 */
/* 208 */ NdrFcShort( 0x8008 ),        /* Simple arm type: FC_LONG */
/* 210 */ NdrFcLong( 0x16 ),  /* 22 */
/* 214 */ NdrFcShort( 0x8008 ),        /* Simple arm type: FC_LONG */
/* 216 */ NdrFcLong( 0x17 ),  /* 23 */
/* 220 */ NdrFcShort( 0x8008 ),        /* Simple arm type: FC_LONG */
/* 222 */ NdrFcLong( 0xe ),   /* 14 */
/* 226 */ NdrFcShort( 0x2be ),         /* Offset= 702 (928) */
/* 228 */ NdrFcLong( 0x400e ),         /* 16398 */
/* 232 */ NdrFcShort( 0x2c4 ),         /* Offset= 708 (940) */
/* 234 */ NdrFcLong( 0x4010 ),         /* 16400 */
/* 238 */ NdrFcShort( 0x2c2 ),         /* Offset= 706 (944) */
/* 240 */ NdrFcLong( 0x4012 ),         /* 16402 */
/* 244 */ NdrFcShort( 0x280 ),         /* Offset= 640 (884) */
/* 246 */ NdrFcLong( 0x4013 ),         /* 16403 */
/* 250 */ NdrFcShort( 0x27e ),         /* Offset= 638 (888) */
/* 252 */ NdrFcLong( 0x4016 ),         /* 16406 */
/* 256 */ NdrFcShort( 0x278 ),         /* Offset= 632 (888) */
/* 258 */ NdrFcLong( 0x4017 ),         /* 16407 */
/* 262 */ NdrFcShort( 0x272 ),         /* Offset= 626 (888) */
/* 264 */ NdrFcLong( 0x0 ),   /* 0 */
/* 268 */ NdrFcShort( 0x0 ),  /* Offset= 0 (268) */
/* 270 */ NdrFcLong( 0x1 ),   /* 1 */
/* 274 */ NdrFcShort( 0x0 ),  /* Offset= 0 (274) */
/* 276 */ NdrFcShort( 0xffffffff ),    /* Offset= -1 (275) */
/* 278 */
                                0x15,               /* FC_STRUCT */
                                0x7,                /* 7 */
/* 280 */ NdrFcShort( 0x8 ),  /* 8 */
/* 282 */ 0xb,                /* FC_HYPER */
                                0x5b,               /* FC_END */
/* 284 */
                                0x12, 0x0,          /* FC_UP */
/* 286 */ NdrFcShort( 0xc ),  /* Offset= 12 (298) */
/* 288 */
                                0x1b,               /* FC_CARRAY */
                                0x1,                /* 1 */
/* 290 */ NdrFcShort( 0x2 ),  /* 2 */
/* 292 */ 0x9,                /* Corr desc: FC_ULONG */
                                0x0,                /*  */
/* 294 */ NdrFcShort( 0xfffc ),        /* -4 */
/* 296 */ 0x6,                /* FC_SHORT */
                                0x5b,               /* FC_END */
/* 298 */
                                0x17,               /* FC_CSTRUCT */
                                0x3,                /* 3 */
/* 300 */ NdrFcShort( 0x8 ),  /* 8 */
/* 302 */ NdrFcShort( 0xfffffff2 ),    /* Offset= -14 (288) */
/* 304 */ 0x8,                /* FC_LONG */
                                0x8,                /* FC_LONG */
/* 306 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 308 */
                                0x2f,               /* FC_IP */
                                0x5a,               /* FC_CONSTANT_IID */
/* 310 */ NdrFcLong( 0x0 ),   /* 0 */
/* 314 */ NdrFcShort( 0x0 ),  /* 0 */
/* 316 */ NdrFcShort( 0x0 ),  /* 0 */
/* 318 */ 0xc0,               /* 192 */
                                0x0,                /* 0 */
/* 320 */ 0x0,                /* 0 */
                                0x0,                /* 0 */
/* 322 */ 0x0,                /* 0 */
                                0x0,                /* 0 */
/* 324 */ 0x0,                /* 0 */
                                0x46,               /* 70 */
/* 326 */
                                0x2f,               /* FC_IP */
                                0x5a,               /* FC_CONSTANT_IID */
/* 328 */ NdrFcLong( 0x20400 ),        /* 132096 */
/* 332 */ NdrFcShort( 0x0 ),  /* 0 */
/* 334 */ NdrFcShort( 0x0 ),  /* 0 */
/* 336 */ 0xc0,               /* 192 */
                                0x0,                /* 0 */
/* 338 */ 0x0,                /* 0 */
                                0x0,                /* 0 */
/* 340 */ 0x0,                /* 0 */
                                0x0,                /* 0 */
/* 342 */ 0x0,                /* 0 */
                                0x46,               /* 70 */
/* 344 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 346 */ NdrFcShort( 0x2 ),  /* Offset= 2 (348) */
/* 348 */
                                0x12, 0x0,          /* FC_UP */
/* 350 */ NdrFcShort( 0x1fc ),         /* Offset= 508 (858) */
/* 352 */
                                0x2a,               /* FC_ENCAPSULATED_UNION */
```


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```
                                0x49,               /* 73 */
/* 354 */ NdrFcShort( 0x18 ), /* 24 */
/* 356 */ NdrFcShort( 0xa ),  /* 10 */
/* 358 */ NdrFcLong( 0x8 ),   /* 8 */
/* 362 */ NdrFcShort( 0x58 ), /* Offset= 88 (450) */
/* 364 */ NdrFcLong( 0xd ),   /* 13 */
/* 368 */ NdrFcShort( 0x78 ), /* Offset= 120 (488) */
/* 370 */ NdrFcLong( 0x9 ),   /* 9 */
/* 374 */ NdrFcShort( 0x94 ), /* Offset= 148 (522) */
/* 376 */ NdrFcLong( 0xc ),   /* 12 */
/* 380 */ NdrFcShort( 0xbc ), /* Offset= 188 (568) */
/* 382 */ NdrFcLong( 0x24 ),  /* 36 */
/* 386 */ NdrFcShort( 0x114 ),          /* Offset= 276 (662) */
/* 388 */ NdrFcLong( 0x800d ),          /* 32781 */
/* 392 */ NdrFcShort( 0x130 ),          /* Offset= 304 (696) */
/* 394 */ NdrFcLong( 0x10 ),  /* 16 */
/* 398 */ NdrFcShort( 0x148 ),          /* Offset= 328 (726) */
/* 400 */ NdrFcLong( 0x2 ),   /* 2 */
/* 404 */ NdrFcShort( 0x160 ),          /* Offset= 352 (756) */
/* 406 */ NdrFcLong( 0x3 ),   /* 3 */
/* 410 */ NdrFcShort( 0x178 ),          /* Offset= 376 (786) */
/* 412 */ NdrFcLong( 0x14 ),  /* 20 */
/* 416 */ NdrFcShort( 0x190 ),          /* Offset= 400 (816) */
/* 418 */ NdrFcShort( 0xffffffff ),     /* Offset= -1 (417) */
/* 420 */
                                0x1b,               /* FC_CARRAY */
                                0x3,                /* 3 */
/* 422 */ NdrFcShort( 0x4 ),  /* 4 */
/* 424 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 426 */ NdrFcShort( 0x0 ),  /* 0 */
/* 428 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 430 */
                                0x48,               /* FC_VARIABLE_REPEAT */
                                0x49,               /* FC_FIXED_OFFSET */
/* 432 */ NdrFcShort( 0x4 ),  /* 4 */
/* 434 */ NdrFcShort( 0x0 ),  /* 0 */
/* 436 */ NdrFcShort( 0x1 ),  /* 1 */
/* 438 */ NdrFcShort( 0x0 ),  /* 0 */
/* 440 */ NdrFcShort( 0x0 ),  /* 0 */
/* 442 */ 0x12, 0x0,          /* FC_UP */
/* 444 */ NdrFcShort( 0xffffff6e ),     /* Offset= -146 (298) */
/* 446 */
                                0x5b,               /* FC_END */

                                0x8,                /* FC_LONG */
/* 448 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 450 */
                                0x16,               /* FC_PSTRUCT */
                                0x3,                /* 3 */
/* 452 */ NdrFcShort( 0x8 ),  /* 8 */
/* 454 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 456 */
                                0x46,               /* FC_NO_REPEAT */
                                0x5c,               /* FC_PAD */
/* 458 */ NdrFcShort( 0x4 ),  /* 4 */
/* 460 */ NdrFcShort( 0x4 ),  /* 4 */
/* 462 */ 0x11, 0x0,          /* FC_RP */
/* 464 */ NdrFcShort( 0xffffffd4 ),     /* Offset= -44 (420) */
/* 466 */
                                0x5b,               /* FC_END */

                                0x8,                /* FC_LONG */
/* 468 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 470 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 472 */ NdrFcShort( 0x0 ),  /* 0 */
/* 474 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 476 */ NdrFcShort( 0x0 ),  /* 0 */
/* 478 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 482 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 484 */ NdrFcShort( 0xffffff50 ),     /* Offset= -176 (308) */
/* 486 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 488 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 490 */ NdrFcShort( 0x8 ),  /* 8 */
/* 492 */ NdrFcShort( 0x0 ),  /* 0 */
/* 494 */ NdrFcShort( 0x6 ),  /* Offset= 6 (500) */
/* 496 */ 0x8,                /* FC_LONG */
                                0x36,               /* FC_POINTER */
/* 498 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 500 */
                                0x11, 0x0,          /* FC_RP */
/* 502 */ NdrFcShort( 0xffffffe0 ),     /* Offset= -32 (470) */
/* 504 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 506 */ NdrFcShort( 0x0 ),  /* 0 */
/* 508 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 510 */ NdrFcShort( 0x0 ),  /* 0 */
/* 512 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 516 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 518 */ NdrFcShort( 0xffffff40 ),     /* Offset= -192 (326) */
/* 520 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 522 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 524 */ NdrFcShort( 0x8 ),  /* 8 */
/* 526 */ NdrFcShort( 0x0 ),  /* 0 */
/* 528 */ NdrFcShort( 0x6 ),  /* Offset= 6 (534) */
/* 530 */ 0x8,                /* FC_LONG */
                                0x36,               /* FC_POINTER */
/* 532 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 534 */
                                0x11, 0x0,          /* FC_RP */
/* 536 */ NdrFcShort( 0xffffffe0 ),     /* Offset= -32 (504) */
/* 538 */
                                0x1b,               /* FC_CARRAY */
                                0x3,                /* 3 */
/* 540 */ NdrFcShort( 0x4 ),  /* 4 */
```


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```
/* 542 */ 0x19,              /* Corr desc:  field pointer, FC_ULONG */
                             0x0,               /*  */
/* 544 */ NdrFcShort( 0x0 ),  /* 0 */
/* 546 */
                             0x4b,              /* FC_PP */
                             0x5c,              /* FC_PAD */
/* 548 */
                             0x48,              /* FC_VARIABLE_REPEAT */
                             0x49,              /* FC_FIXED_OFFSET */
/* 550 */ NdrFcShort( 0x4 ),  /* 4 */
/* 552 */ NdrFcShort( 0x0 ),  /* 0 */
/* 554 */ NdrFcShort( 0x1 ),  /* 1 */
/* 556 */ NdrFcShort( 0x0 ),  /* 0 */
/* 558 */ NdrFcShort( 0x0 ),  /* 0 */
/* 560 */ 0x12, 0x0,          /* FC_UP */
/* 562 */ NdrFcShort( 0x182 ),         /* Offset= 386 (948) */
/* 564 */
                             0x5b,              /* FC_END */

                             0x8,               /* FC_LONG */
/* 566 */ 0x5c,              /* FC_PAD */
                             0x5b,              /* FC_END */
/* 568 */
                             0x1a,              /* FC_BOGUS_STRUCT */
                             0x3,               /* 3 */
/* 570 */ NdrFcShort( 0x8 ),  /* 8 */
/* 572 */ NdrFcShort( 0x0 ),  /* 0 */
/* 574 */ NdrFcShort( 0x6 ),  /* Offset= 6 (580) */
/* 576 */ 0x8,               /* FC_LONG */
                             0x36,              /* FC_POINTER */
/* 578 */ 0x5c,              /* FC_PAD */
                             0x5b,              /* FC_END */
/* 580 */
                             0x11, 0x0,         /* FC_RP */
/* 582 */ NdrFcShort( 0xfffffffd4 ),     /* Offset= -44 (538) */
/* 584 */
                             0x2f,              /* FC_IP */
                             0x5a,              /* FC_CONSTANT_IID */
/* 586 */ NdrFcLong( 0x2f ),  /* 47 */
/* 590 */ NdrFcShort( 0x0 ),  /* 0 */
/* 592 */ NdrFcShort( 0x0 ),  /* 0 */
/* 594 */ 0xc0,              /* 192 */
                             0x0,               /* 0 */
/* 596 */ 0x0,               /* 0 */
                             0x0,               /* 0 */
/* 598 */ 0x0,               /* 0 */
                             0x0,               /* 0 */
/* 600 */ 0x0,               /* 0 */
                             0x46,              /* 70 */
/* 602 */
                             0x1b,              /* FC_CARRAY */
                             0x0,               /* 0 */
/* 604 */ NdrFcShort( 0x1 ),  /* 1 */
/* 606 */ 0x19,              /* Corr desc:  field pointer, FC_ULONG */
                             0x0,               /*  */
/* 608 */ NdrFcShort( 0x4 ),  /* 4 */
/* 610 */ 0x1,               /* FC_BYTE */
                             0x5b,              /* FC_END */
/* 612 */
                             0x1a,              /* FC_BOGUS_STRUCT */
                             0x3,               /* 3 */
/* 614 */ NdrFcShort( 0x10 ), /* 16 */
/* 616 */ NdrFcShort( 0x0 ),  /* 0 */
/* 618 */ NdrFcShort( 0xa ),  /* Offset= 10 (628) */
/* 620 */ 0x8,               /* FC_LONG */
                             0x8,               /* FC_LONG */
/* 622 */ 0x4c,              /* FC_EMBEDDED_COMPLEX */
                             0x0,               /* 0 */
/* 624 */ NdrFcShort( 0xfffffffd8 ),     /* Offset= -40 (584) */
/* 626 */ 0x36,              /* FC_POINTER */
                             0x5b,              /* FC_END */
/* 628 */
                             0x12, 0x0,         /* FC_UP */
/* 630 */ NdrFcShort( 0xfffffffe4 ),     /* Offset= -28 (602) */
/* 632 */
                             0x1b,              /* FC_CARRAY */
                             0x3,               /* 3 */
/* 634 */ NdrFcShort( 0x4 ),  /* 4 */
/* 636 */ 0x19,              /* Corr desc:  field pointer, FC_ULONG */
                             0x0,               /*  */
/* 638 */ NdrFcShort( 0x0 ),  /* 0 */
/* 640 */
                             0x4b,              /* FC_PP */
                             0x5c,              /* FC_PAD */
/* 642 */
                             0x48,              /* FC_VARIABLE_REPEAT */
                             0x49,              /* FC_FIXED_OFFSET */
/* 644 */ NdrFcShort( 0x4 ),  /* 4 */
/* 646 */ NdrFcShort( 0x0 ),  /* 0 */
/* 648 */ NdrFcShort( 0x1 ),  /* 1 */
/* 650 */ NdrFcShort( 0x0 ),  /* 0 */
/* 652 */ NdrFcShort( 0x0 ),  /* 0 */
/* 654 */ 0x12, 0x0,         /* FC_UP */
/* 656 */ NdrFcShort( 0xfffffffd4 ),     /* Offset= -44 (612) */
/* 658 */
                             0x5b,              /* FC_END */

                             0x8,               /* FC_LONG */
/* 660 */ 0x5c,              /* FC_PAD */
                             0x5b,              /* FC_END */
/* 662 */
                             0x1a,              /* FC_BOGUS_STRUCT */
                             0x3,               /* 3 */
/* 664 */ NdrFcShort( 0x8 ),  /* 8 */
/* 666 */ NdrFcShort( 0x0 ),  /* 0 */
/* 668 */ NdrFcShort( 0x6 ),  /* Offset= 6 (674) */
/* 670 */ 0x8,               /* FC_LONG */
                             0x36,              /* FC_POINTER */
/* 672 */ 0x5c,              /* FC_PAD */
                             0x5b,              /* FC_END */
/* 674 */
                             0x11, 0x0,         /* FC_RP */
/* 676 */ NdrFcShort( 0xfffffffd4 ),     /* Offset= -44 (632) */
/* 678 */
                             0x1d,              /* FC_SMFARRAY */
                             0x0,               /* 0 */
/* 680 */ NdrFcShort( 0x8 ),  /* 8 */
/* 682 */ 0x2,               /* FC_CHAR */
                             0x5b,              /* FC_END */
/* 684 */
                             0x15,              /* FC_STRUCT */
                             0x3,               /* 3 */
/* 686 */ NdrFcShort( 0x10 ), /* 16 */
/* 688 */ 0x8,               /* FC_LONG */
                             0x6,               /* FC_SHORT */
/* 690 */ 0x6,               /* FC_SHORT */
```


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```
                                0x4c,               /* FC_EMBEDDED_COMPLEX */
/* 692 */ 0x0,                  /* 0 */
                                NdrFcShort( 0xfffffff1 ),     /* Offset= -15 (678) */
                                0x5b,               /* FC_END */
/* 696 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 698 */ NdrFcShort( 0x18 ), /* 24 */
/* 700 */ NdrFcShort( 0x0 ),  /* 0 */
/* 702 */ NdrFcShort( 0xa ),  /* Offset= 10 (712) */
/* 704 */ 0x8,                /* FC_LONG */
                                0x36,               /* FC_POINTER */
/* 706 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 708 */ NdrFcShort( 0xffffffe8 ),     /* Offset= -24 (684) */
/* 710 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 712 */
                                0x11, 0x0,          /* FC_RP */
/* 714 */ NdrFcShort( 0xffffff0c ),     /* Offset= -244 (470) */
/* 716 */
                                0x1b,               /* FC_CARRAY */
                                0x0,                /* 0 */
/* 718 */ NdrFcShort( 0x1 ),  /* 1 */
/* 720 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 722 */ NdrFcShort( 0x0 ),  /* 0 */
/* 724 */ 0x1,                /* FC_BYTE */
                                0x5b,               /* FC_END */
/* 726 */
                                0x16,               /* FC_PSTRUCT */
                                0x3,                /* 3 */
/* 728 */ NdrFcShort( 0x8 ),  /* 8 */
/* 730 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 732 */
                                0x46,               /* FC_NO_REPEAT */
                                0x5c,               /* FC_PAD */
/* 734 */ NdrFcShort( 0x4 ),  /* 4 */
/* 736 */ NdrFcShort( 0x4 ),  /* 4 */
/* 738 */ 0x12, 0x0,          /* FC_UP */
/* 740 */ NdrFcShort( 0xffffffe8 ),     /* Offset= -24 (716) */
/* 742 */
                                0x5b,               /* FC_END */

                                0x8,                /* FC_LONG */
/* 744 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 746 */
                                0x1b,               /* FC_CARRAY */
                                0x1,                /* 1 */
/* 748 */ NdrFcShort( 0x2 ),  /* 2 */
/* 750 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 752 */ NdrFcShort( 0x0 ),  /* 0 */
/* 754 */ 0x6,                /* FC_SHORT */
                                0x5b,               /* FC_END */
/* 756 */
                                0x16,               /* FC_PSTRUCT */
                                0x3,                /* 3 */
/* 758 */ NdrFcShort( 0x8 ),  /* 8 */
/* 760 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 762 */
                                0x46,               /* FC_NO_REPEAT */
                                0x5c,               /* FC_PAD */
/* 764 */ NdrFcShort( 0x4 ),  /* 4 */
/* 766 */ NdrFcShort( 0x4 ),  /* 4 */
/* 768 */ 0x12, 0x0,          /* FC_UP */
/* 770 */ NdrFcShort( 0xffffffe8 ),     /* Offset= -24 (746) */
/* 772 */
                                0x5b,               /* FC_END */

                                0x8,                /* FC_LONG */
/* 774 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 776 */
                                0x1b,               /* FC_CARRAY */
                                0x3,                /* 3 */
/* 778 */ NdrFcShort( 0x4 ),  /* 4 */
/* 780 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 782 */ NdrFcShort( 0x0 ),  /* 0 */
/* 784 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 786 */
                                0x16,               /* FC_PSTRUCT */
                                0x3,                /* 3 */
/* 788 */ NdrFcShort( 0x8 ),  /* 8 */
/* 790 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 792 */
                                0x46,               /* FC_NO_REPEAT */
                                0x5c,               /* FC_PAD */
/* 794 */ NdrFcShort( 0x4 ),  /* 4 */
/* 796 */ NdrFcShort( 0x4 ),  /* 4 */
/* 798 */ 0x12, 0x0,          /* FC_UP */
/* 800 */ NdrFcShort( 0xffffffe8 ),     /* Offset= -24 (776) */
/* 802 */
                                0x5b,               /* FC_END */

                                0x8,                /* FC_LONG */
/* 804 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 806 */
                                0x1b,               /* FC_CARRAY */
                                0x7,                /* 7 */
/* 808 */ NdrFcShort( 0x8 ),  /* 8 */
/* 810 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 812 */ NdrFcShort( 0x0 ),  /* 0 */
/* 814 */ 0xb,                /* FC_HYPER */
                                0x5b,               /* FC_END */
/* 816 */
                                0x16,               /* FC_PSTRUCT */
                                0x3,                /* 3 */
/* 818 */ NdrFcShort( 0x8 ),  /* 8 */
/* 820 */
                                0x4b,               /* FC_PP */
                                0x5c,               /* FC_PAD */
/* 822 */
                                0x46,               /* FC_NO_REPEAT */
                                0x5c,               /* FC_PAD */
```


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```
/* 824 */ NdrFcShort( 0x4 ),  /* 4 */
/* 826 */ NdrFcShort( 0x4 ),  /* 4 */
/* 828 */ 0x12, 0x0,          /* FC_UP */
/* 830 */ NdrFcShort( 0xffffffe8 ),     /* Offset= -24 (806) */
/* 832 */
                              0x5b,               /* FC_END */

                              0x8,                /* FC_LONG */
/* 834 */ 0x8,                /* FC_LONG */
                              0x5b,               /* FC_END */
/* 836 */
                              0x15,               /* FC_STRUCT */
                              0x3,                /* 3 */
/* 838 */ NdrFcShort( 0x8 ),  /* 8 */
/* 840 */ 0x8,                /* FC_LONG */
                              0x8,                /* FC_LONG */
/* 842 */ 0x5c,               /* FC_PAD */
                              0x5b,               /* FC_END */
/* 844 */
                              0x1b,               /* FC_CARRAY */
                              0x3,                /* 3 */
/* 846 */ NdrFcShort( 0x8 ),  /* 8 */
/* 848 */ 0x7,                /* Corr desc: FC_USHORT */
                              0x0,                /*  */
/* 850 */ NdrFcShort( 0xffd8 ),         /* -40 */
/* 852 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                              0x0,                /* 0 */
/* 854 */ NdrFcShort( 0xffffffee ),     /* Offset= -18 (836) */
/* 856 */ 0x5c,               /* FC_PAD */
                              0x5b,               /* FC_END */
/* 858 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x3,                /* 3 */
/* 860 */ NdrFcShort( 0x28 ), /* 40 */
/* 862 */ NdrFcShort( 0xffffffee ),     /* Offset= -18 (844) */
/* 864 */ NdrFcShort( 0x0 ),  /* Offset= 0 (864) */
/* 866 */ 0x6,                /* FC_SHORT */
                              0x6,                /* FC_SHORT */
/* 868 */ 0x38,               /* FC_ALIGNM4 */
                              0x8,                /* FC_LONG */
/* 870 */ 0x8,                /* FC_LONG */
                              0x4c,               /* FC_EMBEDDED_COMPLEX */
/* 872 */ 0x0,                /* 0 */
                              NdrFcShort( 0xfffffdf7 ),     /* Offset= -521 (352) */
                              0x5b,               /* FC_END */
/* 876 */
                              0x12, 0x0,          /* FC_UP */
/* 878 */ NdrFcShort( 0xffffffef6 ),     /* Offset= -266 (612) */
/* 880 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 882 */ 0x1,                /* FC_BYTE */
                              0x5c,               /* FC_PAD */
/* 884 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 886 */ 0x6,                /* FC_SHORT */
                              0x5c,               /* FC_PAD */
/* 888 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 890 */ 0x8,                /* FC_LONG */
                              0x5c,               /* FC_PAD */
/* 892 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 894 */ 0xa,                /* FC_FLOAT */
                              0x5c,               /* FC_PAD */
/* 896 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 898 */ 0xc,                /* FC_DOUBLE */
                              0x5c,               /* FC_PAD */
/* 900 */
                              0x12, 0x0,          /* FC_UP */
/* 902 */ NdrFcShort( 0xfffffd90 ),     /* Offset= -624 (278) */
/* 904 */
                              0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 906 */ NdrFcShort( 0xfffffd92 ),     /* Offset= -622 (284) */
/* 908 */
                              0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 910 */ NdrFcShort( 0xfffffda6 ),     /* Offset= -602 (308) */
/* 912 */
                              0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 914 */ NdrFcShort( 0xfffffdb4 ),     /* Offset= -588 (326) */
/* 916 */
                              0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 918 */ NdrFcShort( 0xfffffdc2 ),     /* Offset= -574 (344) */
/* 920 */
                              0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 922 */ NdrFcShort( 0x2 ),  /* Offset= 2 (924) */
/* 924 */
                              0x12, 0x0,          /* FC_UP */
/* 926 */ NdrFcShort( 0x16 ), /* Offset= 22 (948) */
/* 928 */
                              0x15,               /* FC_STRUCT */
                              0x7,                /* 7 */
/* 930 */ NdrFcShort( 0x10 ), /* 16 */
/* 932 */ 0x6,                /* FC_SHORT */
                              0x1,                /* FC_BYTE */
/* 934 */ 0x1,                /* FC_BYTE */
                              0x38,               /* FC_ALIGNM4 */
/* 936 */ 0x8,                /* FC_LONG */
                              0x39,               /* FC_ALIGNM8 */
/* 938 */ 0xb,                /* FC_HYPER */
                              0x5b,               /* FC_END */
/* 940 */
                              0x12, 0x0,          /* FC_UP */
/* 942 */ NdrFcShort( 0xfffffff2 ),     /* Offset= -14 (928) */
/* 944 */
                              0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 946 */ 0x2,                /* FC_CHAR */
                              0x5c,               /* FC_PAD */
/* 948 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x7,                /* 7 */
/* 950 */ NdrFcShort( 0x20 ), /* 32 */
/* 952 */ NdrFcShort( 0x0 ),  /* 0 */
/* 954 */ NdrFcShort( 0x0 ),  /* Offset= 0 (954) */
/* 956 */ 0x8,                /* FC_LONG */
                              0x8,                /* FC_LONG */
/* 958 */ 0x6,                /* FC_SHORT */
                              0x6,                /* FC_SHORT */
/* 960 */ 0x6,                /* FC_SHORT */
                              0x6,                /* FC_SHORT */
/* 962 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                              0x0,                /* 0 */
/* 964 */ NdrFcShort( 0xfffffc42 ),     /* Offset= -958 (6) */
/* 966 */ 0x5c,               /* FC_PAD */
                              0x5b,               /* FC_END */
/* 968 */ 0xb4,               /* FC_USER_MARSHAL */
```


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```
                                0x83,               /* 131 */
/* 970 */ NdrFcShort( 0x0 ),  /* 0 */
/* 972 */ NdrFcShort( 0x10 ), /* 16 */
/* 974 */ NdrFcShort( 0x0 ),  /* 0 */
/* 976 */ NdrFcShort( 0xfffffc32 ),     /* Offset= -974 (2) */
/* 978 */
                                0x11, 0x4,          /* FC_RP [alloced_on_stack] */
/* 980 */ NdrFcShort( 0x6 ),  /* Offset= 6 (986) */
/* 982 */
                                0x13, 0x0,          /* FC_OP */
/* 984 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (948) */
/* 986 */ 0xb4,                /* FC_USER_MARSHAL */
                                0x83,               /* 131 */
/* 988 */ NdrFcShort( 0x0 ),  /* 0 */
/* 990 */ NdrFcShort( 0x10 ), /* 16 */
/* 992 */ NdrFcShort( 0x0 ),  /* 0 */
/* 994 */ NdrFcShort( 0xfffffff4 ),     /* Offset= -12 (982) */

                                0x0
        }
    };

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[] =
{
    ( CInterfaceProxyVtbl *) &_ITPCCProxyVtbl,
    0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
    ( CInterfaceStubVtbl *) &_ITPCCStubVtbl,
    0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[] =
{
    "ITPCC",
    0
};


#define _tpcc_com_ps_CHECK_IID(n)       IID_GENERIC_CHECK_IID( _tpcc_com_ps, pIID,
n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID, int * pIndex )
{

    if(!_tpcc_com_ps_CHECK_IID(0))
        {
        *pIndex = 0;
        return 1;
        }

    return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
    (PCInterfaceProxyVtblList *) & _tpcc_com_ps_ProxyVtblList,
    (PCInterfaceStubVtblList *) & _tpcc_com_ps_StubVtblList,
    (const PCInterfaceName * ) & _tpcc_com_ps_InterfaceNamesList,
    0, // no delegation
    & _tpcc_com_ps_IID_Lookup,
    1,
    2,
    0, /* table of [async_uuid] interfaces */
    0, /* Filler1 */
    0, /* Filler2 */
    0  /* Filler3 */
};


#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 Fri Sep 08 11:35:01 2000
 */
/* Compiler settings for .\src\tpcc_com_ps.idl:
    Oicf (OptLev=i2), W1, Zp8, env=Win64 (32b run,appending), ms_ext, c_ext, robust
    error checks: allocation ref bounds_check enum stub_data
    VC __declspec() decoration level:
         __declspec(uuid()), __declspec(selectany), __declspec(novtable)
         DECLSPEC_UUID(), MIDL_INTERFACE()
*/
//@@MIDL_FILE_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   979
#define PROC_FORMAT_STRING_SIZE   253
#define TRANSMIT_AS_TABLE_SIZE    0
#define WIRE_MARSHAL_TABLE_SIZE   1

typedef struct _MIDL_TYPE_FORMAT_STRING
    {
    short          Pad;
    unsigned char  Format[ TYPE_FORMAT_STRING_SIZE ];
    } MIDL_TYPE_FORMAT_STRING;

typedef struct _MIDL_PROC_FORMAT_STRING
    {
    short          Pad;
    unsigned char  Format[ PROC_FORMAT_STRING_SIZE ];
    } MIDL_PROC_FORMAT_STRING;
```


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```
extern const MIDL_TYPE_FORMAT_STRING __MIDL_TypeFormatString;
extern const MIDL_PROC_FORMAT_STRING __MIDL_ProcFormatString;


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


/* 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={0xFEEE6AA2,0x84B1,0x11d2,{0xBA,0x47,0x00,0xC0,0x4F,0xBF,0xE0,0x8B}} */


extern const MIDL_STUB_DESC Object_StubDesc;


extern const MIDL_SERVER_INFO ITPCC_ServerInfo;

#pragma code_seg(".orpc")
static const unsigned short ITPCC_FormatStringOffsetTable[] =
    {
    0,
    44,
    88,
    132,
    176,
    220
    };

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

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

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

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

extern const USER_MARSHAL_ROUTINE_QUADRUPLE UserMarshalRoutines[
WIRE_MARSHAL_TABLE_SIZE ];

static const MIDL_STUB_DESC Object_StubDesc =
    {
    0,
    NdrOleAllocate,
    NdrOleFree,
    0,
    0,
    0,
    0,
    0,
    __MIDL_TypeFormatString.Format,
    1, /* -error bounds_check flag */
    0x50002, /* Ndr library version */
    0,
    0x5030118, /* MIDL Version 5.3.280 */
    0,
    UserMarshalRoutines,
    0,  /* notify & notify_flag routine table */
    0x1, /* MIDL flag */
    0,  /* Reserved3 */
    0,  /* Reserved4 */
    0   /* Reserved5 */
    };

#pragma data_seg(".rdata")

static const USER_MARSHAL_ROUTINE_QUADRUPLE UserMarshalRoutines[
WIRE_MARSHAL_TABLE_SIZE ] =
        {

            {
            VARIANT_UserSize
            ,VARIANT_UserMarshal
            ,VARIANT_UserUnmarshal
            ,VARIANT_UserFree
            }

        };


#if !defined(__RPC_WIN64__)
#error  Invalid build platform for this stub.
#endif
```


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```
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 */
#ifndef _ALPHA_
/*  8 */  NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56 */
#else
                                NdrFcShort( 0x30 ), /* axp64 Stack size/offset = 48 */
#endif
/* 10 */  NdrFcShort( 0x0 ),  /* 0 */
/* 12 */  NdrFcShort( 0x8 ),  /* 8 */
/* 14 */  0x47,               /* Oi2 Flags:  srv must size, clt must size, has
return, has ext, */
                                0x3,                /* 3 */
/* 16 */  0xa,                /* 10 */
                                0x7,                /* Ext Flags:  new corr desc, clt
corr check, srv corr check, */
/* 18 */  NdrFcShort( 0x20 ), /* 32 */
/* 20 */  NdrFcShort( 0x20 ), /* 32 */
/* 22 */  NdrFcShort( 0x0 ),  /* 0 */
/* 24 */  NdrFcShort( 0x0 ),  /* 0 */

          /* Parameter txn_in */

/* 26 */  NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
/* 28 */  NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16 */
#else
                                NdrFcShort( 0x8 ),  /* axp64 Stack size/offset = 8 */
#endif
/* 30 */  NdrFcShort( 0x3b6 ),          /* Type Offset=950 */

          /* Parameter txn_out */

/* 32 */  NdrFcShort( 0x6113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 34 */  NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40 */
#else
                                NdrFcShort( 0x20 ), /* axp64 Stack size/offset = 32 */
#endif
/* 36 */  NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Return value */

/* 38 */  NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
/* 40 */  NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48 */
#else
                                NdrFcShort( 0x28 ), /* axp64 Stack size/offset = 40 */
#endif
/* 42 */  0x8,                /* FC_LONG */
                                0x0,                /* 0 */

          /* Procedure Payment */

/* 44 */  0x33,               /* FC_AUTO_HANDLE */
                                0x6c,               /* Old Flags:  object, Oi2 */
/* 46 */  NdrFcLong( 0x0 ),   /* 0 */
/* 50 */  NdrFcShort( 0x4 ),  /* 4 */
#ifndef _ALPHA_
/* 52 */  NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56 */
#else
                                NdrFcShort( 0x30 ), /* axp64 Stack size/offset = 48 */
#endif
/* 54 */  NdrFcShort( 0x0 ),  /* 0 */
/* 56 */  NdrFcShort( 0x8 ),  /* 8 */
/* 58 */  0x47,               /* Oi2 Flags:  srv must size, clt must size, has
return, has ext, */
                                0x3,                /* 3 */
/* 60 */  0xa,                /* 10 */
                                0x7,                /* Ext Flags:  new corr desc, clt
corr check, srv corr check, */
/* 62 */  NdrFcShort( 0x20 ), /* 32 */
/* 64 */  NdrFcShort( 0x20 ), /* 32 */
/* 66 */  NdrFcShort( 0x0 ),  /* 0 */
/* 68 */  NdrFcShort( 0x0 ),  /* 0 */

          /* Parameter txn_in */

/* 70 */  NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
/* 72 */  NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16 */
#else
                                NdrFcShort( 0x8 ),  /* axp64 Stack size/offset = 8 */
#endif
/* 74 */  NdrFcShort( 0x3b6 ),          /* Type Offset=950 */

          /* Parameter txn_out */

/* 76 */  NdrFcShort( 0x6113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 78 */  NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40 */
#else
                                NdrFcShort( 0x20 ), /* axp64 Stack size/offset = 32 */
#endif
/* 80 */  NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Return value */

/* 82 */  NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
/* 84 */  NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48 */
#else
                                NdrFcShort( 0x28 ), /* axp64 Stack size/offset = 40 */
#endif
/* 86 */  0x8,                /* FC_LONG */
                                0x0,                /* 0 */

          /* Procedure Delivery */

/* 88 */  0x33,               /* FC_AUTO_HANDLE */
                                0x6c,               /* Old Flags:  object, Oi2 */
/* 90 */  NdrFcLong( 0x0 ),   /* 0 */
/* 94 */  NdrFcShort( 0x5 ),  /* 5 */
#ifndef _ALPHA_
/* 96 */  NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56 */
```


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```
#else
                                NdrFcShort( 0x30 ), /* axp64 Stack size/offset = 48 */
#endif
/* 98 */  NdrFcShort( 0x0 ),  /* 0 */
/* 100 */ NdrFcShort( 0x8 ),  /* 8 */
/* 102 */ 0x47,               /* Oi2 Flags:  srv must size, clt must size, has
return, has ext, */
                                0x3,                /* 3 */
/* 104 */ 0xa,                 /* 10 */
                                0x7,                /* Ext Flags:  new corr desc, clt
corr check, srv corr check, */
/* 106 */ NdrFcShort( 0x20 ), /* 32 */
/* 108 */ NdrFcShort( 0x20 ), /* 32 */
/* 110 */ NdrFcShort( 0x0 ),  /* 0 */
/* 112 */ NdrFcShort( 0x0 ),  /* 0 */

          /* Parameter txn_in */

/* 114 */ NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
/* 116 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16 */
#else
                                NdrFcShort( 0x8 ),  /* axp64 Stack size/offset = 8 */
#endif
/* 118 */ NdrFcShort( 0x3b6 ),          /* Type Offset=950 */

          /* Parameter txn_out */

/* 120 */ NdrFcShort( 0x6113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 122 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40 */
#else
                                NdrFcShort( 0x20 ), /* axp64 Stack size/offset = 32 */
#endif
/* 124 */ NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Return value */

/* 126 */ NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
/* 128 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48 */
#else
                                NdrFcShort( 0x28 ), /* axp64 Stack size/offset = 40 */
#endif
/* 130 */ 0x8,                 /* FC_LONG */
                                0x0,                /* 0 */

          /* Procedure StockLevel */

/* 132 */ 0x33,                /* FC_AUTO_HANDLE */
                                0x6c,               /* Old Flags:  object, Oi2 */
/* 134 */ NdrFcLong( 0x0 ),   /* 0 */
/* 138 */ NdrFcShort( 0x6 ),  /* 6 */
#ifndef _ALPHA_
/* 140 */ NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56 */
#else
                                NdrFcShort( 0x30 ), /* axp64 Stack size/offset = 48 */
#endif
/* 142 */ NdrFcShort( 0x0 ),  /* 0 */
/* 144 */ NdrFcShort( 0x8 ),  /* 8 */
/* 146 */ 0x47,                /* Oi2 Flags:  srv must size, clt must size, has
return, has ext, */
                                0x3,                /* 3 */
/* 148 */ 0xa,                 /* 10 */
                                0x7,                /* Ext Flags:  new corr desc, clt
corr check, srv corr check, */
/* 150 */ NdrFcShort( 0x20 ), /* 32 */
/* 152 */ NdrFcShort( 0x20 ), /* 32 */
/* 154 */ NdrFcShort( 0x0 ),  /* 0 */
/* 156 */ NdrFcShort( 0x0 ),  /* 0 */

          /* Parameter txn_in */

/* 158 */ NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
/* 160 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16 */
#else
                                NdrFcShort( 0x8 ),  /* axp64 Stack size/offset = 8 */
#endif
/* 162 */ NdrFcShort( 0x3b6 ),          /* Type Offset=950 */

          /* Parameter txn_out */

/* 164 */ NdrFcShort( 0x6113 ),         /* Flags:  must size, must free, out, simple
ref, srv alloc size=24 */
#ifndef _ALPHA_
/* 166 */ NdrFcShort( 0x28 ), /* ia64 Stack size/offset = 40 */
#else
                                NdrFcShort( 0x20 ), /* axp64 Stack size/offset = 32 */
#endif
/* 168 */ NdrFcShort( 0x3c8 ),          /* Type Offset=968 */

          /* Return value */

/* 170 */ NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
/* 172 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48 */
#else
                                NdrFcShort( 0x28 ), /* axp64 Stack size/offset = 40 */
#endif
/* 174 */ 0x8,                 /* FC_LONG */
                                0x0,                /* 0 */

          /* Procedure OrderStatus */

/* 176 */ 0x33,                /* FC_AUTO_HANDLE */
                                0x6c,               /* Old Flags:  object, Oi2 */
/* 178 */ NdrFcLong( 0x0 ),   /* 0 */
/* 182 */ NdrFcShort( 0x7 ),  /* 7 */
#ifndef _ALPHA_
/* 184 */ NdrFcShort( 0x38 ), /* ia64 Stack size/offset = 56 */
#else
                                NdrFcShort( 0x30 ), /* axp64 Stack size/offset = 48 */
#endif
/* 186 */ NdrFcShort( 0x0 ),  /* 0 */
/* 188 */ NdrFcShort( 0x8 ),  /* 8 */
/* 190 */ 0x47,                /* Oi2 Flags:  srv must size, clt must size, has
return, has ext, */
                                0x3,                /* 3 */
/* 192 */ 0xa,                 /* 10 */
                                0x7,                /* Ext Flags:  new corr desc, clt
corr check, srv corr check, */
/* 194 */ NdrFcShort( 0x20 ), /* 32 */
/* 196 */ NdrFcShort( 0x20 ), /* 32 */
/* 198 */ NdrFcShort( 0x0 ),  /* 0 */
```


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```
/* 200 */ NdrFcShort( 0x0 ),  /* 0 */

          /* Parameter txn_in */

/* 202 */ NdrFcShort( 0x8b ), /* Flags:  must size, must free, in, by val, */
#ifndef _ALPHA_
/* 204 */ NdrFcShort( 0x10 ), /* ia64 Stack size/offset = 16 */
#else
                              NdrFcShort( 0x8 ),  /* axp64 Stack size/offset = 8 */
#endif
/* 206 */ NdrFcShort( 0x3b6 ),          /* Type Offset=950 */

          /* Parameter txn_out */

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

          /* Return value */

/* 214 */ NdrFcShort( 0x70 ), /* Flags:  out, return, base type, */
#ifndef _ALPHA_
/* 216 */ NdrFcShort( 0x30 ), /* ia64 Stack size/offset = 48 */
#else
                              NdrFcShort( 0x28 ), /* axp64 Stack size/offset = 40 */
#endif
/* 218 */ 0x8,                /* FC_LONG */
                              0x0,                /* 0 */

          /* Procedure CallSetComplete */

/* 220 */ 0x33,               /* FC_AUTO_HANDLE */
                              0x6c,               /* Old Flags:  object, Oi2 */
/* 222 */ NdrFcLong( 0x0 ),   /* 0 */
/* 226 */ NdrFcShort( 0x8 ),  /* 8 */
/* 228 */ NdrFcShort( 0x10 ), /* ia64, axp64 Stack size/offset = 16 */
/* 230 */ NdrFcShort( 0x0 ),  /* 0 */
/* 232 */ NdrFcShort( 0x8 ),  /* 8 */
/* 234 */ 0x44,               /* Oi2 Flags:  has return, has ext, */
                              0x1,                /* 1 */
/* 236 */ 0xa,                /* 10 */
                              0x1,                /* Ext Flags:  new corr desc, */
/* 238 */ NdrFcShort( 0x0 ),  /* 0 */
/* 240 */ NdrFcShort( 0x0 ),  /* 0 */
/* 242 */ NdrFcShort( 0x0 ),  /* 0 */
/* 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 */
                                0x12, 0x0,          /* FC_UP */
/*  4 */  NdrFcShort( 0x39e ),          /* Offset= 926 (930) */
/*  6 */
                                0x2b,               /* FC_NON_ENCAPSULATED_UNION */
                                0x9,                /* FC_ULONG */
/*  8 */  0x7,                 /* Corr desc: FC_USHORT */
                                0x0,                /*  */
/* 10 */  NdrFcShort( 0xfff8 ),         /* -8 */
/* 12 */  NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 14 */  NdrFcShort( 0x2 ),  /* Offset= 2 (16) */
/* 16 */  NdrFcShort( 0x10 ), /* 16 */
/* 18 */  NdrFcShort( 0x2b ), /* 43 */
/* 20 */  NdrFcLong( 0x3 ),   /* 3 */
/* 24 */  NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 26 */  NdrFcLong( 0x11 ),  /* 17 */
/* 30 */  NdrFcShort( 0x8001 ),         /* Simple arm type: FC_BYTE */
/* 32 */  NdrFcLong( 0x2 ),   /* 2 */
/* 36 */  NdrFcShort( 0x8006 ),         /* Simple arm type: FC_SHORT */
/* 38 */  NdrFcLong( 0x4 ),   /* 4 */
/* 42 */  NdrFcShort( 0x800a ),         /* Simple arm type: FC_FLOAT */
/* 44 */  NdrFcLong( 0x5 ),   /* 5 */
/* 48 */  NdrFcShort( 0x800c ),         /* Simple arm type: FC_DOUBLE */
/* 50 */  NdrFcLong( 0xb ),   /* 11 */
/* 54 */  NdrFcShort( 0x8006 ),         /* Simple arm type: FC_SHORT */
/* 56 */  NdrFcLong( 0xa ),   /* 10 */
/* 60 */  NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 62 */  NdrFcLong( 0x6 ),   /* 6 */
/* 66 */  NdrFcShort( 0xd6 ), /* Offset= 214 (280) */
/* 68 */  NdrFcLong( 0x7 ),   /* 7 */
/* 72 */  NdrFcShort( 0x800c ),         /* Simple arm type: FC_DOUBLE */
/* 74 */  NdrFcLong( 0x8 ),   /* 8 */
/* 78 */  NdrFcShort( 0xd0 ), /* Offset= 208 (286) */
/* 80 */  NdrFcLong( 0xd ),   /* 13 */
/* 84 */  NdrFcShort( 0xe4 ), /* Offset= 228 (312) */
/* 86 */  NdrFcLong( 0x9 ),   /* 9 */
/* 90 */  NdrFcShort( 0xf0 ), /* Offset= 240 (330) */
/* 92 */  NdrFcLong( 0x2000 ),          /* 8192 */
/* 96 */  NdrFcShort( 0xfc ), /* Offset= 252 (348) */
/* 98 */  NdrFcLong( 0x24 ),  /* 36 */
/* 102 */ NdrFcShort( 0x2f4 ),          /* Offset= 756 (858) */
/* 104 */ NdrFcLong( 0x4024 ),          /* 16420 */
/* 108 */ NdrFcShort( 0x2ee ),          /* Offset= 750 (858) */
/* 110 */ NdrFcLong( 0x4011 ),          /* 16401 */
/* 114 */ NdrFcShort( 0x2ec ),          /* Offset= 748 (862) */
/* 116 */ NdrFcLong( 0x4002 ),          /* 16386 */
/* 120 */ NdrFcShort( 0x2ea ),          /* Offset= 746 (866) */
/* 122 */ NdrFcLong( 0x4003 ),          /* 16387 */
/* 126 */ NdrFcShort( 0x2e8 ),          /* Offset= 744 (870) */
/* 128 */ NdrFcLong( 0x4004 ),          /* 16388 */
/* 132 */ NdrFcShort( 0x2e6 ),          /* Offset= 742 (874) */
/* 134 */ NdrFcLong( 0x4005 ),          /* 16389 */
/* 138 */ NdrFcShort( 0x2e4 ),          /* Offset= 740 (878) */
/* 140 */ NdrFcLong( 0x400b ),          /* 16395 */
/* 144 */ NdrFcShort( 0x2d2 ),          /* Offset= 722 (866) */
/* 146 */ NdrFcLong( 0x400a ),          /* 16394 */
/* 150 */ NdrFcShort( 0x2d0 ),          /* Offset= 720 (870) */
/* 152 */ NdrFcLong( 0x4006 ),          /* 16390 */
```


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```
/* 156 */ NdrFcShort( 0x2d6 ),          /* Offset= 726 (882) */
/* 158 */ NdrFcLong( 0x4007 ),          /* 16391 */
/* 162 */ NdrFcShort( 0x2cc ),          /* Offset= 716 (878) */
/* 164 */ NdrFcLong( 0x4008 ),          /* 16392 */
/* 168 */ NdrFcShort( 0x2ce ),          /* Offset= 718 (886) */
/* 170 */ NdrFcLong( 0x400d ),          /* 16397 */
/* 174 */ NdrFcShort( 0x2cc ),          /* Offset= 716 (890) */
/* 176 */ NdrFcLong( 0x4009 ),          /* 16393 */
/* 180 */ NdrFcShort( 0x2ca ),          /* Offset= 714 (894) */
/* 182 */ NdrFcLong( 0x6000 ),          /* 24576 */
/* 186 */ NdrFcShort( 0x2c8 ),          /* Offset= 712 (898) */
/* 188 */ NdrFcLong( 0x400c ),          /* 16396 */
/* 192 */ NdrFcShort( 0x2c6 ),          /* Offset= 710 (902) */
/* 194 */ NdrFcLong( 0x10 ),  /* 16 */
/* 198 */ NdrFcShort( 0x8002 ),         /* Simple arm type: FC_CHAR */
/* 200 */ NdrFcLong( 0x12 ),  /* 18 */
/* 204 */ NdrFcShort( 0x8006 ),         /* Simple arm type: FC_SHORT */
/* 206 */ NdrFcLong( 0x13 ),  /* 19 */
/* 210 */ NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 212 */ NdrFcLong( 0x16 ),  /* 22 */
/* 216 */ NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 218 */ NdrFcLong( 0x17 ),  /* 23 */
/* 222 */ NdrFcShort( 0x8008 ),         /* Simple arm type: FC_LONG */
/* 224 */ NdrFcLong( 0xe ),   /* 14 */
/* 228 */ NdrFcShort( 0x2aa ),          /* Offset= 682 (910) */
/* 230 */ NdrFcLong( 0x400e ),          /* 16398 */
/* 234 */ NdrFcShort( 0x2b0 ),          /* Offset= 688 (922) */
/* 236 */ NdrFcLong( 0x4010 ),          /* 16400 */
/* 240 */ NdrFcShort( 0x2ae ),          /* Offset= 686 (926) */
/* 242 */ NdrFcLong( 0x4012 ),          /* 16402 */
/* 246 */ NdrFcShort( 0x26c ),          /* Offset= 620 (866) */
/* 248 */ NdrFcLong( 0x4013 ),          /* 16403 */
/* 252 */ NdrFcShort( 0x26a ),          /* Offset= 618 (870) */
/* 254 */ NdrFcLong( 0x4016 ),          /* 16406 */
/* 258 */ NdrFcShort( 0x264 ),          /* Offset= 612 (870) */
/* 260 */ NdrFcLong( 0x4017 ),          /* 16407 */
/* 264 */ NdrFcShort( 0x25e ),          /* Offset= 606 (870) */
/* 266 */ NdrFcLong( 0x0 ),   /* 0 */
/* 270 */ NdrFcShort( 0x0 ),  /* Offset= 0 (270) */
/* 272 */ NdrFcLong( 0x1 ),   /* 1 */
/* 276 */ NdrFcShort( 0x0 ),  /* Offset= 0 (276) */
/* 278 */ NdrFcShort( 0xffffffff ),     /* Offset= -1 (277) */
/* 280 */
                                0x15,               /* FC_STRUCT */
                                0x7,                /* 7 */
/* 282 */ NdrFcShort( 0x8 ),  /* 8 */
/* 284 */ 0xb,                 /* FC_HYPER */
                                0x5b,               /* FC_END */
/* 286 */
                                0x12, 0x0,          /* FC_UP */
/* 288 */ NdrFcShort( 0xe ),  /* Offset= 14 (302) */
/* 290 */
                                0x1b,               /* FC_CARRAY */
                                0x1,                /* 1 */
/* 292 */ NdrFcShort( 0x2 ),  /* 2 */
/* 294 */ 0x9,                 /* Corr desc: FC_ULONG */
                                0x0,                /*  */
/* 296 */ NdrFcShort( 0xfffc ),         /* -4 */
/* 298 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 300 */ 0x6,                 /* FC_SHORT */
                                0x5b,               /* FC_END */
/* 302 */
                                0x17,               /* FC_CSTRUCT */
                                0x3,                /* 3 */
/* 304 */ NdrFcShort( 0x8 ),  /* 8 */
/* 306 */ NdrFcShort( 0xfffffff0 ),     /* Offset= -16 (290) */
/* 308 */ 0x8,                 /* FC_LONG */
                                0x8,                /* FC_LONG */
/* 310 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 312 */
                                0x2f,               /* FC_IP */
                                0x5a,               /* FC_CONSTANT_IID */
/* 314 */ NdrFcLong( 0x0 ),   /* 0 */
/* 318 */ NdrFcShort( 0x0 ),  /* 0 */
/* 320 */ NdrFcShort( 0x0 ),  /* 0 */
/* 322 */ 0xc0,                /* 192 */
                                0x0,                /* 0 */
/* 324 */ 0x0,                 /* 0 */
                                0x0,                /* 0 */
/* 326 */ 0x0,                 /* 0 */
                                0x0,                /* 0 */
/* 328 */ 0x0,                 /* 0 */
                                0x46,               /* 70 */
/* 330 */
                                0x2f,               /* FC_IP */
                                0x5a,               /* FC_CONSTANT_IID */
/* 332 */ NdrFcLong( 0x20400 ),         /* 132096 */
/* 336 */ NdrFcShort( 0x0 ),  /* 0 */
/* 338 */ NdrFcShort( 0x0 ),  /* 0 */
/* 340 */ 0xc0,                /* 192 */
                                0x0,                /* 0 */
/* 342 */ 0x0,                 /* 0 */
                                0x0,                /* 0 */
/* 344 */ 0x0,                 /* 0 */
                                0x0,                /* 0 */
/* 346 */ 0x0,                 /* 0 */
                                0x46,               /* 70 */
/* 348 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 350 */ NdrFcShort( 0x2 ),  /* Offset= 2 (352) */
/* 352 */
                                0x12, 0x0,          /* FC_UP */
/* 354 */ NdrFcShort( 0x1e6 ),          /* Offset= 486 (840) */
/* 356 */
                                0x2a,               /* FC_ENCAPSULATED_UNION */
                                0x89,               /* 137 */
/* 358 */ NdrFcShort( 0x20 ), /* 32 */
/* 360 */ NdrFcShort( 0xa ),  /* 10 */
/* 362 */ NdrFcLong( 0x8 ),   /* 8 */
/* 366 */ NdrFcShort( 0x50 ), /* Offset= 80 (446) */
/* 368 */ NdrFcLong( 0xd ),   /* 13 */
/* 372 */ NdrFcShort( 0x70 ), /* Offset= 112 (484) */
/* 374 */ NdrFcLong( 0x9 ),   /* 9 */
/* 378 */ NdrFcShort( 0x90 ), /* Offset= 144 (522) */
/* 380 */ NdrFcLong( 0xc ),   /* 12 */
/* 384 */ NdrFcShort( 0xb0 ), /* Offset= 176 (560) */
/* 386 */ NdrFcLong( 0x24 ),  /* 36 */
/* 390 */ NdrFcShort( 0x104 ),          /* Offset= 260 (650) */
/* 392 */ NdrFcLong( 0x800d ),          /* 32781 */
/* 396 */ NdrFcShort( 0x120 ),          /* Offset= 288 (684) */
/* 398 */ NdrFcLong( 0x10 ),  /* 16 */
/* 402 */ NdrFcShort( 0x13a ),          /* Offset= 314 (716) */
/* 404 */ NdrFcLong( 0x2 ),   /* 2 */
/* 408 */ NdrFcShort( 0x150 ),          /* Offset= 336 (744) */
/* 410 */ NdrFcLong( 0x3 ),   /* 3 */
```


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```
/* 414 */ NdrFcShort( 0x166 ),          /* Offset= 358 (772) */
/* 416 */ NdrFcLong( 0x14 ),  /* 20 */
/* 420 */ NdrFcShort( 0x17c ),          /* Offset= 380 (800) */
/* 422 */ NdrFcShort( 0xffffffff ),     /* Offset= -1 (421) */
/* 424 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 426 */ NdrFcShort( 0x0 ),  /* 0 */
/* 428 */ 0x19,                /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 430 */ NdrFcShort( 0x0 ),  /* 0 */
/* 432 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 434 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 438 */ NdrFcShort( 0x0 ),  /* Corr flags:  */
/* 440 */
                                0x12, 0x0,          /* FC_UP */
/* 442 */ NdrFcShort( 0xffffff74 ),     /* Offset= -140 (302) */
/* 444 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 446 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 448 */ NdrFcShort( 0x10 ), /* 16 */
/* 450 */ NdrFcShort( 0x0 ),  /* 0 */
/* 452 */ NdrFcShort( 0x6 ),  /* Offset= 6 (458) */
/* 454 */ 0x8,                 /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 456 */ 0x36,                /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 458 */
                                0x11, 0x0,          /* FC_RP */
/* 460 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (424) */
/* 462 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 464 */ NdrFcShort( 0x0 ),  /* 0 */
/* 466 */ 0x19,                /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 468 */ NdrFcShort( 0x0 ),  /* 0 */
/* 470 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 472 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 476 */ NdrFcShort( 0x0 ),  /* Corr flags:  */
/* 478 */ 0x4c,                /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 480 */ NdrFcShort( 0xffffff58 ),     /* Offset= -168 (312) */
/* 482 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 484 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 486 */ NdrFcShort( 0x10 ), /* 16 */
/* 488 */ NdrFcShort( 0x0 ),  /* 0 */
/* 490 */ NdrFcShort( 0x6 ),  /* Offset= 6 (496) */
/* 492 */ 0x8,                 /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 494 */ 0x36,                /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 496 */
                                0x11, 0x0,          /* FC_RP */
/* 498 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (462) */
/* 500 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 502 */ NdrFcShort( 0x0 ),  /* 0 */
/* 504 */ 0x19,                /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 506 */ NdrFcShort( 0x0 ),  /* 0 */
/* 508 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 510 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 514 */ NdrFcShort( 0x0 ),  /* Corr flags:  */
/* 516 */ 0x4c,                /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 518 */ NdrFcShort( 0xffffff44 ),     /* Offset= -188 (330) */
/* 520 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 522 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 524 */ NdrFcShort( 0x10 ), /* 16 */
/* 526 */ NdrFcShort( 0x0 ),  /* 0 */
/* 528 */ NdrFcShort( 0x6 ),  /* Offset= 6 (534) */
/* 530 */ 0x8,                 /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 532 */ 0x36,                /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 534 */
                                0x11, 0x0,          /* FC_RP */
/* 536 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (500) */
/* 538 */
                                0x21,               /* FC_BOGUS_ARRAY */
                                0x3,                /* 3 */
/* 540 */ NdrFcShort( 0x0 ),  /* 0 */
/* 542 */ 0x19,                /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 544 */ NdrFcShort( 0x0 ),  /* 0 */
/* 546 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 548 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 552 */ NdrFcShort( 0x0 ),  /* Corr flags:  */
/* 554 */
                                0x12, 0x0,          /* FC_UP */
/* 556 */ NdrFcShort( 0x176 ),          /* Offset= 374 (930) */
/* 558 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 560 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 562 */ NdrFcShort( 0x10 ), /* 16 */
/* 564 */ NdrFcShort( 0x0 ),  /* 0 */
/* 566 */ NdrFcShort( 0x6 ),  /* Offset= 6 (572) */
/* 568 */ 0x8,                 /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 570 */ 0x36,                /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 572 */
                                0x11, 0x0,          /* FC_RP */
/* 574 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (538) */
/* 576 */
                                0x2f,               /* FC_IP */
                                0x5a,               /* FC_CONSTANT_IID */
/* 578 */ NdrFcLong( 0x2f ),  /* 47 */
/* 582 */ NdrFcShort( 0x0 ),  /* 0 */
/* 584 */ NdrFcShort( 0x0 ),  /* 0 */
/* 586 */ 0xc0,                /* 192 */
                                0x0,                /* 0 */
/* 588 */ 0x0,                 /* 0 */
                                0x0,                /* 0 */
```


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```
/* 590 */ 0x0,                /* 0 */
                              0x0,                /* 0 */
/* 592 */ 0x0,                /* 0 */
                              0x46,               /* 70 */
/* 594 */
                              0x1b,               /* FC_CARRAY */
                              0x0,                /* 0 */
/* 596 */ NdrFcShort( 0x1 ),  /* 1 */
/* 598 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                              0x0,                /*  */
/* 600 */ NdrFcShort( 0x4 ),  /* 4 */
/* 602 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 604 */ 0x1,                /* FC_BYTE */
                              0x5b,               /* FC_END */
/* 606 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x3,                /* 3 */
/* 608 */ NdrFcShort( 0x18 ), /* 24 */
/* 610 */ NdrFcShort( 0x0 ),  /* 0 */
/* 612 */ NdrFcShort( 0xc ),  /* Offset= 12 (624) */
/* 614 */ 0x8,                /* FC_LONG */
                              0x8,                /* FC_LONG */
/* 616 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                              0x0,                /* 0 */
/* 618 */ NdrFcShort( 0xffffffd6 ),     /* Offset= -42 (576) */
/* 620 */ 0x39,               /* FC_ALIGNM8 */
                              0x36,               /* FC_POINTER */
/* 622 */ 0x5c,               /* FC_PAD */
                              0x5b,               /* FC_END */
/* 624 */
                              0x12, 0x0,          /* FC_UP */
/* 626 */ NdrFcShort( 0xffffffe0 ),     /* Offset= -32 (594) */
/* 628 */
                              0x21,               /* FC_BOGUS_ARRAY */
                              0x3,                /* 3 */
/* 630 */ NdrFcShort( 0x0 ),  /* 0 */
/* 632 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                              0x0,                /*  */
/* 634 */ NdrFcShort( 0x0 ),  /* 0 */
/* 636 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 638 */ NdrFcLong( 0xffffffff ),      /* -1 */
/* 642 */ NdrFcShort( 0x0 ),  /* Corr flags:  */
/* 644 */
                              0x12, 0x0,          /* FC_UP */
/* 646 */ NdrFcShort( 0xffffffd8 ),     /* Offset= -40 (606) */
/* 648 */ 0x5c,               /* FC_PAD */
                              0x5b,               /* FC_END */
/* 650 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x3,                /* 3 */
/* 652 */ NdrFcShort( 0x10 ), /* 16 */
/* 654 */ NdrFcShort( 0x0 ),  /* 0 */
/* 656 */ NdrFcShort( 0x6 ),  /* Offset= 6 (662) */
/* 658 */ 0x8,                /* FC_LONG */
                              0x39,               /* FC_ALIGNM8 */
/* 660 */ 0x36,               /* FC_POINTER */
                              0x5b,               /* FC_END */
/* 662 */
                              0x11, 0x0,          /* FC_RP */
/* 664 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (628) */
/* 666 */
                              0x1d,               /* FC_SMFARRAY */
                              0x0,                /* 0 */
/* 668 */ NdrFcShort( 0x8 ),  /* 8 */
/* 670 */ 0x2,                /* FC_CHAR */
                              0x5b,               /* FC_END */
/* 672 */
                              0x15,               /* FC_STRUCT */
                              0x3,                /* 3 */
/* 674 */ NdrFcShort( 0x10 ), /* 16 */
/* 676 */ 0x8,                /* FC_LONG */
                              0x6,                /* FC_SHORT */
/* 678 */ 0x6,                /* FC_SHORT */
                              0x4c,               /* FC_EMBEDDED_COMPLEX */
/* 680 */ 0x0,                /* 0 */
                              NdrFcShort( 0xfffffff1 ),     /* Offset= -15 (666) */
                              0x5b,               /* FC_END */
/* 684 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x3,                /* 3 */
/* 686 */ NdrFcShort( 0x20 ), /* 32 */
/* 688 */ NdrFcShort( 0x0 ),  /* 0 */
/* 690 */ NdrFcShort( 0xa ),  /* Offset= 10 (700) */
/* 692 */ 0x8,                /* FC_LONG */
                              0x39,               /* FC_ALIGNM8 */
/* 694 */ 0x36,               /* FC_POINTER */
                              0x4c,               /* FC_EMBEDDED_COMPLEX */
/* 696 */ 0x0,                /* 0 */
                              NdrFcShort( 0xffffffe7 ),     /* Offset= -25 (672) */
                              0x5b,               /* FC_END */
/* 700 */
                              0x11, 0x0,          /* FC_RP */
/* 702 */ NdrFcShort( 0xffffff10 ),     /* Offset= -240 (462) */
/* 704 */
                              0x1b,               /* FC_CARRAY */
                              0x0,                /* 0 */
/* 706 */ NdrFcShort( 0x1 ),  /* 1 */
/* 708 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                              0x0,                /*  */
/* 710 */ NdrFcShort( 0x0 ),  /* 0 */
/* 712 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 714 */ 0x1,                /* FC_BYTE */
                              0x5b,               /* FC_END */
/* 716 */
                              0x1a,               /* FC_BOGUS_STRUCT */
                              0x3,                /* 3 */
/* 718 */ NdrFcShort( 0x10 ), /* 16 */
/* 720 */ NdrFcShort( 0x0 ),  /* 0 */
/* 722 */ NdrFcShort( 0x6 ),  /* Offset= 6 (728) */
/* 724 */ 0x8,                /* FC_LONG */
                              0x39,               /* FC_ALIGNM8 */
/* 726 */ 0x36,               /* FC_POINTER */
                              0x5b,               /* FC_END */
/* 728 */
                              0x12, 0x0,          /* FC_UP */
/* 730 */ NdrFcShort( 0xffffffe6 ),     /* Offset= -26 (704) */
/* 732 */
                              0x1b,               /* FC_CARRAY */
                              0x1,                /* 1 */
/* 734 */ NdrFcShort( 0x2 ),  /* 2 */
/* 736 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                              0x0,                /*  */
/* 738 */ NdrFcShort( 0x0 ),  /* 0 */
/* 740 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 742 */ 0x6,                /* FC_SHORT */
                              0x5b,               /* FC_END */
```


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```
/* 744 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 746 */ NdrFcShort( 0x10 ), /* 16 */
/* 748 */ NdrFcShort( 0x0 ),  /* 0 */
/* 750 */ NdrFcShort( 0x6 ),  /* Offset= 6 (756) */
/* 752 */ 0x8,                /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 754 */ 0x36,               /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 756 */
                                0x12, 0x0,          /* FC_UP */
/* 758 */ NdrFcShort( 0xffffffe6 ),     /* Offset= -26 (732) */
/* 760 */
                                0x1b,               /* FC_CARRAY */
                                0x3,                /* 3 */
/* 762 */ NdrFcShort( 0x4 ),  /* 4 */
/* 764 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 766 */ NdrFcShort( 0x0 ),  /* 0 */
/* 768 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 770 */ 0x8,                /* FC_LONG */
                                0x5b,               /* FC_END */
/* 772 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 774 */ NdrFcShort( 0x10 ), /* 16 */
/* 776 */ NdrFcShort( 0x0 ),  /* 0 */
/* 778 */ NdrFcShort( 0x6 ),  /* Offset= 6 (784) */
/* 780 */ 0x8,                /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 782 */ 0x36,               /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 784 */
                                0x12, 0x0,          /* FC_UP */
/* 786 */ NdrFcShort( 0xffffffe6 ),     /* Offset= -26 (760) */
/* 788 */
                                0x1b,               /* FC_CARRAY */
                                0x7,                /* 7 */
/* 790 */ NdrFcShort( 0x8 ),  /* 8 */
/* 792 */ 0x19,               /* Corr desc:  field pointer, FC_ULONG */
                                0x0,                /*  */
/* 794 */ NdrFcShort( 0x0 ),  /* 0 */
/* 796 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 798 */ 0xb,                /* FC_HYPER */
                                0x5b,               /* FC_END */
/* 800 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 802 */ NdrFcShort( 0x10 ), /* 16 */
/* 804 */ NdrFcShort( 0x0 ),  /* 0 */
/* 806 */ NdrFcShort( 0x6 ),  /* Offset= 6 (812) */
/* 808 */ 0x8,                /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 810 */ 0x36,               /* FC_POINTER */
                                0x5b,               /* FC_END */
/* 812 */
                                0x12, 0x0,          /* FC_UP */
/* 814 */ NdrFcShort( 0xffffffe6 ),     /* Offset= -26 (788) */
/* 816 */
                                0x15,               /* FC_STRUCT */
                                0x3,                /* 3 */
/* 818 */ NdrFcShort( 0x8 ),  /* 8 */
/* 820 */ 0x8,                /* FC_LONG */
                                0x8,                /* FC_LONG */
/* 822 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 824 */
                                0x1b,               /* FC_CARRAY */
                                0x3,                /* 3 */
/* 826 */ NdrFcShort( 0x8 ),  /* 8 */
/* 828 */ 0x7,                /* Corr desc: FC_USHORT */
                                0x0,                /*  */
/* 830 */ NdrFcShort( 0xffc8 ),         /* -56 */
/* 832 */ NdrFcShort( 0x1 ),  /* Corr flags:  early, */
/* 834 */ 0x4c,               /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 836 */ NdrFcShort( 0xffffffec ),     /* Offset= -20 (816) */
/* 838 */ 0x5c,               /* FC_PAD */
                                0x5b,               /* FC_END */
/* 840 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x3,                /* 3 */
/* 842 */ NdrFcShort( 0x38 ), /* 56 */
/* 844 */ NdrFcShort( 0xffffffec ),     /* Offset= -20 (824) */
/* 846 */ NdrFcShort( 0x0 ),  /* Offset= 0 (846) */
/* 848 */ 0x6,                /* FC_SHORT */
                                0x6,                /* FC_SHORT */
/* 850 */ 0x38,               /* FC_ALIGNM4 */
                                0x8,                /* FC_LONG */
/* 852 */ 0x8,                /* FC_LONG */
                                0x4c,               /* FC_EMBEDDED_COMPLEX */
/* 854 */ 0x4,                /* 4 */
                                NdrFcShort( 0xfffffe0d ),     /* Offset= -499 (356) */
                                0x5b,               /* FC_END */
/* 858 */
                                0x12, 0x0,          /* FC_UP */
/* 860 */ NdrFcShort( 0xffffff02 ),     /* Offset= -254 (606) */
/* 862 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 864 */ 0x1,                /* FC_BYTE */
                                0x5c,               /* FC_PAD */
/* 866 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 868 */ 0x6,                /* FC_SHORT */
                                0x5c,               /* FC_PAD */
/* 870 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 872 */ 0x8,                /* FC_LONG */
                                0x5c,               /* FC_PAD */
/* 874 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 876 */ 0xa,                /* FC_FLOAT */
                                0x5c,               /* FC_PAD */
/* 878 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 880 */ 0xc,                /* FC_DOUBLE */
                                0x5c,               /* FC_PAD */
/* 882 */
                                0x12, 0x0,          /* FC_UP */
/* 884 */ NdrFcShort( 0xfffffda4 ),     /* Offset= -604 (280) */
/* 886 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 888 */ NdrFcShort( 0xfffffda6 ),     /* Offset= -602 (286) */
/* 890 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
```


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```
/* 892 */ NdrFcShort( 0xffffffdbc ),     /* Offset= -580 (312) */
/* 894 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 896 */ NdrFcShort( 0xffffffdca ),     /* Offset= -566 (330) */
/* 898 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 900 */ NdrFcShort( 0xffffffdd8 ),     /* Offset= -552 (348) */
/* 902 */
                                0x12, 0x10,         /* FC_UP [pointer_deref] */
/* 904 */ NdrFcShort( 0x2 ),  /* Offset= 2 (906) */
/* 906 */
                                0x12, 0x0,          /* FC_UP */
/* 908 */ NdrFcShort( 0x16 ), /* Offset= 22 (930) */
/* 910 */
                                0x15,               /* FC_STRUCT */
                                0x7,                /* 7 */
/* 912 */ NdrFcShort( 0x10 ), /* 16 */
/* 914 */ 0x6,                 /* FC_SHORT */
                                0x1,                /* FC_BYTE */
/* 916 */ 0x1,                 /* FC_BYTE */
                                0x38,               /* FC_ALIGNM4 */
/* 918 */ 0x8,                 /* FC_LONG */
                                0x39,               /* FC_ALIGNM8 */
/* 920 */ 0xb,                 /* FC_HYPER */
                                0x5b,               /* FC_END */
/* 922 */
                                0x12, 0x0,          /* FC_UP */
/* 924 */ NdrFcShort( 0xffffffff2 ),     /* Offset= -14 (910) */
/* 926 */
                                0x12, 0x8,          /* FC_UP [simple_pointer] */
/* 928 */ 0x2,                 /* FC_CHAR */
                                0x5c,               /* FC_PAD */
/* 930 */
                                0x1a,               /* FC_BOGUS_STRUCT */
                                0x7,                /* 7 */
/* 932 */ NdrFcShort( 0x20 ), /* 32 */
/* 934 */ NdrFcShort( 0x0 ),  /* 0 */
/* 936 */ NdrFcShort( 0x0 ),  /* Offset= 0 (936) */
/* 938 */ 0x8,                 /* FC_LONG */
                                0x8,                /* FC_LONG */
/* 940 */ 0x6,                 /* FC_SHORT */
                                0x6,                /* FC_SHORT */
/* 942 */ 0x6,                 /* FC_SHORT */
                                0x6,                /* FC_SHORT */
/* 944 */ 0x4c,                /* FC_EMBEDDED_COMPLEX */
                                0x0,                /* 0 */
/* 946 */ NdrFcShort( 0xfffffc54 ),     /* Offset= -940 (6) */
/* 948 */ 0x5c,                /* FC_PAD */
                                0x5b,               /* FC_END */
/* 950 */ 0xb4,                /* FC_USER_MARSHAL */
                                0x83,               /* 131 */
/* 952 */ NdrFcShort( 0x0 ),  /* 0 */
/* 954 */ NdrFcShort( 0x18 ), /* 24 */
/* 956 */ NdrFcShort( 0x0 ),  /* 0 */
/* 958 */ NdrFcShort( 0xfffffc44 ),     /* Offset= -956 (2) */
/* 960 */
                                0x11, 0x4,          /* FC_RP [alloced_on_stack] */
/* 962 */ NdrFcShort( 0x6 ),  /* Offset= 6 (968) */
/* 964 */
                                0x13, 0x0,          /* FC_OP */
/* 966 */ NdrFcShort( 0xffffffdc ),     /* Offset= -36 (930) */
/* 968 */ 0xb4,                /* FC_USER_MARSHAL */
                                0x83,               /* 131 */
/* 970 */ NdrFcShort( 0x0 ),  /* 0 */
/* 972 */ NdrFcShort( 0x18 ), /* 24 */
/* 974 */ NdrFcShort( 0x0 ),  /* 0 */
/* 976 */ NdrFcShort( 0xffffffff4 ),     /* Offset= -12 (964) */

                                0x0
        }
    };

const CInterfaceProxyVtbl * _tpcc_com_ps_ProxyVtblList[] =
{
    ( CInterfaceProxyVtbl *) &_ITPCCProxyVtbl,
    0
};

const CInterfaceStubVtbl * _tpcc_com_ps_StubVtblList[] =
{
    ( CInterfaceStubVtbl *) &_ITPCCStubVtbl,
    0
};

PCInterfaceName const _tpcc_com_ps_InterfaceNamesList[] =
{
    "ITPCC",
    0
};


#define _tpcc_com_ps_CHECK_IID(n)       IID_GENERIC_CHECK_IID( _tpcc_com_ps, pIID,
n)

int __stdcall _tpcc_com_ps_IID_Lookup( const IID * pIID, int * pIndex )
{

    if(!_tpcc_com_ps_CHECK_IID(0))
        {
        *pIndex = 0;
        return 1;
        }

    return 0;
}

const ExtendedProxyFileInfo tpcc_com_ps_ProxyFileInfo =
{
    (PCInterfaceProxyVtblList *) & _tpcc_com_ps_ProxyVtblList,
    (PCInterfaceStubVtblList *) & _tpcc_com_ps_StubVtblList,
    (const PCInterfaceName * ) & _tpcc_com_ps_InterfaceNamesList,
    0, // no delegation
    & _tpcc_com_ps_IID_Lookup,
    1,
    2,
    0, /* table of [async_uuid] interfaces */
    0, /* Filler1 */
    0, /* Filler2 */
    0  /* Filler3 */
};


#endif /* defined(_M_IA64) || defined(_M_AXP64)*/
```


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tpcc_com_sl.rgs

```
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'
			}
		}
	}
}
```

tpcc_dblib.cpp

```
/*	FILE:		TPCC_DBLIB.CPP
 *
 *
 *
```

```
 * ARGUMENTS:       DBPROCESS           *dbproc                         DBPROCESS id
pointer
 *                                     DBINT                           msgno
                  message number
 *                                     int
          msgstate            message state
 *                                     int
          severity            message severity
 *                                     char                            *msgtext
          printable message description
 *
 * RETURNS:                   int                                      INT_CONTINUE
          continue if error is SQLETIME else INT_CANCEL action
 *
          INT_CANCEL                    cancel operation
 *
 * COMMENTS:        This function also sets the dead lock dbproc variable if
necessary.
 *
 */

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

int msg_handler(DBPROCESS *dbproc, DBINT msgno, int msgstate, int severity,
                                       LPCSTR 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
```


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```
{
        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 dblib ver 6.0
client behavior

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

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

        m_dbproc = dbopen(login, szServer);

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

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

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

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

        // set connection properties to match those used by ODBC
        dbcmd(m_dbproc, "set ANSI_DEFAULTS ON ");
        dbcmd(m_dbproc, "set CURSOR_CLOSE_ON_COMMIT OFF ");
        dbcmd(m_dbproc, "set IMPLICIT_TRANSACTIONS OFF ");
        dbcmd(m_dbproc, "set NOCOUNT ON ");                        // do not
return row counts
        dbcmd(m_dbproc, "set XACT_ABORT ON ");            // rollback transaction
on abort

        // for coyote
//      dbcmd(m_dbproc, "set ansi_warnings on ");         //
//      dbcmd(m_dbproc, "set ansi_nulls on ");            //

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

        // This value must match the number of commands above.
//      DiscardNextResults(2);
        DiscardNextResults(5);        // coyote

        // 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;
```


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```
		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);
```


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```
                    iResultsRead++;
          }

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

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

          ResetError();

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

                              dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_txn.StockLevel.w_id);             // @w_id 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);   // @threshhold 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;
          DBDATEREC daterec;

          int                         iTryCount = 0;
          const BYTE          *pData;

          ResetError();

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

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

                              // check whether any order lines are for a remote
warehouse
                              m_txn.NewOrder.o_all_local = 1;
                              for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
                              {
                                        if (m_txn.NewOrder.OL[i].ol_supply_w_id !=
m_txn.NewOrder.w_id)
                                        {
                                                  m_txn.NewOrder.o_all_local = 0;
// at least one remote warehouse
                                                  break;
                                        }
                              }
                              dbrpcparam(m_dbproc, NULL, 0, SQLINT1, -1, -1, (BYTE
*) &m_txn.NewOrder.o_all_local);

                              for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
                              {
                                        dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_i_id);
                                        dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_supply_w_id);
                                        dbrpcparam(m_dbproc, NULL, 0, SQLINT2, -1, -
1, (BYTE *) &m_txn.NewOrder.OL[i].ol_quantity);
                              }

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


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```
                                // 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   =
daterec.year;
                                        m_txn.NewOrder.o_entry_d.month  =
daterec.month;
                                        m_txn.NewOrder.o_entry_d.day    =
daterec.day;
                                        m_txn.NewOrder.o_entry_d.hour   =
daterec.hour;
                                        m_txn.NewOrder.o_entry_d.minute =
daterec.minute;
                                        m_txn.NewOrder.o_entry_d.second =
daterec.second;
                                }
                                if (pData=dbdata(m_dbproc, 8))
                                        commit_flag = (*(DBTINYINT *) pData);

                                DiscardNextRows(0);
                                DiscardNextResults(0);


                                if (commit_flag == 1)
                                {
                                        m_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
longer period
                                        delete e;
                                        Sleep(10 * iTryCount);
                                }
```


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```
                                else
                                        throw;
                        }
                }       // while (TRUE)

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


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

        int                         iTryCount = 0;
        const BYTE          *pData;

        ResetError();

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

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

                                // 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;
                                        m_txn.Payment.h_date.second =
daterec.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));
```


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```
                                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 &&
                                        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::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, SQLINT4, -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);
```


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```
                                        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 *)
pData);
                                                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)
```


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


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

          ResetError();

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

                              dbrpcparam(m_dbproc, NULL, 0, SQLINT4, -1, -1, (BYTE
*) &m_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;
}
```

tpcc_dblib.h

```
/*        FILE:               TPCC_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;
```


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```
                        m_msgtext = NULL;
                };

                ~CSQLERR()
                {
                        delete [] m_msgtext;
                };

                int                     m_msgno;
                int                     m_msgstate;
                int                     m_severity;
                char    *m_msgtext;

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

};

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


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```
                    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 dblib
err_handler and msg_hangler
                    // 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);
```

tpcc_odbc.cpp

```
/*        FILE:               TPCC_ODBC.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 ODBC 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
 */

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

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

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

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

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

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

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

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

static SQLHENV henv = SQL_NULL_HENV;                                  // ODBC
environment handle

BOOL APIENTRY DllMain(HMODULE hModule, DWORD ul_reason_for_call, LPVOID lpReserved)
{
          switch( ul_reason_for_call )
          {
                    case DLL_PROCESS_ATTACH:
                              DisableThreadLibraryCalls(hModule);
                              if ( SQLAllocHandleStd(SQL_HANDLE_ENV,
SQL_NULL_HANDLE, &henv) != SQL_SUCCESS )
                                        return FALSE;
                              break;

                    case DLL_PROCESS_DETACH:
                              if (henv != NULL)
                                        SQLFreeEnv(henv);
                              break;

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


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```
/* FUNCTION: CTPCC_ODBC_ERR::ErrorText
 *
 */

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

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


CTPCC_ODBC::CTPCC_ODBC (
          LPCSTR szServer,                                  // name of SQL server
          LPCSTR szUser,                                            // user name
for login
          LPCSTR szPassword,                                // password for login
          LPCSTR szHost,                                            // not used
          LPCSTR szDatabase                                 // name of database to
use
          )
{
          RETCODE             rc;

          // initialization
          m_hdbc = SQL_NULL_HDBC;
          m_hstmt = SQL_NULL_HSTMT;

          m_hstmtNewOrder = SQL_NULL_HSTMT;
          m_hstmtPayment = SQL_NULL_HSTMT;
          m_hstmtDelivery = SQL_NULL_HSTMT;
          m_hstmtOrderStatus = SQL_NULL_HSTMT;
          m_hstmtStockLevel = SQL_NULL_HSTMT;

          m_descNewOrderCols1 = SQL_NULL_HDESC;
          m_descNewOrderCols2 = SQL_NULL_HDESC;
          m_descOrderStatusCols1 = SQL_NULL_HDESC;
          m_descOrderStatusCols2 = SQL_NULL_HDESC;


          if ( SQLAllocHandle(SQL_HANDLE_DBC, henv, &m_hdbc) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eAllocHandle);

          if ( SQLSetConnectOption(m_hdbc, SQL_PACKET_SIZE, 4096) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eConnOption);

          {
                    char                        szConnectStr[256];
                    char                        szOutStr[1024];
                    SQLSMALLINT                 iOutStrLen;

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

                    rc = SQLDriverConnect(m_hdbc, NULL, (SQLCHAR*)szConnectStr,
sizeof(szConnectStr),
                              (SQLCHAR*)szOutStr, sizeof(szOutStr), &iOutStrLen,
SQL_DRIVER_NOPROMPT );

                    if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                              ThrowError(CODBCERR::eConnect);
          }

          if (SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmt) != SQL_SUCCESS)
                    ThrowError(CODBCERR::eAllocHandle);

          {
                    char                buffer[128];

                    // set some options affecting connection behavior
                    strcpy(buffer, "set nocount on ");
                    strcat(buffer, "set XACT_ABORT ON " );

                    // for coyote
                    strcat(buffer, "set ansi_warnings on " );
                    strcat(buffer, "set ansi_nulls on " );

                    rc = SQLExecDirect(m_hstmt, (unsigned char *)buffer, SQL_NTS);
                    if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                              ThrowError(CODBCERR::eExecDirect);

                    // verify that version of stored procs on server is correct
                    char db_sp_version[10];
                    strcpy(buffer, "{call tpcc_version}");
                    rc = SQLExecDirect(m_hstmt, (unsigned char *)buffer, SQL_NTS);
                    if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                              ThrowError(CODBCERR::eExecDirect);
```


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```
                    if ( SQLBindCol(m_hstmt, 1, SQL_C_CHAR, &db_sp_version,
sizeof(db_sp_version), NULL) != SQL_SUCCESS )
                              ThrowError(CODBCERR::eBindCol);
                    if ( SQLFetch(m_hstmt) == SQL_ERROR )
                              ThrowError(CODBCERR::eFetch);
                    if (strcmp(db_sp_version,sVersion))
                              throw new CTPCC_ODBC_ERR(
CTPCC_ODBC_ERR::ERR_WRONG_SP_VERSION );

                    SQLFreeHandle(SQL_HANDLE_STMT, m_hstmt);
          }

          // Bind parameters for each of the transactions
          InitNewOrderParams();
          InitPaymentParams();
          InitOrderStatusParams();
          InitDeliveryParams();
          InitStockLevelParams();
}

CTPCC_ODBC::~CTPCC_ODBC( void )
{
          // note: descriptors are automatically released when the connection is
dropped
          SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtNewOrder);
          SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtPayment);
          SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtDelivery);
          SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtOrderStatus);
          SQLFreeHandle(SQL_HANDLE_STMT, m_hstmtStockLevel);

          SQLDisconnect(m_hdbc);
          SQLFreeHandle(SQL_HANDLE_DBC, m_hdbc);
}

void CTPCC_ODBC::ThrowError( CODBCERR::ACTION eAction )
{
          RETCODE             rc;
          SDWORD              lNativeError;
          char                szState[6];
          char                szMsg[SQL_MAX_MESSAGE_LENGTH];
          char                szTmp[6*SQL_MAX_MESSAGE_LENGTH];
          CODBCERR   *pODBCErr;                             // not allocated until
needed (maybe never)

          pODBCErr = new CODBCERR();

          pODBCErr->m_NativeError = 0;
          pODBCErr->m_eAction = eAction;
          pODBCErr->m_bDeadLock = FALSE;

          szTmp[0] = 0;
          while (TRUE)
          {
                    rc = SQLError(henv, m_hdbc, m_hstmt, (BYTE *)&szState,
&lNativeError,
                                                            (BYTE *)&szMsg, sizeof(szMsg),
NULL);
                    if (rc == SQL_NO_DATA)
                              break;

                    // check for deadlock
                    if (lNativeError == 1205 || (lNativeError == iErrOleDbProvider
&&
                              strstr(szMsg, sErrTimeoutExpired) != NULL))
                              pODBCErr->m_bDeadLock = TRUE;

                    // capture the (first) database error
                    if (pODBCErr->m_NativeError == 0 && lNativeError != 0)
                              pODBCErr->m_NativeError = lNativeError;

                    // quit if there isn't enough room to concatenate error text
                    if ( (strlen(szMsg) + 2) > (sizeof(szTmp) - strlen(szTmp)) )
                              break;

                    // include line break after first error msg
                    if (szTmp[0] != 0)
                              strcat( szTmp, "\n");
                    strcat( szTmp, szMsg );
          }

          if (pODBCErr->m_odbcerrstr != NULL)
          {
                    delete [] pODBCErr->m_odbcerrstr;
                    pODBCErr->m_odbcerrstr = NULL;
          }

          if (strlen(szTmp) > 0)
          {
                    pODBCErr->m_odbcerrstr = new char[ strlen(szTmp)+1 ];
                    strcpy( pODBCErr->m_odbcerrstr, szTmp );
          }

          SQLFreeStmt(m_hstmt, SQL_CLOSE);
          throw pODBCErr;
}

void CTPCC_ODBC::InitStockLevelParams()
{
          if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtStockLevel) !=
SQL_SUCCESS )
                    ThrowError(CODBCERR::eAllocHandle);

          m_hstmt = m_hstmtStockLevel;

          int i = 0;
          if (   SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SLONG,
SQL_INTEGER, 0, 0, &m_txn.StockLevel.w_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_UTINYINT, SQL_TINYINT, 0, 0, &m_txn.StockLevel.d_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SSHORT,
SQL_SMALLINT, 0, 0, &m_txn.StockLevel.threshold, 0, NULL) != SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eBindParam);

          if ( SQLBindCol(m_hstmt, 1, SQL_C_SLONG, &m_txn.StockLevel.low_stock, 0,
NULL) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eBindCol);
}

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

          m_hstmt = m_hstmtStockLevel;
```


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```
        while (TRUE)
        {
                try
                {
                        rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)L"{call
tpcc_stocklevel(?,?,?)}", SQL_NTS);
                        if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                                ThrowError(CODBCERR::eExecDirect);

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

                        SQLFreeStmt(m_hstmt, SQL_CLOSE);

                        m_txn.StockLevel.exec_status_code = eOK;
                        break;
                }
                catch (CODBCERR *e)
                {
                        if ((!e->m_bDeadLock) || (++iTryCount > iMaxRetries))
                                throw;

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

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

void CTPCC_ODBC::InitNewOrderParams()
{
        if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtNewOrder) !=
SQL_SUCCESS
                || SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc, &m_descNewOrderCols1)
!= SQL_SUCCESS
                || SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc, &m_descNewOrderCols2)
!= SQL_SUCCESS
                )
                ThrowError(CODBCERR::eAllocHandle);

        m_hstmt = m_hstmtNewOrder;

        if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols1,
SQL_IS_POINTER ) != SQL_SUCCESS )
                ThrowError(CODBCERR::eSetStmtAttr);

        int i = 0;
        if (   SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SLONG,
SQL_INTEGER, 0, 0, &m_txn.NewOrder.w_id, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_UTINYINT, SQL_TINYINT, 0, 0, &m_txn.NewOrder.d_id, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT, SQL_C_SLONG,
SQL_INTEGER, 0, 0, &m_txn.NewOrder.c_id, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_UTINYINT, SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_ol_cnt, 0, NULL) != SQL_SUCCESS
                || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_UTINYINT, SQL_TINYINT, 0, 0, &m_txn.NewOrder.o_all_local, 0, NULL) !=
SQL_SUCCESS
                )
                ThrowError(CODBCERR::eBindParam);

        for (int j=0; j<MAX_OL_NEW_ORDER_ITEMS; j++)
        {
                if (   SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SLONG, SQL_INTEGER, 0, 0, &m_txn.NewOrder.OL[j].ol_i_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SLONG, SQL_INTEGER, 0, 0, &m_txn.NewOrder.OL[j].ol_supply_w_id, 0, NULL) !=
SQL_SUCCESS
                        || SQLBindParameter(m_hstmt, ++i, SQL_PARAM_INPUT,
SQL_C_SSHORT, SQL_SMALLINT, 0, 0, &m_txn.NewOrder.OL[j].ol_quantity, 0, NULL) !=
SQL_SUCCESS
                        )
                        ThrowError(CODBCERR::eBindParam);
        }

#ifndef new_order_strstr
        // set the bind offset pointer
        if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_ROW_BIND_OFFSET_PTR,
&m_BindOffset, SQL_IS_POINTER ) != SQL_SUCCESS )
                ThrowError(CODBCERR::eSetStmtAttr);

        i = 0;
        if (   SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_i_name, sizeof(m_txn.NewOrder.OL[0].ol_i_name), NULL) !=
SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_SSHORT,
&m_txn.NewOrder.OL[0].ol_stock, 0, NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.OL[0].ol_brand_generic,
sizeof(m_txn.NewOrder.OL[0].ol_brand_generic), NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.NewOrder.OL[0].ol_i_price, 0, NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.NewOrder.OL[0].ol_amount, 0, NULL) != SQL_SUCCESS
                )
                ThrowError(CODBCERR::eBindCol);
#else
        // prototype to eliminate patindex in server; shift work to client
        i = 0;
        if (   SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,   &m_ol_i_name,
sizeof(m_ol_i_name), NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_SSHORT, &m_ol_stock, 0, NULL)
!= SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,   &m_i_data,
sizeof(m_i_data), NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,   &m_s_data,
sizeof(m_s_data), NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE, &m_ol_i_price, 0,
NULL) != SQL_SUCCESS
                || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE, &m_ol_amount, 0, NULL)
!= SQL_SUCCESS
                )
                ThrowError(CODBCERR::eBindCol);
#endif

        // associate the column bindings for the second result set
        if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC, m_descNewOrderCols2,
SQL_IS_POINTER ) != SQL_SUCCESS )
                ThrowError(CODBCERR::eSetStmtAttr);
```


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```
          i = 0;
          if (   SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,    &m_txn.NewOrder.w_tax, 0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.NewOrder.d_tax, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,
&m_txn.NewOrder.o_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.c_last, sizeof(m_txn.NewOrder.c_last), NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.NewOrder.c_discount, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.NewOrder.c_credit, sizeof(m_txn.NewOrder.c_credit), NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_TYPE_TIMESTAMP,
&m_txn.NewOrder.o_entry_d, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,     &m_no_commit_flag,
0, NULL) != SQL_SUCCESS
             )
                    ThrowError(CODBCERR::eBindCol);
}

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

                     // 0         1         2

                     // 0123456789012345678901234567 89
          wchar_t                                     szSqlTemplate[] = L"{call
tpcc_neworder(?,?,?,?,?,"

                      L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"

                      L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,"

                      L"?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)}";

          m_hstmt = m_hstmtNewOrder;

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

          // clip statement buffer based on number of parameters
          // fixed part is 29 chars and variable part is 6 chars per line item
          i = 29 + m_txn.NewOrder.o_ol_cnt*6;
          wcscpy( &szSqlTemplate[i], L")}" );

          // check whether any order lines are for a remote warehouse
          m_txn.NewOrder.o_all_local = 1;
          for (i = 0; i < m_txn.NewOrder.o_ol_cnt; i++)
          {
                    if (m_txn.NewOrder.OL[i].ol_supply_w_id != m_txn.NewOrder.w_id)
                    {
                              m_txn.NewOrder.o_all_local = 0;  // at least one
remote warehouse
                              break;
                    }
          }

          while (TRUE)
          {
                    try
                    {
                              m_BindOffset = 0;
                              rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)szSqlTemplate,
SQL_NTS);
                              if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                                        ThrowError(CODBCERR::eExecDirect);

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

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

                                        strcpy( m_txn.NewOrder.OL[i].ol_i_name,
m_ol_i_name );

                                        if ( strstr(m_i_data, "ORIGINAL") != NULL &&
strstr(m_s_data, "ORIGINAL") != NULL )

          m_txn.NewOrder.OL[i].ol_brand_generic[0] = 'B';
                                        else

          m_txn.NewOrder.OL[i].ol_brand_generic[0] = 'G';
                                        m_txn.NewOrder.OL[i].ol_brand_generic[1] =
0;

                                        m_txn.NewOrder.OL[i].ol_stock
          = m_ol_stock;
                                        m_txn.NewOrder.OL[i].ol_i_price
                    = m_ol_i_price;
                                        m_txn.NewOrder.OL[i].ol_amount
                    = m_ol_amount;
#endif

                                        // move to the next resultset
                                        if ( SQLMoreResults(m_hstmt) == SQL_ERROR )

          ThrowError(CODBCERR::eMoreResults);

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

                              // associate the column bindings for the second result
set
                              if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC,
m_descNewOrderCols2, SQL_IS_POINTER ) != SQL_SUCCESS )
                                        ThrowError(CODBCERR::eSetStmtAttr);

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


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```
                                SQLFreeStmt(m_hstmt, SQL_CLOSE);

                                if (m_no_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;

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

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

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

void CTPCC_ODBC::InitPaymentParams()
{
          if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtPayment) !=
SQL_SUCCESS )
                      ThrowError(CODBCERR::eAllocHandle);

          m_hstmt = m_hstmtPayment;

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

          i = 0;
          if (   SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,     &m_txn.Payment.c_id,
          0, NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_last,                  sizeof(m_txn.Payment.c_last), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_TYPE_TIMESTAMP,
&m_txn.Payment.h_date,                  0, NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.w_street_1,    sizeof(m_txn.Payment.w_street_1), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.w_street_2,    sizeof(m_txn.Payment.w_street_2), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.w_city,                  sizeof(m_txn.Payment.w_city), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.w_state,                 sizeof(m_txn.Payment.w_state), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.w_zip,                   sizeof(m_txn.Payment.w_zip), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.d_street_1,    sizeof(m_txn.Payment.d_street_1), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.d_street_2,    sizeof(m_txn.Payment.d_street_2), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.d_city,                  sizeof(m_txn.Payment.d_city), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.d_state,                 sizeof(m_txn.Payment.d_state), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.d_zip,                   sizeof(m_txn.Payment.d_zip), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_first,                 sizeof(m_txn.Payment.c_first), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_middle,      sizeof(m_txn.Payment.c_middle), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_street_1,    sizeof(m_txn.Payment.c_street_1), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_street_2,    sizeof(m_txn.Payment.c_street_2), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_city,                  sizeof(m_txn.Payment.c_city), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_state,                 sizeof(m_txn.Payment.c_state), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_zip,                   sizeof(m_txn.Payment.c_zip), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_phone,                 sizeof(m_txn.Payment.c_phone), NULL) !=
SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_TYPE_TIMESTAMP,
&m_txn.Payment.c_since,                 0, NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_credit,      sizeof(m_txn.Payment.c_credit), NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.Payment.c_credit_lim,0, NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.Payment.c_discount,    0, NULL) != SQL_SUCCESS
                      || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.Payment.c_balance,     0, NULL) != SQL_SUCCESS
```


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```
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.Payment.c_data,                  sizeof(m_txn.Payment.c_data), NULL) !=
SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eBindCol);
}

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

          m_hstmt = m_hstmtPayment;

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

          while (TRUE)
          {
                    try
                    {
                              rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)L"{call
tpcc_payment(?,?,?,?,?,?,?)}", SQL_NTS);
                              if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
                                        ThrowError(CODBCERR::eExecDirect);

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

                              SQLFreeStmt(m_hstmt, SQL_CLOSE);

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

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

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

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

void CTPCC_ODBC::InitOrderStatusParams()
{
          if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtOrderStatus) !=
SQL_SUCCESS
                    || SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descOrderStatusCols1) != SQL_SUCCESS
                    || SQLAllocHandle(SQL_HANDLE_DESC, m_hdbc,
&m_descOrderStatusCols2) != SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eAllocHandle);

          m_hstmt = m_hstmtOrderStatus;

          if (   SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC,
m_descOrderStatusCols1, SQL_IS_POINTER ) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eSetStmtAttr);

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

          // configure block cursor
          if (   SQLSetStmtAttrW(m_hstmt, SQL_ATTR_ROW_BIND_TYPE,
(SQLPOINTER)sizeof(m_txn.OrderStatus.OL[0]), 0) != SQL_SUCCESS
                    || SQLSetStmtAttrW(m_hstmt, SQL_ATTR_ROWS_FETCHED_PTR,
&m_RowsFetched, 0) != SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eSetStmtAttr);

          i = 0;
          if (   SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,
&m_txn.OrderStatus.OL[0].ol_supply_w_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,
&m_txn.OrderStatus.OL[0].ol_i_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SSHORT,
&m_txn.OrderStatus.OL[0].ol_quantity, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.OrderStatus.OL[0].ol_amount, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_TYPE_TIMESTAMP,
&m_txn.OrderStatus.OL[0].ol_delivery_d, 0, NULL) != SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eBindCol);


          if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC,
m_descOrderStatusCols2, SQL_IS_POINTER ) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eSetStmtAttr);

          i = 0;
          if (   SQLBindCol(m_hstmt, ++i, SQL_C_SLONG, &m_txn.OrderStatus.c_id, 0,
NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.OrderStatus.c_last, sizeof(m_txn.OrderStatus.c_last), NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.OrderStatus.c_first, sizeof(m_txn.OrderStatus.c_first), NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_CHAR,
&m_txn.OrderStatus.c_middle, sizeof(m_txn.OrderStatus.c_middle), NULL) !=
SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_TYPE_TIMESTAMP,
&m_txn.OrderStatus.o_entry_d, 0, NULL) != SQL_SUCCESS
```


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```
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SSHORT,
&m_txn.OrderStatus.o_carrier_id, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_DOUBLE,
&m_txn.OrderStatus.c_balance, 0, NULL) != SQL_SUCCESS
                    || SQLBindCol(m_hstmt, ++i, SQL_C_SLONG,
&m_txn.OrderStatus.o_id, 0, NULL) != SQL_SUCCESS
                    )
                    ThrowError(CODBCERR::eBindCol);
}

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

          m_hstmt = m_hstmtOrderStatus;

          if ( SQLSetStmtAttrW( m_hstmt, SQL_ATTR_APP_ROW_DESC,
m_descOrderStatusCols1, SQL_IS_POINTER ) != SQL_SUCCESS )
                    ThrowError(CODBCERR::eSetStmtAttr);

          if (m_txn.OrderStatus.c_id != 0)
                    m_txn.OrderStatus.c_last[0] = 0;

          while (TRUE)
          {
                    try
                    {
                              // configure block cursor
                              if ( SQLSetStmtAttrW(m_hstmt, SQL_ATTR_ROW_ARRAY_SIZE,
(SQLPOINTER)1, 0) != SQL_SUCCESS )
                                        ThrowError(CODBCERR::eSetStmtAttr);

                              rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)L"{call
tpcc_orderstatus(?,?,?,?)}", SQL_NTS);
                              if ( ((rc == SQL_SUCCESS_WITH_INFO) && (m_RowsFetched
!= 0)) || (rc == SQL_ERROR) )
                                        ThrowError(CODBCERR::eExecDirect);

                              // configure block cursor
                              if ( SQLSetStmtAttrW(m_hstmt, SQL_ATTR_ROW_ARRAY_SIZE,
(SQLPOINTER)MAX_OL_ORDER_STATUS_ITEMS, 0) != SQL_SUCCESS )
                                        ThrowError(CODBCERR::eSetStmtAttr);

                              rc = SQLFetchScroll( m_hstmt, SQL_FETCH_NEXT, 0 );
                              if ( ((rc == SQL_SUCCESS_WITH_INFO) && (m_RowsFetched
!= 0)) || (rc == SQL_ERROR) )
                                        ThrowError(CODBCERR::eFetchScroll);

                              m_txn.OrderStatus.o_ol_cnt = (short)m_RowsFetched;

                              if (m_txn.OrderStatus.o_ol_cnt != 0)
                              {
                                        if ( SQLSetStmtAttrW( m_hstmt,
SQL_ATTR_APP_ROW_DESC, m_descOrderStatusCols2, SQL_IS_POINTER ) != SQL_SUCCESS )

          ThrowError(CODBCERR::eSetStmtAttr);

                                        if ( SQLMoreResults(m_hstmt) == SQL_ERROR )

          ThrowError(CODBCERR::eMoreResults);

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

                              SQLFreeStmt(m_hstmt, SQL_CLOSE);

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

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

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

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

void CTPCC_ODBC::InitDeliveryParams()
{
          if (   SQLAllocHandle(SQL_HANDLE_STMT, m_hdbc, &m_hstmtDelivery) !=
SQL_SUCCESS )
                    ThrowError(CODBCERR::eAllocHandle);

          m_hstmt = m_hstmtDelivery;

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

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

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


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```
		m_hstmt = m_hstmtDelivery;

		while (TRUE)
		{
			try
			{
				rc = SQLExecDirectW(m_hstmt, (SQLWCHAR*)L"{call
tpcc_delivery(?,?)}", SQL_NTS);
				if (rc != SQL_SUCCESS && rc != SQL_SUCCESS_WITH_INFO)
					ThrowError(CODBCERR::eExecDirect);

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

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

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

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

tpcc_odbc.h

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

```
                            ERR_INVALID_CUST,                       // "Invalid
Customer id,name."
                            ERR_NO_SUCH_ORDER,                      // "No orders
found for customer."
                            ERR_RETRIED_TRANS,                      // "Retries
before transaction succeeded."
                    };

                    CTPCC_ODBC_ERR( int iErr ) { m_errno = iErr; m_iTryCount = 0; };

                    CTPCC_ODBC_ERR( int iErr, int iTryCount ) { m_errno = iErr;
m_iTryCount = iTryCount; };

                    int                 m_errno;
                    int                 m_iTryCount;

                    int ErrorType() {return ERR_TYPE_TPCC_ODBC;};
                    int ErrorNum() {return m_errno;};

                    char *ErrorText();
};

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

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

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

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

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

#ifdef new_order_strstr
                    // for new-order txn;
                    // output params
                    char                m_ol_i_name[I_NAME_LEN+1];
                    double              m_ol_i_price;
                    double              m_ol_amount;
                    short               m_ol_stock;
                    // used locally, but not returned to caller
                    char                m_i_data[I_DATA_LEN];
                    char                m_s_data[S_DATA_LEN];
#endif
```

```
                    void ThrowError( CODBCERR::ACTION eAction );

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

                    union
                    {
                              NEW_ORDER_DATA                NewOrder;
                              PAYMENT_DATA                  Payment;
                              DELIVERY_DATA                 Delivery;
                              STOCK_LEVEL_DATA    StockLevel;
                              ORDER_STATUS_DATA   OrderStatus;
                    }                             m_txn;

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

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

                    void NewOrder                 ();
                    void Payment                  ();
                    void Delivery                 ();
                    void StockLevel               ();
                    void OrderStatus    ();

};


// wrapper routine for class constructor
extern "C" DllDecl CTPCC_ODBC* CTPCC_ODBC_new
          ( LPCSTR szServer, LPCSTR szUser, LPCSTR szPassword, LPCSTR szHost, LPCSTR
szDatabase );

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

trans.h

```
/*        FILE:               TRANS.H
 *                                      Microsoft TPC-C Kit Ver. 4.30.002
 *                                      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.
 *
```


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```
 *  Change history:
 *                  4.30.002 - changed w_id from short to long to support warehouses
above 32,767
 *                  4.20.000 - updated rev number to match kit
 */
#pragma once

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

// TIMESTAMP_STRUCT is provided by the ODBC header file sqltypes.h, but is not
available
// when compiling with dblib, so redefined here.  Note: we are using the symbol
"__SQLTYPES"
// (declared in sqltypes.h) as a way to determine if TIMESTAMP_STRUCT has been
declared.
#ifndef __SQLTYPES
          typedef struct
          {
                              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 commited."
          eInvalidItem,       // 1      "Item number is not valid."
          eDeliveryFailed     // 2      "Delivery Post Failed."
```

```
};

// transaction structures
typedef struct
{
          // input params
          long                                    ol_supply_w_id;
          long                                    ol_i_id;
          short                                   ol_quantity;

          // output params
          char                                    ol_i_name[I_NAME_LEN+1];
          char                                    ol_brand_generic[BRAND_LEN+1];
          double                                  ol_i_price;
          double                                  ol_amount;
          short                                   ol_stock;
} OL_NEW_ORDER_DATA;

typedef struct
{
          // input params
          long                w_id;
          short               d_id;
          long                c_id;
          short               o_ol_cnt;

          // output params
          EXEC_STATUS                             exec_status_code;
          char                c_last[LAST_NAME_LEN+1];
          char                c_credit[CREDIT_LEN+1];
          double              c_discount;
          double              w_tax;
          double              d_tax;
          long                          o_id;
          short                                   o_commit_flag;
          TIMESTAMP_STRUCT    o_entry_d;
          short               o_all_local;
          double              total_amount;
          OL_NEW_ORDER_DATA   OL[MAX_OL_NEW_ORDER_ITEMS];
} NEW_ORDER_DATA, *PNEW_ORDER_DATA;

typedef struct
{         // input params
          long                                    w_id;
          short                                   d_id;
          long                                    c_id;
          short                                   c_d_id;
          long                                    c_w_id;
          double                                  h_amount;
          char                          c_last[LAST_NAME_LEN+1];

          // output params
          EXEC_STATUS                             exec_status_code;
          TIMESTAMP_STRUCT     h_date;
          char                                    w_street_1[ADDRESS_LEN+1];
          char                                    w_street_2[ADDRESS_LEN+1];
          char                                    w_city[ADDRESS_LEN+1];
          char                                    w_state[STATE_LEN+1];
          char                                    w_zip[ZIP_LEN+1];
          char                                    d_street_1[ADDRESS_LEN+1];
          char                                    d_street_2[ADDRESS_LEN+1];
          char                                    d_city[ADDRESS_LEN+1];
          char                                    d_state[STATE_LEN+1];
```


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```
        char                                d_zip[ZIP_LEN+1];
        char                                      c_first[FIRST_NAME_LEN+1];
        char                                      c_middle[MIDDLE_NAME_LEN + 1];
        char                                      c_street_1[ADDRESS_LEN+1];
        char                                      c_street_2[ADDRESS_LEN+1];
        char                                      c_city[ADDRESS_LEN+1];
        char                                      c_state[STATE_LEN+1];
        char                                      c_zip[ZIP_LEN+1];
        char                                      c_phone[PHONE_LEN+1];
        TIMESTAMP_STRUCT     c_since;
        char                                      c_credit[CREDIT_LEN+1];
        double                                    c_credit_lim;
        double                                    c_discount;
        double                                    c_balance;
        char                                      c_data[200+1];
} PAYMENT_DATA, *PPAYMENT_DATA;

typedef struct
{
        long                                ol_i_id;
        long                        ol_supply_w_id;
        short                               ol_quantity;
        double                              ol_amount;
        TIMESTAMP_STRUCT    ol_delivery_d;
} OL_ORDER_STATUS_DATA;

typedef struct
{       // input params
        long                                 w_id;
        short               d_id;
        long                c_id;
        char                c_last[LAST_NAME_LEN+1];

        // output params
        EXEC_STATUS                          exec_status_code;
        char                c_first[FIRST_NAME_LEN+1];
        char                c_middle[MIDDLE_NAME_LEN+1];
        double              c_balance;
        long                o_id;
        TIMESTAMP_STRUCT    o_entry_d;
        short               o_carrier_id;
        OL_ORDER_STATUS_DATA OL[MAX_OL_ORDER_STATUS_ITEMS];
        short               o_ol_cnt;
} ORDER_STATUS_DATA, *PORDER_STATUS_DATA;


typedef struct
{       // input params
        long                                w_id;
        short                       o_carrier_id;

        // output params
        EXEC_STATUS                         exec_status_code;
        SYSTEMTIME                  queue_time;
        long                                o_id[10];           // id's of
delivered orders for districts 1 to 10
} DELIVERY_DATA, *PDELIVERY_DATA;

//This structure is used for posting delivery transactions and for writing them to
the delivery server.
typedef struct _DELIVERY_TRANSACTION
{
        SYSTEMTIME          queue;                      //time delivery
transaction queued
        long                w_id;                       //delivery warehouse
        short               o_carrier_id;       //carrier id
} DELIVERY_TRANSACTION;

typedef struct
{       // input params
        long                                    w_id;
        short                                   d_id;
        short                                   threshold;

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

txn_base.h

```
/*      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;
};
```


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txnlog.h

```
/*        FILE:               TXNLOG.H
 *                                    Microsoft TPC-C Kit Ver. 4.10.000
 *                                    not yet audited
 *
 *        PURPOSE:  Header file for txn log class
 *                                    Copyright Microsoft, 1999
 *              All Rights Reserved
 *
 */

#pragma once

    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
                    int                 w_id;                             // warehouse
ID
                    BYTE      d_id;                           // assigned district ID
for this thread
                    BYTE      d_id_ThisTxn;       // district ID chosen for this
particular
```


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```
                    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)
                    int                 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               2
#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.
//                  struct
//                  {
//                            JULIAN_TIME                   TS;
          // timestamp of record
//                          int                                     iPos;
          // byte position in file
//                  }                                       RecMap[RecMapSize];
//#define           RecMapSize                              200

          } 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_CRASHOPEN     0x08                // if set, invalid headers will be
tolerated; used for recovery

#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.
                    LARGE_INTEGER       lFilePointer;                 //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;
```


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```
                    LARGE_INTEGER       lSavePtFilePointer;
                    int                                     iSavePtNextRec;

                    JULIAN_TIME         lastTS;
          //when writing sorted output, used to verify records are sorted
                    BOOL                bWrite;
          //writing log file
                    BOOL                bCrashOpen;
          // tolerate bad headers and consistency checks

                    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 pTxnRcrd);
                    int WriteToLog(PTXN_RECORD_TPCC_DELIV_DEF pTxnRcrd);
                    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 CTXNLOG_ERRS
                    {
                              ERR_BAD_FILE_FORMAT,                    // "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) : CBaseErr(iErr) {};

                    int ErrorType() {return ERR_TYPE_TXNLOG;};

                    char *ErrorText()
                    {
                              static char *szMsgs[] = {
                                        "File format is invalid.",
                                        "Log file version is unknown.",
                                        "Log file is broken.",
                                        "Log file is not sorted",
                                        "Internal Error: Record Time Sequence
invalid.",
                                        ""
                              };

                              for(int i = 0; szMsgs[i][0]; i++)
                              {
                                        if ( m_idMsg == i )
                                                  break;
                              }

                              return(szMsgs[i][0] ? szMsgs[i] : ERR_UNKNOWN);
                    };
};
```


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Appendix B: Database Design

The TPC-C database was created with the following Transact-SQL scripts:

BACKUP.SQL

```
--  File:     BACKUP.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.20
--            Copyright Microsoft, 1999
--  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_2, tpccback2_2, tpccback3_2, tpccback4_2,
tpccback5_2, tpccback6_2, tpccback7_2 with init, stats = 1, blocksize=4096

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

go
```

CREATEDB.SQL

```
--  File:     CREATEDB.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.20
--            Copyright Microsoft, 1999
--  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                = MSSQL80_tpcc_root,
          FILENAME  = "T:\MSSQL80_tpcc_root.mdf",
          SIZE                = 8MB,
          FILEGROWTH          =0),
FILEGROUP misc_fg
(         NAME                = misc1,
          FILENAME  = "M:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc2,
          FILENAME  = "N:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc3,
          FILENAME  = "O:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc4,
          FILENAME  = "P:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc5,
          FILENAME  = "Q:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc6,
          FILENAME  = "R:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
(         NAME                = misc7,
          FILENAME  = "S:",
          SIZE                = 12800MB,
          FILEGROWTH          = 0),
FILEGROUP big_fg
(         NAME                = big1,
          FILENAME  = "F:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big2,
          FILENAME  = "G:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big3,
          FILENAME  = "H:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big4,
          FILENAME  = "I:",
```


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```
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big5,
          FILENAME  = "J:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big6,
          FILENAME  = "K:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0),
(         NAME                = big7,
          FILENAME  = "L:",
          SIZE                = 18500MB,
          FILEGROWTH          = 0)
LOG ON
(         NAME                =MSSQL70_tpcc_log,
          FILENAME  ="E:",
          SIZE                =86000MB,
          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
```

add_remote_servers.sql

```
--file add_remote_servers.sql
--add remote servers for all the partitions
--
-- partition 1 is on host G1
--

exec sp_dropserver rmt1, droplogins
exec sp_addlinkedserver 'rmt1'
exec sp_setnetname 'rmt1', 'G1'
exec sp_serveroption 'rmt1', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt1, NULL
exec sp_addlinkedsrvlogin rmt1, 'false', 'sa', 'sa'

--
-- partition 2 is on host G2
--

exec sp_dropserver rmt2, droplogins
exec sp_addlinkedserver 'rmt2'
exec sp_setnetname 'rmt2', 'G2'
exec sp_serveroption 'rmt2', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt2, NULL
exec sp_addlinkedsrvlogin rmt2, 'false', 'sa', 'sa'

--
-- partition 3 is on host G3
--

exec sp_dropserver rmt3, droplogins
exec sp_addlinkedserver 'rmt3'
exec sp_setnetname 'rmt3', 'G3'
exec sp_serveroption 'rmt3', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt3, NULL
exec sp_addlinkedsrvlogin rmt3, 'false', 'sa', 'sa'

--
-- partition 4 is on host G4
--

exec sp_dropserver rmt4, droplogins
exec sp_addlinkedserver 'rmt4'
exec sp_setnetname 'rmt4', 'G4'
exec sp_serveroption 'rmt4', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt4, NULL
exec sp_addlinkedsrvlogin rmt4, 'false', 'sa', 'sa'

--
-- partition 5 is on host G5
--

exec sp_dropserver rmt5, droplogins
exec sp_addlinkedserver 'rmt5'
exec sp_setnetname 'rmt5', 'G5'
exec sp_serveroption 'rmt5', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt5, NULL
exec sp_addlinkedsrvlogin rmt5, 'false', 'sa', 'sa'

--
-- partition 6 is on host G6
--

exec sp_dropserver rmt6, droplogins
exec sp_addlinkedserver 'rmt6'
exec sp_setnetname 'rmt6', 'G6'
exec sp_serveroption 'rmt6', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt6, NULL
exec sp_addlinkedsrvlogin rmt6, 'false', 'sa', 'sa'

--
-- partition 7 is on host G7
--

exec sp_dropserver rmt7, droplogins
exec sp_addlinkedserver 'rmt7'
exec sp_setnetname 'rmt7', 'G7'
exec sp_serveroption 'rmt7', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt7, NULL
exec sp_addlinkedsrvlogin rmt7, 'false', 'sa', 'sa'

--
-- partition 8 is on host G8
--

exec sp_dropserver rmt8, droplogins
exec sp_addlinkedserver 'rmt8'
exec sp_setnetname 'rmt8', 'G8'
exec sp_serveroption 'rmt8', 'lazy schema validation', 'true'
```


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```
exec sp_droplinkedsrvlogin rmt8, NULL
exec sp_addlinkedsrvlogin rmt8, 'false', 'sa', 'sa'

--
-- partition 9 is on host G9
--

exec sp_dropserver rmt9, droplogins
exec sp_addlinkedserver 'rmt9'
exec sp_setnetname 'rmt9', 'G9'
exec sp_serveroption 'rmt9', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt9, NULL
exec sp_addlinkedsrvlogin rmt9, 'false', 'sa', 'sa'

--
-- partition 10 is on host G10
--

exec sp_dropserver rmt10, droplogins
exec sp_addlinkedserver 'rmt10'
exec sp_setnetname 'rmt10', 'G10'
exec sp_serveroption 'rmt10', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt10, NULL
exec sp_addlinkedsrvlogin rmt10, 'false', 'sa', 'sa'

--
-- partition 11 is on host G11
--

exec sp_dropserver rmt11, droplogins
exec sp_addlinkedserver 'rmt11'
exec sp_setnetname 'rmt11', 'G11'
exec sp_serveroption 'rmt11', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt11, NULL
exec sp_addlinkedsrvlogin rmt11, 'false', 'sa', 'sa'

--
-- partition 12 is on host G12
--

exec sp_dropserver rmt12, droplogins
exec sp_addlinkedserver 'rmt12'
exec sp_setnetname 'rmt12', 'G12'
exec sp_serveroption 'rmt12', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt12, NULL
exec sp_addlinkedsrvlogin rmt12, 'false', 'sa', 'sa'

--
-- partition 13 is on host G13
--

exec sp_dropserver rmt13, droplogins
exec sp_addlinkedserver 'rmt13'
exec sp_setnetname 'rmt13', 'G13'
exec sp_serveroption 'rmt13', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt13, NULL
exec sp_addlinkedsrvlogin rmt13, 'false', 'sa', 'sa'

--
-- partition 14 is on host G14
--

exec sp_dropserver rmt14, droplogins
exec sp_addlinkedserver 'rmt14'
exec sp_setnetname 'rmt14', 'G14'
exec sp_serveroption 'rmt14', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt14, NULL
exec sp_addlinkedsrvlogin rmt14, 'false', 'sa', 'sa'

--
-- partition 15 is on host G15
--

exec sp_dropserver rmt15, droplogins
exec sp_addlinkedserver 'rmt15'
exec sp_setnetname 'rmt15', 'G15'
exec sp_serveroption 'rmt15', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt15, NULL
exec sp_addlinkedsrvlogin rmt15, 'false', 'sa', 'sa'

--
-- partition 16 is on host G16
--

exec sp_dropserver rmt16, droplogins
exec sp_addlinkedserver 'rmt16'
exec sp_setnetname 'rmt16', 'G16'
exec sp_serveroption 'rmt16', 'lazy schema validation', 'true'
exec sp_droplinkedsrvlogin rmt16, NULL
exec sp_addlinkedsrvlogin rmt16, 'false', 'sa', 'sa'
```

add_constraints_t_1.sql

```
--file 1_to_1800\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go
```


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```
alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 1 and 1800
--

alter table t_warehouse add constraint cnst_w_id check (w_id <= convert(int,1800))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id <=
convert(int,1800))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id <=
convert(int,1800))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id <= convert(int,1800))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id <= convert(int,1800))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id <= convert(int,1800))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id <=
convert(int,1800))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id <=
convert(int,1800))
go
```

add_constraints_t_2.sql

```
--file 1801_to_3600\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 1801 and 3600
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,1801) and convert(int,3600))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,1801) and convert(int,3600))
go
```

add_constraints_t_3.sql

```
--file 3601_to_5400\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--
```


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```
alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 3601 and 5400
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,3601) and convert(int,5400))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,3601) and convert(int,5400))
go
```

add_constraints_t_4.sql

```
--file 5401_to_7200\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 5401 and 7200
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,5401) and convert(int,7200))
go
```


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```
alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,5401) and convert(int,7200))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,5401) and convert(int,7200))
go
```

add_constraints_t_5.sql

```
--file 7201_to_9000\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 7201 and 9000
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,7201) and convert(int,9000))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,7201) and convert(int,9000))
go
```

add_constraints_t_6.sql

```
--file 9001_to_10800\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 9001 and 10800
--
```


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```
alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,9001) and convert(int,10800))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,9001) and convert(int,10800))
go
```

add_constraints_t_7.sql

```
--file 10801_to_12600\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 10801 and 12600
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,10801) and convert(int,12600))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,10801) and convert(int,12600))
go
```

add_constraints_t_8.sql

```
--file 12601_to_14400\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go
```


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```
alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 12601 and 14400
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,12601) and convert(int,14400))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,12601) and convert(int,14400))
go
```

add_constraints_t_9.sql

```
--file 14401_to_16200\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 14401 and 16200
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,14401) and convert(int,16200))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,14401) and convert(int,16200))
go
```


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```
alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,14401) and convert(int,16200))
go
```

add_constraints_t_10.sql

```
--file 16201_to_18000\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 16201 and 18000
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,16201) and convert(int,18000))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,16201) and convert(int,18000))
go
```

add_constraints_t_11.sql

```
--file 18001_to_19800\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 18001 and 19800
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,18001) and convert(int,19800))
go
```


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```
alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,18001) and convert(int,19800))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,18001) and convert(int,19800))
go
```

add_constraints_t_12.sql

```
--file 19801_to_21600\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 19801 and 21600
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,19801) and convert(int,21600))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,19801) and convert(int,21600))
go
```

add_constraints_t_13.sql

```
--file 21601_to_23400\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go
```


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```
alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 21601 and 23400
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,21601) and convert(int,23400))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,21601) and convert(int,23400))
go
```

add_constraints_t_14.sql

```
--file 23401_to_25200\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 23401 and 25200
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,23401) and convert(int,25200))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,23401) and convert(int,25200))
```


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```
go
```

add_constraints_t_15.sql

```
--file 25201_to_27000\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 25201 and 27000
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,25201) and convert(int,27000))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,25201) and convert(int,27000))
go
```

add_constraints_t_16.sql

```
--file 27001_to_28800\add_constraints_t.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- Drop any existing partitioning constraints
--

alter table t_warehouse drop constraint cnst_w_id
go

alter table t_district drop constraint cnst_d_w_id
go

alter table t_customer drop constraint cnst_c_w_id
go

alter table t_history drop constraint cnst_h_w_id
go

alter table t_stock drop constraint cnst_s_w_id
go

alter table t_orders drop constraint cnst_o_w_id
go

alter table t_order_line drop constraint cnst_ol_w_id
go

alter table t_new_order drop constraint cnst_no_w_id
go

-- Add partitioning constraints between 27001 and 28800
--

alter table t_warehouse add constraint cnst_w_id check (w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_district add constraint cnst_d_w_id check (d_w_id between
convert(int,27001) and convert(int,28800))
```


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```
go

alter table t_customer add constraint cnst_c_w_id check (c_w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_history add constraint cnst_h_w_id check (h_w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_stock add constraint cnst_s_w_id check (s_w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_orders add constraint cnst_o_w_id check (o_w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_order_line add constraint cnst_ol_w_id check (ol_w_id between
convert(int,27001) and convert(int,28800))
go

alter table t_new_order add constraint cnst_no_w_id check (no_w_id between
convert(int,27001) and convert(int,28800))
go
```

add_views_1.sql

```
-- file 1_to_1800\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 1
create view warehouse as
 select * from /*rmt1.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt1.tpcc.dbo.*/t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
```


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```
 union all
 select * from rmt5.tpcc.dbo.t_district
 union all
 select * from rmt6.tpcc.dbo.t_district
 union all
 select * from rmt7.tpcc.dbo.t_district
 union all
 select * from rmt8.tpcc.dbo.t_district
 union all
 select * from rmt9.tpcc.dbo.t_district
 union all
 select * from rmt10.tpcc.dbo.t_district
 union all
 select * from rmt11.tpcc.dbo.t_district
 union all
 select * from rmt12.tpcc.dbo.t_district
 union all
 select * from rmt13.tpcc.dbo.t_district
 union all
 select * from rmt14.tpcc.dbo.t_district
 union all
 select * from rmt15.tpcc.dbo.t_district
 union all
 select * from rmt16.tpcc.dbo.t_district
 union all
 select * from rmt17.tpcc.dbo.t_district
 union all
 select * from rmt18.tpcc.dbo.t_district
 union all
 select * from rmt19.tpcc.dbo.t_district
 union all
 select * from rmt20.tpcc.dbo.t_district
 union all
 select * from rmt21.tpcc.dbo.t_district
 union all
 select * from rmt22.tpcc.dbo.t_district
 union all
 select * from rmt23.tpcc.dbo.t_district
 union all
 select * from rmt24.tpcc.dbo.t_district
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt1.tpcc.dbo.*/t_customer
 union all
 select * from rmt2.tpcc.dbo.t_customer
 union all
 select * from rmt3.tpcc.dbo.t_customer
 union all
 select * from rmt4.tpcc.dbo.t_customer
 union all
 select * from rmt5.tpcc.dbo.t_customer
 union all
 select * from rmt6.tpcc.dbo.t_customer
 union all
 select * from rmt7.tpcc.dbo.t_customer
 union all
 select * from rmt8.tpcc.dbo.t_customer
 union all
 select * from rmt9.tpcc.dbo.t_customer
 union all
 select * from rmt10.tpcc.dbo.t_customer
 union all
 select * from rmt11.tpcc.dbo.t_customer
 union all
 select * from rmt12.tpcc.dbo.t_customer
 union all
 select * from rmt13.tpcc.dbo.t_customer
 union all
 select * from rmt14.tpcc.dbo.t_customer
 union all
 select * from rmt15.tpcc.dbo.t_customer
 union all
 select * from rmt16.tpcc.dbo.t_customer
 union all
 select * from rmt17.tpcc.dbo.t_customer
 union all
 select * from rmt18.tpcc.dbo.t_customer
 union all
 select * from rmt19.tpcc.dbo.t_customer
 union all
 select * from rmt20.tpcc.dbo.t_customer
 union all
 select * from rmt21.tpcc.dbo.t_customer
 union all
 select * from rmt22.tpcc.dbo.t_customer
 union all
 select * from rmt23.tpcc.dbo.t_customer
 union all
 select * from rmt24.tpcc.dbo.t_customer
 union all
 select * from rmt25.tpcc.dbo.t_customer
 union all
 select * from rmt26.tpcc.dbo.t_customer
 union all
 select * from rmt27.tpcc.dbo.t_customer
 union all
 select * from rmt28.tpcc.dbo.t_customer
 union all
 select * from rmt29.tpcc.dbo.t_customer
 union all
 select * from rmt30.tpcc.dbo.t_customer
 union all
 select * from rmt31.tpcc.dbo.t_customer
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt1.tpcc.dbo.*/t_history
```


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```
 union all
select * from rmt2.tpcc.dbo.t_history
 union all
select * from rmt3.tpcc.dbo.t_history
 union all
select * from rmt4.tpcc.dbo.t_history
 union all
select * from rmt5.tpcc.dbo.t_history
 union all
select * from rmt6.tpcc.dbo.t_history
 union all
select * from rmt7.tpcc.dbo.t_history
 union all
select * from rmt8.tpcc.dbo.t_history
 union all
select * from rmt9.tpcc.dbo.t_history
 union all
select * from rmt10.tpcc.dbo.t_history
 union all
select * from rmt11.tpcc.dbo.t_history
 union all
select * from rmt12.tpcc.dbo.t_history
 union all
select * from rmt13.tpcc.dbo.t_history
 union all
select * from rmt14.tpcc.dbo.t_history
 union all
select * from rmt15.tpcc.dbo.t_history
 union all
select * from rmt16.tpcc.dbo.t_history
 union all
select * from rmt17.tpcc.dbo.t_history
 union all
select * from rmt18.tpcc.dbo.t_history
 union all
select * from rmt19.tpcc.dbo.t_history
 union all
select * from rmt20.tpcc.dbo.t_history
 union all
select * from rmt21.tpcc.dbo.t_history
 union all
select * from rmt22.tpcc.dbo.t_history
 union all
select * from rmt23.tpcc.dbo.t_history
 union all
select * from rmt24.tpcc.dbo.t_history
 union all
select * from rmt25.tpcc.dbo.t_history
 union all
select * from rmt26.tpcc.dbo.t_history
 union all
select * from rmt27.tpcc.dbo.t_history
 union all
select * from rmt28.tpcc.dbo.t_history
 union all
select * from rmt29.tpcc.dbo.t_history
 union all
select * from rmt30.tpcc.dbo.t_history
 union all
select * from rmt31.tpcc.dbo.t_history
 union all
select * from rmt32.tpcc.dbo.t_history
go
```

```
create view stock as
 select * from /*rmt1.tpcc.dbo.*/t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
```


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```
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt1.tpcc.dbo.*/t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt1.tpcc.dbo.*/t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
```


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```
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt1.tpcc.dbo.*/t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_2.sql

```
-- file 1801_to_3600\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 2
create view warehouse as
 select * from /*rmt2.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
```


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```
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt2.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt2.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
```


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```
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt2.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt2.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
```


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```
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt2.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt2.tpcc.dbo.*/t_order_line
  union all
```


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```
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go
```

```
create view new_order as
 select * from /*rmt2.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
```


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```
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_3.sql

```
-- file 3601_to_5400\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 3
create view warehouse as
 select * from /*rmt3.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt3.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
```


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```
 union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt3.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt3.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
```


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```
 union all
 select * from rmt12.tpcc.dbo.t_history
 union all
 select * from rmt13.tpcc.dbo.t_history
 union all
 select * from rmt14.tpcc.dbo.t_history
 union all
 select * from rmt15.tpcc.dbo.t_history
 union all
 select * from rmt16.tpcc.dbo.t_history
 union all
 select * from rmt17.tpcc.dbo.t_history
 union all
 select * from rmt18.tpcc.dbo.t_history
 union all
 select * from rmt19.tpcc.dbo.t_history
 union all
 select * from rmt20.tpcc.dbo.t_history
 union all
 select * from rmt21.tpcc.dbo.t_history
 union all
 select * from rmt22.tpcc.dbo.t_history
 union all
 select * from rmt23.tpcc.dbo.t_history
 union all
 select * from rmt24.tpcc.dbo.t_history
 union all
 select * from rmt25.tpcc.dbo.t_history
 union all
 select * from rmt26.tpcc.dbo.t_history
 union all
 select * from rmt27.tpcc.dbo.t_history
 union all
 select * from rmt28.tpcc.dbo.t_history
 union all
 select * from rmt29.tpcc.dbo.t_history
 union all
 select * from rmt30.tpcc.dbo.t_history
 union all
 select * from rmt31.tpcc.dbo.t_history
 union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt3.tpcc.dbo.*/t_stock
 union all
 select * from rmt1.tpcc.dbo.t_stock
 union all
 select * from rmt2.tpcc.dbo.t_stock
 union all
 select * from rmt4.tpcc.dbo.t_stock
 union all
 select * from rmt5.tpcc.dbo.t_stock
 union all
 select * from rmt6.tpcc.dbo.t_stock
 union all
 select * from rmt7.tpcc.dbo.t_stock
 union all
 select * from rmt8.tpcc.dbo.t_stock
 union all
 select * from rmt9.tpcc.dbo.t_stock
 union all
 select * from rmt10.tpcc.dbo.t_stock
 union all
 select * from rmt11.tpcc.dbo.t_stock
 union all
 select * from rmt12.tpcc.dbo.t_stock
 union all
 select * from rmt13.tpcc.dbo.t_stock
 union all
 select * from rmt14.tpcc.dbo.t_stock
 union all
 select * from rmt15.tpcc.dbo.t_stock
 union all
 select * from rmt16.tpcc.dbo.t_stock
 union all
 select * from rmt17.tpcc.dbo.t_stock
 union all
 select * from rmt18.tpcc.dbo.t_stock
 union all
 select * from rmt19.tpcc.dbo.t_stock
 union all
 select * from rmt20.tpcc.dbo.t_stock
 union all
 select * from rmt21.tpcc.dbo.t_stock
 union all
 select * from rmt22.tpcc.dbo.t_stock
 union all
 select * from rmt23.tpcc.dbo.t_stock
 union all
 select * from rmt24.tpcc.dbo.t_stock
 union all
 select * from rmt25.tpcc.dbo.t_stock
 union all
 select * from rmt26.tpcc.dbo.t_stock
 union all
 select * from rmt27.tpcc.dbo.t_stock
 union all
 select * from rmt28.tpcc.dbo.t_stock
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt3.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
 union all
 select * from rmt5.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
```


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```
 union all
 select * from rmt9.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt11.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt13.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt15.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt3.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt3.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt5.tpcc.dbo.t_new_order
```


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```
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt7.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt9.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt13.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt15.tpcc.dbo.t_new_order
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
 union all
 select * from rmt26.tpcc.dbo.t_new_order
 union all
 select * from rmt27.tpcc.dbo.t_new_order
 union all
 select * from rmt28.tpcc.dbo.t_new_order
 union all
 select * from rmt29.tpcc.dbo.t_new_order
 union all
 select * from rmt30.tpcc.dbo.t_new_order
 union all
 select * from rmt31.tpcc.dbo.t_new_order
 union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_4.sql

```
-- file 5401_to_7200\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 4
create view warehouse as
 select * from /*rmt4.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
```


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```
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt4.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt4.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
```


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```
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt4.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt4.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
```


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```
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt4.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt4.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
```


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```
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt4.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_5.sql

```
-- file 7201_to_9000\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
```


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```
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 5
create view warehouse as
 select * from /*rmt5.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt5.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
```


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```
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt5.tpcc.dbo.*/t_customer
 union all
 select * from rmt1.tpcc.dbo.t_customer
 union all
 select * from rmt2.tpcc.dbo.t_customer
 union all
 select * from rmt3.tpcc.dbo.t_customer
 union all
 select * from rmt4.tpcc.dbo.t_customer
 union all
 select * from rmt6.tpcc.dbo.t_customer
 union all
 select * from rmt7.tpcc.dbo.t_customer
 union all
 select * from rmt8.tpcc.dbo.t_customer
 union all
 select * from rmt9.tpcc.dbo.t_customer
 union all
 select * from rmt10.tpcc.dbo.t_customer
 union all
 select * from rmt11.tpcc.dbo.t_customer
 union all
 select * from rmt12.tpcc.dbo.t_customer
 union all
 select * from rmt13.tpcc.dbo.t_customer
 union all
 select * from rmt14.tpcc.dbo.t_customer
 union all
 select * from rmt15.tpcc.dbo.t_customer
 union all
 select * from rmt16.tpcc.dbo.t_customer
 union all
 select * from rmt17.tpcc.dbo.t_customer
 union all
 select * from rmt18.tpcc.dbo.t_customer
 union all
 select * from rmt19.tpcc.dbo.t_customer
 union all
 select * from rmt20.tpcc.dbo.t_customer
 union all
 select * from rmt21.tpcc.dbo.t_customer
 union all
 select * from rmt22.tpcc.dbo.t_customer
 union all
 select * from rmt23.tpcc.dbo.t_customer
 union all
 select * from rmt24.tpcc.dbo.t_customer
 union all
 select * from rmt25.tpcc.dbo.t_customer
 union all
 select * from rmt26.tpcc.dbo.t_customer
 union all
 select * from rmt27.tpcc.dbo.t_customer
 union all
 select * from rmt28.tpcc.dbo.t_customer
 union all
 select * from rmt29.tpcc.dbo.t_customer
 union all
 select * from rmt30.tpcc.dbo.t_customer
 union all
 select * from rmt31.tpcc.dbo.t_customer
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt5.tpcc.dbo.*/t_history
 union all
 select * from rmt1.tpcc.dbo.t_history
 union all
 select * from rmt2.tpcc.dbo.t_history
 union all
 select * from rmt3.tpcc.dbo.t_history
 union all
 select * from rmt4.tpcc.dbo.t_history
 union all
 select * from rmt6.tpcc.dbo.t_history
 union all
 select * from rmt7.tpcc.dbo.t_history
 union all
 select * from rmt8.tpcc.dbo.t_history
 union all
 select * from rmt9.tpcc.dbo.t_history
 union all
 select * from rmt10.tpcc.dbo.t_history
 union all
 select * from rmt11.tpcc.dbo.t_history
 union all
 select * from rmt12.tpcc.dbo.t_history
 union all
 select * from rmt13.tpcc.dbo.t_history
 union all
 select * from rmt14.tpcc.dbo.t_history
 union all
 select * from rmt15.tpcc.dbo.t_history
 union all
 select * from rmt16.tpcc.dbo.t_history
 union all
 select * from rmt17.tpcc.dbo.t_history
 union all
 select * from rmt18.tpcc.dbo.t_history
 union all
 select * from rmt19.tpcc.dbo.t_history
 union all
 select * from rmt20.tpcc.dbo.t_history
 union all
 select * from rmt21.tpcc.dbo.t_history
```


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```
 union all
 select * from rmt22.tpcc.dbo.t_history
 union all
 select * from rmt23.tpcc.dbo.t_history
 union all
 select * from rmt24.tpcc.dbo.t_history
 union all
 select * from rmt25.tpcc.dbo.t_history
 union all
 select * from rmt26.tpcc.dbo.t_history
 union all
 select * from rmt27.tpcc.dbo.t_history
 union all
 select * from rmt28.tpcc.dbo.t_history
 union all
 select * from rmt29.tpcc.dbo.t_history
 union all
 select * from rmt30.tpcc.dbo.t_history
 union all
 select * from rmt31.tpcc.dbo.t_history
 union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt5.tpcc.dbo.*/t_stock
 union all
 select * from rmt1.tpcc.dbo.t_stock
 union all
 select * from rmt2.tpcc.dbo.t_stock
 union all
 select * from rmt3.tpcc.dbo.t_stock
 union all
 select * from rmt4.tpcc.dbo.t_stock
 union all
 select * from rmt6.tpcc.dbo.t_stock
 union all
 select * from rmt7.tpcc.dbo.t_stock
 union all
 select * from rmt8.tpcc.dbo.t_stock
 union all
 select * from rmt9.tpcc.dbo.t_stock
 union all
 select * from rmt10.tpcc.dbo.t_stock
 union all
 select * from rmt11.tpcc.dbo.t_stock
 union all
 select * from rmt12.tpcc.dbo.t_stock
 union all
 select * from rmt13.tpcc.dbo.t_stock
 union all
 select * from rmt14.tpcc.dbo.t_stock
 union all
 select * from rmt15.tpcc.dbo.t_stock
 union all
 select * from rmt16.tpcc.dbo.t_stock
 union all
 select * from rmt17.tpcc.dbo.t_stock
 union all
 select * from rmt18.tpcc.dbo.t_stock
 union all
 select * from rmt19.tpcc.dbo.t_stock
 union all
 select * from rmt20.tpcc.dbo.t_stock
 union all
 select * from rmt21.tpcc.dbo.t_stock
 union all
 select * from rmt22.tpcc.dbo.t_stock
 union all
 select * from rmt23.tpcc.dbo.t_stock
 union all
 select * from rmt24.tpcc.dbo.t_stock
 union all
 select * from rmt25.tpcc.dbo.t_stock
 union all
 select * from rmt26.tpcc.dbo.t_stock
 union all
 select * from rmt27.tpcc.dbo.t_stock
 union all
 select * from rmt28.tpcc.dbo.t_stock
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt5.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt3.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
 union all
 select * from rmt9.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt11.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt13.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt15.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
```


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```
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt5.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt5.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt3.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt7.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt9.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt13.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt15.tpcc.dbo.t_new_order
```


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```
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
 union all
 select * from rmt26.tpcc.dbo.t_new_order
 union all
 select * from rmt27.tpcc.dbo.t_new_order
 union all
 select * from rmt28.tpcc.dbo.t_new_order
 union all
 select * from rmt29.tpcc.dbo.t_new_order
 union all
 select * from rmt30.tpcc.dbo.t_new_order
 union all
 select * from rmt31.tpcc.dbo.t_new_order
 union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_6.sql

```
-- file 9001_to_10800\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 6
create view warehouse as
 select * from /*rmt6.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
```


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```
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt6.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt6.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
```


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```
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt6.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt6.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
```


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```
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt6.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt6.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
```


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```
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt6.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_7.sql

```
-- file 10801_to_12600\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 7
create view warehouse as
 select * from /*rmt7.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
```


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```
 union all
 select * from rmt4.tpcc.dbo.t_warehouse
 union all
 select * from rmt5.tpcc.dbo.t_warehouse
 union all
 select * from rmt6.tpcc.dbo.t_warehouse
 union all
 select * from rmt8.tpcc.dbo.t_warehouse
 union all
 select * from rmt9.tpcc.dbo.t_warehouse
 union all
 select * from rmt10.tpcc.dbo.t_warehouse
 union all
 select * from rmt11.tpcc.dbo.t_warehouse
 union all
 select * from rmt12.tpcc.dbo.t_warehouse
 union all
 select * from rmt13.tpcc.dbo.t_warehouse
 union all
 select * from rmt14.tpcc.dbo.t_warehouse
 union all
 select * from rmt15.tpcc.dbo.t_warehouse
 union all
 select * from rmt16.tpcc.dbo.t_warehouse
 union all
 select * from rmt17.tpcc.dbo.t_warehouse
 union all
 select * from rmt18.tpcc.dbo.t_warehouse
 union all
 select * from rmt19.tpcc.dbo.t_warehouse
 union all
 select * from rmt20.tpcc.dbo.t_warehouse
 union all
 select * from rmt21.tpcc.dbo.t_warehouse
 union all
 select * from rmt22.tpcc.dbo.t_warehouse
 union all
 select * from rmt23.tpcc.dbo.t_warehouse
 union all
 select * from rmt24.tpcc.dbo.t_warehouse
 union all
 select * from rmt25.tpcc.dbo.t_warehouse
 union all
 select * from rmt26.tpcc.dbo.t_warehouse
 union all
 select * from rmt27.tpcc.dbo.t_warehouse
 union all
 select * from rmt28.tpcc.dbo.t_warehouse
 union all
 select * from rmt29.tpcc.dbo.t_warehouse
 union all
 select * from rmt30.tpcc.dbo.t_warehouse
 union all
 select * from rmt31.tpcc.dbo.t_warehouse
 union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt7.tpcc.dbo.*/t_district
 union all
 select * from rmt1.tpcc.dbo.t_district
 union all
 select * from rmt2.tpcc.dbo.t_district
 union all
 select * from rmt3.tpcc.dbo.t_district
 union all
 select * from rmt4.tpcc.dbo.t_district
 union all
 select * from rmt5.tpcc.dbo.t_district
 union all
 select * from rmt6.tpcc.dbo.t_district
 union all
 select * from rmt8.tpcc.dbo.t_district
 union all
 select * from rmt9.tpcc.dbo.t_district
 union all
 select * from rmt10.tpcc.dbo.t_district
 union all
 select * from rmt11.tpcc.dbo.t_district
 union all
 select * from rmt12.tpcc.dbo.t_district
 union all
 select * from rmt13.tpcc.dbo.t_district
 union all
 select * from rmt14.tpcc.dbo.t_district
 union all
 select * from rmt15.tpcc.dbo.t_district
 union all
 select * from rmt16.tpcc.dbo.t_district
 union all
 select * from rmt17.tpcc.dbo.t_district
 union all
 select * from rmt18.tpcc.dbo.t_district
 union all
 select * from rmt19.tpcc.dbo.t_district
 union all
 select * from rmt20.tpcc.dbo.t_district
 union all
 select * from rmt21.tpcc.dbo.t_district
 union all
 select * from rmt22.tpcc.dbo.t_district
 union all
 select * from rmt23.tpcc.dbo.t_district
 union all
 select * from rmt24.tpcc.dbo.t_district
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt7.tpcc.dbo.*/t_customer
```


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```
 union all
select * from rmt1.tpcc.dbo.t_customer
 union all
select * from rmt2.tpcc.dbo.t_customer
 union all
select * from rmt3.tpcc.dbo.t_customer
 union all
select * from rmt4.tpcc.dbo.t_customer
 union all
select * from rmt5.tpcc.dbo.t_customer
 union all
select * from rmt6.tpcc.dbo.t_customer
 union all
select * from rmt8.tpcc.dbo.t_customer
 union all
select * from rmt9.tpcc.dbo.t_customer
 union all
select * from rmt10.tpcc.dbo.t_customer
 union all
select * from rmt11.tpcc.dbo.t_customer
 union all
select * from rmt12.tpcc.dbo.t_customer
 union all
select * from rmt13.tpcc.dbo.t_customer
 union all
select * from rmt14.tpcc.dbo.t_customer
 union all
select * from rmt15.tpcc.dbo.t_customer
 union all
select * from rmt16.tpcc.dbo.t_customer
 union all
select * from rmt17.tpcc.dbo.t_customer
 union all
select * from rmt18.tpcc.dbo.t_customer
 union all
select * from rmt19.tpcc.dbo.t_customer
 union all
select * from rmt20.tpcc.dbo.t_customer
 union all
select * from rmt21.tpcc.dbo.t_customer
 union all
select * from rmt22.tpcc.dbo.t_customer
 union all
select * from rmt23.tpcc.dbo.t_customer
 union all
select * from rmt24.tpcc.dbo.t_customer
 union all
select * from rmt25.tpcc.dbo.t_customer
 union all
select * from rmt26.tpcc.dbo.t_customer
 union all
select * from rmt27.tpcc.dbo.t_customer
 union all
select * from rmt28.tpcc.dbo.t_customer
 union all
select * from rmt29.tpcc.dbo.t_customer
 union all
select * from rmt30.tpcc.dbo.t_customer
 union all
select * from rmt31.tpcc.dbo.t_customer
 union all
select * from rmt32.tpcc.dbo.t_customer
go
```

```
create view history as
 select * from /*rmt7.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
```


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```
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt7.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt7.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
```


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```
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt7.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt7.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt3.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt5.tpcc.dbo.t_new_order
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt9.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt13.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt15.tpcc.dbo.t_new_order
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
```


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```
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_8.sql

```
-- file 12601_to_14400\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 8
create view warehouse as
 select * from /*rmt8.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt8.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
```


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```
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt8.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt8.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
```


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```
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt8.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt8.tpcc.dbo.*/t_orders
  union all
```


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```
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go
```

```
create view order_line as
 select * from /*rmt8.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
```


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```
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt8.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_9.sql

```
-- file 14401_to_16200\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 9
create view warehouse as
 select * from /*rmt9.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
```


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```
 union all
 select * from rmt15.tpcc.dbo.t_warehouse
 union all
 select * from rmt16.tpcc.dbo.t_warehouse
 union all
 select * from rmt17.tpcc.dbo.t_warehouse
 union all
 select * from rmt18.tpcc.dbo.t_warehouse
 union all
 select * from rmt19.tpcc.dbo.t_warehouse
 union all
 select * from rmt20.tpcc.dbo.t_warehouse
 union all
 select * from rmt21.tpcc.dbo.t_warehouse
 union all
 select * from rmt22.tpcc.dbo.t_warehouse
 union all
 select * from rmt23.tpcc.dbo.t_warehouse
 union all
 select * from rmt24.tpcc.dbo.t_warehouse
 union all
 select * from rmt25.tpcc.dbo.t_warehouse
 union all
 select * from rmt26.tpcc.dbo.t_warehouse
 union all
 select * from rmt27.tpcc.dbo.t_warehouse
 union all
 select * from rmt28.tpcc.dbo.t_warehouse
 union all
 select * from rmt29.tpcc.dbo.t_warehouse
 union all
 select * from rmt30.tpcc.dbo.t_warehouse
 union all
 select * from rmt31.tpcc.dbo.t_warehouse
 union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt9.tpcc.dbo.*/t_district
 union all
 select * from rmt1.tpcc.dbo.t_district
 union all
 select * from rmt2.tpcc.dbo.t_district
 union all
 select * from rmt3.tpcc.dbo.t_district
 union all
 select * from rmt4.tpcc.dbo.t_district
 union all
 select * from rmt5.tpcc.dbo.t_district
 union all
 select * from rmt6.tpcc.dbo.t_district
 union all
 select * from rmt7.tpcc.dbo.t_district
 union all
 select * from rmt8.tpcc.dbo.t_district
 union all
 select * from rmt10.tpcc.dbo.t_district
 union all
 select * from rmt11.tpcc.dbo.t_district
 union all
 select * from rmt12.tpcc.dbo.t_district
 union all
 select * from rmt13.tpcc.dbo.t_district
 union all
 select * from rmt14.tpcc.dbo.t_district
 union all
 select * from rmt15.tpcc.dbo.t_district
 union all
 select * from rmt16.tpcc.dbo.t_district
 union all
 select * from rmt17.tpcc.dbo.t_district
 union all
 select * from rmt18.tpcc.dbo.t_district
 union all
 select * from rmt19.tpcc.dbo.t_district
 union all
 select * from rmt20.tpcc.dbo.t_district
 union all
 select * from rmt21.tpcc.dbo.t_district
 union all
 select * from rmt22.tpcc.dbo.t_district
 union all
 select * from rmt23.tpcc.dbo.t_district
 union all
 select * from rmt24.tpcc.dbo.t_district
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt9.tpcc.dbo.*/t_customer
 union all
 select * from rmt1.tpcc.dbo.t_customer
 union all
 select * from rmt2.tpcc.dbo.t_customer
 union all
 select * from rmt3.tpcc.dbo.t_customer
 union all
 select * from rmt4.tpcc.dbo.t_customer
 union all
 select * from rmt5.tpcc.dbo.t_customer
 union all
 select * from rmt6.tpcc.dbo.t_customer
 union all
 select * from rmt7.tpcc.dbo.t_customer
 union all
 select * from rmt8.tpcc.dbo.t_customer
 union all
 select * from rmt10.tpcc.dbo.t_customer
 union all
 select * from rmt11.tpcc.dbo.t_customer
```


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```
 union all
 select * from rmt12.tpcc.dbo.t_customer
 union all
 select * from rmt13.tpcc.dbo.t_customer
 union all
 select * from rmt14.tpcc.dbo.t_customer
 union all
 select * from rmt15.tpcc.dbo.t_customer
 union all
 select * from rmt16.tpcc.dbo.t_customer
 union all
 select * from rmt17.tpcc.dbo.t_customer
 union all
 select * from rmt18.tpcc.dbo.t_customer
 union all
 select * from rmt19.tpcc.dbo.t_customer
 union all
 select * from rmt20.tpcc.dbo.t_customer
 union all
 select * from rmt21.tpcc.dbo.t_customer
 union all
 select * from rmt22.tpcc.dbo.t_customer
 union all
 select * from rmt23.tpcc.dbo.t_customer
 union all
 select * from rmt24.tpcc.dbo.t_customer
 union all
 select * from rmt25.tpcc.dbo.t_customer
 union all
 select * from rmt26.tpcc.dbo.t_customer
 union all
 select * from rmt27.tpcc.dbo.t_customer
 union all
 select * from rmt28.tpcc.dbo.t_customer
 union all
 select * from rmt29.tpcc.dbo.t_customer
 union all
 select * from rmt30.tpcc.dbo.t_customer
 union all
 select * from rmt31.tpcc.dbo.t_customer
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt9.tpcc.dbo.*/t_history
 union all
 select * from rmt1.tpcc.dbo.t_history
 union all
 select * from rmt2.tpcc.dbo.t_history
 union all
 select * from rmt3.tpcc.dbo.t_history
 union all
 select * from rmt4.tpcc.dbo.t_history
 union all
 select * from rmt5.tpcc.dbo.t_history
 union all
 select * from rmt6.tpcc.dbo.t_history
 union all
 select * from rmt7.tpcc.dbo.t_history
 union all
 select * from rmt8.tpcc.dbo.t_history
 union all
 select * from rmt10.tpcc.dbo.t_history
 union all
 select * from rmt11.tpcc.dbo.t_history
 union all
 select * from rmt12.tpcc.dbo.t_history
 union all
 select * from rmt13.tpcc.dbo.t_history
 union all
 select * from rmt14.tpcc.dbo.t_history
 union all
 select * from rmt15.tpcc.dbo.t_history
 union all
 select * from rmt16.tpcc.dbo.t_history
 union all
 select * from rmt17.tpcc.dbo.t_history
 union all
 select * from rmt18.tpcc.dbo.t_history
 union all
 select * from rmt19.tpcc.dbo.t_history
 union all
 select * from rmt20.tpcc.dbo.t_history
 union all
 select * from rmt21.tpcc.dbo.t_history
 union all
 select * from rmt22.tpcc.dbo.t_history
 union all
 select * from rmt23.tpcc.dbo.t_history
 union all
 select * from rmt24.tpcc.dbo.t_history
 union all
 select * from rmt25.tpcc.dbo.t_history
 union all
 select * from rmt26.tpcc.dbo.t_history
 union all
 select * from rmt27.tpcc.dbo.t_history
 union all
 select * from rmt28.tpcc.dbo.t_history
 union all
 select * from rmt29.tpcc.dbo.t_history
 union all
 select * from rmt30.tpcc.dbo.t_history
 union all
 select * from rmt31.tpcc.dbo.t_history
 union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt9.tpcc.dbo.*/t_stock
 union all
 select * from rmt1.tpcc.dbo.t_stock
 union all
 select * from rmt2.tpcc.dbo.t_stock
 union all
 select * from rmt3.tpcc.dbo.t_stock
 union all
 select * from rmt4.tpcc.dbo.t_stock
 union all
 select * from rmt5.tpcc.dbo.t_stock
 union all
 select * from rmt6.tpcc.dbo.t_stock
 union all
 select * from rmt7.tpcc.dbo.t_stock
```


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```
 union all
 select * from rmt8.tpcc.dbo.t_stock
 union all
 select * from rmt10.tpcc.dbo.t_stock
 union all
 select * from rmt11.tpcc.dbo.t_stock
 union all
 select * from rmt12.tpcc.dbo.t_stock
 union all
 select * from rmt13.tpcc.dbo.t_stock
 union all
 select * from rmt14.tpcc.dbo.t_stock
 union all
 select * from rmt15.tpcc.dbo.t_stock
 union all
 select * from rmt16.tpcc.dbo.t_stock
 union all
 select * from rmt17.tpcc.dbo.t_stock
 union all
 select * from rmt18.tpcc.dbo.t_stock
 union all
 select * from rmt19.tpcc.dbo.t_stock
 union all
 select * from rmt20.tpcc.dbo.t_stock
 union all
 select * from rmt21.tpcc.dbo.t_stock
 union all
 select * from rmt22.tpcc.dbo.t_stock
 union all
 select * from rmt23.tpcc.dbo.t_stock
 union all
 select * from rmt24.tpcc.dbo.t_stock
 union all
 select * from rmt25.tpcc.dbo.t_stock
 union all
 select * from rmt26.tpcc.dbo.t_stock
 union all
 select * from rmt27.tpcc.dbo.t_stock
 union all
 select * from rmt28.tpcc.dbo.t_stock
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt9.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt3.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
 union all
 select * from rmt5.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt11.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt13.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt15.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt9.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
```


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```
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt9.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt3.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt5.tpcc.dbo.t_new_order
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt7.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt13.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt15.tpcc.dbo.t_new_order
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
 union all
 select * from rmt26.tpcc.dbo.t_new_order
 union all
 select * from rmt27.tpcc.dbo.t_new_order
 union all
 select * from rmt28.tpcc.dbo.t_new_order
 union all
 select * from rmt29.tpcc.dbo.t_new_order
 union all
 select * from rmt30.tpcc.dbo.t_new_order
 union all
 select * from rmt31.tpcc.dbo.t_new_order
 union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```


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add_views_10.sql

```
-- file 16201_to_18000\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 10
create view warehouse as
 select * from /*rmt10.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt10.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
```


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```
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt10.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt10.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
```


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```
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt10.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt10.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
```


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```
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt10.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt10.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
```


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```
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_11.sql

```
-- file 18001_to_19800\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 11
create view warehouse as
 select * from /*rmt11.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
```


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```
 union all
 select * from rmt25.tpcc.dbo.t_warehouse
 union all
 select * from rmt26.tpcc.dbo.t_warehouse
 union all
 select * from rmt27.tpcc.dbo.t_warehouse
 union all
 select * from rmt28.tpcc.dbo.t_warehouse
 union all
 select * from rmt29.tpcc.dbo.t_warehouse
 union all
 select * from rmt30.tpcc.dbo.t_warehouse
 union all
 select * from rmt31.tpcc.dbo.t_warehouse
 union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt11.tpcc.dbo.*/t_district
 union all
 select * from rmt1.tpcc.dbo.t_district
 union all
 select * from rmt2.tpcc.dbo.t_district
 union all
 select * from rmt3.tpcc.dbo.t_district
 union all
 select * from rmt4.tpcc.dbo.t_district
 union all
 select * from rmt5.tpcc.dbo.t_district
 union all
 select * from rmt6.tpcc.dbo.t_district
 union all
 select * from rmt7.tpcc.dbo.t_district
 union all
 select * from rmt8.tpcc.dbo.t_district
 union all
 select * from rmt9.tpcc.dbo.t_district
 union all
 select * from rmt10.tpcc.dbo.t_district
 union all
 select * from rmt12.tpcc.dbo.t_district
 union all
 select * from rmt13.tpcc.dbo.t_district
 union all
 select * from rmt14.tpcc.dbo.t_district
 union all
 select * from rmt15.tpcc.dbo.t_district
 union all
 select * from rmt16.tpcc.dbo.t_district
 union all
 select * from rmt17.tpcc.dbo.t_district
 union all
 select * from rmt18.tpcc.dbo.t_district
 union all
 select * from rmt19.tpcc.dbo.t_district
 union all
 select * from rmt20.tpcc.dbo.t_district
 union all
 select * from rmt21.tpcc.dbo.t_district
 union all
 select * from rmt22.tpcc.dbo.t_district
 union all
 select * from rmt23.tpcc.dbo.t_district
 union all
 select * from rmt24.tpcc.dbo.t_district
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt11.tpcc.dbo.*/t_customer
 union all
 select * from rmt1.tpcc.dbo.t_customer
 union all
 select * from rmt2.tpcc.dbo.t_customer
 union all
 select * from rmt3.tpcc.dbo.t_customer
 union all
 select * from rmt4.tpcc.dbo.t_customer
 union all
 select * from rmt5.tpcc.dbo.t_customer
 union all
 select * from rmt6.tpcc.dbo.t_customer
 union all
 select * from rmt7.tpcc.dbo.t_customer
 union all
 select * from rmt8.tpcc.dbo.t_customer
 union all
 select * from rmt9.tpcc.dbo.t_customer
 union all
 select * from rmt10.tpcc.dbo.t_customer
 union all
 select * from rmt12.tpcc.dbo.t_customer
 union all
 select * from rmt13.tpcc.dbo.t_customer
 union all
 select * from rmt14.tpcc.dbo.t_customer
 union all
 select * from rmt15.tpcc.dbo.t_customer
 union all
 select * from rmt16.tpcc.dbo.t_customer
 union all
 select * from rmt17.tpcc.dbo.t_customer
 union all
 select * from rmt18.tpcc.dbo.t_customer
 union all
 select * from rmt19.tpcc.dbo.t_customer
 union all
 select * from rmt20.tpcc.dbo.t_customer
 union all
 select * from rmt21.tpcc.dbo.t_customer
```


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```
 union all
 select * from rmt22.tpcc.dbo.t_customer
 union all
 select * from rmt23.tpcc.dbo.t_customer
 union all
 select * from rmt24.tpcc.dbo.t_customer
 union all
 select * from rmt25.tpcc.dbo.t_customer
 union all
 select * from rmt26.tpcc.dbo.t_customer
 union all
 select * from rmt27.tpcc.dbo.t_customer
 union all
 select * from rmt28.tpcc.dbo.t_customer
 union all
 select * from rmt29.tpcc.dbo.t_customer
 union all
 select * from rmt30.tpcc.dbo.t_customer
 union all
 select * from rmt31.tpcc.dbo.t_customer
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt11.tpcc.dbo.*/t_history
 union all
 select * from rmt1.tpcc.dbo.t_history
 union all
 select * from rmt2.tpcc.dbo.t_history
 union all
 select * from rmt3.tpcc.dbo.t_history
 union all
 select * from rmt4.tpcc.dbo.t_history
 union all
 select * from rmt5.tpcc.dbo.t_history
 union all
 select * from rmt6.tpcc.dbo.t_history
 union all
 select * from rmt7.tpcc.dbo.t_history
 union all
 select * from rmt8.tpcc.dbo.t_history
 union all
 select * from rmt9.tpcc.dbo.t_history
 union all
 select * from rmt10.tpcc.dbo.t_history
 union all
 select * from rmt12.tpcc.dbo.t_history
 union all
 select * from rmt13.tpcc.dbo.t_history
 union all
 select * from rmt14.tpcc.dbo.t_history
 union all
 select * from rmt15.tpcc.dbo.t_history
 union all
 select * from rmt16.tpcc.dbo.t_history
 union all
 select * from rmt17.tpcc.dbo.t_history
 union all
 select * from rmt18.tpcc.dbo.t_history
 union all
 select * from rmt19.tpcc.dbo.t_history
 union all
 select * from rmt20.tpcc.dbo.t_history
 union all
 select * from rmt21.tpcc.dbo.t_history
 union all
 select * from rmt22.tpcc.dbo.t_history
 union all
 select * from rmt23.tpcc.dbo.t_history
 union all
 select * from rmt24.tpcc.dbo.t_history
 union all
 select * from rmt25.tpcc.dbo.t_history
 union all
 select * from rmt26.tpcc.dbo.t_history
 union all
 select * from rmt27.tpcc.dbo.t_history
 union all
 select * from rmt28.tpcc.dbo.t_history
 union all
 select * from rmt29.tpcc.dbo.t_history
 union all
 select * from rmt30.tpcc.dbo.t_history
 union all
 select * from rmt31.tpcc.dbo.t_history
 union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt11.tpcc.dbo.*/t_stock
 union all
 select * from rmt1.tpcc.dbo.t_stock
 union all
 select * from rmt2.tpcc.dbo.t_stock
 union all
 select * from rmt3.tpcc.dbo.t_stock
 union all
 select * from rmt4.tpcc.dbo.t_stock
 union all
 select * from rmt5.tpcc.dbo.t_stock
 union all
 select * from rmt6.tpcc.dbo.t_stock
 union all
 select * from rmt7.tpcc.dbo.t_stock
 union all
 select * from rmt8.tpcc.dbo.t_stock
 union all
 select * from rmt9.tpcc.dbo.t_stock
 union all
 select * from rmt10.tpcc.dbo.t_stock
 union all
 select * from rmt12.tpcc.dbo.t_stock
 union all
 select * from rmt13.tpcc.dbo.t_stock
 union all
 select * from rmt14.tpcc.dbo.t_stock
 union all
 select * from rmt15.tpcc.dbo.t_stock
 union all
 select * from rmt16.tpcc.dbo.t_stock
 union all
 select * from rmt17.tpcc.dbo.t_stock
 union all
 select * from rmt18.tpcc.dbo.t_stock
```


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```
 union all
 select * from rmt19.tpcc.dbo.t_stock
 union all
 select * from rmt20.tpcc.dbo.t_stock
 union all
 select * from rmt21.tpcc.dbo.t_stock
 union all
 select * from rmt22.tpcc.dbo.t_stock
 union all
 select * from rmt23.tpcc.dbo.t_stock
 union all
 select * from rmt24.tpcc.dbo.t_stock
 union all
 select * from rmt25.tpcc.dbo.t_stock
 union all
 select * from rmt26.tpcc.dbo.t_stock
 union all
 select * from rmt27.tpcc.dbo.t_stock
 union all
 select * from rmt28.tpcc.dbo.t_stock
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt11.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt3.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
 union all
 select * from rmt5.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
 union all
 select * from rmt9.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt13.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt15.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt11.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
```


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```
 union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt11.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_12.sql

```
-- file 19801_to_21600\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
```


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```
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 12
create view warehouse as
 select * from /*rmt12.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt12.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
```


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```
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt12.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt12.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
```


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```
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt12.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt12.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
```


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```
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt12.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt12.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
```


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```
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_13.sql

```
-- file 21601_to_23400\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 13
create view warehouse as
 select * from /*rmt13.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt13.tpcc.dbo.*/t_district
```


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```
 union all
select * from rmt1.tpcc.dbo.t_district
 union all
select * from rmt2.tpcc.dbo.t_district
 union all
select * from rmt3.tpcc.dbo.t_district
 union all
select * from rmt4.tpcc.dbo.t_district
 union all
select * from rmt5.tpcc.dbo.t_district
 union all
select * from rmt6.tpcc.dbo.t_district
 union all
select * from rmt7.tpcc.dbo.t_district
 union all
select * from rmt8.tpcc.dbo.t_district
 union all
select * from rmt9.tpcc.dbo.t_district
 union all
select * from rmt10.tpcc.dbo.t_district
 union all
select * from rmt11.tpcc.dbo.t_district
 union all
select * from rmt12.tpcc.dbo.t_district
 union all
select * from rmt14.tpcc.dbo.t_district
 union all
select * from rmt15.tpcc.dbo.t_district
 union all
select * from rmt16.tpcc.dbo.t_district
 union all
select * from rmt17.tpcc.dbo.t_district
 union all
select * from rmt18.tpcc.dbo.t_district
 union all
select * from rmt19.tpcc.dbo.t_district
 union all
select * from rmt20.tpcc.dbo.t_district
 union all
select * from rmt21.tpcc.dbo.t_district
 union all
select * from rmt22.tpcc.dbo.t_district
 union all
select * from rmt23.tpcc.dbo.t_district
 union all
select * from rmt24.tpcc.dbo.t_district
 union all
select * from rmt25.tpcc.dbo.t_district
 union all
select * from rmt26.tpcc.dbo.t_district
 union all
select * from rmt27.tpcc.dbo.t_district
 union all
select * from rmt28.tpcc.dbo.t_district
 union all
select * from rmt29.tpcc.dbo.t_district
 union all
select * from rmt30.tpcc.dbo.t_district
 union all
select * from rmt31.tpcc.dbo.t_district
 union all
select * from rmt32.tpcc.dbo.t_district
go
```

```
create view customer as
 select * from /*rmt13.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
```


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```
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt13.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt13.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
```


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```
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt13.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt3.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
 union all
 select * from rmt5.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
 union all
 select * from rmt9.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt11.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt15.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt13.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt15.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
```


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```
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt13.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt3.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt5.tpcc.dbo.t_new_order
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt7.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt9.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt15.tpcc.dbo.t_new_order
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
 union all
 select * from rmt26.tpcc.dbo.t_new_order
 union all
 select * from rmt27.tpcc.dbo.t_new_order
 union all
 select * from rmt28.tpcc.dbo.t_new_order
 union all
 select * from rmt29.tpcc.dbo.t_new_order
 union all
 select * from rmt30.tpcc.dbo.t_new_order
 union all
 select * from rmt31.tpcc.dbo.t_new_order
 union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_14.sql

```
-- file 23401_to_25200\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 14
create view warehouse as
 select * from /*rmt14.tpcc.dbo.*/t_warehouse
 union all
 select * from rmt1.tpcc.dbo.t_warehouse
 union all
 select * from rmt2.tpcc.dbo.t_warehouse
 union all
 select * from rmt3.tpcc.dbo.t_warehouse
 union all
 select * from rmt4.tpcc.dbo.t_warehouse
 union all
 select * from rmt5.tpcc.dbo.t_warehouse
 union all
 select * from rmt6.tpcc.dbo.t_warehouse
 union all
```


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```
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt14.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt16.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt14.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
```


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```
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt16.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt14.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt16.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt14.tpcc.dbo.*/t_stock
  union all
```


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```
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt16.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go
```

```
create view orders as
 select * from /*rmt14.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt16.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
```


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```
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt14.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt16.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt14.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt16.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
```


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```
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_15.sql

```
-- file 25201_to_27000\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 15
create view warehouse as
 select * from /*rmt15.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt16.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt15.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
```


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```
 union all
 select * from rmt11.tpcc.dbo.t_district
 union all
 select * from rmt12.tpcc.dbo.t_district
 union all
 select * from rmt13.tpcc.dbo.t_district
 union all
 select * from rmt14.tpcc.dbo.t_district
 union all
 select * from rmt16.tpcc.dbo.t_district
 union all
 select * from rmt17.tpcc.dbo.t_district
 union all
 select * from rmt18.tpcc.dbo.t_district
 union all
 select * from rmt19.tpcc.dbo.t_district
 union all
 select * from rmt20.tpcc.dbo.t_district
 union all
 select * from rmt21.tpcc.dbo.t_district
 union all
 select * from rmt22.tpcc.dbo.t_district
 union all
 select * from rmt23.tpcc.dbo.t_district
 union all
 select * from rmt24.tpcc.dbo.t_district
 union all
 select * from rmt25.tpcc.dbo.t_district
 union all
 select * from rmt26.tpcc.dbo.t_district
 union all
 select * from rmt27.tpcc.dbo.t_district
 union all
 select * from rmt28.tpcc.dbo.t_district
 union all
 select * from rmt29.tpcc.dbo.t_district
 union all
 select * from rmt30.tpcc.dbo.t_district
 union all
 select * from rmt31.tpcc.dbo.t_district
 union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt15.tpcc.dbo.*/t_customer
 union all
 select * from rmt1.tpcc.dbo.t_customer
 union all
 select * from rmt2.tpcc.dbo.t_customer
 union all
 select * from rmt3.tpcc.dbo.t_customer
 union all
 select * from rmt4.tpcc.dbo.t_customer
 union all
 select * from rmt5.tpcc.dbo.t_customer
 union all
 select * from rmt6.tpcc.dbo.t_customer
 union all
 select * from rmt7.tpcc.dbo.t_customer
 union all
 select * from rmt8.tpcc.dbo.t_customer
 union all
 select * from rmt9.tpcc.dbo.t_customer
 union all
 select * from rmt10.tpcc.dbo.t_customer
 union all
 select * from rmt11.tpcc.dbo.t_customer
 union all
 select * from rmt12.tpcc.dbo.t_customer
 union all
 select * from rmt13.tpcc.dbo.t_customer
 union all
 select * from rmt14.tpcc.dbo.t_customer
 union all
 select * from rmt16.tpcc.dbo.t_customer
 union all
 select * from rmt17.tpcc.dbo.t_customer
 union all
 select * from rmt18.tpcc.dbo.t_customer
 union all
 select * from rmt19.tpcc.dbo.t_customer
 union all
 select * from rmt20.tpcc.dbo.t_customer
 union all
 select * from rmt21.tpcc.dbo.t_customer
 union all
 select * from rmt22.tpcc.dbo.t_customer
 union all
 select * from rmt23.tpcc.dbo.t_customer
 union all
 select * from rmt24.tpcc.dbo.t_customer
 union all
 select * from rmt25.tpcc.dbo.t_customer
 union all
 select * from rmt26.tpcc.dbo.t_customer
 union all
 select * from rmt27.tpcc.dbo.t_customer
 union all
 select * from rmt28.tpcc.dbo.t_customer
 union all
 select * from rmt29.tpcc.dbo.t_customer
 union all
 select * from rmt30.tpcc.dbo.t_customer
 union all
 select * from rmt31.tpcc.dbo.t_customer
 union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt15.tpcc.dbo.*/t_history
 union all
 select * from rmt1.tpcc.dbo.t_history
 union all
 select * from rmt2.tpcc.dbo.t_history
 union all
 select * from rmt3.tpcc.dbo.t_history
 union all
 select * from rmt4.tpcc.dbo.t_history
 union all
 select * from rmt5.tpcc.dbo.t_history
 union all
 select * from rmt6.tpcc.dbo.t_history
 union all
 select * from rmt7.tpcc.dbo.t_history
```


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```
 union all
 select * from rmt8.tpcc.dbo.t_history
 union all
 select * from rmt9.tpcc.dbo.t_history
 union all
 select * from rmt10.tpcc.dbo.t_history
 union all
 select * from rmt11.tpcc.dbo.t_history
 union all
 select * from rmt12.tpcc.dbo.t_history
 union all
 select * from rmt13.tpcc.dbo.t_history
 union all
 select * from rmt14.tpcc.dbo.t_history
 union all
 select * from rmt16.tpcc.dbo.t_history
 union all
 select * from rmt17.tpcc.dbo.t_history
 union all
 select * from rmt18.tpcc.dbo.t_history
 union all
 select * from rmt19.tpcc.dbo.t_history
 union all
 select * from rmt20.tpcc.dbo.t_history
 union all
 select * from rmt21.tpcc.dbo.t_history
 union all
 select * from rmt22.tpcc.dbo.t_history
 union all
 select * from rmt23.tpcc.dbo.t_history
 union all
 select * from rmt24.tpcc.dbo.t_history
 union all
 select * from rmt25.tpcc.dbo.t_history
 union all
 select * from rmt26.tpcc.dbo.t_history
 union all
 select * from rmt27.tpcc.dbo.t_history
 union all
 select * from rmt28.tpcc.dbo.t_history
 union all
 select * from rmt29.tpcc.dbo.t_history
 union all
 select * from rmt30.tpcc.dbo.t_history
 union all
 select * from rmt31.tpcc.dbo.t_history
 union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt15.tpcc.dbo.*/t_stock
 union all
 select * from rmt1.tpcc.dbo.t_stock
 union all
 select * from rmt2.tpcc.dbo.t_stock
 union all
 select * from rmt3.tpcc.dbo.t_stock
 union all
 select * from rmt4.tpcc.dbo.t_stock
 union all
 select * from rmt5.tpcc.dbo.t_stock
 union all
 select * from rmt6.tpcc.dbo.t_stock
 union all
 select * from rmt7.tpcc.dbo.t_stock
 union all
 select * from rmt8.tpcc.dbo.t_stock
 union all
 select * from rmt9.tpcc.dbo.t_stock
 union all
 select * from rmt10.tpcc.dbo.t_stock
 union all
 select * from rmt11.tpcc.dbo.t_stock
 union all
 select * from rmt12.tpcc.dbo.t_stock
 union all
 select * from rmt13.tpcc.dbo.t_stock
 union all
 select * from rmt14.tpcc.dbo.t_stock
 union all
 select * from rmt16.tpcc.dbo.t_stock
 union all
 select * from rmt17.tpcc.dbo.t_stock
 union all
 select * from rmt18.tpcc.dbo.t_stock
 union all
 select * from rmt19.tpcc.dbo.t_stock
 union all
 select * from rmt20.tpcc.dbo.t_stock
 union all
 select * from rmt21.tpcc.dbo.t_stock
 union all
 select * from rmt22.tpcc.dbo.t_stock
 union all
 select * from rmt23.tpcc.dbo.t_stock
 union all
 select * from rmt24.tpcc.dbo.t_stock
 union all
 select * from rmt25.tpcc.dbo.t_stock
 union all
 select * from rmt26.tpcc.dbo.t_stock
 union all
 select * from rmt27.tpcc.dbo.t_stock
 union all
 select * from rmt28.tpcc.dbo.t_stock
 union all
 select * from rmt29.tpcc.dbo.t_stock
 union all
 select * from rmt30.tpcc.dbo.t_stock
 union all
 select * from rmt31.tpcc.dbo.t_stock
 union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt15.tpcc.dbo.*/t_orders
 union all
 select * from rmt1.tpcc.dbo.t_orders
 union all
 select * from rmt2.tpcc.dbo.t_orders
 union all
 select * from rmt3.tpcc.dbo.t_orders
 union all
 select * from rmt4.tpcc.dbo.t_orders
```


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```
 union all
 select * from rmt5.tpcc.dbo.t_orders
 union all
 select * from rmt6.tpcc.dbo.t_orders
 union all
 select * from rmt7.tpcc.dbo.t_orders
 union all
 select * from rmt8.tpcc.dbo.t_orders
 union all
 select * from rmt9.tpcc.dbo.t_orders
 union all
 select * from rmt10.tpcc.dbo.t_orders
 union all
 select * from rmt11.tpcc.dbo.t_orders
 union all
 select * from rmt12.tpcc.dbo.t_orders
 union all
 select * from rmt13.tpcc.dbo.t_orders
 union all
 select * from rmt14.tpcc.dbo.t_orders
 union all
 select * from rmt16.tpcc.dbo.t_orders
 union all
 select * from rmt17.tpcc.dbo.t_orders
 union all
 select * from rmt18.tpcc.dbo.t_orders
 union all
 select * from rmt19.tpcc.dbo.t_orders
 union all
 select * from rmt20.tpcc.dbo.t_orders
 union all
 select * from rmt21.tpcc.dbo.t_orders
 union all
 select * from rmt22.tpcc.dbo.t_orders
 union all
 select * from rmt23.tpcc.dbo.t_orders
 union all
 select * from rmt24.tpcc.dbo.t_orders
 union all
 select * from rmt25.tpcc.dbo.t_orders
 union all
 select * from rmt26.tpcc.dbo.t_orders
 union all
 select * from rmt27.tpcc.dbo.t_orders
 union all
 select * from rmt28.tpcc.dbo.t_orders
 union all
 select * from rmt29.tpcc.dbo.t_orders
 union all
 select * from rmt30.tpcc.dbo.t_orders
 union all
 select * from rmt31.tpcc.dbo.t_orders
 union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt15.tpcc.dbo.*/t_order_line
 union all
 select * from rmt1.tpcc.dbo.t_order_line
 union all
 select * from rmt2.tpcc.dbo.t_order_line
 union all
 select * from rmt3.tpcc.dbo.t_order_line
 union all
 select * from rmt4.tpcc.dbo.t_order_line
 union all
 select * from rmt5.tpcc.dbo.t_order_line
 union all
 select * from rmt6.tpcc.dbo.t_order_line
 union all
 select * from rmt7.tpcc.dbo.t_order_line
 union all
 select * from rmt8.tpcc.dbo.t_order_line
 union all
 select * from rmt9.tpcc.dbo.t_order_line
 union all
 select * from rmt10.tpcc.dbo.t_order_line
 union all
 select * from rmt11.tpcc.dbo.t_order_line
 union all
 select * from rmt12.tpcc.dbo.t_order_line
 union all
 select * from rmt13.tpcc.dbo.t_order_line
 union all
 select * from rmt14.tpcc.dbo.t_order_line
 union all
 select * from rmt16.tpcc.dbo.t_order_line
 union all
 select * from rmt17.tpcc.dbo.t_order_line
 union all
 select * from rmt18.tpcc.dbo.t_order_line
 union all
 select * from rmt19.tpcc.dbo.t_order_line
 union all
 select * from rmt20.tpcc.dbo.t_order_line
 union all
 select * from rmt21.tpcc.dbo.t_order_line
 union all
 select * from rmt22.tpcc.dbo.t_order_line
 union all
 select * from rmt23.tpcc.dbo.t_order_line
 union all
 select * from rmt24.tpcc.dbo.t_order_line
 union all
 select * from rmt25.tpcc.dbo.t_order_line
 union all
 select * from rmt26.tpcc.dbo.t_order_line
 union all
 select * from rmt27.tpcc.dbo.t_order_line
 union all
 select * from rmt28.tpcc.dbo.t_order_line
 union all
 select * from rmt29.tpcc.dbo.t_order_line
 union all
 select * from rmt30.tpcc.dbo.t_order_line
 union all
 select * from rmt31.tpcc.dbo.t_order_line
 union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt15.tpcc.dbo.*/t_new_order
 union all
 select * from rmt1.tpcc.dbo.t_new_order
```


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```
 union all
 select * from rmt2.tpcc.dbo.t_new_order
 union all
 select * from rmt3.tpcc.dbo.t_new_order
 union all
 select * from rmt4.tpcc.dbo.t_new_order
 union all
 select * from rmt5.tpcc.dbo.t_new_order
 union all
 select * from rmt6.tpcc.dbo.t_new_order
 union all
 select * from rmt7.tpcc.dbo.t_new_order
 union all
 select * from rmt8.tpcc.dbo.t_new_order
 union all
 select * from rmt9.tpcc.dbo.t_new_order
 union all
 select * from rmt10.tpcc.dbo.t_new_order
 union all
 select * from rmt11.tpcc.dbo.t_new_order
 union all
 select * from rmt12.tpcc.dbo.t_new_order
 union all
 select * from rmt13.tpcc.dbo.t_new_order
 union all
 select * from rmt14.tpcc.dbo.t_new_order
 union all
 select * from rmt16.tpcc.dbo.t_new_order
 union all
 select * from rmt17.tpcc.dbo.t_new_order
 union all
 select * from rmt18.tpcc.dbo.t_new_order
 union all
 select * from rmt19.tpcc.dbo.t_new_order
 union all
 select * from rmt20.tpcc.dbo.t_new_order
 union all
 select * from rmt21.tpcc.dbo.t_new_order
 union all
 select * from rmt22.tpcc.dbo.t_new_order
 union all
 select * from rmt23.tpcc.dbo.t_new_order
 union all
 select * from rmt24.tpcc.dbo.t_new_order
 union all
 select * from rmt25.tpcc.dbo.t_new_order
 union all
 select * from rmt26.tpcc.dbo.t_new_order
 union all
 select * from rmt27.tpcc.dbo.t_new_order
 union all
 select * from rmt28.tpcc.dbo.t_new_order
 union all
 select * from rmt29.tpcc.dbo.t_new_order
 union all
 select * from rmt30.tpcc.dbo.t_new_order
 union all
 select * from rmt31.tpcc.dbo.t_new_order
 union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

add_views_16.sql

```
-- file 27001_to_28800\add_views.sql

set ansi_warnings on
set ansi_nulls on
go

use tpcc
go

-- drop any existing views
if object_id('warehouse') is not null drop view warehouse
if object_id('district') is not null drop view district
if object_id('customer') is not null drop view customer
if object_id('history') is not null drop view history
if object_id('stock') is not null drop view stock
if object_id('orders') is not null drop view orders
if object_id('order_line') is not null drop view order_line
if object_id('new_order') is not null drop view new_order
if object_id('item') is not null drop view item
go

--add views for partition 16
create view warehouse as
 select * from /*rmt16.tpcc.dbo.*/t_warehouse
  union all
 select * from rmt1.tpcc.dbo.t_warehouse
  union all
 select * from rmt2.tpcc.dbo.t_warehouse
  union all
 select * from rmt3.tpcc.dbo.t_warehouse
  union all
 select * from rmt4.tpcc.dbo.t_warehouse
  union all
 select * from rmt5.tpcc.dbo.t_warehouse
  union all
 select * from rmt6.tpcc.dbo.t_warehouse
  union all
 select * from rmt7.tpcc.dbo.t_warehouse
  union all
 select * from rmt8.tpcc.dbo.t_warehouse
  union all
 select * from rmt9.tpcc.dbo.t_warehouse
  union all
 select * from rmt10.tpcc.dbo.t_warehouse
  union all
 select * from rmt11.tpcc.dbo.t_warehouse
  union all
 select * from rmt12.tpcc.dbo.t_warehouse
  union all
 select * from rmt13.tpcc.dbo.t_warehouse
  union all
 select * from rmt14.tpcc.dbo.t_warehouse
  union all
 select * from rmt15.tpcc.dbo.t_warehouse
  union all
 select * from rmt17.tpcc.dbo.t_warehouse
  union all
```


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```
 select * from rmt18.tpcc.dbo.t_warehouse
  union all
 select * from rmt19.tpcc.dbo.t_warehouse
  union all
 select * from rmt20.tpcc.dbo.t_warehouse
  union all
 select * from rmt21.tpcc.dbo.t_warehouse
  union all
 select * from rmt22.tpcc.dbo.t_warehouse
  union all
 select * from rmt23.tpcc.dbo.t_warehouse
  union all
 select * from rmt24.tpcc.dbo.t_warehouse
  union all
 select * from rmt25.tpcc.dbo.t_warehouse
  union all
 select * from rmt26.tpcc.dbo.t_warehouse
  union all
 select * from rmt27.tpcc.dbo.t_warehouse
  union all
 select * from rmt28.tpcc.dbo.t_warehouse
  union all
 select * from rmt29.tpcc.dbo.t_warehouse
  union all
 select * from rmt30.tpcc.dbo.t_warehouse
  union all
 select * from rmt31.tpcc.dbo.t_warehouse
  union all
 select * from rmt32.tpcc.dbo.t_warehouse
go

create view district as
 select * from /*rmt16.tpcc.dbo.*/t_district
  union all
 select * from rmt1.tpcc.dbo.t_district
  union all
 select * from rmt2.tpcc.dbo.t_district
  union all
 select * from rmt3.tpcc.dbo.t_district
  union all
 select * from rmt4.tpcc.dbo.t_district
  union all
 select * from rmt5.tpcc.dbo.t_district
  union all
 select * from rmt6.tpcc.dbo.t_district
  union all
 select * from rmt7.tpcc.dbo.t_district
  union all
 select * from rmt8.tpcc.dbo.t_district
  union all
 select * from rmt9.tpcc.dbo.t_district
  union all
 select * from rmt10.tpcc.dbo.t_district
  union all
 select * from rmt11.tpcc.dbo.t_district
  union all
 select * from rmt12.tpcc.dbo.t_district
  union all
 select * from rmt13.tpcc.dbo.t_district
  union all
 select * from rmt14.tpcc.dbo.t_district
  union all
 select * from rmt15.tpcc.dbo.t_district
  union all
 select * from rmt17.tpcc.dbo.t_district
  union all
 select * from rmt18.tpcc.dbo.t_district
  union all
 select * from rmt19.tpcc.dbo.t_district
  union all
 select * from rmt20.tpcc.dbo.t_district
  union all
 select * from rmt21.tpcc.dbo.t_district
  union all
 select * from rmt22.tpcc.dbo.t_district
  union all
 select * from rmt23.tpcc.dbo.t_district
  union all
 select * from rmt24.tpcc.dbo.t_district
  union all
 select * from rmt25.tpcc.dbo.t_district
  union all
 select * from rmt26.tpcc.dbo.t_district
  union all
 select * from rmt27.tpcc.dbo.t_district
  union all
 select * from rmt28.tpcc.dbo.t_district
  union all
 select * from rmt29.tpcc.dbo.t_district
  union all
 select * from rmt30.tpcc.dbo.t_district
  union all
 select * from rmt31.tpcc.dbo.t_district
  union all
 select * from rmt32.tpcc.dbo.t_district
go

create view customer as
 select * from /*rmt16.tpcc.dbo.*/t_customer
  union all
 select * from rmt1.tpcc.dbo.t_customer
  union all
 select * from rmt2.tpcc.dbo.t_customer
  union all
 select * from rmt3.tpcc.dbo.t_customer
  union all
 select * from rmt4.tpcc.dbo.t_customer
  union all
 select * from rmt5.tpcc.dbo.t_customer
  union all
 select * from rmt6.tpcc.dbo.t_customer
  union all
 select * from rmt7.tpcc.dbo.t_customer
  union all
 select * from rmt8.tpcc.dbo.t_customer
  union all
 select * from rmt9.tpcc.dbo.t_customer
  union all
 select * from rmt10.tpcc.dbo.t_customer
  union all
 select * from rmt11.tpcc.dbo.t_customer
  union all
 select * from rmt12.tpcc.dbo.t_customer
  union all
 select * from rmt13.tpcc.dbo.t_customer
  union all
```


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```
 select * from rmt14.tpcc.dbo.t_customer
  union all
 select * from rmt15.tpcc.dbo.t_customer
  union all
 select * from rmt17.tpcc.dbo.t_customer
  union all
 select * from rmt18.tpcc.dbo.t_customer
  union all
 select * from rmt19.tpcc.dbo.t_customer
  union all
 select * from rmt20.tpcc.dbo.t_customer
  union all
 select * from rmt21.tpcc.dbo.t_customer
  union all
 select * from rmt22.tpcc.dbo.t_customer
  union all
 select * from rmt23.tpcc.dbo.t_customer
  union all
 select * from rmt24.tpcc.dbo.t_customer
  union all
 select * from rmt25.tpcc.dbo.t_customer
  union all
 select * from rmt26.tpcc.dbo.t_customer
  union all
 select * from rmt27.tpcc.dbo.t_customer
  union all
 select * from rmt28.tpcc.dbo.t_customer
  union all
 select * from rmt29.tpcc.dbo.t_customer
  union all
 select * from rmt30.tpcc.dbo.t_customer
  union all
 select * from rmt31.tpcc.dbo.t_customer
  union all
 select * from rmt32.tpcc.dbo.t_customer
go

create view history as
 select * from /*rmt16.tpcc.dbo.*/t_history
  union all
 select * from rmt1.tpcc.dbo.t_history
  union all
 select * from rmt2.tpcc.dbo.t_history
  union all
 select * from rmt3.tpcc.dbo.t_history
  union all
 select * from rmt4.tpcc.dbo.t_history
  union all
 select * from rmt5.tpcc.dbo.t_history
  union all
 select * from rmt6.tpcc.dbo.t_history
  union all
 select * from rmt7.tpcc.dbo.t_history
  union all
 select * from rmt8.tpcc.dbo.t_history
  union all
 select * from rmt9.tpcc.dbo.t_history
  union all
 select * from rmt10.tpcc.dbo.t_history
  union all
 select * from rmt11.tpcc.dbo.t_history
  union all
 select * from rmt12.tpcc.dbo.t_history
  union all
 select * from rmt13.tpcc.dbo.t_history
  union all
 select * from rmt14.tpcc.dbo.t_history
  union all
 select * from rmt15.tpcc.dbo.t_history
  union all
 select * from rmt17.tpcc.dbo.t_history
  union all
 select * from rmt18.tpcc.dbo.t_history
  union all
 select * from rmt19.tpcc.dbo.t_history
  union all
 select * from rmt20.tpcc.dbo.t_history
  union all
 select * from rmt21.tpcc.dbo.t_history
  union all
 select * from rmt22.tpcc.dbo.t_history
  union all
 select * from rmt23.tpcc.dbo.t_history
  union all
 select * from rmt24.tpcc.dbo.t_history
  union all
 select * from rmt25.tpcc.dbo.t_history
  union all
 select * from rmt26.tpcc.dbo.t_history
  union all
 select * from rmt27.tpcc.dbo.t_history
  union all
 select * from rmt28.tpcc.dbo.t_history
  union all
 select * from rmt29.tpcc.dbo.t_history
  union all
 select * from rmt30.tpcc.dbo.t_history
  union all
 select * from rmt31.tpcc.dbo.t_history
  union all
 select * from rmt32.tpcc.dbo.t_history
go

create view stock as
 select * from /*rmt16.tpcc.dbo.*/t_stock
  union all
 select * from rmt1.tpcc.dbo.t_stock
  union all
 select * from rmt2.tpcc.dbo.t_stock
  union all
 select * from rmt3.tpcc.dbo.t_stock
  union all
 select * from rmt4.tpcc.dbo.t_stock
  union all
 select * from rmt5.tpcc.dbo.t_stock
  union all
 select * from rmt6.tpcc.dbo.t_stock
  union all
 select * from rmt7.tpcc.dbo.t_stock
  union all
 select * from rmt8.tpcc.dbo.t_stock
  union all
 select * from rmt9.tpcc.dbo.t_stock
  union all
 select * from rmt10.tpcc.dbo.t_stock
  union all
```


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```
 select * from rmt11.tpcc.dbo.t_stock
  union all
 select * from rmt12.tpcc.dbo.t_stock
  union all
 select * from rmt13.tpcc.dbo.t_stock
  union all
 select * from rmt14.tpcc.dbo.t_stock
  union all
 select * from rmt15.tpcc.dbo.t_stock
  union all
 select * from rmt17.tpcc.dbo.t_stock
  union all
 select * from rmt18.tpcc.dbo.t_stock
  union all
 select * from rmt19.tpcc.dbo.t_stock
  union all
 select * from rmt20.tpcc.dbo.t_stock
  union all
 select * from rmt21.tpcc.dbo.t_stock
  union all
 select * from rmt22.tpcc.dbo.t_stock
  union all
 select * from rmt23.tpcc.dbo.t_stock
  union all
 select * from rmt24.tpcc.dbo.t_stock
  union all
 select * from rmt25.tpcc.dbo.t_stock
  union all
 select * from rmt26.tpcc.dbo.t_stock
  union all
 select * from rmt27.tpcc.dbo.t_stock
  union all
 select * from rmt28.tpcc.dbo.t_stock
  union all
 select * from rmt29.tpcc.dbo.t_stock
  union all
 select * from rmt30.tpcc.dbo.t_stock
  union all
 select * from rmt31.tpcc.dbo.t_stock
  union all
 select * from rmt32.tpcc.dbo.t_stock
go

create view orders as
 select * from /*rmt16.tpcc.dbo.*/t_orders
  union all
 select * from rmt1.tpcc.dbo.t_orders
  union all
 select * from rmt2.tpcc.dbo.t_orders
  union all
 select * from rmt3.tpcc.dbo.t_orders
  union all
 select * from rmt4.tpcc.dbo.t_orders
  union all
 select * from rmt5.tpcc.dbo.t_orders
  union all
 select * from rmt6.tpcc.dbo.t_orders
  union all
 select * from rmt7.tpcc.dbo.t_orders
  union all
 select * from rmt8.tpcc.dbo.t_orders
  union all
 select * from rmt9.tpcc.dbo.t_orders
  union all
 select * from rmt10.tpcc.dbo.t_orders
  union all
 select * from rmt11.tpcc.dbo.t_orders
  union all
 select * from rmt12.tpcc.dbo.t_orders
  union all
 select * from rmt13.tpcc.dbo.t_orders
  union all
 select * from rmt14.tpcc.dbo.t_orders
  union all
 select * from rmt15.tpcc.dbo.t_orders
  union all
 select * from rmt17.tpcc.dbo.t_orders
  union all
 select * from rmt18.tpcc.dbo.t_orders
  union all
 select * from rmt19.tpcc.dbo.t_orders
  union all
 select * from rmt20.tpcc.dbo.t_orders
  union all
 select * from rmt21.tpcc.dbo.t_orders
  union all
 select * from rmt22.tpcc.dbo.t_orders
  union all
 select * from rmt23.tpcc.dbo.t_orders
  union all
 select * from rmt24.tpcc.dbo.t_orders
  union all
 select * from rmt25.tpcc.dbo.t_orders
  union all
 select * from rmt26.tpcc.dbo.t_orders
  union all
 select * from rmt27.tpcc.dbo.t_orders
  union all
 select * from rmt28.tpcc.dbo.t_orders
  union all
 select * from rmt29.tpcc.dbo.t_orders
  union all
 select * from rmt30.tpcc.dbo.t_orders
  union all
 select * from rmt31.tpcc.dbo.t_orders
  union all
 select * from rmt32.tpcc.dbo.t_orders
go

create view order_line as
 select * from /*rmt16.tpcc.dbo.*/t_order_line
  union all
 select * from rmt1.tpcc.dbo.t_order_line
  union all
 select * from rmt2.tpcc.dbo.t_order_line
  union all
 select * from rmt3.tpcc.dbo.t_order_line
  union all
 select * from rmt4.tpcc.dbo.t_order_line
  union all
 select * from rmt5.tpcc.dbo.t_order_line
  union all
 select * from rmt6.tpcc.dbo.t_order_line
  union all
 select * from rmt7.tpcc.dbo.t_order_line
  union all
```


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```
 select * from rmt8.tpcc.dbo.t_order_line
  union all
 select * from rmt9.tpcc.dbo.t_order_line
  union all
 select * from rmt10.tpcc.dbo.t_order_line
  union all
 select * from rmt11.tpcc.dbo.t_order_line
  union all
 select * from rmt12.tpcc.dbo.t_order_line
  union all
 select * from rmt13.tpcc.dbo.t_order_line
  union all
 select * from rmt14.tpcc.dbo.t_order_line
  union all
 select * from rmt15.tpcc.dbo.t_order_line
  union all
 select * from rmt17.tpcc.dbo.t_order_line
  union all
 select * from rmt18.tpcc.dbo.t_order_line
  union all
 select * from rmt19.tpcc.dbo.t_order_line
  union all
 select * from rmt20.tpcc.dbo.t_order_line
  union all
 select * from rmt21.tpcc.dbo.t_order_line
  union all
 select * from rmt22.tpcc.dbo.t_order_line
  union all
 select * from rmt23.tpcc.dbo.t_order_line
  union all
 select * from rmt24.tpcc.dbo.t_order_line
  union all
 select * from rmt25.tpcc.dbo.t_order_line
  union all
 select * from rmt26.tpcc.dbo.t_order_line
  union all
 select * from rmt27.tpcc.dbo.t_order_line
  union all
 select * from rmt28.tpcc.dbo.t_order_line
  union all
 select * from rmt29.tpcc.dbo.t_order_line
  union all
 select * from rmt30.tpcc.dbo.t_order_line
  union all
 select * from rmt31.tpcc.dbo.t_order_line
  union all
 select * from rmt32.tpcc.dbo.t_order_line
go

create view new_order as
 select * from /*rmt16.tpcc.dbo.*/t_new_order
  union all
 select * from rmt1.tpcc.dbo.t_new_order
  union all
 select * from rmt2.tpcc.dbo.t_new_order
  union all
 select * from rmt3.tpcc.dbo.t_new_order
  union all
 select * from rmt4.tpcc.dbo.t_new_order
  union all
 select * from rmt5.tpcc.dbo.t_new_order
  union all
 select * from rmt6.tpcc.dbo.t_new_order
  union all
 select * from rmt7.tpcc.dbo.t_new_order
  union all
 select * from rmt8.tpcc.dbo.t_new_order
  union all
 select * from rmt9.tpcc.dbo.t_new_order
  union all
 select * from rmt10.tpcc.dbo.t_new_order
  union all
 select * from rmt11.tpcc.dbo.t_new_order
  union all
 select * from rmt12.tpcc.dbo.t_new_order
  union all
 select * from rmt13.tpcc.dbo.t_new_order
  union all
 select * from rmt14.tpcc.dbo.t_new_order
  union all
 select * from rmt15.tpcc.dbo.t_new_order
  union all
 select * from rmt17.tpcc.dbo.t_new_order
  union all
 select * from rmt18.tpcc.dbo.t_new_order
  union all
 select * from rmt19.tpcc.dbo.t_new_order
  union all
 select * from rmt20.tpcc.dbo.t_new_order
  union all
 select * from rmt21.tpcc.dbo.t_new_order
  union all
 select * from rmt22.tpcc.dbo.t_new_order
  union all
 select * from rmt23.tpcc.dbo.t_new_order
  union all
 select * from rmt24.tpcc.dbo.t_new_order
  union all
 select * from rmt25.tpcc.dbo.t_new_order
  union all
 select * from rmt26.tpcc.dbo.t_new_order
  union all
 select * from rmt27.tpcc.dbo.t_new_order
  union all
 select * from rmt28.tpcc.dbo.t_new_order
  union all
 select * from rmt29.tpcc.dbo.t_new_order
  union all
 select * from rmt30.tpcc.dbo.t_new_order
  union all
 select * from rmt31.tpcc.dbo.t_new_order
  union all
 select * from rmt32.tpcc.dbo.t_new_order
go

create view item as
 select * from t_item
go
```

item_iot_1.sql

```
-- file 1_to_1800\item_iot.sql

--add item instead-of-trigger for partition 1
```


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```
set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- local node (parition 1)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
```


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```
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_2.sql

```
-- file 1801_to_3600\item_iot.sql

--add item instead-of-trigger for partition 2

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 2)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
```


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```
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_3.sql

```
-- file 3601_to_5400\item_iot.sql

--add item instead-of-trigger for partition 3

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
```


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```
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 3)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
```


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```
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_4.sql

```
-- file 5401_to_7200\item_iot.sql

--add item instead-of-trigger for partition 4

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 4)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
```


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```
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_5.sql

```
-- file 7201_to_9000\item_iot.sql

--add item instead-of-trigger for partition 5

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 5)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
```


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```
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_6.sql

```
-- file 9001_to_10800\item_iot.sql

--add item instead-of-trigger for partition 6

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 6)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_7.sql

```
-- file 10801_to_12600\item_iot.sql

--add item instead-of-trigger for partition 7

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- local node (parition 7)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_8.sql

```
-- file 12601_to_14400\item_iot.sql

--add item instead-of-trigger for partition 8

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 8)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_9.sql

```
-- file 14401_to_16200\item_iot.sql

--add item instead-of-trigger for partition 9

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 9)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
```


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```
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_10.sql

```
-- file 16201_to_18000\item_iot.sql

--add item instead-of-trigger for partition 10
```


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```
set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 10)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
```


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```
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_11.sql

```
-- file 18001_to_19800\item_iot.sql

--add item instead-of-trigger for partition 11

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 11)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
```


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```
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_12.sql

```
-- file 19801_to_21600\item_iot.sql

--add item instead-of-trigger for partition 12

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
```


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```
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 12)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
```


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```
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_13.sql

```
-- file 21601_to_23400\item_iot.sql

--add item instead-of-trigger for partition 13

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 13)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
```


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```
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_14.sql

```
-- file 23401_to_25200\item_iot.sql

--add item instead-of-trigger for partition 14

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 14)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
```


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```
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_15.sql

```
-- file 25201_to_27000\item_iot.sql

--add item instead-of-trigger for partition 15

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 15)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 16
DELETE A FROM rmt16.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt16.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

item_iot_16.sql

```
-- file 27001_to_28800\item_iot.sql

--add item instead-of-trigger for partition 16

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

drop trigger iot_item
go

create trigger iot_item on item instead of update, insert, delete as
begin

--
-- remote node, partition 1
DELETE A FROM rmt1.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt1.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 2
DELETE A FROM rmt2.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt2.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 3
DELETE A FROM rmt3.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt3.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 4
DELETE A FROM rmt4.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt4.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 5
DELETE A FROM rmt5.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt5.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 6
DELETE A FROM rmt6.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt6.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 7
DELETE A FROM rmt7.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt7.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 8
DELETE A FROM rmt8.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt8.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 9
DELETE A FROM rmt9.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt9.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 10
DELETE A FROM rmt10.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt10.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 11
DELETE A FROM rmt11.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt11.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 12
DELETE A FROM rmt12.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt12.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 13
DELETE A FROM rmt13.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt13.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 14
DELETE A FROM rmt14.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt14.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 15
DELETE A FROM rmt15.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt15.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- local node (parition 16)
DELETE A FROM t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT t_item SELECT * FROM INSERTED

--
-- remote node, partition 17
DELETE A FROM rmt17.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt17.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 18
DELETE A FROM rmt18.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt18.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 19
DELETE A FROM rmt19.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt19.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 20
DELETE A FROM rmt20.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt20.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 21
DELETE A FROM rmt21.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt21.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 22
DELETE A FROM rmt22.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt22.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 23
DELETE A FROM rmt23.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt23.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 24
DELETE A FROM rmt24.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt24.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 25
DELETE A FROM rmt25.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt25.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 26
DELETE A FROM rmt26.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt26.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 27
DELETE A FROM rmt27.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt27.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 28
DELETE A FROM rmt28.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt28.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 29
DELETE A FROM rmt29.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt29.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 30
DELETE A FROM rmt30.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt30.tpcc.dbo.t_item SELECT * FROM INSERTED

--
-- remote node, partition 31
DELETE A FROM rmt31.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt31.tpcc.dbo.t_item SELECT * FROM INSERTED
```


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```
--
-- remote node, partition 32
DELETE A FROM rmt32.tpcc.dbo.t_item A, DELETED D WHERE A.i_id = D.i_id
INSERT rmt32.tpcc.dbo.t_item SELECT * FROM INSERTED

end
```

backupdev.sql

```
--  File:     BACKUPDEVB.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.20
--            Copyright Microsoft, 1999
--  Purpose:  Creates tpcc database Backup Devices


use master
go

--  create backup devices

exec sp_addumpdevice 'disk','tpccback1_2','T:\tpccback1_2.dmp'
exec sp_addumpdevice 'disk','tpccback2_2','U:\tpccback2_2.dmp'
exec sp_addumpdevice 'disk','tpccback3_2','V:\tpccback3_2.dmp'
exec sp_addumpdevice 'disk','tpccback4_2','W:\tpccback4_2.dmp'
exec sp_addumpdevice 'disk','tpccback5_2','X:\tpccback5_2.dmp'
exec sp_addumpdevice 'disk','tpccback6_2','Y:\tpccback6_2.dmp'
exec sp_addumpdevice 'disk','tpccback7_2','Z:\tpccback7_2.dmp'
go
```

dbopt1.sql

```
--  File:     DBOPT1.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Sets database options for data load


use master
go

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

use tpcc
go

checkpoint
go
```

dbopt2.sql

```
--  File:     DBOPT2_SHILOH.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10a
--            Copyright Microsoft, 1999
--  Purpose:  Resets database options after data load (For Shiloh)


use master
go

sp_dboption tpcc,'select ',false
go

sp_dboption tpcc,'trunc. ',false
go

use tpcc
go

checkpoint
go

sp_configure allow,1
go

reconfigure with override
go

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

sp_indexoption  't_customer',     'DisAllowPageLocks',    TRUE
go
sp_indexoption      't_district',       'DisAllowPageLocks',          TRUE
go
sp_indexoption      't_warehouse',      'DisAllowPageLocks',          TRUE
go
sp_indexoption      't_stock',          'DisAllowPageLocks',          TRUE
go
sp_indexoption      't_order_line',     'DisAllowRowLocks', TRUE
go
sp_indexoption      't_orders',         'DisAllowRowLocks', TRUE
go
sp_indexoption      't_new_order',      'DisAllowRowLocks', TRUE
go
sp_indexoption      't_item',           'DisAllowRowLocks', TRUE
go
sp_indexoption      't_item',           'DisAllowPageLocks',          TRUE
go

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

select    name,lockflags
from      sysindexes
where     object_id("t_warehouse")      = id or
          object_id("t_district")                 = id or
          object_id("t_customer")                 = id or
          object_id("t_stock")                    = id or
```


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```
          object_id("t_orders")                   = id or
          object_id("t_order_line")     = id or
          object_id("t_history")                  = id or
          object_id("t_new_order")      = id or
          object_id("t_item")           = id
order     by lockflags asc
go

sp_configure allow,0
go

reconfigure with override
go

exec sp_dboption tpcc,        'auto update statistics',     FALSE
exec sp_dboption tpcc,        'auto create statistics',     FALSE
go

exec sp_tableoption "t_district",       "pintable",true
exec sp_tableoption "t_warehouse",      "pintable",true
exec sp_tableoption "t_new_order",      "pintable",true
exec sp_tableoption "t_item", "pintable",true
go
```

idxcuscl.sql

```
--  File:     IDXCUSCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on customer table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_customer') and c.constid = o.id and o.name =
'customer_c1PK' )
    alter table t_customer drop constraint customer_c1PK

alter table t_customer add constraint customer_c1PK primary key clustered (c_w_id,
c_d_id, c_id)
          on big_fg

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

go
```

idxcusnc.sql

```
--  File:     IDXCUSNC.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates non-clustered index on customer table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

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 t_customer.customer_nc1

create unique nonclustered index customer_nc1 on t_customer(c_w_id, c_d_id, c_last,
c_first, c_id)
          on big_fg

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

go
```

idxdiscl.sql

```
--  File:     IDXDISCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on district table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_district') and c.constid = o.id and o.name =
'district_c1PK' )
    alter table t_district drop constraint district_c1PK
```


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```
alter table t_district add constraint district_c1PK primary key clustered (d_w_id,
d_id)
          with fillfactor=100
          on misc_fg

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

go
```

idxitmcl.sql

```
--  File:     IDXITMCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on item table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

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 t_item.item_c1

create unique clustered index item_c1 on t_item(i_id)
          on misc_fg

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

go
```

idxnodcl.sql

```
--  File:     IDXNODCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on new_order table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_new_order') and c.constid = o.id and o.name =
't_new_order_c1PK' )
    alter table t_new_order drop constraint new_order_c1PK

alter table t_new_order add constraint new_order_c1PK primary key clustered
(no_w_id, no_d_id, no_o_id)
          on misc_fg

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

go
```

idxodlcl.sql

```
--  File:     IDXODLCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on order_line table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_order_line') and c.constid = o.id and o.name =
'order_line_c1PK' )
    alter table t_order_line drop constraint order_line_c1PK

alter table t_order_line add constraint order_line_c1PK primary key clustered
(ol_w_id, ol_d_id, ol_o_id, ol_number)
          on misc_fg

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

go
```

idxordcl.sql

```
--  File:     IDXORDCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
```


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```
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on orders table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_orders') and c.constid = o.id and o.name = 'orders_c1PK' )
    alter table t_orders drop constraint orders_c1PK

alter table t_orders add constraint orders_c1PK primary key clustered (o_w_id,
o_d_id, o_id)
          on misc_fg

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

go
```

idxordnc.sql

```
--  File:     IDXORDNC.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates non-clustered index on orders table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

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_nc1' )
          drop index t_orders.orders_nc1

create index orders_nc1 on t_orders(o_w_id, o_d_id, o_c_id, o_id)
          on misc_fg

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

idxstkcl.sql

```
--  File:     IDXSTKCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on stock table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_stock') and c.constid = o.id and o.name = 'stock_c1PK' )
    alter table t_stock drop constraint stock_c1PK

alter table t_stock add constraint stock_c1PK primary key clustered (s_i_id, s_w_id)
          on big_fg

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

go
```

idxwarcl.sql

```
--  File:     IDXWARCL.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates clustered index on warehouse table

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go

use tpcc
go

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

if exists (select o.name from sysconstraints c, sysobjects o
where c.id = object_id('t_warehouse') and c.constid = o.id and o.name =
'warehouse_c1PK' )
    alter table t_warehouse drop constraint warehouse_c1PK
```


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```
alter table t_warehouse add constraint warehouse_c1PK primary key clustered (w_id)
          with fillfactor=100
          on misc_fg

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

go
```

neword.sql

```
--  File:     NEWORD.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.30.000
--            Copyright Microsoft, 1999
--  Purpose:  Creates new order transaction stored procedure
--
--        Interface Level: 4.10.000

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

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

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


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

begin

begin transaction n

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

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

--  process orderlines

          while (@li_no < @o_ol_cnt)
          begin

                    select @li_no = @li_no + 1

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

                    select    @li_id = case @li_no
                                        when 1 then @i_id1
                                        when 2 then @i_id2
                                        when 3 then @i_id3
                                        when 4 then @i_id4
```


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```
                    when 5 then @i_id5
                    when 6 then @i_id6
                    when 7 then @i_id7
                    when 8 then @i_id8
                    when 9 then @i_id9
                    when 10 then @i_id10
                    when 11 then @i_id11
                    when 12 then @i_id12
                    when 13 then @i_id13
                    when 14 then @i_id14
                    when 15 then @i_id15
                    end,

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

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

--  get item data (no one updates item)

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

--  update stock values

          update    stock
          set       s_ytd               = s_ytd + @li_qty,
                    @s_quantity         = s_quantity   = s_quantity -
@li_qty +
                                                                  case when
(s_quantity - @li_qty < 10) then 91 else 0 end,
                              s_order_cnt         = s_order_cnt + 1,
                              s_remote_cnt        = s_remote_cnt + case when
(@li_s_w_id = @w_id) then 0 else 1 end,
                              @s_data             = s_data,
                              @s_dist             = case @d_id
                                                    when 1  then s_dist_01
                                                    when 2  then s_dist_02
                                                    when 3  then s_dist_03
                                                    when 4  then s_dist_04
                                                    when 5  then s_dist_05
                                                    when 6  then s_dist_06
                                                    when 7  then s_dist_07
                                                    when 8  then s_dist_08
                                                    when 9  then s_dist_09
                                                    when 10 then s_dist_10
                                                    end
                    where     s_i_id              = @li_id and
                              s_w_id              = @li_s_w_id

--  if there actually is a stock (and item) with these ids, go to work

                    if (@@rowcount > 0)
                    begin

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

                              insert into order_line values(@o_id,
                                                                  @d_id,

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

--  send line-item data to client

                              select    @i_name,
                                        @s_quantity,
                                        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
```


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```
        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,
                  @o_entry_d   = getdate()
        from      customer (repeatableread)
        where     c_id                = @c_id and
                  c_w_id              = @w_id and
                  c_d_id              = @d_id

--  insert fresh row into orders table

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

--  insert corresponding row into new-order table

        insert into new_order values (          @o_id,
                                      @d_id,
                                      @w_id)

--  select warehouse tax

        select    @w_tax    = w_tax
        from      warehouse (repeatableread)
        where     w_id      = @w_id

        if (@commit_flag = 1)
                  commit transaction n
        else

--  all that work for nuthin!!!

                  rollback transaction n

--  return order data to client

        select    @w_tax,
                  @d_tax,
                  @o_id,
                  @c_last,
                  @c_discount,
                  @c_credit,
                  @o_entry_d,
                  @commit_flag

end

go
```

ordstat.sql

```
--  File:     ORDSTAT.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates order status transaction stored procedure

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

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

create proc tpcc_orderstatus  @w_id     int,
                              @d_id     tinyint,

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

as

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

begin tran o

if (@c_id = 0)
          begin

--  get customer id and info using last name

                    select    @cnt      = (count(*)+1)/2
                    from      customer (repeatableread)
                    where     c_last    = @c_last and
                              c_w_id    = @w_id and
                              c_d_id    = @d_id

                    set       rowcount @cnt

                    select    @c_id                = c_id,
                              @c_balance           = c_balance,
                                 @c_first          = c_first,
                                 @c_last           = c_last,
                                 @c_middle         = c_middle
                    from      customer (repeatableread)
                    where     c_last               = @c_last and
                              c_w_id               = @w_id and
                              c_d_id               = @d_id
                    order     by c_w_id, c_d_id, c_last, c_first

                    set       rowcount 0
          end

          else
```


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```
        begin

--  get customer info if by id

                    select    @c_balance          = c_balance,
                              @c_first  = c_first,
                              @c_middle = c_middle,
                              @c_last             = c_last
                    from      customer (repeatableread)
                    where     c_id                = @c_id and
                              c_d_id              = @d_id and
                              c_w_id              = @w_id

                    select    @cnt      = @@rowcount

        end

--  if no such customer

        if (@cnt = 0)
        begin
                    raiserror('Customer not found',18,1)
                    goto custnotfound
        end

--  get order info

        select    @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
```

payment.sql

```
--  File:     PAYMENT.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates payment transaction stored procedure

set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go


use tpcc
go

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

create proc tpcc_payment      @w_id           int,
                                        @c_w_id         int,
                                        @h_amount       numeric(6,2),
                                        @d_id           tinyint,
                                        @c_d_id         tinyint,
                                        @c_id           int,
                                        @c_last         char(16) = ''


as
declare  @w_street_1     char(20),
         @w_street_2     char(20),
         @w_city         char(20),
         @w_state        char(2),
         @w_zip          char(9),
         @w_name         char(10),
         @d_street_1     char(20),
         @d_street_2     char(20),
         @d_city         char(20),
         @d_state        char(2),
         @d_zip          char(9),
         @d_name         char(10),
         @c_first        char(16),
         @c_middle       char(2),
         @c_street_1     char(20),
         @c_street_2     char(20),
         @c_city         char(20),
         @c_state        char(2),
         @c_zip          char(9),
         @c_phone        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,
```


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```
        @val            smallint,
        @screen_data          char(200),
          @d_id_local         tinyint,
          @w_id_local         int,
          @c_id_local         int

select @screen_data = ''

begin tran p

--  get payment date

          select    @datetime = getdate()

          if (@c_id = 0)
          begin

--  get customer id and info using last name

                    select top 1 @c_id = c_id
                    from (
                              select top 50 percent c_id, c_first
                              from      customer (repeatableread)
                              where     c_last    = @c_last and
                                        c_w_id    = @c_w_id and
                                        c_d_id    = @c_d_id
                              order by c_first
                    ) top_fifty
                    order by c_first desc
          end

--  get customer info and update balances

          update    customer
          set       @c_balance          = c_balance = c_balance - @h_amount,
                    c_payment_cnt       = c_payment_cnt + 1,
                    c_ytd_payment       = c_ytd_payment + @h_amount,
                    @c_first  = c_first,
                    @c_middle = c_middle,
                    @c_last             = c_last,
                    @c_street_1         = c_street_1,
                    @c_street_2         = c_street_2,
                    @c_city             = c_city,
                    @c_state  = c_state,
                    @c_zip              = c_zip,
                    @c_phone  = c_phone,
                    @c_credit = c_credit,
                    @c_credit_lim       = c_credit_lim,
                    @c_discount         = c_discount,
                    @c_since  = c_since,
                    @data               = c_data,
                    @c_id_local         = c_id
          where     c_id                = @c_id and
                    c_w_id              = @c_w_id and
                    c_d_id              = @c_d_id

--  if customer has bad credit get some more info

          if (@c_credit = 'BC')
          begin

--        compute new info

                    select @c_data      = convert(char(5),@c_id) +
                                          convert(char(4),@c_d_id) +
                                          convert(char(5),@c_w_id) +
                                          convert(char(4),@d_id) +
                                          convert(char(5),@w_id) +
                                          convert(char(19),@h_amount) +
                                          substring(@data, 1, 458)

--  update customer info

                    update    customer
                    set       c_data    = @c_data
                    where     c_id      = @c_id and
                              c_w_id    = @c_w_id and
                              c_d_id    = @c_d_id

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

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

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

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

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

--  create history record

          insert into history values (  @c_id_local,
                                        @c_d_id,
                                        @c_w_id,
                                        @d_id_local,
                                        @w_id_local,
                                        @datetime,
                                        @h_amount,
                                        @w_name + '    ' + @d_name)
commit tran p

--  return data to client

select    @c_id,
          @c_last,
          @datetime,
```


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```
          @w_street_1,
          @w_street_2,
          @w_city,
          @w_state,
          @w_zip,
          @d_street_1,
          @d_street_2,
          @d_city,
          @d_state,
          @d_zip,
          @c_first,
          @c_middle,
          @c_street_1,
          @c_street_2,
          @c_city,
          @c_state,
          @c_zip,
          @c_phone,
          @c_since,
          @c_credit,
          @c_credit_lim,
          @c_discount,
          @c_balance,
          @screen_data

go
```

stocklev.sql

```
--  File:     STOCKLEV.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates stock level transaction stored procedure


set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

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

create proc tpcc_stocklevel   @w_id                int,
                                        @d_id                tinyint,
                                        @threshhold          smallint
as

declare   @o_id_low int,
          @o_id_high int

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

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

go
```

version.sql

```
--  File:     VERSION.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  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.


set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

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
```

tables.sql

```
 --  File:     TABLES.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates TPC-C tables

set ANSI_DEFAULTS on
SET ANSI_NULL_DFLT_ON OFF
set IMPLICIT_TRANSACTIONS off
set QUOTED_IDENTIFIER off
go


use tpcc
go
```


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```
--
--  Remove all existing TPC-C tables, views, etc.
--

if objectproperty(object_id('warehouse'), 'IsView') is not null
          drop view warehouse
go
if objectproperty(object_id('district'), 'IsView') is not null
          drop view district
go
if objectproperty(object_id('customer'), 'IsView') is not null
          drop view customer
go
if objectproperty(object_id('history'), 'IsView') is not null
          drop view history
go
if objectproperty(object_id('stock'), 'IsView') is not null
          drop view stock
go
if objectproperty(object_id('orders'), 'IsView') is not null
          drop view orders
go
if objectproperty(object_id('order_line'), 'IsView') is not null
          drop view order_line
go
if objectproperty(object_id('new_order'), 'IsView') is not null
          drop view new_order
go
if objectproperty(object_id('item'), 'IsView') is not null
          drop view item
go



if objectproperty(object_id('t_warehouse'), 'IsTable') is not null
          drop table t_warehouse
go
if objectproperty(object_id('t_district'), 'IsTable') is not null
          drop table t_district
go
if objectproperty(object_id('t_customer'), 'IsTable') is not null
          drop table t_customer
go
if objectproperty(object_id('t_history'), 'IsTable') is not null
          drop table t_history
go
if objectproperty(object_id('t_new_order'), 'IsTable') is not null
          drop table t_new_order
go
if objectproperty(object_id('t_orders'), 'IsTable') is not null
          drop table t_orders
go
if objectproperty(object_id('t_order_line'), 'IsTable') is not null
          drop table t_order_line
go
if objectproperty(object_id('t_item'), 'IsTable') is not null
          drop table t_item
go
if objectproperty(object_id('t_stock'), 'IsTable') is not null
          drop table t_stock
go
```

```
--
--  Create new tables
--

create table t_warehouse
(
          w_id                                    int,
          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 misc_fg
go

create table t_district
(
          d_id                                    tinyint,
          d_w_id                                  int,
          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 misc_fg
go

create table t_customer
(
          c_id                                    int,
          c_d_id                                  tinyint,
          c_w_id                                  int,
          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 big_fg
go

create table t_history
(
          h_c_id                                  int,
```


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```
          h_c_d_id                      tinyint,
          h_c_w_id                      int,
          h_d_id                                tinyint,
          h_w_id                                int,
          h_date                                datetime,
          h_amount                      numeric(6,2),
          h_data                                char(24),
          constraint history_c1PK primary key clustered (h_w_id, h_d_id, h_c_id,
h_date)
) on misc_fg
go

create table t_new_order
(
          no_o_id                               int,
          no_d_id                               tinyint,
          no_w_id                               int
) on misc_fg
go

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

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

create table t_item
(
          i_id                                  int,
          i_im_id                               int,
          i_name                                char(24),
          i_price                               numeric(5,2),
          i_data                                char(50)
) on misc_fg
go

create table t_stock
(
          s_i_id                                int,
          s_w_id                                int,
          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 big_fg
go
```

delivery.sql

```
--  File:     DELIVERY.SQL
--            Microsoft TPC-C Benchmark Kit Ver. 4.10
--            Copyright Microsoft, 1999
--  Purpose:  Creates delivery transaction stored procedure


set ANSI_DEFAULTS on
set IMPLICIT_TRANSACTIONS off
go

use tpcc
go

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

create proc tpcc_delivery     @w_id           int,

                                        @o_carrier_id   smallint
as

declare @d_id       tinyint,
        @o_id       int,
        @c_id       int,
        @total      numeric(12,2),
        @oid1       int,
        @oid2       int,
        @oid3       int,
        @oid4       int,
        @oid5       int,
        @oid6       int,
        @oid7       int,
        @oid8       int,
        @oid9       int,
        @oid10      int,
          @time     datetime

begin tran d

          select    @d_id = 0,
                    @time = getdate()
```


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```
        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 updlock)
                  where     no_w_id   = @w_id and
                            no_d_id   = @d_id
                  order     by no_o_id asc

                if (@@rowcount <> 0)
                  begin

--  claim the order for this district

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

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

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

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

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

--  accummulate lineitem amounts for this order into customer

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

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

                  end

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

    end

commit tran d

-- return delivery data to client

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

go
```

time.c

```
//        File:               TIME.C
//                                      Microsoft TPC-C Kit Ver. 4.30
//                                      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;
}
```


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tpcc.h

```
//        File:               TPCC.H
//                                  Microsoft TPC-C Kit Ver. 4.30
//                                  Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
//        Purpose:  Header file for TPC-C database loader


// Build number of TPC Benchmark Kit
#define TPCKIT_VER  "4.30"

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

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

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

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

// Default loader arguments
#define BATCH                           10000
#define DEFLDPACKSIZE                           32768
#define LOADER_RES_FILE                  "logs\\load.out"
#define LOADER_NURAND_C                           123
#define DEF_STARTING_WAREHOUSE                  1
#define BUILD_INDEX                                             1         // build both
data and indexes
#define INDEX_ORDER                                             1         // build
indexes before load
#define SCALE_DOWN                                              0   // build a normal
scale database
#define INDEX_SCRIPT_PATH     "scripts"

typedef struct
{
    char                                        *server;
    char                                        *database;
    char                                        *user;
    char                                        *password;
          BOOL                                  tables_all;
          // set if loading all tables
          BOOL                                  table_item;
          // set if loading ITEM table specifically
          BOOL                                  table_warehouse;    // set if
loading WAREHOUSE, DISTRICT, and STOCK
          BOOL                                  table_customer;               //
set if loading CUSTOMER and HISTORY
          BOOL                                  table_orders;                 //
set if loading NEW-ORDER, ORDERS, ORDER-LINE
    long                                        num_warehouses;
    long                                        batch;
    long                                        verbose;
          long                                  pack_size;
          char                                  *loader_res_file;
          char                                  *synch_servername;
          long                                  case_sensitivity;
          long                                  starting_warehouse;
          long                                  build_index;
          long                                  index_order;
          long                                  scale_down;
          char                                  *index_script_path;
} TPCCLDR_ARGS;

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


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


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

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

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

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

tpccldr.c

```
//        File:               TPCCLDR.C
//                                  Microsoft TPC-C Kit Ver. 4.30
//                                  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;
    long                ol_supply_w_id;
    short               ol_quantity;
    double              ol_amount;
    char                ol_dist_info[DIST_INFO_LEN+1];
          char
          ol_delivery_d[OL_DELIVERY_D_LEN+1];
} ORDER_LINE_STRUCT;

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

typedef struct
{
    long                                c_id;
    short                               c_d_id;
    long                                c_w_id;
          char                                    c_first[FIRST_NAME_LEN+1];
    char                                c_middle[MIDDLE_NAME_LEN+1];
    char                                c_last[LAST_NAME_LEN+1];
    char                                c_street_1[ADDRESS_LEN+1];
    char                                c_street_2[ADDRESS_LEN+1];
    char                                c_city[ADDRESS_LEN+1];
    char                                c_state[STATE_LEN+1];
    char                                c_zip[ZIP_LEN+1];
    char                                c_phone[PHONE_LEN+1];
    char                                c_credit[CREDIT_LEN+1];
    double                                    c_credit_lim;
    double                                    c_discount;
//  fix to avoid ODBC float to numeric conversion problem.
//  double                                    c_balance;
```


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```
        char                                    c_balance[6];

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

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

typedef struct
{
    long                time_start;
} LOADER_TIME_STRUCT;


// Global variables

char      szLastError[300];

HENV      henv;

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

HDBC      o_hdbc3;                                        // for ORDER-LINE

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

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

TPCCLDR_ARGS    *aptr, args;

// support for log directory determined by environment
#define                     LOGBASE_MAXLEN              128
int                                 UseAltLogDir = 0;
char                        LogBase[LOGBASE_MAXLEN];
char                        LogFile[2*LOGBASE_MAXLEN];
#define                     LOGFILE_CREATE(name)                    \
                                    strcpy(LogFile, LogBase);       \
                                    strcat(LogFile, name);


//=================================================================
//
// 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);

        // process environment variables
        if ( GetEnvironmentVariable("LOGBASE", LogBase, LOGBASE_MAXLEN))
        {
                UseAltLogDir = 1;
                strcat(LogBase, "\\logs");
                printf("Will use %s for log files\n", LogBase);
        }
        else
                strcpy(LogBase, "logs");

        // verify database and tables exist before attempting to load

        CheckDataBase();

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


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```
	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");
```


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```
                    hThread[3] = CreateThread(NULL,
                                                                                                0,

(LPTHREAD_START_ROUTINE) LoadOrders,

NULL,
                                                                                                0,

&dwThreadID[3]);

                    if (hThread[3] == NULL)
                    {
                              printf("Error, failed in creating creating main thread
= 3.\n");
                              exit(-1);
                    }
          }

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

          main_time_end = (TimeNow() / MILLI);

    sprintf(buffer,"\nTPC-C load completed successfully in %ld minutes.\n",
                              (main_time_end - main_time_start)/60);

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

          fclose(fLoader);

          SQLFreeEnv(henv);

    exit(0);

          return 0;
}


//=====================================================================
//
// Function name: LoadItem
//
//=====================================================================

void LoadItem()
{
    long            i_id;
          long                i_im_id;
    char            i_name[I_NAME_LEN+1];
    double                    i_price;
    char            i_data[I_DATA_LEN+1];
          char                name[20];
          long                time_start;
          RETCODE             rc;
          DBINT               rcint;
          char                bcphint[128];

          // Seed with unique number
          seed(1);

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

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

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

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

          LOGFILE_CREATE("\\item.err")
          rc = bcp_init(i_hdbc1, name, NULL, LogFile, DB_IN);

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

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

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

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

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

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

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

          time_start = (TimeNow() / MILLI);

          item_rows_loaded = 0;

          for (i_id = 1; i_id <= max_items; i_id++)
          {
                    i_im_id = RandomNumber(1L, 10000L);
```


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```
                    MakeAlphaString(14, 24, I_NAME_LEN, i_name);

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

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

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

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

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

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

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

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

}


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

void LoadWarehouse()
{
    long  w_id;
    char  w_name[W_NAME_LEN+1];
    char  w_street_1[ADDRESS_LEN+1];
    char  w_street_2[ADDRESS_LEN+1];
    char  w_city[ADDRESS_LEN+1];
    char  w_state[STATE_LEN+1];
    char  w_zip[ZIP_LEN+1];
    double          w_tax;
    double          w_ytd;
          char      name[20];
          long      time_start;
          RETCODE   rc;
          DBINT     rcint;
          char      bcphint[128];


          // Seed with unique number
          seed(aptr->starting_warehouse + 1);

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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


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```
                    HandleErrorDBC(w_hdbc1);

          time_start = (TimeNow() / MILLI);

          warehouse_rows_loaded = 0;

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

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

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

                    w_ytd = 300000.00;

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

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

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

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

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

          stock_rows_loaded = 0;
          district_rows_loaded = 0;

          District();
          Stock();

}


//=====================================================================
//
// Function   : District
//
//=====================================================================

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

          // Seed with unique number
          seed(aptr->starting_warehouse + 2);

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

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

          InitString(d_name, D_NAME_LEN+1);
          InitAddress(d_street_1, d_street_2, d_city, d_state, d_zip);

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

          LOGFILE_CREATE("\\district.err")
          rc = bcp_init(w_hdbc1, name, NULL, LogFile, DB_IN);
          if (rc != SUCCEED)
                    HandleErrorDBC(w_hdbc1);

          if ((aptr->build_index == 1) && (aptr->index_order == 1))
          {
                    sprintf(bcphint, "tablock, order (d_w_id, d_id), ROWS_PER_BATCH
= %u, CHECK_CONSTRAINTS", (aptr->num_warehouses * 10));
                    rc = bcp_control(w_hdbc1, BCPHINTS, (void*) bcphint);
                    if (rc != SUCCEED)
                              HandleErrorDBC(w_hdbc1);
          }

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

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

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

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

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

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


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

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

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

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

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

        d_ytd  = 30000.0;

        d_next_o_id = orders_per_district+1;

        time_start = (TimeNow() / MILLI);

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

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

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

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

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

                        district_rows_loaded++;
                        CheckForCommit(w_hdbc1, w_hstmt1,
district_rows_loaded, "district", &time_start);
                }
    }
        rcint = bcp_done(w_hdbc1);
        if (rcint < 0)
                HandleErrorDBC(w_hdbc1);

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

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


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

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

          // Seed with unique number
          seed(aptr->starting_warehouse + 3);

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

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

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

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

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


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```
                    HandleErrorDBC(w_hdbc1);

          bcp_bind(w_hdbc1, (BYTE *) &s_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
2);
          if (rc != SUCCEED)
                    HandleErrorDBC(w_hdbc1);

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

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

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

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

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

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

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

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

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

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

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

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

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

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

          rc = bcp_bind(w_hdbc1, (BYTE *) s_data, 0, S_DATA_LEN, NULL, 0, 0, 17);
          if (rc != SUCCEED)
                    HandleErrorDBC(w_hdbc1);

          s_ytd = s_order_cnt = s_remote_cnt = 0;

          time_start = (TimeNow() / MILLI);

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

          for (s_i_id=1; s_i_id <= max_items; s_i_id++)
          {

                    for (s_w_id = (long)aptr->starting_warehouse; s_w_id <= aptr-
>num_warehouses; s_w_id++)
                    {

                              s_quantity = (short)RandomNumber(10L,100L);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_01);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_02);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_03);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_04);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_05);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_06);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_07);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_08);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_09);
                              len = MakeAlphaString(24,24,S_DIST_LEN, s_dist_10);

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

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

                              stock_rows_loaded++;
                              CheckForCommit(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;
```


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```
}


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

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

          // Seed with unique number
          seed(aptr->starting_warehouse + 4);

          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, "t_customer");

          LOGFILE_CREATE("\\customer.err")
          rc = bcp_init(c_hdbc1, name, NULL, LogFile, DB_IN);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc1);

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

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

          LOGFILE_CREATE("\\history.err")
          rc = bcp_init(c_hdbc2, name, NULL, LogFile, DB_IN);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

          sprintf(bcphint, "tablock, order (h_w_id, h_d_id, h_c_id, h_date),
ROWS_PER_BATCH = %u, CHECK_CONSTRAINTS", (aptr->num_warehouses * 30000));
          rc = bcp_control(c_hdbc2, BCPHINTS, (void*) bcphint);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

          customer_rows_loaded    = 0;
          history_rows_loaded     = 0;

          CustomerBufInit();

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

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

                              CustomerBufLoad(d_id, w_id);

                              // Start parallel loading threads here...

                              // Start customer table thread

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

                              hThread[0] = CreateThread(NULL,

             0,

             (LPTHREAD_START_ROUTINE) LoadCustomerTable,

             &customer_time_start,

             0,

             &dwThreadID[0]);

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

                              // Start History table thread

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

                              hThread[1] = CreateThread(NULL,

             0,

             (LPTHREAD_START_ROUTINE) LoadHistoryTable,

             &history_time_start,

             0,

             &dwThreadID[1]);
```


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```
                                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 t_customer set
c_first = 'C_LOAD = %d' where c_id = 1 and c_w_id = 1 and c_d_id = 1\" >
%s\\nurand_load.log",
                                        aptr->server,
                                        aptr->user,
                                        aptr->password,
                                        aptr->database,
                                        LOADER_NURAND_C,
                                        LogBase);

                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,"");

        }


}


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


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

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


          for (i=0;i<customers_per_district;i++)
          {
                    if (i < 1000)
                              LastName(i, c[i].c_last);
                    else
                              LastName(NURand(255,0,999,LOADER_NURAND_C),
c[i].c_last);

                    MakeAlphaString(8,16,FIRST_NAME_LEN, c[i].c_first);

                    c[i].c_id = i+1;

          }

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

          for (i=0;i<customers_per_district;i++)
          {

                    customer_buf[i].c_d_id = d_id;
                    customer_buf[i].c_w_id = w_id;
                    customer_buf[i].h_amount = 10.0;

                    customer_buf[i].c_ytd_payment  = 10.0;

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

                    // Generate CUSTOMER and HISTORY data

                    customer_buf[i].c_id = c[i].c_id;

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

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

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

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

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

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

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

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

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


                    // Generate HISTORY data
                    MakeAlphaString(12, 24, H_DATA_LEN, customer_buf[i].h_data);

          }
}

//=====================================================================
//
// Function   : LoadCustomerTable
//
//=====================================================================

void LoadCustomerTable(LOADER_TIME_STRUCT *customer_time_start)
{
          int         i;
    long        c_id;
    short       c_d_id;
    long        c_w_id;
    char        c_first[FIRST_NAME_LEN+1];
    char        c_middle[MIDDLE_NAME_LEN+1];
    char        c_last[LAST_NAME_LEN+1];
    char        c_street_1[ADDRESS_LEN+1];
    char        c_street_2[ADDRESS_LEN+1];
    char        c_city[ADDRESS_LEN+1];
    char        c_state[STATE_LEN+1];
    char        c_zip[ZIP_LEN+1];
    char        c_phone[PHONE_LEN+1];
    char        c_credit[CREDIT_LEN+1];
    double      c_credit_lim;
    double      c_discount;

          //  fix to avoid ODBC float to numeric conversion problem.
          //  double                    c_balance;
          char                c_balance[6];

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

    rc = bcp_bind(c_hdbc1, (BYTE *) &c_id, 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);
```


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```
          rc = bcp_bind(c_hdbc1, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, 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 != SUCCEED)
                    HandleErrorDBC(c_hdbc1);

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

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

                    FormatDate(&c_since);


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

                    //  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);
```


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

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

}


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

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

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

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

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
3);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

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

    rc = bcp_bind(c_hdbc2, (BYTE *) &c_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
5);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

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

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

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

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

                    FormatDate(&h_date);

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

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

}


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

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

          // seed with unique number
          seed(aptr->starting_warehouse + 5);

          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, "t_orders");
```


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```
        LOGFILE_CREATE("\\orders.err")
        rc = bcp_init(o_hdbc1, name, NULL, LogFile, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc1);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (o_w_id, o_d_id, o_id),
ROWS_PER_BATCH = %u, CHECK_CONSTRAINTS", (aptr->num_warehouses * 30000));
                rc = bcp_control(o_hdbc1, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc1);
        }

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

        LOGFILE_CREATE("\\neword.err")
        rc = bcp_init(o_hdbc2, name, NULL, LogFile, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (no_w_id, no_d_id, no_o_id),
ROWS_PER_BATCH = %u, CHECK_CONSTRAINTS", (aptr->num_warehouses * 9000));
                rc = bcp_control(o_hdbc2, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
        }

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

        LOGFILE_CREATE("\\ordline.err")
        rc = bcp_init(o_hdbc3, name, NULL, LogFile, DB_IN);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc3);

    if ((aptr->build_index == 1) && (aptr->index_order == 1))
        {
                sprintf(bcphint, "tablock, order (ol_w_id, ol_d_id, ol_o_id,
ol_number), ROWS_PER_BATCH = %u, CHECK_CONSTRAINTS", (aptr->num_warehouses *
300000));
                rc = bcp_control(o_hdbc3, BCPHINTS, (void*) bcphint);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc3);
        }

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

        OrdersBufInit();

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

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

                        // start parallel loading threads here...

                        // start Orders table thread

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

                        hThread[0] = CreateThread(NULL,

                0,

                (LPTHREAD_START_ROUTINE) LoadOrdersTable,

                &orders_time_start,

                0,

                &dwThreadID[0]);

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

                        // start NewOrder table thread

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

                        hThread[1] = CreateThread(NULL,

                0,

                (LPTHREAD_START_ROUTINE) LoadNewOrderTable,

                &new_order_time_start,

                0,

                &dwThreadID[1]);

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

                        // start Order-Line table thread

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

                        hThread[2] = CreateThread(NULL,

                0,

                (LPTHREAD_START_ROUTINE) LoadOrderLineTable,
```


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```
            &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;
                    }
```


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```
                    for (ol=0; ol<orders_buf[o_id].o_ol_cnt; ol++)
                    {

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

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


          FormatDate(&orders_buf[o_id].o_ol[ol].ol_delivery_d);

                              }
                              else
                              {
                                        orders_buf[o_id].o_ol[ol].ol_amount =
RandomNumber(1,999999)/100.0;
                                        // Added to insure ol_delivery_d set
properly during load

                                        // odbc datetime format

          strcpy(orders_buf[o_id].o_ol[ol].ol_delivery_d,"1899-12-31 00:00:00.000");

                              }
                    }
          }
}


//=====================================================================
//
// Function   : LoadOrdersTable
//
//=====================================================================

void LoadOrdersTable(LOADER_TIME_STRUCT *orders_time_start)
{
          int         i;
    long        o_id;
          short     o_d_id;
          long      o_w_id;
    long        o_c_id;
    short       o_carrier_id;
    short       o_ol_cnt;
    short       o_all_local;
          char                o_entry_d[O_ENTRY_D_LEN+1];
          RETCODE             rc;
          DBINT               rcint;

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

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

    rc = bcp_bind(o_hdbc1, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
3);
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc1);

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

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

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

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

    rc = bcp_bind(o_hdbc1, (BYTE *) &o_all_local, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT2, 8);
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc1);

    for (i = 0; i < orders_per_district; i++)
    {
                    o_id         = orders_buf[i].o_id;
                    o_d_id       = orders_buf[i].o_d_id;
                    o_w_id       = orders_buf[i].o_w_id;
                    o_c_id       = orders_buf[i].o_c_id;
                    o_carrier_id = orders_buf[i].o_carrier_id;
                    o_ol_cnt     = orders_buf[i].o_ol_cnt;
                    o_all_local  = orders_buf[i].o_all_local;

                    FormatDate(&o_entry_d);

                    // send data to server
                    rc = bcp_sendrow(o_hdbc1);
                    if (rc != SUCCEED)
                              HandleErrorDBC(o_hdbc1);

                    orders_rows_loaded++;
                    CheckForCommit(o_hdbc1, o_hstmt1, orders_rows_loaded, "orders",
&orders_time_start->time_start);
    }

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


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

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

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

                // build non-clustered index
                if (aptr->build_index == 1)
                        BuildIndex("idxordnc");
        }

}


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

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

        // Bind NEW-ORDER data

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

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

    rc = bcp_bind(o_hdbc2, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
3);
        if (rc != SUCCEED)
                HandleErrorDBC(o_hdbc2);

        for (i = first_new_order; i < last_new_order; i++)
        {
                o_id    = orders_buf[i].o_id;
                o_d_id  = orders_buf[i].o_d_id;
                o_w_id  = orders_buf[i].o_w_id;

                rc = bcp_sendrow(o_hdbc2);
                if (rc != SUCCEED)
                        HandleErrorDBC(o_hdbc2);
                        new_order_rows_loaded++;
                        CheckForCommit(o_hdbc2, o_hstmt2, new_order_rows_loaded,
"new_order", &new_order_time_start->time_start);
                }

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

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

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

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

                }

}


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

void LoadOrderLineTable(LOADER_TIME_STRUCT *order_line_time_start)
{
                int         i,j;
    long        o_id;
                short       o_d_id;
                long        o_w_id;
    long        ol;
                long        ol_i_id;
    long        ol_supply_w_id;
    short       ol_quantity;
    double      ol_amount;
    char        ol_dist_info[DIST_INFO_LEN+1];
                char                ol_delivery_d[OL_DELIVERY_D_LEN+1];
                RETCODE             rc;
                DBINT               rcint;

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

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

    rc = bcp_bind(o_hdbc3, (BYTE *) &o_w_id, 0, SQL_VARLEN_DATA, NULL, 0, SQLINT4,
3);
                if (rc != SUCCEED)
```


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```
                    HandleErrorDBC(o_hdbc3);

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

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

    rc = bcp_bind(o_hdbc3, (BYTE *) &ol_supply_w_id, 0, SQL_VARLEN_DATA, NULL, 0,
SQLINT4, 6);
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc3);

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

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

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

    rc = bcp_bind(o_hdbc3, (BYTE *) ol_dist_info, 0, DIST_INFO_LEN, NULL, 0, 0, 10);
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc3);

          for (i = 0; i < orders_per_district; i++)
    {
                    o_id    = orders_buf[i].o_id;
                    o_d_id  = orders_buf[i].o_d_id;
                    o_w_id  = orders_buf[i].o_w_id;

                    for (j=0; j < orders_buf[i].o_ol_cnt; j++)
                    {
                              ol             = orders_buf[i].o_ol[j].ol;
                              ol_i_id        = orders_buf[i].o_ol[j].ol_i_id;
                              ol_supply_w_id = orders_buf[i].o_ol[j].ol_supply_w_id;
                              ol_quantity    = orders_buf[i].o_ol[j].ol_quantity;
                              ol_amount      = orders_buf[i].o_ol[j].ol_amount;


          strcpy(ol_delivery_d,orders_buf[i].o_ol[j].ol_delivery_d);


          strcpy(ol_dist_info,orders_buf[i].o_ol[j].ol_dist_info);

                              rc = bcp_sendrow(o_hdbc3);
                              if (rc != SUCCEED)
                                        HandleErrorDBC(o_hdbc3);

                              order_line_rows_loaded++;
                              CheckForCommit(o_hdbc3, o_hstmt3,
order_line_rows_loaded, "order_line", &order_line_time_start->time_start);
                    }
```

```
          }

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

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

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

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

          }

}


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

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

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

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

}


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

void CheckForCommit(HDBC hdbc,
                                        HSTMT hstmt,
                                long rows_loaded,
                                        char *table_name,
                                long *time_start)
{
```


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```
    long  time_end, time_diff;
          // DBINT  rcint;

    if ( !(rows_loaded % aptr->batch) )
    {

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

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

                    printf("-> Loaded %ld rows into %s in %ld sec - Total = %d (%.2f
rps)\n",
                              aptr->batch,
                              table_name,
                                        time_diff,
                              rows_loaded,
                                        (float) aptr->batch / (time_diff ? time_diff
: 1L));

                    *time_start = time_end;
    }

    return;
}


//=====================================================================
//
// Function   : OpenConnections
//
//=====================================================================

void OpenConnections()
{

          RETCODE         rc;

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


          SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv );

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

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

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

          // Open connections to SQL Server

          // Connection 1

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

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

          rc = SQLDriverConnect ( i_hdbc1,
                                                        NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                  SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),
                                                                  &cbDriverStringOut,
                                                                  SQL_DRIVER_NOPROMPT );
          if (rc != SUCCEED)
                    HandleErrorDBC(i_hdbc1);

          // Connection 2

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

          rc = SQLSetConnectOption (w_hdbc1, SQL_PACKET_SIZE, aptr->pack_size);
          if (rc != SUCCEED)
                    HandleErrorDBC(w_hdbc1);

          rc = SQLDriverConnect ( w_hdbc1,
                                                                            NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                            SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,
```


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

          // Connection 3

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

          rc = SQLSetConnectOption (c_hdbc1, SQL_PACKET_SIZE, aptr->pack_size);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc1);

          rc = SQLDriverConnect ( c_hdbc1,
                                                                            NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                            SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,

          SQL_DRIVER_NOPROMPT );
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc1);

          // Connection 4

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

          rc = SQLSetConnectOption (c_hdbc2, SQL_PACKET_SIZE, aptr->pack_size);
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

          rc = SQLDriverConnect ( c_hdbc2,
                                                                            NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                            SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,

          SQL_DRIVER_NOPROMPT );
          if (rc != SUCCEED)
                    HandleErrorDBC(c_hdbc2);

          // Connection 5

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

          rc = SQLSetConnectOption (o_hdbc1, SQL_PACKET_SIZE, aptr->pack_size);
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc1);

          rc = SQLDriverConnect ( o_hdbc1,
                                                                            NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                            SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,

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

          // Connection 6

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

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

          rc = SQLDriverConnect ( o_hdbc2,
                                                                            NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                            SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,

          SQL_DRIVER_NOPROMPT );
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc2);

          // Connection 7

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


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```
                                                        aptr->user,
                                                        aptr->password,
                                                        aptr->database );

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

          rc = SQLDriverConnect ( o_hdbc3,
                                                                  NULL,

          (SQLCHAR*)&szDriverString[0] ,
                                                                  SQL_NTS,

          (SQLCHAR*)&szDriverStringOut[0],

          sizeof(szDriverStringOut),

          &cbDriverStringOut,

          SQL_DRIVER_NOPROMPT );
          if (rc != SUCCEED)
                    HandleErrorDBC(o_hdbc3);

}

//=====================================================================
//
// Function name: BuildIndex
//
//=====================================================================

void BuildIndex(char          *index_script)
{
          char      cmd[256];

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

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

          system(cmd);

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


void HandleErrorDBC (SQLHDBC  hdbc1)
{

          SQLCHAR             SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
          SQLINTEGER  NativeError;
          SQLSMALLINT i, MsgLen;
          SQLRETURN   rc2;
          char                timebuf[128];
          char                datebuf[128];
          FILE                *fp1;

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

                    sprintf( szLastError , "%s" ,  Msg );

                    _strtime(timebuf);
                    _strdate(datebuf);

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

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

                    i++;

          }
}

void HandleErrorSTMT (HSTMT  hstmt1)
{

          SQLCHAR             SqlState[6], Msg[SQL_MAX_MESSAGE_LENGTH];
          SQLINTEGER  NativeError;
          SQLSMALLINT i, MsgLen;
          SQLRETURN   rc2;
          char                timebuf[128];
          char                datebuf[128];
          FILE                *fp1;

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

                    sprintf( szLastError , "%s" ,  Msg );

                    _strtime(timebuf);
                    _strdate(datebuf);

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

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


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

                        i++;

            }
}


void FormatDate ( char* szTimeCOutput )
{

            struct tm when;
            time_t now;

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

            mktime( &when );

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

            return;

}

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

void CheckDataBase()
{

            RETCODE         rc;

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

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


            ExitFlag = 0;

            SQLAllocHandle(SQL_HANDLE_ENV, SQL_NULL_HANDLE, &henv );

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

            SQLAllocHandle(SQL_HANDLE_DBC, henv , &v_hdbc);

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

            // Open connection to SQL Server

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

            rc = SQLSetConnectAttr( v_hdbc, SQL_ATTR_PACKET_SIZE, (SQLPOINTER)aptr-
>pack_size, SQL_IS_UINTEGER );
            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 %s\\ directory for database creation errors.\n",
LogBase);

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

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

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

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

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

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

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

                        SQLAllocHandle(SQL_HANDLE_STMT, v_hdbc , &v_hstmt);
```


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

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

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

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

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

                    // interate through the bitmap to display which table(s) is
actually missing
                    for (i = 0; i <= 8; i++)
                    {
                              switch(i)
                              {
                              case 0:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The Warehouse table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 1:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The District table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 2:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The Customer table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 3:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The History table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 4:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The New_Order table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 5:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The Orders table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 6:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The Order_Line table is
missing or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 7:
                                        if (TablesBitMap[i] == '0')
                                        {
                                                  printf("The Item table is missing
or damaged.\n");
                                                  ExitFlag = 1;
                                        }
                                        break;
                              case 8:
                                        if (TablesBitMap[i] == '0')
```


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```
                                        {
                                                printf("The Stock table is missing
or damaged.\n");
                                                ExitFlag = 1;
                                        }
                                        break;
                                }
                        }

                        // if one or more tables are missing, display message and exit
the loader
                        if (ExitFlag = 1)
                        {
                                printf("\nExiting TPC-C Loader!\n");
                                printf("\nCheck %s\\ directory for database\n",
LogBase);
                                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;
}
```

random.c

```
//      File:           RANDOM.C
//                              Microsoft TPC-C Kit Ver. 4.30
//                              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;
```


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```
    if ( test > 0 )
                    Seed = test;
    else
                    Seed = test + M;

    return( Seed );
}


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

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

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


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

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

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

          upper++;

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


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


    return rand_num;
}


#if 0
//Orginal code pgd 08/13/96

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

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

          upper++;

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


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


    return rand_num;
}
#endif

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

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

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

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

    return rand_num;
}
```

strings.c

```
//        File:               STRINGS.C
//                                    Microsoft TPC-C Kit Ver. 4.30
```


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```
//                                      Copyright Microsoft, 1996, 1997, 1998, 1999,
2000
//        Purpose:  Source file for database loader string functions


// Includes
#include "tpcc.h"
#include <string.h>
#include <ctype.h>

//=====================================================================
//
// Function name: MakeAddress
//
//=====================================================================

void MakeAddress(char *street_1,
                                        char *street_2,
                                        char *city,
                                        char *state,
                                        char *zip)
{

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

    MakeAlphaString (10, 20, ADDRESS_LEN, street_1);
    MakeAlphaString (10, 20, ADDRESS_LEN, street_2);
    MakeAlphaString (10, 20, ADDRESS_LEN, city);
    MakeAlphaString ( 2,  2, STATE_LEN, state);
    MakeZipNumberString( 9,  9, ZIP_LEN, zip);

#ifdef DEBUG
    printf("[%ld]DBG: MakeAddress: street_1: %s, street_2: %s, city: %s, state: %s,
zip: %s\n",
                              (int) GetCurrentThreadId(), street_1, street_2, city,
state, zip);
#endif

    return;

}


//=====================================================================
//
// Function name: LastName
//
//=====================================================================

void LastName(int  num,
                          char *name)
{
    static char *n[] =
    {
                    "BAR" , "OUGHT", "ABLE" , "PRI"  , "PRES",
                    "ESE" , "ANTI" , "CALLY", "ATION", "EING"
    };

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

    if ((num >= 0) && (num < 1000))
    {
                    strcpy(name, n[(num/100)%10]);
                    strcat(name, n[(num/10)%10]);
                    strcat(name, n[(num/1)%10]);

                    if (strlen(name) < LAST_NAME_LEN)
                    {
                              PaddString(LAST_NAME_LEN, name);
                    }

    }
    else
    {
                    printf("\nError in LastName()... num <%ld> out of range
(0,999)\n", num);
                    exit(-1);
    }


#ifdef DEBUG
    printf("[%ld]DBG: LastName: num = [%d] ==> [%d][%d][%d]\n",
                              (int) GetCurrentThreadId(), num, num/100, (num/10)%10,
num%10);
          printf("[%ld]DBG: LastName: String = %s\n", (int) GetCurrentThreadId(),
name);
#endif

    return;

}


//=====================================================================
//
// Function name: MakeAlphaString
//
//=====================================================================

//philipdu 08/13/96 Changed MakeAlphaString to use A-Z, a-z, and 0-9 in
//accordance with spec see below:
//The spec says:
//4.3.2.2 The notation random a-string [x .. y]
//(respectively, n-string [x .. y]) represents a string of random alphanumeric
//(respectively, numeric) characters of a random length of minimum x, maximum y,
//and mean (y+x)/2. Alphanumerics are A..Z, a..z, and 0..9.  The only other
//requirement is that the character set used "must be able to represent a minimum
//of 128 different characters".  We are using 8-bit chars, so this is a non issue.
//It is completely unreasonable to stuff non-printing chars into the text fields.
//-CLevine 08/13/96

int MakeAlphaString( int  x, int  y, int  z, char *str)
{
          int                 len;
          int                 i;
    char    cc = 'a';
          static    char chArray[] =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
          static    int       chArrayMax = 61;

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


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```
#endif

          len= RandomNumber(x, y);

          for (i=0; i<len; i++)
          {
                    cc = chArray[RandomNumber(0, chArrayMax)];
        str[i] = cc;
    }
          if ( len < z )
                    memset(str+len, ' ', z - len);
          str[z] = 0;

    return len;
}


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

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

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

    // verify prercentage is valid
    if ((percent < 0) || (percent > 100))
    {
                    printf("MakeOrigianlAlphaString: Invalid percentage: %d\n",
percent);
                    exit(-1);
    }

    // verify string is at least 8 chars in length
    if ((x + 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)
{
```


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```
#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;
}
```

getargs.c

```
//        File:               GETARGS.C
//                                  Microsoft TPC-C Kit Ver. 4.30
//                                  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, TPCCLDR_ARGS *pargs)
{
    int             i;
    char  *ptr;

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

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

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

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

                    ptr = argv[i];

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

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


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

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

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

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

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

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

                    case 't':
                                        {
                                                  pargs->tables_all = FALSE;
                                                  if (strcmp(ptr+2,"item") == 0)
                                                            pargs->table_item =
TRUE;
                                                  else if (strcmp(ptr+2,"warehouse")
== 0)
                                                            pargs->table_warehouse =
TRUE;
                                                  else if (strcmp(ptr+2,"customer")
== 0)
                                                            pargs->table_customer =
TRUE;
                                                  else if (strcmp(ptr+2,"orders") ==
0)
                                                            pargs->table_orders =
TRUE;
                                                  else
                                                  {
                                                  printf("\nUnrecognized command");
                                                  GetArgsLoaderUsage();
                                                  exit(1);
                                                  }

                                                  break;
                                        }

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

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

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

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

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

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

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

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

    return;
}


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

void GetArgsLoaderUsage()
{

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


    printf("TPCCLDR:\n\n");
          printf("Parameter                                                  Default\n");
          printf("-------------------------------------------------------------
\n");
    printf("-W Number of Warehouses to Load                        Required \n");
    printf("-S Server                                              %s\n", SERVER);
    printf("-U Username                                            %s\n", USER);
    printf("-P Password                                            %s\n", PASSWORD);
    printf("-D Database                                            %s\n", DATABASE);
          printf("-b Batch Size                                            %ld\n",
(long) BATCH);
          printf("-p TDS packet size                                       %ld\n",
(long) DEFLDPACKSIZE);
          printf("-f Loader Results Output Filename                        %s\n",
LOADER_RES_FILE);
          printf("-s Starting Warehouse                                    %ld\n",
(long) DEF_STARTING_WAREHOUSE);
```


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```
          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);
}
```


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Appendix C: Tunable Parameters

Microsoft SQL Server 2000 EE Startup Parameters

C:\SQL2K\MSSQL\BINN\SQLSERVR -eC:\MSSQL7\LOG\ERRORLOG -x -c -t3502 –g1024

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
-g1024 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. Incorrect use of this option can lead to conditions under which SQL Server may not start or may encounter runtime errors.

Boot.ini Parameters

8GB Tuning was enabled for Windows 2000 Advanced Server by setting the "/PAE" switch in the boot.ini .

Microsoft SQL Server 2000 Enterprise Version

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

sp_configure 'show advanced',1
1> 2> reconfigure with override
1> 2> sp_configure
 name                                    minimum
maximum     config_value run_value
 ----------------------------------- ----------- ----
------- ------------ -----------
 affinity mask                                     0
2147483647          255         255
 allow updates                                     0
1            0           0
 awe enabled                                       0
1            1           1
 c2 audit mode                                     0
1            0           0
 cost threshold for parallelism                    0
32767            5           5
 cursor threshold                                 -1
2147483647          -1          -1
 default full-text language                        0
2147483647         1033        1033
 default language                                  0
9999            0           0
 fill factor (%)                                   0
100            0           0
 index create memory (KB)                        704
2147483647            0           0
 lightweight pooling                               0
1            0           0
 locks                                          5000
2147483647            0           0
 max degree of parallelism                         0
32            0           0
 max server memory (MB)                            4
2147483647   2147483647  2147483647
 max text repl size (B)                            0
2147483647        65536       65536
 max worker threads                               32
32767          450         450
 media retention                                   0
365            0           0
 min memory per query (KB)                       512
2147483647         1024        1024
 min server memory (MB)                            0
2147483647            0           0
 nested triggers                                   0
1            1           1
 network packet size (B)                         512
65536         4096        4096
 open objects                                      0
2147483647            0           0
 priority boost                                    0
1            1           1
 query governor cost limit                         0
2147483647            0           0
 query wait (s)                                   -1
2147483647           -1          -1
 recovery interval (min)                           0
32767           40          40
 remote access                                     0
1            1           1
 remote login timeout (s)                          0
2147483647            0           0
 remote proc trans                                 0
1            0           0
 remote query timeout (s)                          0
2147483647            0           0
 scan for startup procs                            0
1            0           0
 set working set size                              0
1            0           0
 show advanced options                             0
1            1           1
 two digit year cutoff                          1753
9999         2049        2049
 user connections                                  0
32767            0           0
 user options                                      0
32767            0           0

1>
```

Benchcraft Profile

```
Profile:  16-nodesx2200_3D_RTE
File Path:          C:\BenchCraft\16-
nodesx2200_3D_RTE.pro
Version:  3

          Number of Engines: 32

                    Name: CL01
                    Description:
                    Directory: c:\temp\CL01.log
                    Machine: N1
                    Parameter Set: 3.2
                    Index: 0
                    Seed: 18546
                    Configured Users: 11000
                    Pipe Name: DRIVER185943500
                    Connect Rate: 10
                    Start Rate: 0
```


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```
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL02
Description:
Directory: c:\temp\CL02.log
Machine: N1
Parameter Set: 3.2
Index: 50000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER286005718
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL03
Description:
Directory: c:\temp\CL03.log
Machine: N1
Parameter Set: 3.2
Index: 100000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER486111687
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL04
Description:
Directory: c:\temp\CL04.log
Machine: N2
Parameter Set: 3.2
Index: 150000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER61351046
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL05
Description:
Directory: c:\temp\CL05.log
Machine: N2
Parameter Set: 3.2
Index: 200000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER51445656
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL06
Description:
Directory: c:\temp\CL06.log
Machine: N2
Parameter Set: 3.2
Index: 250000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER61470359
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL07
Description:
Directory: c:\temp\CL07.log
Machine: N3
Parameter Set: 3.2
Index: 300000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER71530812
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL08
Description:
Directory: c:\temp\CL08.log
Machine: N3
Parameter Set: 3.2
Index: 350000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER81559609
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL09
Description:
Directory: c:\temp\CL09.log
Machine: N3
Parameter Set: 3.2
Index: 400000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER91581734
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL10
Description:
Directory: c:\temp\CL10.log
Machine: N4
Parameter Set: 3.2
Index: 450000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER101796593
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL11
Description:
Directory: c:\temp\CL11.log
Machine: N4
Parameter Set: 3.2
Index: 500000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER111815125
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL12
Description:
Directory: c:\temp\CL12.log
Machine: N4
Parameter Set: 3.2
Index: 550000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER121847578
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL13
Description:
Directory: c:\temp\CL13.log
Machine: N5
Parameter Set: 3.2
Index: 600000000
Seed: 18546
Configured Users: 11000
```


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```
Pipe Name: DRIVER131948703
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL14
Description:
Directory: c:\temp\CL14.log
Machine: N5
Parameter Set: 3.2
Index: 650000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER141987734
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL15
Description:
Directory: c:\temp\CL15.log
Machine: N5
Parameter Set: 3.2
Index: 700000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER152008625
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL16
Description:
Directory: c:\temp\CL16.log
Machine: N6
Parameter Set: 3.2
Index: 750000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER162045765
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL17
Description:
Directory: c:\temp\CL17.log
Machine: N6
Parameter Set: 3.2
Index: 800000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER172074875
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL18
Description:
Directory: c:\temp\CL18.log
Machine: N6
Parameter Set: 3.2
Index: 850000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER182096734
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL19
Description:
Directory: c:\temp\CL19.log
Machine: N7
Parameter Set: 3.2
Index: 900000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER208165921
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL20
Description:
Directory: c:\temp\CL20.log
Machine: N7
Parameter Set: 3.2
Index: 950000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER218309125
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL21
Description:
Directory: c:\temp\CL21.log
Machine: N7
Parameter Set: 3.2
Index: 1000000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER228369562
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL22
Description:
Directory: c:\temp\CL22.log
Machine: N8
Parameter Set: 3.2
Index: 1050000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER238477187
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL23
Description:
Directory: c:\temp\CL23.log
Machine: N8
Parameter Set: 3.2
Index: 1100000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER248583203
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL24
Description:
Directory: c:\temp\CL24.log
Machine: N8
Parameter Set: 3.2
Index: 1150000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER258632218
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL25
Description:
Directory: c:\temp\CL25.log
Machine: N9
Parameter Set: 3.2
```


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```
Index: 1200000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER268712812
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL26
Description:
Directory: c:\temp\CL26.log
Machine: N9
Parameter Set: 3.2
Index: 1250000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER278790828
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL27
Description:
Directory: c:\temp\CL27.log
Machine: N9
Parameter Set: 3.2
Index: 1300000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER288846796
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL28
Description:
Directory: c:\temp\CL28.log
Machine: N10
Parameter Set: 3.2
Index: 1350000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER298908937
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL29
Description:
Directory: c:\temp\CL29.log
Machine: N10
Parameter Set: 3.2
Index: 1400000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER308985281
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Name: CL30
Description:
Directory: c:\temp\CL30.log
Machine: N10
Parameter Set: 3.2
Index: 1450000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER319079562
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 2

Name: CL31
Description:
Directory: c:\temp\CL31.log
Machine: N11
Parameter Set: 3.2
Index: 1500000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER329129281
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 0

Name: CL32
Description:
Directory: c:\temp\CL32.log
Machine: N11
Parameter Set: 3.2
Index: 1550000000
Seed: 18546
Configured Users: 11000
Pipe Name: DRIVER339195046
Connect Rate: 10
Start Rate: 0
Max. Concurrency: 0
Concurrency Rate: 0
CLIENT_NURAND: 233
CPU: 1

Number of User groups: 32

Driver Engine: CL01
IIS Server: CL1C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 1 - 1100
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL02
IIS Server: CL2C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 1101 - 2200
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL03
IIS Server: CL3C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 2201 - 3300
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL04
IIS Server: CL4C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 3301 - 4400
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL05
IIS Server: CL5C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 4401 - 5500
w_id Min Warehouse: 1
```


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```
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL06
IIS Server: CL6C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 5501 - 6600
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL07
IIS Server: CL7C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 6601 - 7700
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL08
IIS Server: CL8C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 7701 - 8800
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL09
IIS Server: CL9C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 8801 - 9900
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL10
IIS Server: CL10C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 9901 - 11000
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL11
IIS Server: CL11C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 11001 - 12100
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL12
IIS Server: CL12C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 12101 - 13200
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL13
IIS Server: CL13C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 13201 - 14300
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL14
IIS Server: CL14C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 14301 - 15400
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL15
IIS Server: CL15C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 15401 - 16500
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL16
IIS Server: CL16C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 16501 - 17600
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL17
IIS Server: CL17C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 17601 - 18700
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL18
IIS Server: CL18C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 18701 - 19800
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL19
```


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```
IIS Server: CL19C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 19801 - 20900
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL20
IIS Server: CL20C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 20901 - 22000
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL21
IIS Server: CL21C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 22001 - 23100
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL22
IIS Server: CL22C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 23101 - 24200
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL23
IIS Server: CL23C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 24201 - 25300
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL24
IIS Server: CL24C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 25301 - 26400
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL25
IIS Server: CL25C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 26401 - 27500
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL26
IIS Server: CL26C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 27501 - 28600
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL27
IIS Server: CL27C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 28601 - 29700
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL28
IIS Server: CL28C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 29701 - 30800
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL29
IIS Server: CL29C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 30801 - 31900
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL30
IIS Server: CL30C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 31901 - 33000
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL31
IIS Server: CL31C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 33001 - 34100
w_id Min Warehouse: 1
w_id Max Warehouse: 35200
Scale: Normal
User Count: 11000
District id: 1
Scale Down: No

Driver Engine: CL32
IIS Server: CL32C
SQL Server: bigfoot_ip
Database: tpcc
User: sa
Protocol: HTML
w_id Range: 34101 - 35200
w_id Min Warehouse: 1
```


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```
                    w_id Max Warehouse: 35200
                    Scale: Normal
                    User Count: 11000
                    District id: 1
                    Scale Down: No

          Number of Parameter Sets: 43


                    ~Default
                    Default Parameter Set
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    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
                    Delivery           1.00
5.05        2.01      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

                    Tuned Distribution

                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
12.05      18.01      0.10      5.00      0.10
                    Payment           43.10
12.05       3.01      0.10      5.00      0.10
                    Delivery           4.05
5.05        2.01      0.10      5.00      0.10
                    Stock Level        4.05
5.05        2.01      0.10     20.00      0.10
                    Order Status       4.05
10.05       2.01      0.10      5.00      0.10

                    No Think

                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         10.00
0.00        0.00      0.00      5.00      0.00
                    Payment           10.00
0.00        0.00      0.00      5.00      0.00
                    Delivery           1.00
0.00        0.00      0.00      5.00      0.00
                    Stock Level        1.00
0.00        0.00      0.00     20.00      0.00
                    Order Status       1.00
0.00        0.00      0.00      5.00      0.00

                    95%
```

```
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
13.00      18.01      0.10      5.00      0.10
                    Payment           43.10
13.00       3.01      0.10      5.00      0.10
                    Delivery           4.05
6.00        2.01      0.10      5.00      0.10
                    Stock Level        4.05
6.00        2.01      0.10     20.00      0.10
                    Order Status       4.05
11.00       2.01      0.10      5.00      0.10

                    90%

                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
16.00      18.01      0.10      5.00      0.10
                    Payment           43.05
16.00       3.01      0.10      5.00      0.10
                    Delivery           4.04
9.00        2.01      0.10      5.00      0.10
                    Stock Level        4.04
9.00        2.01      0.10     20.00      0.10
                    Order Status       4.04
14.00       2.01      0.10      5.00      0.10

                    3.0

                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
36.15       0.00      0.10      5.00      0.10
                    Payment           43.10
36.15       0.00      0.10      5.00      0.10
                    Delivery           4.05
15.15       0.00      0.10      5.00      0.10
                    Stock Level        4.05
15.15       0.00      0.10     20.00      0.10
                    Order Status       4.05
30.15       0.00      0.10      5.00      0.10

                    4.0
                    4.0 tt
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
48.20      18.01      0.10      5.00      0.10
                    Payment           43.10
48.20       3.01      0.10      5.00      0.10
                    Delivery           4.05
20.20       2.01      0.10      5.00      0.10
                    Stock Level        4.05
20.20       2.01      0.10     20.00      0.10
```

```
                    Order Status       4.05
40.20       2.01      0.10      5.00      0.10

                    3.8
                    3.8 tt
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
45.70      18.01      0.10      5.00      0.10
                    Payment           43.10
45.70       3.01      0.10      5.00      0.10
                    Delivery           4.05
19.10       2.01      0.10      5.00      0.10
                    Stock Level        4.05
19.10       2.01      0.10     20.00      0.10
                    Order Status       4.05
38.10       2.01      0.10      5.00      0.10

                    3.6
                    3.6 tt
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
43.30      18.01      0.10      5.00      0.10
                    Payment           43.10
43.30       3.01      0.10      5.00      0.10
                    Delivery           4.05
18.10       2.01      0.10      5.00      0.10
                    Stock Level        4.05
18.10       2.01      0.10     20.00      0.10
                    Order Status       4.05
36.18       2.01      0.10      5.00      0.10

                    3.4
                    3.4 tt
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
40.90      18.01      0.10      5.00      0.10
                    Payment           43.10
40.90       3.01      0.10      5.00      0.10
                    Delivery           4.05
17.10       2.01      0.10      5.00      0.10
                    Stock Level        4.05
17.10       2.01      0.10     20.00      0.10
                    Order Status       4.05
17.10       2.01      0.10      5.00      0.10

                    3.2
                    3.2 tt
                                        Txn     Think
Key     RT      RT      Menu
                                      Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
38.50      18.01      0.10      5.00      0.10
```


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```
                    Payment           43.10
38.50        3.01      0.10      5.00      0.10
                    Delivery           4.05
16.10        2.01      0.10      5.00      0.10
                    Stock Level        4.05
16.10        2.01      0.10     20.00      0.10
                    Order Status       4.05
32.10        2.01      0.10      5.00      0.10

                    2.8
                    2.8 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
33.74       18.01      0.10      5.00      0.10
                    Payment           43.10
33.74        3.01      0.10      5.00      0.10
                    Delivery           4.05
14.14        2.01      0.10      5.00      0.10
                    Stock Level        4.05
14.14        2.01      0.10     20.00      0.10
                    Order Status       4.05
28.14        2.01      0.10      5.00      0.10

                    2.6
                    2.6 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
31.30       18.01      0.10      5.00      0.10
                    Payment           43.10
31.30        3.01      0.10      5.00      0.10
                    Delivery           4.05
13.10        2.01      0.10      5.00      0.10
                    Stock Level        4.05
13.10        2.01      0.10     20.00      0.10
                    Order Status       4.05
26.10        2.01      0.10      5.00      0.10

                    2.4
                    2.4 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
28.90       18.01      0.10      5.00      0.10
                    Payment           43.10
28.90        3.01      0.10      5.00      0.10
                    Delivery           4.05
12.10        2.01      0.10      5.00      0.10
                    Stock Level        4.05
12.10        2.01      0.10     20.00      0.10
                    Order Status       4.05
24.10        2.01      0.10      5.00      0.10

                    2.2
                    2.2 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
28.90       18.01      0.10      5.00      0.10
                    Payment           43.10
28.90        3.01      0.10      5.00      0.10
                    Delivery           4.05
12.10        2.01      0.10      5.00      0.10
                    Stock Level        4.05
12.10        2.01      0.10     20.00      0.10
                    Order Status       4.05
24.12        2.01      0.10      5.00      0.10

                    2.0
                    2.0 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
24.10       18.01      0.10      5.00      0.10
                    Payment           43.10
24.10        3.01      0.10      5.00      0.10
                    Delivery           4.05
10.10        2.01      0.10      5.00      0.10
                    Stock Level        4.05
10.10        2.01      0.10     20.00      0.10
                    Order Status       4.05
20.10        2.01      0.10      5.00      0.10

                    5.0
                    5.0 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
60.25       18.01      0.10      5.00      0.10
                    Payment           43.10
60.25        3.01      0.10      5.00      0.10
                    Delivery           4.05
25.25        2.01      0.10      5.00      0.10
                    Stock Level        4.05
25.25        2.01      0.10     20.00      0.10
                    Order Status       4.05
50.25        2.01      0.10      5.00      0.10

                    4.5
                    4.5 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
54.20       18.01      0.10      5.00      0.10
                    Payment           43.10
54.20        3.01      0.10      5.00      0.10
                    Delivery           4.05
22.70        2.01      0.10      5.00      0.10
                    Stock Level        4.05
22.70        2.01      0.10     20.00      0.10
                    Order Status       4.05
45.20        2.01      0.10      5.00      0.10

                    3.5
                    3.5 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
42.10       18.01      0.10      5.00      0.10
                    Payment           43.10
42.10        3.01      0.10      5.00      0.10
                    Delivery           4.05
17.60        2.01      0.10      5.00      0.10
                    Stock Level        4.05
17.60        2.01      0.10     20.00      0.10
                    Order Status       4.05
35.10        2.01      0.10      5.00      0.10

                    1.8
                    1.8 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
21.60       18.01      0.10      5.00      0.10
                    Payment           43.10
21.60        3.01      0.10      5.00      0.10
                    Delivery           4.05
9.09         2.01      0.10      5.00      0.10
                    Stock Level        4.05
9.09         2.01      0.10     20.00      0.10
                    Order Status       4.05
18.09        2.01      0.10      5.00      0.10

                    4.2
                    4.2 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
54.20       18.01      0.10      5.00      0.10
                    Payment           43.10
54.20        3.01      0.10      5.00      0.10
                    Delivery           4.05
22.70        2.01      0.10      5.00      0.10
                    Stock Level        4.05
22.70        2.01      0.10     20.00      0.10
                    Order Status       4.05
45.20        2.01      0.10      5.00      0.10

                    1.6
                    1.6 tt
                                    Txn     Think
Key     RT      RT      Menu
                                   Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
19.20       18.01      0.10      5.00      0.10
```


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```
                    Payment           43.10
19.20        3.01      0.10      5.00      0.10
                    Delivery           4.05
8.08         2.01      0.10      5.00      0.10
                    Stock Level        4.05
8.08         2.01      0.10     20.00      0.10
                    Order Status       4.05
16.08        2.01      0.10      5.00      0.10

                    1.4
                    1.4 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
16.87       18.01      0.10      5.00      0.10
                    Payment           43.10
16.87        3.01      0.10      5.00      0.10
                    Delivery           4.05
7.07         2.01      0.10      5.00      0.10
                    Stock Level        4.05
7.07         2.01      0.10     20.00      0.10
                    Order Status       4.05
14.07        2.01      0.10      5.00      0.10

                    1.2
                    1.2 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
14.46       18.01      0.10      5.00      0.10
                    Payment           43.05
14.46        3.01      0.10      5.00      0.10
                    Delivery           4.04
6.06         2.01      0.10      5.00      0.10
                    Stock Level        4.04
6.06         2.01      0.10     20.00      0.10
                    Order Status       4.04
12.06        2.01      0.10      5.00      0.10

                    3.5
                    3.5 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
42.10       18.01      0.10      5.00      0.10
                    Payment           43.10
42.10        3.01      0.10      5.00      0.10
                    Delivery           4.05
17.60        2.01      0.10      5.00      0.10
                    Stock Level        4.05
17.60        2.01      0.10     20.00      0.10
                    Order Status       4.05
35.10        2.01      0.10      5.00      0.10

                    1.9
                    1.9 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
22.89       18.01      0.10      5.00      0.10
                    Payment           43.10
22.89        3.01      0.10      5.00      0.10
                    Delivery           4.05
9.59         2.01      0.10      5.00      0.10
                    Stock Level        4.05
9.59         2.01      0.10     20.00      0.10
                    Order Status       4.05
19.09        2.01      0.10      5.00      0.10

                    1.1
                    1.1 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
13.25       18.01      0.10      5.00      0.10
                    Payment           43.05
13.25        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.55         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.55         2.01      0.10     20.00      0.10
                    Order Status       4.04
11.05        2.01      0.10      5.00      0.10

                    1.05
                    1.05 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.65       18.01      0.10      5.00      0.10
                    Payment           43.05
12.65        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.30         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.30         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.55        2.01      0.10      5.00      0.10

                    1.09
                    1.09 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
13.13       18.01      0.10      5.00      0.10
                    Payment           43.05
13.13        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.50         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.50         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.95        2.01      0.10      5.00      0.10

                    1.08
                    1.08 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
13.01       18.01      0.10      5.00      0.10
                    Payment           43.05
13.01        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.45         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.45         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.85        2.01      0.10      5.00      0.10

                    1.07
                    1.07 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.89       18.01      0.10      5.00      0.10
                    Payment           43.05
12.89        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.40         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.40         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.75        2.01      0.10      5.00      0.10

                    1.06
                    1.06 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.77       18.01      0.10      5.00      0.10
                    Payment           43.05
12.77        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.35         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.35         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.65        2.01      0.10      5.00      0.10

                    1.15
                    1.15 tt
                                   Txn     Think
Key     RT      RT      Menu
                                  Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
13.85       18.01      0.10      5.00      0.10
```


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```
                    Payment           43.10
13.85        3.01      0.10      5.00      0.10
                    Delivery           4.05
5.80         2.01      0.10      5.00      0.10
                    Stock Level        4.05
5.80         2.01      0.10     20.00      0.10
                    Order Status       4.05
11.55        2.01      0.10      5.00      0.10

                    1.25
                    1.25 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
15.06       18.01      0.10      5.00      0.10
                    Payment           43.05
15.06        3.01      0.10      5.00      0.10
                    Delivery           4.04
6.31         2.01      0.10      5.00      0.10
                    Stock Level        4.04
6.31         2.01      0.10     20.00      0.10
                    Order Status       4.04
12.56        2.01      0.10      5.00      0.10

                    1.3
                    1.3 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
15.66       18.01      0.10      5.00      0.10
                    Payment           43.05
15.66        3.01      0.10      5.00      0.10
                    Delivery           4.04
6.56         2.01      0.10      5.00      0.10
                    Stock Level        4.04
6.56         2.01      0.10     20.00      0.10
                    Order Status       4.04
13.06        2.01      0.10      5.00      0.10

                    1.12
                    1.12 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
13.49       18.01      0.10      5.00      0.10
                    Payment           43.10
13.49        3.01      0.10      5.00      0.10
                    Delivery           4.05
5.65         2.01      0.10      5.00      0.10
                    Stock Level        4.05
5.65         2.01      0.10     20.00      0.10
                    Order Status       4.05
11.25        2.01      0.10      5.00      0.10

                    1.18
                    1.18 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
14.21       18.01      0.10      5.00      0.10
                    Payment           43.10
14.21        3.01      0.10      5.00      0.10
                    Delivery           4.05
5.95         2.01      0.10      5.00      0.10
                    Stock Level        4.05
5.95         2.01      0.10     20.00      0.10
                    Order Status       4.05
11.85        2.01      0.10      5.00      0.10

                    1.22
                    1.22 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
14.70       18.01      0.10      5.00      0.10
                    Payment           43.10
14.70        3.01      0.10      5.00      0.10
                    Delivery           4.05
6.16         2.01      0.10      5.00      0.10
                    Stock Level        4.05
6.16         2.01      0.10     20.00      0.10
                    Order Status       4.05
12.26        2.01      0.10      5.00      0.10

                    1.28
                    1.28 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.75
15.42       18.01      0.10      5.00      0.10
                    Payment           43.10
15.42        3.01      0.10      5.00      0.10
                    Delivery           4.05
6.46         2.01      0.10      5.00      0.10
                    Stock Level        4.05
6.46         2.01      0.10     20.00      0.10
                    Order Status       4.05
12.86        2.01      0.10      5.00      0.10

                    1.04
                    1.04 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.53       18.01      0.10      5.00      0.10
                    Payment           43.05
12.53        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.25         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.25         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.45        2.01      0.10      5.00      0.10

                    1.03
                    1.03 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.41       18.01      0.10      5.00      0.10
                    Payment           43.05
12.41        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.20         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.20         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.35        2.01      0.10      5.00      0.10

                    1.02
                    1.02 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.29       18.01      0.10      5.00      0.10
                    Payment           43.05
12.29        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.15         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.15         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.25        2.01      0.10      5.00      0.10

                    1.01
                    1.01 tt
                                      Txn     Think
Key     RT      RT      Menu
                                     Weight  Time
Time    Delay   Fence   Delay
                    New Order         44.83
12.17       18.01      0.10      5.00      0.10
                    Payment           43.05
12.17        3.01      0.10      5.00      0.10
                    Delivery           4.04
5.10         2.01      0.10      5.00      0.10
                    Stock Level        4.04
5.10         2.01      0.10     20.00      0.10
                    Order Status       4.04
10.15        2.01      0.10      5.00      0.10
```

Internet Information

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Server Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\InetInfo]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\InetInfo\Parameters]
"ListenBackLog"=dword:00002710
"DispatchEntries"=hex(7):4c,00,44,00,41,00,50,00,53,0
0,56,00,43,00,00,00,00,00
"PoolThreadLimit"=dword:00000258
"ThreadTimeout"=dword:00015180

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\InetInfo\Performance]
"Library"="infoctrs.dll"
"Open"="OpenINFOPerformanceData"
"Close"="CloseINFOPerformanceData"
"Collect"="CollectINFOPerformanceData"
"Last Counter"=dword:00000842
"Last Help"=dword:00000843
"First Counter"=dword:00000802
"First Help"=dword:00000803
"Library Validation
Code"=hex:a6,d3,a6,6e,3b,6f,bf,01,10,25,00,00,00,00,0
0,00
"WbemAdapFileTime"=hex:00,a8,84,48,24,af,bf,01
"WbemAdapFileSize"=dword:00002510
"WbemAdapStatus"=dword:00000000
```

World Wide Web Service Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC]
"Type"=dword:00000020
"Start"=dword:00000002
"ErrorControl"=dword:00000001
"ImagePath"=hex(2):43,00,3a,00,5c,00,57,00,49,00,4e,0
0,4e,00,54,00,5c,00,53,00,\

79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,69,00
,6e,00,65,00,74,00,73,\

00,72,00,76,00,5c,00,69,00,6e,00,65,00,74,00,69,00,6e
,00,66,00,6f,00,2e,00,\
  65,00,78,00,65,00,00,00
"DisplayName"="World Wide Web Publishing Service"
"DependOnService"=hex(7):49,00,49,00,53,00,41,00,44,0
0,4d,00,49,00,4e,00,00,00,\
  00,00
"DependOnGroup"=hex(7):00,00
"ObjectName"="LocalSystem"
"Description"="Provides Web connectivity and
administration through the Internet Information
Services snap-in."

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\ASP]
"NOTE"="This is for backward compatibility only."

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\ASP\Parameters]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\Parameters]
"MajorVersion"=dword:00000005
"MinorVersion"=dword:00000000
"InstallPath"="C:\\WINNT\\System32\\inetsrv"
"CertMapList"="C:\\WINNT\\System32\\inetsrv\\iiscrmap
.dll"
"AccessDeniedMessage"="Error: Access is Denied."
"Filter DLLs"=""
"LogFileDirectory"="C:\\WINNT\\System32\\LogFiles"
"AcceptExOutstanding"=dword:00000028

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\Parameters\ADCLaunch]

[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\Script Map]

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\Parameters\Virtual Roots]
"/"="c:\\inetpub\\wwwroot,,207"
"/Scripts"="c:\\inetpub\\scripts,,204"
"/IISHelp"="c:\\winnt\\help\\iishelp,,201"
"/IISAdmin"="C:\\WINNT\\System32\\inetsrv\\iisadmin,,
201"
"/IISSamples"="c:\\inetpub\\iissamples,,201"
"/MSADC"="c:\\program files\\common
files\\system\\msadc,,205"
"/Printers"="C:\\WINNT\\web\\printers,,201"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\Performance]
"Library"="w3ctrs.dll"
"Open"="OpenW3PerformanceData"
"Close"="CloseW3PerformanceData"
"Collect"="CollectW3PerformanceData"
"Last Counter"=dword:000008e6
"Last Help"=dword:000008e7
"First Counter"=dword:00000844
"First Help"=dword:00000845
"Library Validation
Code"=hex:8c,fa,76,93,33,e8,bf,01,10,3d,00,00,00,00,0
0,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\W3SVC\Security]
"Security"=hex:01,00,14,80,a0,00,00,00,ac,00,00,00,14
,00,00,00,30,00,00,00,02,\

00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,02,00,70,00,04,00,00,00,00,00,18,00,fd,01,02,00
,01,01,00,00,00,00,00,\

05,12,00,00,00,74,00,6f,00,00,00,1c,00,ff,01,0f,00,01
,02,00,00,00,00,00,05,\

20,00,00,00,20,02,00,00,72,00,73,00,00,00,18,00,8d,01
,02,00,01,01,00,00,00,\

00,00,05,0b,00,00,00,20,02,00,00,00,00,1c,00,fd,01,02
,00,01,02,00,00,00,00,\

00,05,20,00,00,00,23,02,00,00,72,00,73,00,01,01,00,00
,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
\W3SVC\Enum]
"0"="Root\\LEGACY_W3SVC\\0000"
"Count"=dword:00000001
"NextInstance"=dword:00000001
```

Server Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cpqcissb]
"Type"=dword:00000001
"Start"=dword:00000000
"ErrorControl"=dword:00000001
"Tag"=dword:00000102
"ImagePath"=hex(2):53,00,79,00,73,00,74,00,65,00,6d,0
0,33,00,32,00,5c,00,44,00,\

52,00,49,00,56,00,45,00,52,00,53,00,5c,00,63,00,70,00
,71,00,63,00,69,00,73,\
  00,73,00,62,00,2e,00,73,00,79,00,73,00,00,00
"DisplayName"="Compaq CISS Controllers Device Driver"
"Group"="port"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cpqcissb\Parameters]
"CompletionMode"=dword:00000002
"CosTimerRate"=dword:0000000f
```


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```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cpqcissb\Parameters\Controller0]
"CompletionMode"=dword:00000001

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cpqcissb\Security]
"Security"=hex:01,00,14,80,a0,00,00,00,ac,00,00,00,14
,00,00,00,30,00,00,00,02,\

00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,02,00,70,00,04,00,00,00,00,00,18,00,fd,01,02,00
,01,01,00,00,00,00,00,\

05,12,00,00,00,50,00,5f,00,00,00,1c,00,ff,01,0f,00,01
,02,00,00,00,00,00,05,\

20,00,00,00,20,02,00,00,33,00,30,00,00,00,18,00,8d,01
,02,00,01,01,00,00,00,\

00,00,05,0b,00,00,00,20,02,00,00,00,00,1c,00,fd,01,02
,00,01,02,00,00,00,00,\

00,05,20,00,00,00,23,02,00,00,33,00,30,00,01,01,00,00
,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
\cpqcissd]
"Type"=dword:00000001
"Start"=dword:00000000
"ErrorControl"=dword:00000001
"Tag"=dword:00000102
"ImagePath"=hex(2):53,00,79,00,73,00,74,00,65,00,6d,0
0,33,00,32,00,5c,00,44,00,\

52,00,49,00,56,00,45,00,52,00,53,00,5c,00,63,00,70,00
,71,00,63,00,69,00,73,\
  00,73,00,64,00,2e,00,73,00,79,00,73,00,00,00
"DisplayName"="Compaq CISS Controllers Disk Driver"
"Group"="Primary Disk"

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services
\cpqcissd\Security]
"Security"=hex:01,00,14,80,a0,00,00,00,ac,00,00,00,14
,00,00,00,30,00,00,00,02,\

00,1c,00,01,00,00,00,02,80,14,00,ff,01,0f,00,01,01,00
,00,00,00,00,01,00,00,\

00,00,02,00,70,00,04,00,00,00,00,00,18,00,fd,01,02,00
,01,01,00,00,00,00,00,\

05,12,00,00,00,50,00,5f,00,00,00,1c,00,ff,01,0f,00,01
,02,00,00,00,00,00,05,\

20,00,00,00,20,02,00,00,34,00,66,00,00,00,18,00,8d,01
,02,00,01,01,00,00,00,\

00,00,05,0b,00,00,00,20,02,00,00,00,00,1c,00,fd,01,02
,00,01,02,00,00,00,00,\

00,05,20,00,00,00,23,02,00,00,34,00,66,00,01,01,00,00
,00,00,00,05,12,00,00,\
  00,01,01,00,00,00,00,00,05,12,00,00,00
```

TPCC Application Registry Parameters

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\TPCC]
"Path"="c:\\inetpub\\wwwroot\\"
"NumberOfDeliveryThreads"=dword:00000009
"MaxConnections"=dword:00002710
"MaxPendingDeliveries"=dword:000003e8
"DB_Protocol"="ODBC"
"TxnMonitor"="COM"
"DbServer"="g1"
"DbName"="tpcc"
"DbUser"="sa"
"DbPassword"=""
"COM_SinglePool"="YES"
```

80 COM+ queues were used.

Client Systems Configuration

```
Date . . . . . .  08/23/2001
Time . . . . . .  18:22:35

Product  . . . . . . . . . . .  ProLiant DL360

Machine ID
  From System Board  . . . . . .  CPQ0685

Processor  . . . . . . . . . . .  Pentium III(R) at
800 MHz
  Slot . . . . . .  2
  Secondary Cache  . . . . . . .  256K
  CPU ID . . . . . . . . . . . .  0683

Processor  . . . . . . . . . . .  Pentium III(R) at
800 MHz
  Slot . . . . . .  1
  Secondary Cache  . . . . . . .  256K
  CPU ID . . . . . . . . . . . .  0683

Processor(s) Mapped Out  . . . .  None

Numeric Coprocessor  . . . . . .  Integrated 387-
Compatible

Expansion Bus  . . . . . . . . .  ISA, PCI

System Identification Number . .  6J07FCX2C0J2

CPU Mode . . . . . . . . . . . .  Real Mode

System ROM
    Revision . . . . . . . . . .  12/26/1999
      Family . . . . . . . . . .  P21
    Flashable  . . . . . . . . .  Yes
    Supports F10 partition . . .  Yes

Video Controller ROM
    Revision . . . . . . . . . .  3.96

Option ROMs
  Address Range  . . . . . . . .  C0000 - C7FFF
    Data Dump  . . . . . . . . .  (1999/03/24 23:56)

  Address Range  . . . . . . . .  C8000 - CBFFF
    Data Dump  . . . . . . . . .  (04/22/98 ROC
Smart Array Option ROM/BIOS (C)Co...)

  Address Range  . . . . . . . .  E8000 - EDFFF
    Data Dump  . . . . . . . . .  ( CPQSCSI d)

Bootblock ROM  . . . . . . . . .  01/25/2000

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  . . . . . . . . . . .  Not Installed

COM Ports  . . . . . . . . . . .  COM1 (Address 3F8)
Compaq NC3163 Fast Ethernet NIC
  Device Type  . . . . . . . . .  Ethernet Controller
  PCI Bus Number . . . . . . . .  3
  Device Number  . . . . . . . .  4
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1229h
  Subsystem Vendor ID  . . . . .  0E11h
  Subsystem ID . . . . . . . . .  B134h
```


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```
  Revision ID  . . . . . . . . .  08h
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF00000h
  IRQ Line . . . . . . . . . . .  5
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  C6FFF000h
  Memory Address Length  . . . .  1000h
  IO Address Base  . . . . . . .  3000h
  IO Address Length  . . . . . .  40h
  Memory Address Base  . . . . .  C6E00000h
  Memory Address Length  . . . .  100000h


Compaq NC3163 Fast Ethernet NIC
  Device Type  . . . . . . . . .  Ethernet Controller
  PCI Bus Number . . . . . . . .  3
  Device Number  . . . . . . . .  5
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1229h
  Subsystem Vendor ID  . . . . .  0E11h
  Subsystem ID . . . . . . . . .  B134h
  Revision ID  . . . . . . . . .  08h
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF00000h
  IRQ Line . . . . . . . . . . .  7
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  C6DFF000h
  Memory Address Length  . . . .  1000h
  IO Address Base  . . . . . . .  3040h
  IO Address Length  . . . . . .  40h
  Memory Address Base  . . . . .  C6C00000h
  Memory Address Length  . . . .  100000h



Diskette Drive A . . . . . . . .  1.44 Megabyte (3.5
inch)

Drive Controller 1, Compaq Integrated Smart Array
Controller
  IDA Firmware Revision  . . . .  1.42
  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 . . . . . . .  9095 Megabyte
  Fault Tolerance  . . . . . . .  Mirroring
  OS Format  . . . . . . . . . .  Multi-Sector
Distribution
  Drive geometry (Cyl, Hds, Sec)  2177, 255, 32
  Array Accelerator  . . . . . .  Disabled
  Logical drive in interim recovery mode.

    Hard Drive  1
    SCSI Bus . . . . . . . . . .  2
    SCSI ID  . . . . . . . . . .  0
    Serial Number  . . . . . . .
LS7566760000102118FW
    Firmware Revision 1  . . . .  3B07
    Model Number . . . . . . . .  COMPAQ  BD009122BA
    Initialized for Monitoring .  Yes
      Reference time . . . . . .  742812
      Sectors read . . . . . . .  *1450311984
      Hard read errors . . . . .  0
      Read errors retry  . . . .  0
      ECC read errors  . . . . .  0
      Sectors written  . . . . .  544034249
      Hard write errors  . . . .  0
      Write errors retry . . . .  0
      Seek count . . . . . . . .  2501015
      Seek errors  . . . . . . .  0
      Spin cycles  . . . . . . .  1
      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  2
    SCSI Bus . . . . . . . . . .  2
    SCSI ID  . . . . . . . . . .  1
    Serial Number  . . . . . . .  Undetermined
    Model Number . . . . . . . .  Undetermined
    Initialized for Monitoring .  No

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 . . . . . . . . .    638 Kbytes
  Amount Free  . . . . . . . . .    555 Kbytes
(568384 Bytes)

Extended Memory
  System Total . . . . . . . . .  523264 Kbytes

Expanded Memory
  LIM Driver Support . . . . . .  LIM driver not
loaded

Operating System . . . . . . . .  MS-DOS version 7.10
(from diskette)

Environment variables
  PATH=
  PROMPT=$P$G
  COMSPEC=A:\COMMAND.COM
  CMDLINE=inspect /u
End of environment

Revisions Table

Previous Revisions

Current Revisions


System serial number . . . . . .  6J07FCX2C0J2

Memory Allocation (including INSPECT)
  PSP   SIZE    NAME          TRAPPED INTERRUPTS
  ----  ------  ------------  -----------------------
---------------
  12F7  007200  COMMAND.COM   2Fh  2Eh  24h  23h  22h
  14C2  218144  INSPECT.EXE   F9h  F4h  F3h  F2h  EEh
E5h  D4h  3Fh
                              00h

System Configuration Memory
  00 - 0F :    42 00 22 00    18 00 04 23    08 01 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 7A 00
00    00 18 02 94
  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 00 00    00 00 00 00    00 00 00
00    00 00 80 9F
  40:0010 :    27 02 00 7E    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 :    25 00 00 00    00 2A 00 11    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 A4    17 FD 74
00    DF 60 12 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    2A 00 10 00    00 00 00
00    00 00 00 00
  40:00A0 :    00 00 00 00    00 00 00 00    7C 14 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 :    14D2:0555      0070:0465
122E:0016      0070:0465
  04 - 07 :    0070:0465      F000:FF54
F000:93CC      F000:9BD0
```


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```
  08 - 0B :    122E:001F      122E:0028
F000:9BD0      122E:0052
  0C - 0F :    F000:9BD0      F000:9BD0
122E:009A      0070:0465
  10 - 13 :    C000:13FE      F000:F84D
F000:F841      0070:03EE
  14 - 17 :    F000:D0B5      0207:0240
0070:042D      F000:EFD2
  18 - 1B :    F000:F06D      12EF:002F
F000:FE6E      0070:045F
  1C - 1F :    F000:FF53      F000:0000
0000:0522      C000:2143
  20 - 23 :    00C9:0FA8      00C9:0FB2
12F7:0314      12F7:016D
  24 - 27 :    12F7:0178      00C9:0FBC
00C9:0FC6      00C9:0FD0
  28 - 2B :    00C9:106C      0070:0466
00C9:106C      00C9:106C
  2C - 2F :    00C9:106C      00C9:106C
12F7:0162      12F8:01CC
  30 - 33 :    C90F:E4EA      F000:9B00
00C9:106C      00C9:106C
  34 - 37 :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  38 - 3B :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  3C - 3F :    00C9:106C      00C9:106C
00C9:106C      258E:04F3
  40 - 43 :    F000:EC59      C81F:01C6
F000:F065      C000:2556
  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      C000:13FE
F000:9BD0      F000:9BD0
  70 - 73 :    122E:0035      F000:9C1F
F000:9BD0      F000:9BD0
  74 - 77 :    122E:00E2      F000:9C28
F000:9BD0      122E:0112
  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      0035:0035
  D0 - D3 :    0007:0000      CD35:0000
0087:0000      0087:0000
  D4 - D7 :    35CD:0000      0035:0000
0000:0000      0000:0002
  D8 - DB :    01D9:0000      0000:0000
0000:200B      0000:0BD6
  DC - DF :    01D9:0000      0000:0000
0000:200B      0000:0100
  E0 - E3 :    0000:0BF0      0000:200A
0000:0000      0000:031E
  E4 - E7 :    0000:01D8      2000:00D0
0001:A460      F000:9618
  E8 - EB :    0000:0083      0000:0000
0083:0020      0006:1EA2
  EC - EF :    0006:1EA0      0046:1400
1400:1F76      0046:0087
  F0 - F3 :    0010:13C1      DC08:1DB7
1DB7:13C1      1400:DA65
  F4 - F7 :    1CDA:0246      0101:7387
0000:0000      0000:613D
  F8 - FB :    613D:0020      15B7:6443
00C6:0003      0000:09F6
  FC - FF :    0246:0900      0900:0000
E15F:0049      0003:09F6
```

```
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  . . . . .  3
  Number of PCI Devices  . . . .  4

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  1
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  0010h
  Revision ID  . . . . . . . . .  02h
  Device Type  . . . . . . . . .  RAID Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF80000h
  IRQ Line . . . . . . . . . . .  3
  IRQ Pin  . . . . . . . . . . .  INTA#
  IO Address Base  . . . . . . .  2000h
  IO Address Length  . . . . . .  100h
  Memory Address Base  . . . . .  C5000000h
  Memory Address Length  . . . .  1000000h
  Memory Address Base  . . . . .  C4000000h
  Memory Address Length  . . . .  1000000h

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  3
  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  . . . . .  C2000000h
  Memory Address Length  . . . .  1000000h
  IO Address Base  . . . . . . .  2400h
  IO Address Length  . . . . . .  100h
  Memory Address Base  . . . . .  C3FFF000h
  Memory Address Length  . . . .  1000h

  PCI Bus Number . . . . . . . .  3
  Device Number  . . . . . . . .  4
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1229h
  Revision ID  . . . . . . . . .  08h
  Device Type  . . . . . . . . .  Ethernet Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF00000h
  IRQ Line . . . . . . . . . . .  5
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  C6FFF000h
  Memory Address Length  . . . .  1000h
```


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```
  IO Address Base . . . . . . . 3000h
  IO Address Length . . . . . . 40h
  Memory Address Base . . . . . C6E00000h
  Memory Address Length . . . . 100000h

  PCI Bus Number . . . . . . . . 3
  Device Number . . . . . . . . 5
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 0
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . 1229h
  Revision ID . . . . . . . . . 08h
  Device Type . . . . . . . . . Ethernet Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . FFF00000h
  IRQ Line . . . . . . . . . . . 7
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . C6DFF000h
  Memory Address Length . . . . 1000h
  IO Address Base . . . . . . . 3040h
  IO Address Length . . . . . . 40h
  Memory Address Base . . . . . C6C00000h
  Memory Address Length . . . . 100000h
```

SUT System Configuration

```
Date . . . . . . . . . . . . . . 08/23/2001
Time . . . . . . . . . . . . . . 18:02:46

Product . . . . . . . . . . . . ProLiant

Machine ID
  From System Board . . . . . . CPQ1608

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 8
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 7
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 6
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 5
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 4
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 3
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 2
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor . . . . . . . . . . . Pentium III(R) Xeon
at 900 MHz
  Slot . . . . . . . . . . . . . 1
  Secondary Cache . . . . . . . 2048K
  CPU ID . . . . . . . . . . . . 06A4

Processor(s) Mapped Out . . . . None

Numeric Coprocessor . . . . . . Integrated 387-
Compatible

Expansion Bus . . . . . . . . . ISA, PCI

System Identification Number . . D948BX71K013

CPU Mode . . . . . . . . . . . . Real Mode

System ROM
    Revision . . . . . . . . . . 02/16/2001
      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 . . . . . . . . . (07/07/00 Maxwell
Smart Array Option ROM/BIOS (C)Co...)

  Address Range . . . . . . . . CC000 - CFFFF
    Data Dump . . . . . . . . . (04/22/98 ROC
ROC-LCR Option ROM/BIOS (C)Copyri...)

  Address Range . . . . . . . . E8000 - EDFFF
    Data Dump . . . . . . . . . ( CPQSCSI d)

Bootblock ROM . . . . . . . . . 04/17/2000

Standby Recovery Server
  Status . . . . . . . . . . . . Disabled
  COM Port . . . . . . . . . . . COM1
  Server Configuration . . . . . Recovery
  Timeout Value . . . . . . . . 1 minutes


Memory Boards Identified:
  System Board
    DIMM Slot  1 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  2 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  3 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  4 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  5 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  6 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  7 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  8 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  9 (SDRAM) . . . .  512 Megabytes
    DIMM Slot  10 (SDRAM) . . .   512 Megabytes
    DIMM Slot  11 (SDRAM) . . .   512 Megabytes
    DIMM Slot  12 (SDRAM) . . .   512 Megabytes
    DIMM Slot  13 (SDRAM) . . .   512 Megabytes
    DIMM Slot  14 (SDRAM) . . .   512 Megabytes
    DIMM Slot  15 (SDRAM) . . .   512 Megabytes
    DIMM Slot  16 (SDRAM) . . .   512 Megabytes
Total Compaq Memory . . . . . . 8192 Megabytes

Keyboard . . . . . . . . . . . . Standard 11-Bit

LPT Ports . . . . . . . . . . . Not Installed

COM Ports . . . . . . . . . . . COM1 (Address 3F8)
                                COM2 (Address 2F8)
Compaq NC6134 Gigabit NIC
  Device Type . . . . . . . . . Ethernet Controller
  PCI Bus Number . . . . . . . . 0
  Device Number . . . . . . . . 3
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 9
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . 1000h
  Subsystem Vendor ID . . . . . 0E11h
  Subsystem ID . . . . . . . . . B123h
  Revision ID . . . . . . . . . 03h
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . 0h
  IRQ Line . . . . . . . . . . . 15
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F70E0000h
  Memory Address Length . . . . 20000h


Compaq NC3131 Fast Ethernet NIC
  Device Type . . . . . . . . . Ethernet Controller
  PCI Bus Number . . . . . . . . 6
  Device Number . . . . . . . . 4
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 1
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . 1229h
  Subsystem Vendor ID . . . . . 0E11h
  Subsystem ID . . . . . . . . . B0DDh
  Revision ID . . . . . . . . . 05h
  Programming Interface . . . . 00h
```


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```
  Expansion ROM Base Address . .  0h
  IRQ Line . . . . . . . . . . .  15
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F73F0000h
  Memory Address Length  . . . .  1000h
  IO Address Base  . . . . . . .  4000h
  IO Address Length  . . . . . .  20h
  Memory Address Base  . . . . .  F7A00000h
  Memory Address Length  . . . .  100000h


Compaq NC3131 Fast Ethernet NIC
  Device Type  . . . . . . . . .  Ethernet Controller
  PCI Bus Number . . . . . . . .  6
  Device Number  . . . . . . . .  5
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  1
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1229h
  Subsystem Vendor ID  . . . . .  0E11h
  Subsystem ID . . . . . . . . .  B0DDh
  Revision ID  . . . . . . . . .  05h
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  0h
  IRQ Line . . . . . . . . . . .  15
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F73E0000h
  Memory Address Length  . . . .  1000h
  IO Address Base  . . . . . . .  4020h
  IO Address Length  . . . . . .  20h
  Memory Address Base  . . . . .  F7900000h
  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
    Reserved for reads . . . . .  8188 Kbytes
  Accelerator Status . . . . . .  Enabled
    Battery count  . . . . . . .  0
    Batteries charged  . . . . .  0
    Batteries failed . . . . . .  0
  Internal ProLiant  . . . . . .  Bus 2, Rev. JB21

  Logical Drive  1 . . . . . . .  9091 Megabyte
  Fault Tolerance  . . . . . . .  Mirroring
  OS Format  . . . . . . . . . .  Multi-Sector
Distribution
  Drive geometry (Cyl, Hds, Sec)  2176, 255, 32
  Array Accelerator  . . . . . .  Enabled
  Logical drive in interim recovery mode.

    Hard Drive  1
    SCSI Bus . . . . . . . . . .  2
    SCSI ID  . . . . . . . . . .  0
    Serial Number  . . . . . . .
1HD03428000010431AJL
    Firmware Revision 1  . . . .  3B00
    Model Number . . . . . . . .  COMPAQ  BF00963643
    Initialized for Monitoring .  Yes
      Reference time . . . . . .  514763
      Sectors read . . . . . . .  *86138151
      Hard read errors . . . . .  0
      Read errors retry  . . . .  0
      ECC read errors  . . . . .  0
      Sectors written  . . . . .  313646162
      Hard write errors  . . . .  0
      Write errors retry . . . .  0
      Seek count . . . . . . . .  1616447
      Seek errors  . . . . . . .  0
      Spin cycles  . . . . . . .  1
      Spin up time . . . . . . .  0
      Seek time track  . . . . .  0%
      Seek time third  . . . . .  0%
      Seek time full . . . . . .  0%
      Reallocated sectors  . . .  851
      Recovers read failed . . .  0
      Bus faults . . . . . . . .  0

    Hard Drive  2
    SCSI Bus . . . . . . . . . .  2
    SCSI ID  . . . . . . . . . .  1
    Serial Number  . . . . . . .  Undetermined
    Model Number . . . . . . . .  Undetermined
    Initialized for Monitoring .  No

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 . . . . . . . . .    636 Kbytes
  Amount Free  . . . . . . . . .    553 Kbytes
(566336 Bytes)

Extended Memory
  System Total . . . . . . . . .  8387584 Kbytes

Expanded Memory
  LIM Driver Support . . . . . .  LIM driver not
loaded

Operating System . . . . . . . .  MS-DOS version 7.10
(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

System serial number . . . . . .  D948BX71K013

Memory Allocation (including INSPECT)
  PSP   SIZE    NAME          TRAPPED INTERRUPTS
  ----  ------  ------------  -----------------------
---------------
  12F7  007200  COMMAND.COM   F0h  2Fh  2Eh  24h  23h
22h
  14C2  218144  INSPECT.EXE   F9h  F4h  F3h  F2h  F1h
EEh  3Fh  00h

System Configuration Memory
  00 - 0F :    58 00 02 00    18 00 04 23    08 01 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

BIOS Data Area
  40:0000 :    F8 03 F8 02    00 00 00 00    00 00 00
00    00 00 00 9F
  40:0010 :    27 04 00 7C    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 :    25 00 00 00    00 2A 00 11    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 A4    17 7D 74
00    4F 0C 12 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    2A 00 00 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
```


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```
  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 :    14D2:0555      0070:0465
122E:0016      0070:0465
  04 - 07 :    0070:0465      F000:FF54
F000:4D9A      F000:9BD0
  08 - 0B :    122E:001F      122E:0028
F000:9BD0      F000:9BD0
  0C - 0F :    F000:9BD0      122E:0082
122E:009A      0070:0465
  10 - 13 :    C000:12DE      F000:F84D
F000:F841      0070:03EE
  14 - 17 :    F000:EA2E      0207:0240
0070:042D      F000:EF83
  18 - 1B :    F000:8C2B      12EF:002F
F000:FE6E      0070:045F
  1C - 1F :    F000:FF53      F000:0000
0000:0522      C000:2019
  20 - 23 :    00C9:0FA8      00C9:0FB2
12F7:0314      12F7:016D
  24 - 27 :    12F7:0178      00C9:0FBC
00C9:0FC6      00C9:0FD0
  28 - 2B :    00C9:106C      0070:0466
00C9:106C      00C9:106C
  2C - 2F :    00C9:106C      00C9:106C
12F7:0162      12F8:01CC
  30 - 33 :    C90F:E4EA      F000:9B00
00C9:106C      00C9:106C
  34 - 37 :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  38 - 3B :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  3C - 3F :    00C9:106C      00C9:106C
00C9:106C      258E:04F3
  40 - 43 :    F000:EC59      CC1F: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 :    122E:0035      F000:9C1F
F000:9BD0      F000:9BD0
  74 - 77 :    122E:00E2      F000:9C21
122E: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      0020:0080
  E8 - EB :    00D8:0000      00C8:00C8
0078:0CFD      0CFC:0078
  EC - EF :    0000:1F07      7800:0006
1F85:0046      0087:7800
  F0 - F3 :    13C1:0046      1D23:0001
13C1:8AF4      1400:1D23
  F4 - F7 :    1BB0:0246      0101:7248
0000:0000      0000:5FFE
  F8 - FB :    5FFE:0020      1497:6304
00A0:0003      0000:0962
  FC - FF :    510F:00FC      0000:00F6
EFE2:0000      0246: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  . . . . . . . . . .  B060h
  Revision ID  . . . . . . . . .  02h
  Device Type  . . . . . . . . .  RAID Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF00000h
  IRQ Line . . . . . . . . . . .  10
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F72C0000h
  Memory Address Length  . . . .  40000h
  Memory Address Base  . . . . .  F7100000h
  Memory Address Length  . . . .  100000h
  IO Address Base  . . . . . . .  2000h
  IO Address Length  . . . . . .  100h

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  3
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  9
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1000h
  Revision ID  . . . . . . . . .  03h
  Device Type  . . . . . . . . .  Ethernet Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  0h
  IRQ Line . . . . . . . . . . .  15
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F70E0000h
  Memory Address Length  . . . .  20000h

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  13
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  1002h
  Device ID  . . . . . . . . . .  4756h
  Revision ID  . . . . . . . . .  7Ah
```


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```
  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 . . . . . . . 2400h
  IO Address Length . . . . . . 100h
  Memory Address Base . . . . . F70B0000h
  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 . . . . . . . 2800h
  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 . . . . . . . . 3
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 3
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . B060h
  Revision ID . . . . . . . . . 02h
  Device Type . . . . . . . . . RAID Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . FFF00000h
  IRQ Line . . . . . . . . . . . 5
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F78C0000h
  Memory Address Length . . . . 40000h
  Memory Address Base . . . . . F7700000h
  Memory Address Length . . . . 100000h
  IO Address Base . . . . . . . 3000h
  IO Address Length . . . . . . 100h

  PCI Bus Number . . . . . . . . 5
  Device Number . . . . . . . . 5
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 5
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . B060h
  Revision ID . . . . . . . . . 02h
  Device Type . . . . . . . . . RAID Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . FFF00000h
  IRQ Line . . . . . . . . . . . 10
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F76C0000h
  Memory Address Length . . . . 40000h
  Memory Address Base . . . . . F7500000h
  Memory Address Length . . . . 100000h
  IO Address Base . . . . . . . 3400h
  IO Address Length . . . . . . 100h

  PCI Bus Number . . . . . . . . 6
  Device Number . . . . . . . . 4
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 1
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . 1229h
  Revision ID . . . . . . . . . 05h
  Device Type . . . . . . . . . Ethernet Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . 0h
  IRQ Line . . . . . . . . . . . 15
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F73F0000h
  Memory Address Length . . . . 1000h
  IO Address Base . . . . . . . 4000h
  IO Address Length . . . . . . 20h
  Memory Address Base . . . . . F7A00000h
  Memory Address Length . . . . 100000h

  PCI Bus Number . . . . . . . . 6
  Device Number . . . . . . . . 5
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 1
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . 1229h
  Revision ID . . . . . . . . . 05h
  Device Type . . . . . . . . . Ethernet Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . 0h
  IRQ Line . . . . . . . . . . . 15
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F73E0000h
  Memory Address Length . . . . 1000h
  IO Address Base . . . . . . . 4020h
  IO Address Length . . . . . . 20h
  Memory Address Base . . . . . F7900000h
  Memory Address Length . . . . 100000h

  PCI Bus Number . . . . . . . . 13
  Device Number . . . . . . . . 1
  Function Number . . . . . . . 00h
  Slot Number . . . . . . . . . 10
  Vendor ID . . . . . . . . . . 0E11h
  Device ID . . . . . . . . . . B060h
  Revision ID . . . . . . . . . 02h
  Device Type . . . . . . . . . RAID Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . FFF00000h
  IRQ Line . . . . . . . . . . . 5
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F7FC0000h
  Memory Address Length . . . . 40000h
  Memory Address Base . . . . . F7E00000h
  Memory Address Length . . . . 100000h
  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 . . . . . . . . . . B060h
  Revision ID . . . . . . . . . 02h
  Device Type . . . . . . . . . RAID Controller
  Programming Interface . . . . 00h
  Expansion ROM Base Address . . FFF00000h
  IRQ Line . . . . . . . . . . . 5
  IRQ Pin . . . . . . . . . . . INTA#
  Memory Address Base . . . . . F7DC0000h
  Memory Address Length . . . . 40000h
  Memory Address Base . . . . . F7C00000h
  Memory Address Length . . . . 100000h
  IO Address Base . . . . . . . 5400h
  IO Address Length . . . . . . 100h


Array Diagnostic Utility Inspection Report Version
1.40 Revision A

USER ENTERED INFORMATION:

controller7

Date/Time:          Tuesday, August 21, 2001 5:33PM
Computer Model:     PROLIANT 8500
System ROM Version: 02/16/2001

SLOT SUMMARY:
   Slot Num  Slot Type  Array Controllers and Host
Adapters Detected
   --------  ---------  ----------------------------
---------------
   Slot  0   PCI        Integrated Smart Array
Controller
   Slot  3   PCI        Smart Array 5300 Controller
   Slot  5   PCI        Smart Array 5300 Controller
   Slot  7   PCI        Smart Array 5300 Controller
   Slot 10   PCI        Smart Array 5300 Controller
   Slot 11   PCI        Smart Array 5300 Controller

SLOT 7 SMART ARRAY 5300 CONTROLLER ERROR REPORT:

   No problems detected

SUBSYSTEM INFORMATION:

   Chassis Serial Num:              D032DR51K074
   This Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available
   Other Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available

CONTROLLER IDENTIFICATION:
   Configured Logical Drives: 6
   Configuration Signature:   0xaf4729af
   Adapter Firmware Revision: '1.28'
```


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```
   Adapter ROM Revision:      '1.28'
   Adapter Hardware Revision: 0x00
   Boot Block Version:        '1.28'
   Drive Present Map:         0x000fc03f
   External Drive Map:        0x000fc03f
   Board ID:                  0x40700e11
   Cable or Config Error:     0x00 (No)
   Non-disk map:              0x00000000
   Invalid Host RAM Address:  No
   CPU Revision:              0x00
   CPU to PCI ASIC Rev:       0x02
   Cache Controller ASIC Rev: 0x02
   PCI to Host ASIC Rev:      0x02
   Marketing Revision:        0x41 (Rev A)
   Expand Disable Code:       0x01
   SCSI Chip Count:           4
   Max SCSI ID's per Bus:     16
   Big Drive Map:             0xff3f 0x0000 0xff3f
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Ext Drive Map:         0xff3f 0x0000 0xff3f
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Non-Disk Drive Map:    0x0080 0x0000 0x0080
0x0000 0x0000 0x0000 0x0000 0x0000

LOGICAL DRIVE IDENTIFICATION:

   Logical Drive 1:
      Sector Size:              512
      Sectors Available:        38906880
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=4768 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

   Logical Drive 2:
      Sector Size:              512
      Sectors Available:        27034080
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=3313 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

   Logical Drive 3:
      Sector Size:              512
      Sectors Available:        215970720
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=26467 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

   Logical Drive 4:
      Sector Size:              512
      Sectors Available:        38906880
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=4768 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

   Logical Drive 5:
      Sector Size:              512
      Sectors Available:        27034080
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=3313 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

   Logical Drive 6:
      Sector Size:              512
      Sectors Available:        215970720
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=26467 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

LOGICAL DRIVE CONFIGURATION:

   Logical Drive 1:
      Configuration Signature:  0xa3c77979
      Mapping Scheme:           Multiple Block
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=4768 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x0000003f
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           0
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        38906880
      Sectors per Drive:        2779136
      Big Drive Assignment Map: 0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

   Logical Drive 2:
      Configuration Signature:  0xa5276981
      Mapping Scheme:           Multiple Block
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=3313 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x0000003f
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           2779136
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        27034080
      Sectors per Drive:        1931008
      Big Drive Assignment Map: 0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

   Logical Drive 3:
      Configuration Signature:  0xa8275985
      Mapping Scheme:           Multiple Block
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=26467 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x0000003f
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           4710144
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        215970720
      Sectors per Drive:        30853120
      Big Drive Assignment Map: 0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

   Logical Drive 4:
      Configuration Signature:  0xa16749a2
      Mapping Scheme:           Multiple Block
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=4768 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x000fc000
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           0
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        38906880
      Sectors per Drive:        2779136
      Big Drive Assignment Map: 0x0000 0x0000 0xff3f
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

   Logical Drive 5:
      Configuration Signature:  0xa44739aa
      Mapping Scheme:           Multiple Block
```


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```
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     None
      Logical Param Table:      cyl=3313 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x000fc000
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           2779136
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        27034080
      Sectors per Drive:        1931008
      Big Drive Assignment Map: 0x0000 0x0000 0xff3f
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

   Logical Drive 6:
      Configuration Signature:  0xaf4729af
      Mapping Scheme:           Multiple Block
      Physical Drives:          28 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=26467 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x000fc000
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           4710144
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        215970720
      Sectors per Drive:        30853120
      Big Drive Assignment Map: 0x0000 0x0000 0xff3f
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

LOGICAL DRIVE STATUS:

   Logical Drive 1:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

   Logical Drive 2:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

   Logical Drive 3:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

   Logical Drive 4:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

   Logical Drive 5:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
```


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```
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

   Logical Drive 6:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

MONITOR AND PERFORMANCE DATA:

   SCSI Port 1, Drive ID 0
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 50 43 4a 30 30 30 30 37 31 32
34      3CC08PCJ00007124
         43 4b 4a 4b 33 42 30 35 00 00 00 00 43 4f 4d
50      CKJK3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 50 43 4a 30 30 30 30 37 31 32
34      3CC08PCJ00007124
         43 4b 4a 4b 33 42 30 35 00 00 00 00 43 4f 4d
50      CKJK3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002ac44         00000002
ffffffff          8184
      Read Blks   00000009429a594e 00000000001cbb18
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  00000000283de4e8 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 1
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 4a 57 30 30 30 30 37 31 32
34      3CC08TJW00007124
         42 47 31 39 33 42 30 35 00 00 00 00 43 4f 4d
50      BG193B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 4a 57 30 30 30 30 37 31 32
34      3CC08TJW00007124
         42 47 31 39 33 42 30 35 00 00 00 00 43 4f 4d
50      BG193B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
```


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```
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002a801         00000002
ffffffff          8184
      Read Blks   0000000943854c42 00000000001cbb17
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000002860fa46 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000001         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 2
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 41 53 30 30 30 30 37 31 32
34      3CC08TAS00007124
         51 57 32 38 33 42 30 35 00 00 00 00 43 4f 4d
50      QW283B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 41 53 30 30 30 30 37 31 32
34      3CC08TAS00007124
         51 57 32 38 33 42 30 35 00 00 00 00 43 4f 4d
50      QW283B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002a801         00000002
ffffffff          8184
      Read Blks   0000000943663828 00000000001cbb17
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000002856f64a 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000001         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
```


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```
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 3
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 33 34 4b 30 30 30 30 37 31 32
34      3CC0834K00007124
         43 4a 58 43 33 42 30 35 00 00 00 00 43 4f 4d
50      CJXC3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 33 34 4b 30 30 30 30 37 31 32
34      3CC0834K00007124
         43 4a 58 43 33 42 30 35 00 00 00 00 43 4f 4d
50      CJXC3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a801         00000002
ffffffff         8184
      Read Blks  0000000943dd185a 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000028b69047 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000001         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 4
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 5a 39 30 30 30 30 37 31 32
34      3CC08TZ900007124
         42 46 53 4e 33 42 30 35 00 00 00 00 43 4f 4d
50      BFSN3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 54 5a 39 30 30 30 30 37 31 32
34      3CC08TZ900007124
         42 46 53 4e 33 42 30 35 00 00 00 00 43 4f 4d
50      BFSN3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a801         00000002
ffffffff         8184
      Read Blks  0000000942e9157b 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000028954ab0 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
```


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```
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000001         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.
```

```
   SCSI Port 1, Drive ID 5
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 53 38 56 30 30 30 30 37 31 32
34      3CC08S8V00007124
         43 48 59 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      CHYJ3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 53 38 56 30 30 30 30 37 31 32
34      3CC08S8V00007124
         43 48 59 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      CHYJ3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a801         00000002
ffffffff         8184
      Read Blks  0000000942c5c71d 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
fffffffffffffff 8188
      Write Blks 000000002827d847 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
fffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
```

```
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000001         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 6
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 1, Drive ID 7
      Not Available
```


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```
      DRIVE ERROR LOG:
         Not Available

   SCSI Port 1, Drive ID 8
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 56 38 4a 30 30 30 30 37 31 32
34      3CC08V8J00007124
         51 56 42 55 33 42 30 35 00 00 00 00 43 4f 4d
50      QVBU3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 56 38 4a 30 30 30 30 37 31 32
34      3CC08V8J00007124
         51 56 42 55 33 42 30 35 00 00 00 00 43 4f 4d
50      QVBU3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a7d0         00000002
ffffffff         8184
      Read Blks  000000094320bbb3 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000002840f8fb 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 9
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 47 5a 44 30 30 30 30 37 31 32
34      3CC08GZD00007124
         43 4a 43 43 33 42 30 35 00 00 00 00 43 4f 4d
50      CJCC3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 47 5a 44 30 30 30 30 37 31 32
34      3CC08GZD00007124
         43 4a 43 43 33 42 30 35 00 00 00 00 43 4f 4d
50      CJCC3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a7d0         00000002
ffffffff         8184
      Read Blks  000000093b3ba5f7 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000002a270ce8 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
```


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```
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 10
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 41 56 54 30 30 30 30 37 31 32
34      3CC08AVT00007124
         4e 36 56 45 33 42 30 35 00 00 00 00 43 4f 4d
50      N6VE3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 41 56 54 30 30 30 30 37 31 32
34      3CC08AVT00007124
         4e 36 56 45 33 42 30 35 00 00 00 00 43 4f 4d
50      N6VE3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002a7d0         00000002
ffffffff          8184
      Read Blks   000000093b36ed4b 00000000001cbb17
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000002a169e2c 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 11
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 4c 44 56 30 30 30 30 37 31 32
34      3CC08LDV00007124
         43 4a 48 47 33 42 30 35 00 00 00 00 43 4f 4d
50      CJHG3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 4c 44 56 30 30 30 30 37 31 32
34      3CC08LDV00007124
         43 4a 48 47 33 42 30 35 00 00 00 00 43 4f 4d
50      CJHG3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
```


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```
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002a7d0         00000002
ffffffff          8184
      Read Blks   000000093b319d47 00000000001cbb17
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000002a124a0e 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 12
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 42 33 31 30 30 30 30 37 31 32
33      3CC08B3100007123
         31 5a 47 33 33 42 30 35 00 00 00 00 43 4f 4d
50      1ZG33B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 42 33 31 30 30 30 30 37 31 32
33      3CC08B3100007123
         31 5a 47 33 33 42 30 35 00 00 00 00 43 4f 4d
50      1ZG33B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0002a7d0         00000002
ffffffff          8184
      Read Blks   000000093b0fa86a 00000000001cbb17
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000002a88503e 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
```


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```
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 13
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 56 32 43 30 30 30 30 37 31 32
34      3CC08V2C00007124
         43 48 5a 52 33 42 30 35 00 00 00 00 43 4f 4d
50      CHZR3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 38 56 32 43 30 30 30 30 37 31 32
34      3CC08V2C00007124
         43 48 5a 52 33 42 30 35 00 00 00 00 43 4f 4d
50      CHZR3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0002a7d0         00000002
ffffffff         8184
      Read Blks  000000093b419e0e 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000002a59537f 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x01
            Total Errors Logged = 0x00000001
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000

   SCSI Port 1, Drive ID 14
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 54 46 4b 30 30 30 30 37 30 35
32      3CC00TFK00007052
         48 41 4b 42 33 42 30 32 00 00 00 00 43 4f 4d
50      HAKB3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 54 46 4b 30 30 30 30 37 30 35
32      3CC00TFK00007052
         48 41 4b 42 33 42 30 32 00 00 00 00 43 4f 4d
50      HAKB3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0004b6c2         00000002
ffffffff         8184
      Read Blks  000000100dac14f2 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
```


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```
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000003ecdc5b4 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000f8901 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
0028             a282
      Test 3     002b             002b
0096             a282
      Test 4     0047             0047
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  0000163e         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x03
            Total Errors Logged = 0x00000003
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
00012769   12   0000
00    22    00     00      00     00000000(0)
0001276a   12   0000
00    22    00     00      00     00000000(0)
000127a6   12   0000

   SCSI Port 1, Drive ID 15
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 30 38 41 30 30 30 30 37 30 35
31      3CC0108A00007051
         4d 52 4d 4d 33 42 30 32 00 00 00 00 43 4f 4d
50      MRMM3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 30 38 41 30 30 30 30 37 30 35
31      3CC0108A00007051
         4d 52 4d 4d 33 42 30 32 00 00 00 00 43 4f 4d
50      MRMM3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time 0004b44d         00000002
ffffffff         8184
      Read Blks  000000101823daa1 00000000001cbb17
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000003f017ff6 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000f5627 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0005             0006
0028             a282
      Test 3     002b             002a
0096             a282
      Test 4     0047             0046
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00001da6         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
```


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```
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x03
            Total Errors Logged = 0x00000003
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000124f4   12   0000
00    22    00     00      00     00000000(0)
000124f5   12   0000
00    22    00     00      00     00000000(0)
00012531   12   0000

   SCSI Port 2, Drive ID 0
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 1
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 2
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 3
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 4
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 5
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 6
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 7
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 8
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 9
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 10
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 11
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 12
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 13
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 14
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 2, Drive ID 15
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 3, Drive ID 0
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4a 59 4c 30 30 30 30 37 30 35
31      3CC00JYL00007051
         48 45 38 51 33 42 30 32 00 00 00 00 43 4f 4d
50      HE8Q3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4a 59 4c 30 30 30 30 37 30 35
31      3CC00JYL00007051
         48 45 38 51 33 42 30 32 00 00 00 00 43 4f 4d
50      HE8Q3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00049f3c         00000002
ffffffff         8184
      Read Blks  0000000d7233e513 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
fffffffffffffff  8188
      Write Blks 000000003b243ffe 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000ff2fb 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
fffffffffffffff  8188
      Spin Cyls  00000000         00000000
ffffffff         8184
```


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```
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
0028             a282
      Test 3     002b             002b
0096             a282
      Test 4     0047             0046
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00001fff         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x01
            Total Errors Logged = 0x00000001
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000000   37   0000

   SCSI Port 3, Drive ID 1
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4b 50 34 30 30 30 30 37 30 35
30      3CC00KP400007050
         4b 47 53 31 33 42 30 32 00 00 00 00 43 4f 4d
50      KGS13B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4b 50 34 30 30 30 30 37 30 35
30      3CC00KP400007050
         4b 47 53 31 33 42 30 32 00 00 00 00 43 4f 4d
50      KGS13B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00049f3c         00000002
ffffffff          8184
      Read Blks   0000000d70850dbc 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks  00000003addd436  0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       00000000000fcbac 00000000000000b0
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
01c2              a282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0005             0005
0028              a282
      Test 3      002b             002b
0096              a282
      Test 4      0047             0046
012c              a282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   0000097f         00000000
0000e666          a584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184
```


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```
      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 2
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 30 32 32 35 30 30 30 30 31 30 34
31      1CC1022500001041
         30 43 4a 41 33 42 30 30 00 00 00 00 43 4f 4d
50      0CJA3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 30 32 32 35 30 30 30 30 31 30 34
31      1CC1022500001041
         30 43 4a 41 33 42 30 30 00 00 00 00 43 4f 4d
50      0CJA3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 000545fa         00000002
ffffffff         8184
      Read Blks  0000000f23be196d 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000004906ed1c 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000001290ca 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
ffff             8282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0006
ffff             8282
      Test 3     002b             002a
ffff             8282
      Test 4     0046             0046
ffff             8282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  000007c4         00000000
ffffffff         8584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err 0000             0000
ffff             0182
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 3
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 30 37 36 33 38 30 30 30 30 31 30 34
31      1CC0763800001041
         30 4e 34 43 33 42 30 30 00 00 00 00 43 4f 4d
50      0N4C3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 30 37 36 33 38 30 30 30 30 31 30 34
31      1CC0763800001041
         30 4e 34 43 33 42 30 30 00 00 00 00 43 4f 4d
50      0N4C3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0005506a         00000002
ffffffff         8184
      Read Blks  0000000f3d41d1a3 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000005011766c 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      000000000012e550 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
ffff             8282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
ffff             8282
      Test 3     002b             002b
ffff             8282
      Test 4     0047             0047
ffff             8282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00001fff         00000000
ffffffff         8584
      DRQ Tmots  ffff             ffff
ffff             0982
```


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```
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err 0000             0000
ffff             0182
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x01
            Total Errors Logged = 0x00000001
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000000   37   0000

   SCSI Port 3, Drive ID 4
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 32 31 36 33 30 30 30 30 31 30 33
34      1CC1216300001034
         30 59 34 4a 33 42 30 30 00 00 00 00 43 4f 4d
50      0Y4J3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 32 31 36 33 30 30 30 30 31 30 33
34      1CC1216300001034
         30 59 34 4a 33 42 30 30 00 00 00 00 43 4f 4d
50      0Y4J3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  000545fa         00000002
ffffffff          8184
      Read Blks   0000000f26b4e20a 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
fffffffffffffffff 8188
      Write Blks  000000004901e310 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000126d04 00000000000000b0
8108
      Seek Errs   0000000000000000 0000000000000000
fffffffffffffffff 8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
ffff              8282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0006             0005
ffff              8282
      Test 3      002b             002a
ffff              8282
      Test 4      0047             0046
ffff              8282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   00000279         00000000
ffffffff          8584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  0000             0000
ffff              0182
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 5
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 35 35 34 38 30 30 30 30 31 30 34
31      1CC1554800001041
         30 51 32 41 33 42 30 30 00 00 00 00 43 4f 4d
50      0Q2A3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
```


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```
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 35 35 34 38 30 30 30 30 31 30 34
31      1CC1554800001041
         30 51 32 41 33 42 30 30 00 00 00 00 43 4f 4d
50      0Q2A3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0005506d         00000002
ffffffff         8184
      Read Blks  0000000f3a265a81 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000004d06b946 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      000000000012adea 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
ffff             8282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
ffff             8282
      Test 3     002a             002a
ffff             8282
      Test 4     0047             0046
ffff             8282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  000013bc         00000000
ffffffff         8584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err 0000             0000
ffff             0182
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 6
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 3, Drive ID 7
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 3, Drive ID 8
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 30 32 35 30 30 30 30 30 31 30 34
31      1CC1025000001041
         30 51 50 4e 33 42 30 30 00 00 00 00 43 4f 4d
50      0QPN3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 31 30 32 35 30 30 30 30 30 31 30 34
31      1CC1025000001041
         30 51 50 4e 33 42 30 30 00 00 00 00 43 4f 4d
50      0QPN3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 0005502c         00000002
ffffffff         8184
      Read Blks  0000000f3c96f10f 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000004e4f3ab0 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      000000000012b15c 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
ffff             8282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
ffff             8282
      Test 3     002b             002a
ffff             8282
      Test 4     0046             0046
ffff             8282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00000362         00000000
ffffffff         8584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
```


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```
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err 0000             0000
ffff             0182
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 9
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 30 38 30 34 39 30 30 30 30 31 30 34
31      1CC0804900001041
         30 4c 47 4c 33 42 30 30 00 00 00 00 43 4f 4d
50      0LGL3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         31 43 43 30 38 30 34 39 30 30 30 30 31 30 34
31      1CC0804900001041
         30 4c 47 4c 33 42 30 30 00 00 00 00 43 4f 4d
50      0LGL3B00....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0005509d         00000002
ffffffff          8184
      Read Blks   0000000f33b0d36e 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
fffffffffffffffff 8188
      Write Blks  000000004f5b5621 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       000000000012aa2e 00000000000000b0
8108
      Seek Errs   0000000000000000 0000000000000000
fffffffffffffffff 8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
ffff              8282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0006             0005
ffff              8282
      Test 3      002a             002a
ffff              8282
      Test 4      0046             0046
ffff              8282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   00001fff         00000000
ffffffff          8584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000001         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  0000             0000
ffff              0182
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x01
            Total Errors Logged = 0x00000001
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000000   37   0000

   SCSI Port 3, Drive ID 10
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 50 59 58 30 30 30 30 37 30 35
30      3CC00PYX00007050
         4b 48 42 46 33 42 30 32 00 00 00 00 43 4f 4d
50      KHBF3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 50 59 58 30 30 30 30 37 30 35
30      3CC00PYX00007050
```


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```
         4b 48 42 46 33 42 30 32 00 00 00 00 43 4f 4d
50      KHBF3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00049f6d         00000002
ffffffff          8184
      Read Blks   0000000d66e12416 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000003ce75155 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       00000000000fb633 0000000000000210
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
01c2              a282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0006             0006
0028              a282
      Test 3      002b             002b
0096              a282
      Test 4      0047             0046
012c              a282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   000011bf         00000000
0000e666          a584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000001         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 11
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 52 54 47 30 30 30 30 37 30 35
30      3CC00RTG00007050
         4b 56 4d 32 33 42 30 32 00 00 00 00 43 4f 4d
50      KVM23B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 52 54 47 30 30 30 30 37 30 35
30      3CC00RTG00007050
         4b 56 4d 32 33 42 30 32 00 00 00 00 43 4f 4d
50      KVM23B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00049f6d         00000002
ffffffff          8184
      Read Blks   0000000d66c13973 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000003c4e3d30 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       00000000000fbc4e 00000000000000b0
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
01c2              a282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0006             0006
0028              a282
      Test 3      002a             002a
0096              a282
      Test 4      0046             0046
012c              a282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   00001fff         00000000
0000e666          a584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000001         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
```


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```
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x01
            Total Errors Logged = 0x00000001
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000

   SCSI Port 3, Drive ID 12
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4e 42 31 30 30 30 30 37 30 35
30      3CC00NB100007050
         36 34 48 4c 33 42 30 32 00 00 00 00 43 4f 4d
50      64HL3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 4e 42 31 30 30 30 30 37 30 35
30      3CC00NB100007050
         36 34 48 4c 33 42 30 32 00 00 00 00 43 4f 4d
50      64HL3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
```

```
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time 00049f6d         00000002
ffffffff         8184
      Read Blks  0000000d6881619e 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000003d6ba140 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000fceb2 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0006
0028             a282
      Test 3     002b             002a
0096             a282
      Test 4     0046             0046
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00001fd3         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000001         00000000
ffffffff         0184
```

```
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 13
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 50 33 37 30 30 30 30 37 30 35
30      3CC00P3700007050
         36 34 44 44 33 42 30 32 00 00 00 00 43 4f 4d
50      64DD3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 30 50 33 37 30 30 30 30 37 30 35
30      3CC00P3700007050
         36 34 44 44 33 42 30 32 00 00 00 00 43 4f 4d
50      64DD3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
```


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```
      Serv. Time 00046c3e         00000002
ffffffff         8184
      Read Blks  000000125874b0e8 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000068776bd7 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000f5c42 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
0028             a282
      Test 3     002a             002a
0096             a282
      Test 4     0046             0045
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00001b25         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000001         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 3, Drive ID 14
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 34 39 39 30 30 30 30 37 30 35
31      3CC0149900007051
         4c 57 53 38 33 42 30 32 00 00 00 00 43 4f 4d
50      LWS83B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 34 39 39 30 30 30 30 37 30 35
31      3CC0149900007051
         4c 57 53 38 33 42 30 32 00 00 00 00 43 4f 4d
50      LWS83B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0004b696         00000002
ffffffff          8184
      Read Blks   0000001643a05dcd 0000000000000117
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000006b305e95 0000000000000036
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       00000000000f798a 00000000000000b0
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   0000             0000
01c2              a282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0005             0005
0028              a282
      Test 3      002a             002a
0096              a282
      Test 4      0046             0046
012c              a282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   0000052e         00000000
0000e666          a584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0001             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
```


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```
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x03
            Total Errors Logged = 0x00000003
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
0001273c   12   0000
00    22    00     00      00     00000000(0)
0001273d   12   0000
00    22    00     00      00     00000000(0)
00012779   12   0000

   SCSI Port 3, Drive ID 15
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 34 53 53 30 30 30 30 37 30 35
31      3CC014SS00007051
         4d 52 51 42 33 42 30 32 00 00 00 00 43 4f 4d
50      MRQB3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 31 34 53 53 30 30 30 30 37 30 35
31      3CC014SS00007051
         4d 52 51 42 33 42 30 32 00 00 00 00 43 4f 4d
50      MRQB3B02....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
```

```
      Serv. Time 0004b44e         00000002
ffffffff         8184
      Read Blks  0000000f90b4f666 0000000000000117
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000003eabe76c 0000000000000036
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      00000000000f56ae 00000000000000b0
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  0000             0000
01c2             a282
      Test 1     ffff             ffff
ffff             0a82
      Test 2     0006             0005
0028             a282
      Test 3     002a             002a
0096             a282
      Test 4     0046             0046
012c             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  000002a6         00000000
0000e666         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
```

```
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x03
            Total Errors Logged = 0x00000003
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000124f4   12   0000
00    22    00     00      00     00000000(0)
000124f5   12   0000
00    22    00     00      00     00000000(0)
00012531   12   0000

   SCSI Port 4, Drive ID 0
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 4, Drive ID 1
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 4, Drive ID 2
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 4, Drive ID 3
      Not Available

      DRIVE ERROR LOG:
         Not Available
```


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```
SCSI Port 4, Drive ID 4
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 5
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 6
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 7
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 8
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 9
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 10
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 11
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 12
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 13
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 14
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 15
   Not Available

   DRIVE ERROR LOG:
      Not Available

SURFACE ANALYSIS STATUS:

   Time remaining to start: 14 secs.
   Surface analysis delay:  15 secs.

   SCSI Port 1:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00ab4040
         01      0x00ab4040
         02      0x00ab4040
         03      0x00ab4040
         04      0x00ab4040
         05      0x00ab4040
         06      0x00000000
         07      0x00000000
         08      0x00ab4040
         09      0x00ab4040
         10      0x00ab4040
         11      0x00ab4040
         12      0x00ab4040
         13      0x00ab4040
         14      0x00ab4040
         15      0x00ab4040

   SCSI Port 2:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

   SCSI Port 3:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

   SCSI Port 4:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

                     Big
   Surface     Surface
      Logical  Big     Inconsistent  Blocks
   Controller  Analysis    Analysis
      Drive    Status  Block         Reassigned  Resets
   Passes      Pass Time
      -------  ------  ------------  ----------  -------
   ---  ----------  ----------
            1   0x00   0x00000000             0      1
   0           0
            2   0x00   0x00000000             0      0
   0           0
            3   0x01   0x00000000             0      2
   487        7957
            4   0x00   0x00000000             0      0
   0           0
            5   0x00   0x00000000             0      0
   0           0
            6   0x01   0x00000000             0      0
   427        2807
            7   0x00   0x00000000             0      0
   0           0
            8   0x00   0x00000000             0      0
   0           0
            9   0x00   0x00000000             0      0
   0           0
           10   0x00   0x00000000             0      0
   0           0
```


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```
        11   0x00   0x00000000              0      0
0           0
        12   0x00   0x00000000              0      0
0           0
        13   0x00   0x00000000              0      0
0           0
        14   0x00   0x00000000              0      0
0           0
        15   0x00   0x00000000              0      0
0           0
        16   0x00   0x00000000              0      0
0           0
        17   0x00   0x00000000              0      0
0           0
        18   0x00   0x00000000              0      0
0           0
        19   0x00   0x00000000              0      0
0           0
        20   0x00   0x00000000              0      0
0           0
        21   0x00   0x00000000              0      0
0           0
        22   0x00   0x00000000              0      0
0           0
        23   0x00   0x00000000              0      0
0           0
        24   0x00   0x00000000              0      0
0           0
        25   0x00   0x00000000              0      0
0           0
        26   0x00   0x00000000              0      0
0           0
        27   0x00   0x00000000              0      0
0           0
        28   0x00   0x00000000              0      0
0           0
        29   0x00   0x00000000              0      0
0           0
        30   0x00   0x00000000              0      0
0           0
        31   0x00   0x00000000              0      0
0           0
        32   0x00   0x00000000              0      0
0           0

ACCELERATOR STATUS:
   Logical Drive Disable Map: 0xffffffc0
   Read Cache Size:           0 MBytes
   Posted Write Size:         112 MBytes
   Disable Flag:              0x00
   Status:                    0x00000001
   Disable Code:              0x0000
   Total Memory Size:         112 MBytes
   Battery Count:             2
   Battery Status:            0x0003
   Parity Read Errors:        0000
   Parity Write Errors:       0000
   Error Log:                 N/A
   Failed Batteries:          0x0000
   Board Present:             Yes
   Accelerator Failure Map:   0x00000000
   Max Error Log Entries:     16
   NVRAM Load Status:         0x00
   Memory Size Shift Factor:  0x0a
   Non Battery Backed Memory: 0 MBytes
   Memory State:              0x00

PHYSICAL DRIVE IDENTIFICATION:

   SCSI Port 1, Drive ID 0
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08PCJ
      Serial Number:       3CC08PCJ00007124CKJK
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 0 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 1
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08TJW
      Serial Number:       3CC08TJW00007124BG19
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 1 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
```


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```
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 00 01 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 2
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08TAS
      Serial Number:       3CC08TAS00007124QW28
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 2 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 00 01 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 3
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0834K
      Serial Number:       3CC0834K00007124CJXC
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 3 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 00 01 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 4
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08TZ9
      Serial Number:       3CC08TZ900007124BFSN
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
```


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```
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 4 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 5
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08S8V
      Serial Number:       3CC08S8V00007124CHYJ
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 5 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 6  ---> Not available
   SCSI Port 1, Drive ID 7  ---> Not available
   SCSI Port 1, Drive ID 8
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08V8J
      Serial Number:       3CC08V8J00007124QVBU
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 8 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
```


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```
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 9
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08GZD
      Serial Number:       3CC08GZD00007124CJCC
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 9 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 10
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08AVT
      Serial Number:       3CC08AVT00007124N6VE
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 10 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 11
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC08LDV
      Serial Number:       3CC08LDV00007124CJHG
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
```


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```
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P1 (controller connector
attached to drive)
      Physical Bay in Box: 11 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 12
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B05
      Vendor Specific:      3CC08B31
      Serial Number:        3CC08B31000071231ZG3
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P1 (controller connector
attached to drive)
      Physical Bay in Box: 12 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 13
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B05
      Vendor Specific:      3CC08V2C
      Serial Number:        3CC08V2C00007124CHZR
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P1 (controller connector
attached to drive)
      Physical Bay in Box: 13 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
```


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```
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 14
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B02
      Vendor Specific:     3CC00TFK
      Serial Number:       3CC00TFK00007052HAKB
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 14 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 15
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B02
      Vendor Specific:     3CC0108A
      Serial Number:       3CC0108A00007051MRMM
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 15 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

      SCSI Port 2, Drive ID 0  ---> Not available
      SCSI Port 2, Drive ID 1  ---> Not available
      SCSI Port 2, Drive ID 2  ---> Not available
      SCSI Port 2, Drive ID 3  ---> Not available
      SCSI Port 2, Drive ID 4  ---> Not available
      SCSI Port 2, Drive ID 5  ---> Not available
      SCSI Port 2, Drive ID 6  ---> Not available
      SCSI Port 2, Drive ID 7  ---> Not available
      SCSI Port 2, Drive ID 8  ---> Not available
      SCSI Port 2, Drive ID 9  ---> Not available
      SCSI Port 2, Drive ID 10 ---> Not available
      SCSI Port 2, Drive ID 11 ---> Not available
      SCSI Port 2, Drive ID 12 ---> Not available
      SCSI Port 2, Drive ID 13 ---> Not available
      SCSI Port 2, Drive ID 14 ---> Not available
      SCSI Port 2, Drive ID 15 ---> Not available
      SCSI Port 3, Drive ID 0
         Vendor Id:           COMPAQ
         Product Id:          BF01863644
         Product Rev:         3B02
         Vendor Specific:     3CC00JYL
         Serial Number:       3CC00JYL00007051HE8Q
         SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
         Device Supports:     Tagged Command Queueing
                              Linked Commands
                              Synchronous Data Transfer
                              16-bit Wide Data Transfer
         Block Size:          512 bytes/sector
         Total Blocks:        35565080 sectors/disk
         Reserved Blocks:     1088 reserved sectors/disk
         SCSI Inquiry Bits:   0x3E
         Stamped for M&P:     yes
         Last Failure Reason: 0x30 (Performance Test 1)
         Phys Drive Flags:    0xcd 0x35 0x05
```


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```
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P3 (controller connector
attached to drive)
      Physical Bay in Box: 0 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 1
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B02
      Vendor Specific:      3CC00KP4
      Serial Number:        3CC00KP400007050KGS1
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x30 (Performance Test 1)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P3 (controller connector
attached to drive)
      Physical Bay in Box: 1 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 2
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B00
      Vendor Specific:      1CC10225
      Serial Number:        1CC10225000010410CJA
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x30 (Performance Test 1)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:   P3 (controller connector
attached to drive)
      Physical Bay in Box: 2 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
```


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         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 3
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B00
      Vendor Specific:     1CC07638
      Serial Number:       1CC07638000010410N4C
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x30 (Performance Test 1)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 3 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 4
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B00
      Vendor Specific:     1CC12163
      Serial Number:       1CC12163000010340Y4J
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x30 (Performance Test 1)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 4 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 5
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B00
      Vendor Specific:     1CC15548
      Serial Number:       1CC15548000010410Q2A
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x30 (Performance Test 1)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
```


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```
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 5 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 6  ---> Not available
   SCSI Port 3, Drive ID 7  ---> Not available
   SCSI Port 3, Drive ID 8
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B00
      Vendor Specific:     1CC10250
      Serial Number:       1CC10250000010410QPN
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 8 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 9
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B00
      Vendor Specific:     1CC08049
      Serial Number:       1CC08049000010410LGL
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 9 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
```


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```
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 10
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B02
      Vendor Specific:     3CC00PYX
      Serial Number:       3CC00PYX00007050KHBF
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 10 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 11
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B02
      Vendor Specific:     3CC00RTG
      Serial Number:       3CC00RTG00007050KVM2
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 11 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 12
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B02
      Vendor Specific:     3CC00NB1
      Serial Number:       3CC00NB10000705064HL
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 12 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
```


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```
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 13
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B02
      Vendor Specific:      3CC00P37
      Serial Number:        3CC00P370000705064DD
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x20 (Unknown)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 13 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 14
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B02
      Vendor Specific:      3CC01499
      Serial Number:        3CC0149900007051LWS8
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
                            16-bit Wide Data Transfer
      Block Size:           512 bytes/sector
      Total Blocks:         35565080 sectors/disk
      Reserved Blocks:      1088 reserved sectors/disk
      SCSI Inquiry Bits:    0x3E
      Stamped for M&P:      yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:     0xcd 0x35 0x05
                            Drive present and
operational
                            Wide SCSI transfers
Enabled
                            Ultra2 SCSI Enabled
                            S.M.A.R.T. Supported
                            S.M.A.R.T. Enabled
                            Drive attached to external
SCSI connector
                            Configured as part of
Logical Drive
      SCSI LUN:             0
      Spi Speed Rules:      0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 14 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 3, Drive ID 15
      Vendor Id:            COMPAQ
      Product Id:           BF01863644
      Product Rev:          3B02
      Vendor Specific:      3CC014SS
      Serial Number:        3CC014SS00007051MRQB
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:      Tagged Command Queueing
                            Linked Commands
                            Synchronous Data Transfer
```


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```
                              16-bit Wide Data Transfer
      Block Size:             512 bytes/sector
      Total Blocks:           35565080 sectors/disk
      Reserved Blocks:        1088 reserved sectors/disk
      SCSI Inquiry Bits:      0x3E
      Stamped for M&P:        yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:       0xcd 0x35 0x05
                              Drive present and
operational
                              Wide SCSI transfers
Enabled
                              Ultra2 SCSI Enabled
                              S.M.A.R.T. Supported
                              S.M.A.R.T. Enabled
                              Drive attached to external
SCSI connector
                              Configured as part of
Logical Drive
      SCSI LUN:               0
      Spi Speed Rules:        0x00000000
      Physical Connector:  P3 (controller connector
attached to drive)
      Physical Bay in Box: 15 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

      SCSI Port 4, Drive ID 0  ---> Not available
      SCSI Port 4, Drive ID 1  ---> Not available
      SCSI Port 4, Drive ID 2  ---> Not available
      SCSI Port 4, Drive ID 3  ---> Not available
      SCSI Port 4, Drive ID 4  ---> Not available
      SCSI Port 4, Drive ID 5  ---> Not available
      SCSI Port 4, Drive ID 6  ---> Not available
      SCSI Port 4, Drive ID 7  ---> Not available
      SCSI Port 4, Drive ID 8  ---> Not available
      SCSI Port 4, Drive ID 9  ---> Not available
      SCSI Port 4, Drive ID 10 ---> Not available
      SCSI Port 4, Drive ID 11 ---> Not available
      SCSI Port 4, Drive ID 12 ---> Not available
      SCSI Port 4, Drive ID 13 ---> Not available
      SCSI Port 4, Drive ID 14 ---> Not available
      SCSI Port 4, Drive ID 15 ---> Not available

   CONTROLLER PARAMETERS:

      LED Control:                0x00
      Command List Verification: On
      Backed-out Write drives:    0
      Stripes for Parity:         0
      Distribution Mode:          0x00
      Maximum Driver Requests:    0x0000
      Elevator Trend Count:       0x0000
      Disable Elevator:           0x00
      Force Scan Complete:        0x00
      Synch/Asynch Mode:          Auto Detect
      Force Narrow:               No
      Rebuild Priority:           0
      Expand Priority:            0
      SDB ASIC Fix:               0x00
      PDIP Burst Disable:         0x00
      Software Name:
      Hardware Name:

   SCSI BUS 1 PARAMETERS:
      Inquiry Data Valid:     Yes
      Inquiry Header:         03 00 02 02 21 00 00 00
      Vendor Id:              COMPAQ
      Product Id:             PROLIANT 4LEE
      Product Rev:            JB49
      Installed Drive Map:    0x0000003f
      Hot Plug Counts:
         All counts are zero
      Fan Alert Count:        0x0000
      Alarm Status:           0x00 (No Alarms)
      Temperature Status:     0x00
      Valid Alarm Bits:       0x03
      Alarm Count:            0000
      Specific Counts:        00000 00000 00000 00000
00000 00000 00000 00000
      Connection Info:        0x2809
      SCSI Device Rev:        0x01
      Fan Status:             0x2809
      More Inquiry Data:
           02 20 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         ................
      SCSI Device Type:       0x00cf9005 (AIC-7899)
      Bus Bitmap:             0x0000007f
      Interrupt Count:        00000000
      Ultra Bus Faults:       0x00000000
      SCSI Initiator ID:      7
      SCSI Target ID:         7
      Physical Connector:     P1 (controller connector
attached to drive)
      Big Inst Drive Map:     0xff3f 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
      Big Bus Map:            0xffff 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
      More Connection Info:   0x01 (LVD SCSI bus enabled)

   SCSI BUS 2 PARAMETERS:
      Inquiry Data Valid:     No
      Installed Drive Map:    0x00000000
      Hot Plug Counts:
         All counts are zero
      Fan Alert Count:        0x0000
      Alarm Status:           0x00 (No Alarms)
      Temperature Status:     0x00
      Valid Alarm Bits:       0x00
      Alarm Count:            0000
      Specific Counts:        00000 00000 00000 00000
00000 00000 00000 00000
      Connection Info:        0x2000
      SCSI Device Rev:        0x01
      Fan Status:             0x2000
      More Inquiry Data:
           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         ................
      SCSI Device Type:       0x00cf9005 (AIC-7899)
      Bus Bitmap:             0x00003f80
      Interrupt Count:        00000000
      Ultra Bus Faults:       0x00000000
      SCSI Initiator ID:      7
      SCSI Target ID:         7
      Physical Connector:     P2 (controller connector
attached to drive)
      Big Inst Drive Map:     0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
      Big Bus Map:            0x0000 0xffff 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
      More Connection Info:   0x01 (LVD SCSI bus enabled)

   SCSI BUS 3 PARAMETERS:
      Inquiry Data Valid:     Yes
      Inquiry Header:         03 00 02 02 21 00 00 00
      Vendor Id:              COMPAQ
      Product Id:             PROLIANT 4LEE
      Product Rev:            JB49
      Installed Drive Map:    0x00000000
```


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```
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x03
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2809
   SCSI Device Rev:       0x01
   Fan Status:            0x2809
   More Inquiry Data:
        02 20 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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x001fc000
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P3 (controller connector
attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0xff3f 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0x0000 0xffff 0x0000
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

SCSI BUS 4 PARAMETERS:
   Inquiry Data Valid:    No
   Installed Drive Map:   0x00000000
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x00
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2000
   SCSI Device Rev:       0x01
   Fan Status:            0x2000
   More Inquiry Data:
        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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x0fe00000
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P4 (controller connector
attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0x0000 0x0000 0xffff
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

MASTER BOOT RECORD (LOGICAL DRIVE 1)

      Logical Drive 1 (SCSI Port 1, Drive ID 0):
         Master Boot Record hex dump:
            33 c0 8e d0 bc 00 7c fb 50 07 50 1f fc be
1b 7c
            bf 1b 06 50 57 b9 e5 01 f3 a4 cb bd be 07
b1 04
            38 6e 00 7c 09 75 13 83 c5 10 e2 f4 cd 18
8b f5
            83 c6 10 49 74 19 38 2c 74 f6 a0 b5 07 b4
07 8b
            f0 ac 3c 00 74 fc bb 07 00 b4 0e cd 10 eb
f2 88
            4e 10 e8 46 00 73 2a fe 46 10 80 7e 04 0b
74 0b
            80 7e 04 0c 74 05 a0 b6 07 75 d2 80 46 02
06 83
            46 08 06 83 56 0a 00 e8 21 00 73 05 a0 b6
07 eb
            bc 81 3e fe 7d 55 aa 74 0b 80 7e 10 00 74
c8 a0
            b7 07 eb a9 8b fc 1e 57 8b f5 cb bf 05 00
8a 56
            00 b4 08 cd 13 72 23 8a c1 24 3f 98 8a de
8a fc
            43 f7 e3 8b d1 86 d6 b1 06 d2 ee 42 f7 e2
39 56
            0a 77 23 72 05 39 46 08 73 1c b8 01 02 bb
00 7c
            8b 4e 02 8b 56 00 cd 13 73 51 4f 74 4e 32
e4 8a
            56 00 cd 13 eb e4 8a 56 00 60 bb aa 55 b4
41 cd
            13 72 36 81 fb 55 aa 75 30 f6 c1 01 74 2b
61 60
            6a 00 6a 00 ff 76 0a ff 76 08 6a 00 68 00
7c 6a
            01 6a 10 b4 42 8b f4 cd 13 61 61 73 0e 4f
74 0b
            32 e4 8a 56 00 cd 13 eb d6 61 f9 c3 49 6e
76 61
            6c 69 64 20 70 61 72 74 69 74 69 6f 6e 20
74 61
            62 6c 65 00 45 72 72 6f 72 20 6c 6f 61 64
69 6e
            67 20 6f 70 65 72 61 74 69 6e 67 20 73 79
73 74
            65 6d 00 4d 69 73 73 69 6e 67 20 6f 70 65
72 61
            74 69 6e 67 20 73 79 73 74 65 6d 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 2c 44 63 da 20 d0 fd 00 00
00 01
            01 00 06 fe ff ff 3f 00 00 00 f6 76 51 02
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
55 aa

PARTITION TABLES:

      SCSI Port 1, Drive ID 0:
            00 01 01 00 06 fe ff ff 3f 00 00 00 f6 76
51 02
               (Start C/H/S 0000/001/01, End
1023/254/63)
            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
      SCSI Port 3, Drive ID 0:  ---> Same as above.

RIS DATA AREA:

   SCSI Port 1, Drive ID 0:
      RIS drive: 0x0
      RIS Copy 0:
         Drive id:          0
         RIS signature:     ASTROS
         Physical Drives:   28
         Logical Drives:    6
         Physical Drive State: (00=OK, 01=bad or not
present, 02=replacement)
            00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
            01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
            01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
         Signature:         0xaf4729af
         RIS version:       1500
         Logical Drive State:  (00=OK, 01=failed,
02=unused)
            00 00 00 00 00 00 02 02 02 02 02 02 02 02
02 02
            02 02 02 02 02 02 02 02 02 02 02 02 02 02
02 02
         RIS updates:       856
         Remap interrupted: 0
         Surface delay:     150
         Overheat delay:    0
```


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```
M&P delay:          60
RIS hex dump:
   00 41 53 54 52 4f 53 20 af 47 29 af 00 00
03 58
   05 dc 1c 06 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 01
   01 00 00 00 00 00 00 00 00 01 01 01 01 01
01 01
   01 01 01 01 01 01 01 01 01 00 00 00 00 00
00 01
   01 00 00 00 00 00 00 00 00 01 01 01 01 01
01 01
   01 01 01 01 01 01 01 01 01 01 00 00 00 00
00 00
   00 00 00 00 00 00 00 3c 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 20 57 49 54 00 00 42 41 54 54 00 00
59 20
42 41 00 00 55 50 8d 11 00 00 0e 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 50 41 53 53 00 00
20 20
20 20 00 00 20 20 20 20 00 00 20 20 dc 73
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 02 00 00 00 00 00 04 00 00 fd 00 02 51
ac 00
00 00 00 00 00 00 00 00 00 00 00 00 0e 0e
00 00
01 00 0e 00 00 00 04 40 00 2a 68 00 00 1a
00 00
00 01 02 03 04 05 08 09 0a 0b 0c 0d 0e 0f
22 23
24 25 28 29 2a 2b 2c 2d 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 a0 12 ff 00 00 ff ff 00 08 00
00 00
a0 12 20 77 00 00 00 00 00 00 04 40 00 00
00 00
00 00 00 00 00 01 00 00 00 00 00 00 00 00
00 00
00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
```

```
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a3 c7 79 79 04 00 02 32 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 00 00 00 00 00 00 00
00 00
00 02 00 00 00 00 00 04 00 00 fd 00 01 9c
81 e0
00 00 00 00 00 00 00 00 00 00 00 00 0e 0e
00 00
01 00 0e 00 00 2a 6c 40 00 1d 77 00 00 1a
00 00
00 01 02 03 04 05 08 09 0a 0b 0c 0d 0e 0f
22 23
24 25 28 29 2a 2b 2c 2d 3c 3d 3e 3f 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 f1 0c ff 00 00 ff ff 00 08 00
f1 0c 20 e1 00 00 00 00 00 2a 6c 40 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 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a5 27 69 81 04 00 02 32 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 00 00 00 00 00 00 00
00 00
00 02 00 00 00 00 00 04 00 00 fd 00 0c df
73 a0
00 00 00 00 00 00 00 00 00 00 00 00 0e 07
02 00
01 00 07 00 00 47 e3 40 01 d6 c8 00 00 0c
00 00
00 01 02 03 04 05 08 09 0a 0b 0c 0d 0e 0f
22 23
24 25 28 29 2a 2b 2c 2d 3c 3d 3e 3f 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
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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 00 00 00 00 00 00 00 00 00
00 00
00 00 00 00 63 67 ff 00 00 ff ff 00 08 00
00 00
63 67 20 47 00 01 00 00 00 8e 87 40 00 00
1f 15
00 00 01 e7 00 02 00 00 00 00 00 00 00 00
00 00
00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a8 27 59 85 04 00 02 32 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 00 00 00 00 00 00 00
00 00
00 02 00 00 00 00 00 04 00 00 fd 00 02 51
ac 00
00 00 00 00 00 00 00 00 00 00 00 00 0e 0e
00 00
01 00 0e 00 00 00 04 40 00 2a 68 00 00 1a
00 00
20 21 22 23 24 25 28 29 2a 2b 2c 2d 2e 2f
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 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
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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 00 00 00 00 00 00 00 00 00
00 00
00 00 00 00 a0 12 ff 00 00 ff ff 00 08 00
00 00
a0 12 20 77 00 00 00 00 00 00 04 40 00 00
00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a1 67 49 a2 04 00 02 32 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 00 00 00 00 00 00 00 00 00
00 00
00 02 00 00 00 00 00 04 00 00 fd 00 01 9c
81 e0
00 00 00 00 00 00 00 00 00 00 00 00 00 0e 0e
00 00
01 00 0e 00 00 2a 6c 40 00 1d 77 00 00 1a
00 00
20 21 22 23 24 25 28 29 2a 2b 2c 2d 2e 2f
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
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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 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
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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 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 f1 0c ff 00 00 ff ff 00 08 00
00 00
f1 0c 20 e1 00 00 00 00 00 2a 6c 40 00 00
00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a4 47 39 aa 04 00 02 32 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 00 00 00 00 00 00 00 00 00
00 00
00 02 00 00 00 00 00 04 00 00 fd 00 0c df
73 a0
00 00 00 00 00 00 00 00 00 00 00 00 0e 07
02 00
01 00 07 00 00 47 e3 40 01 d6 c8 00 00 0c
00 00
20 21 22 23 24 25 28 29 2a 2b 2c 2d 2e 2f
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
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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 63 67 ff 00 00 ff ff 00 08 00
0a f7
63 67 20 47 00 01 00 00 00 47 e3 40 00 00
```

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00 00 01 ab 00 00 00 00 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 00 00 00 00 00 01 01 00 00 00 00 00 00
00 00
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d
0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
af 47 29 af 04 00 02 32 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 00 00 00 00 00 00 00 00 00
00 00
02 00 00 00 00 00 00 00 00 00 00 00 00 00 00
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01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
```


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```
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d 0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d 3e 3f
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
02 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
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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 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
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d 0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d 3e 3f
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
02 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
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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 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
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
00 01 02 03 04 05 06 07 08 09 0a 0b 0c 0d 0e 0f
10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d 3e 3f
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
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      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 10:
      RIS drive: 0x2a
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 11:
      RIS drive: 0x2b
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 12:
      RIS drive: 0x2c
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 13:
      RIS drive: 0x2d
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 14:
      RIS drive: 0x2e
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 3, Drive ID 15:
      RIS drive: 0x2f
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 4, Drive ID 0:  Physical drive not
connected.
   SCSI Port 4, Drive ID 1:  Physical drive not
connected.
   SCSI Port 4, Drive ID 2:  Physical drive not
connected.
   SCSI Port 4, Drive ID 3:  Physical drive not
connected.
   SCSI Port 4, Drive ID 4:  Physical drive not
connected.
   SCSI Port 4, Drive ID 5:  Physical drive not
connected.
   SCSI Port 4, Drive ID 6:  Physical drive not
connected.
   SCSI Port 4, Drive ID 7:  Physical drive not
connected.
   SCSI Port 4, Drive ID 8:  Physical drive not
connected.
   SCSI Port 4, Drive ID 9:  Physical drive not
connected.
   SCSI Port 4, Drive ID 10:  Physical drive not
connected.
   SCSI Port 4, Drive ID 11:  Physical drive not
connected.
   SCSI Port 4, Drive ID 12:  Physical drive not
connected.
   SCSI Port 4, Drive ID 13:  Physical drive not
connected.
   SCSI Port 4, Drive ID 14:  Physical drive not
connected.
   SCSI Port 4, Drive ID 15:  Physical drive not
connected.


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DTC System Configuration

```
Date . . . . . . . . . . . . . . .  08/23/2001
Time . . . . . . . . . . . . . . .  18:41:13

Product  . . . . . . . . . . . .  ProLiant DL580

Machine ID
  From System Board  . . . . . .  CPQ0715

Processor  . . . . . . . . . . .  Pentium III(R) Xeon
at 700 MHz
  Slot . . . . . . . . . . . . . .  4
  Secondary Cache  . . . . . . .  2048K
  CPU ID . . . . . . . . . . . .  06A1

Processor  . . . . . . . . . . .  Pentium III(R) Xeon
at 700 MHz
  Slot . . . . . . . . . . . . . .  3
  Secondary Cache  . . . . . . .  2048K
  CPU ID . . . . . . . . . . . .  06A1

Processor  . . . . . . . . . . .  Pentium III(R) Xeon
at 700 MHz
  Slot . . . . . . . . . . . . . .  2
  Secondary Cache  . . . . . . .  2048K
  CPU ID . . . . . . . . . . . .  06A1

Processor  . . . . . . . . . . .  Pentium III(R) Xeon
at 700 MHz
  Slot . . . . . . . . . . . . . .  1
  Secondary Cache  . . . . . . .  2048K
  CPU ID . . . . . . . . . . . .  06A1

Processor(s) Mapped Out  . . . .  None

Numeric Coprocessor  . . . . . .  Integrated 387-
Compatible

Expansion Bus  . . . . . . . . .  ISA, PCI

System Identification Number . .  D050DYV1K065

CPU Mode . . . . . . . . . . . .  Real Mode

System ROM
    Revision . . . . . . . . . .  04/05/2001
      Family . . . . . . . . . .  P20
    Flashable  . . . . . . . . .  Yes
    Supports F10 partition . . .  Yes

Video Controller ROM
    Revision . . . . . . . . . .  3.96

Option ROMs
  Address Range  . . . . . . . .  C0000 - C7FFF
    Data Dump  . . . . . . . . .  (1999/03/24 23:56)
  Address Range  . . . . . . . .  C8000 - CBFFF
    Data Dump  . . . . . . . . .  (04/22/98 ROC
Smart Array Option ROM/BIOS (C)Co...)

  Address Range  . . . . . . . .  CC000 - CFFFF
    Data Dump  . . . . . . . . .  (07/07/00 Maxwell
Smart Array Option ROM/BIOS (C)Co...)

  Address Range  . . . . . . . .  E8000 - EDFFF
    Data Dump  . . . . . . . . .  ( CPQSCSI d)

Bootblock ROM  . . . . . . . . .  02/28/2000
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
    DIMM Slot  5 . . . . . . . .     0 Megabytes
    DIMM Slot  6 . . . . . . . .     0 Megabytes
    DIMM Slot  7 . . . . . . . .     0 Megabytes
    DIMM Slot  8 . . . . . . . .     0 Megabytes
    DIMM Slot  9 . . . . . . . .     0 Megabytes
    DIMM Slot  10  . . . . . . .     0 Megabytes
    DIMM Slot  11  . . . . . . .     0 Megabytes
    DIMM Slot  12  . . . . . . .     0 Megabytes
    DIMM Slot  13  . . . . . . .     0 Megabytes
    DIMM Slot  14  . . . . . . .     0 Megabytes
    DIMM Slot  15  . . . . . . .     0 Megabytes
    DIMM Slot  16  . . . . . . .     0 Megabytes
Total Compaq Memory  . . . . . .   512 Megabytes

Keyboard . . . . . . . . . . . .  Standard 11-Bit

LPT Ports  . . . . . . . . . . .  LPT1 (Address 378)

COM Ports  . . . . . . . . . . .  COM1 (Address 3F8)
Compaq NC6134 Gigabit NIC
  Device Type  . . . . . . . . .  Ethernet Controller
  PCI Bus Number . . . . . . . .  2
  Device Number  . . . . . . . .  8
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  2
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1000h
  Subsystem Vendor ID  . . . . .  0E11h
  Subsystem ID . . . . . . . . .  B123h
  Revision ID  . . . . . . . . .  03h
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  0h
  IRQ Line . . . . . . . . . . .  5
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F7DC0000h
  Memory Address Length  . . . .  20000h


Diskette Drive A . . . . . . . .  1.44 Megabyte (3.5
inch)

Drive Controller 1, Compaq Integrated Smart Array
Controller
  IDA Firmware Revision  . . . .  1.42
```


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```
  Array Accelerator Memory . . .  8188 Kbytes
    Reserved for reads . . . . .  8188 Kbytes
  Accelerator Status . . . . . .  Enabled
    Battery count  . . . . . . .  0
    Batteries charged  . . . . .  0
    Batteries failed . . . . . .  0
  Internal ProLiant  . . . . . .  Bus 1, Rev. JB21

  Logical Drive  1 . . . . . . .  9091 Megabyte
  Fault Tolerance  . . . . . . .  Mirroring
  OS Format  . . . . . . . . . .  Multi-Sector
Distribution
  Drive geometry (Cyl, Hds, Sec)  2176, 255, 32
  Array Accelerator  . . . . . .  Enabled

    Hard Drive  1
    SCSI Bus . . . . . . . . . .  1
    SCSI ID  . . . . . . . . . .  0
    Serial Number  . . . . . . .  B3095482
    Firmware Revision 1  . . . .  B016
    Model Number . . . . . . . .  COMPAQ  BD009122C6
    Initialized for Monitoring .  Yes
      Reference time . . . . . .  681267
      Sectors read . . . . . . .  *2957785257
      Hard read errors . . . . .  0
      Read errors retry  . . . .  0
      ECC read errors  . . . . .  0
      Sectors written  . . . . .  565563886
      Hard write errors  . . . .  0
      Write errors retry . . . .  0
      Seek count . . . . . . . .  2162166
      Seek errors  . . . . . . .  0
      Spin cycles  . . . . . . .  1
      Spin up time . . . . . . .  0
      Seek time track  . . . . .  36%
      Seek time third  . . . . .  68%
      Seek time full . . . . . .  70%
      Reallocated sectors  . . .  38
      Recovers read failed . . .  0
      Bus faults . . . . . . . .  0

    Hard Drive  2
    SCSI Bus . . . . . . . . . .  1
    SCSI ID  . . . . . . . . . .  1
    Serial Number  . . . . . . .
LJC1846200001933HQ6R
    Firmware Revision 1  . . . .  3208
    Model Number . . . . . . . .  COMPAQ  HD0093172C
    Initialized for Monitoring .  Yes
      Reference time . . . . . .  451808
      Sectors read . . . . . . .  *1298530190
      Hard read errors . . . . .  0
      Read errors retry  . . . .  0
      ECC read errors  . . . . .  0
      Sectors written  . . . . .  317143999
      Hard write errors  . . . .  0
      Write errors retry . . . .  0
      Seek count . . . . . . . .  1481833
      Seek errors  . . . . . . .  0
      Spin cycles  . . . . . . .  2
      Spin up time . . . . . . .  0
      Seek time track  . . . . .  0%
      Seek time third  . . . . .  0%
      Seek time full . . . . . .  0%
      Reallocated sectors  . . .  201
      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 . . . . . . . . .    636 Kbytes
  Amount Free  . . . . . . . . .    553 Kbytes
(566336 Bytes)

Extended Memory
  System Total . . . . . . . . .  523264 Kbytes

Expanded Memory
  LIM Driver Support . . . . . .  LIM driver not
loaded

Operating System . . . . . . . .  MS-DOS version 7.10
(from diskette)

Environment variables
  PATH=
  PROMPT=$P$G
  COMSPEC=A:\COMMAND.COM
  CMDLINE=inspect /u
End of environment

System serial number . . . . . .  D050DYV1K065

Memory Allocation (including INSPECT)
  PSP   SIZE    NAME          TRAPPED INTERRUPTS
  ----  ------  ------------  -----------------------
---------------
  12F7  007200  COMMAND.COM   EFh  2Fh  2Eh  24h  23h
22h
  14C2  218144  INSPECT.EXE   F9h  F4h  F3h  F2h  EDh
3Fh  00h

System Configuration Memory
  00 - 0F :    19 00 41 00    18 00 04 23    08 01 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 9A 00
00    00 18 02 B4
  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 00 00    00 00 00 00    78 03 00
00    00 00 00 9F
  40:0010 :    27 42 00 7C    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 :    25 00 00 00    00 2A 00 11    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 A4    17 7D 74
00    60 B0 12 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    2A 00 00 00    00 00 00
00    00 00 00 00
  40:00A0 :    00 00 00 00    00 00 00 00    7C 14 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 :    14D2:0555      0070:0465
122E:0016      0070:0465
  04 - 07 :    0070:0465      F000:FF54
F000:93CC      F000:9BD0
  08 - 0B :    122E:001F      122E:0028
F000:9BD0      122E:0052
  0C - 0F :    F000:9BD0      F000:9BD0
122E:009A      0070:0465
  10 - 13 :    C000:13FE      F000:F84D
F000:F841      0070:03EE
  14 - 17 :    F000:F66C      0207:0240
0070:042D      F000:EFD2
  18 - 1B :    F000:24FA      12EF:002F
F000:FE6E      0070:045F
  1C - 1F :    F000:FF53      F000:0000
0000:0522      C000:2143
  20 - 23 :    00C9:0FA8      00C9:0FB2
12F7:0314      12F7:016D
  24 - 27 :    12F7:0178      00C9:0FBC
00C9:0FC6      00C9:0FD0
  28 - 2B :    00C9:106C      0070:0466
00C9:106C      00C9:106C
  2C - 2F :    00C9:106C      00C9:106C
12F7:0162      12F8:01CC
  30 - 33 :    C90F:E4EA      F000:9B00
00C9:106C      00C9:106C
  34 - 37 :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  38 - 3B :    00C9:106C      00C9:106C
00C9:106C      00C9:106C
  3C - 3F :    00C9:106C      00C9:106C
00C9:106C      258E:04F3
  40 - 43 :    F000:EC59      C81F:01C6
F000:F065      C000:2556
```


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```
  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      C000:13FE
F000:9BD0      F000:9BD0
  70 - 73 :    122E:0035      F000:9C1F
F000:9BD0      F000:9BD0
  74 - 77 :    122E:00E2      F000:9C28
122E: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      0001:0000
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      0083:0000
  E8 - EB :    0002:00D0      0083:0018
0006:00D8      0006:00D8
  EC - EF :    0046:2800      1FA5:00F6
0046:0087      13C1:00F4
  F0 - F3 :    7C00:0001      7016:1D82
1D82:13C1      1400:6E73
  F4 - F7 :    1CDA:0246      0101:7387
0000:0000      0000:613D
  F8 - FB :    613D:0020      15B7:6443
0000:0003      0246:0900
  FC - FF :    0000:00F4      0000:0900
E15C:0049      0003:09C1

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  . . . . .  10
  Number of PCI Devices  . . . .  4

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  4
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  0
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  0010h
  Revision ID  . . . . . . . . .  02h
  Device Type  . . . . . . . . .  RAID Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF80000h
  IRQ Line . . . . . . . . . . .  3
  IRQ Pin  . . . . . . . . . . .  INTA#
  IO Address Base  . . . . . . .  2000h
  IO Address Length  . . . . . .  100h
  Memory Address Base  . . . . .  F6000000h
  Memory Address Length  . . . .  1000000h
  Memory Address Base  . . . . .  F5000000h
  Memory Address Length  . . . .  1000000h

  PCI Bus Number . . . . . . . .  0
  Device Number  . . . . . . . .  5
  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  . . . . .  F3000000h
  Memory Address Length  . . . .  1000000h
  IO Address Base  . . . . . . .  2400h
  IO Address Length  . . . . . .  100h
  Memory Address Base  . . . . .  F4FF0000h
  Memory Address Length  . . . .  1000h

  PCI Bus Number . . . . . . . .  2
  Device Number  . . . . . . . .  8
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  2
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  1000h
  Revision ID  . . . . . . . . .  03h
  Device Type  . . . . . . . . .  Ethernet Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  0h
  IRQ Line . . . . . . . . . . .  5
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F7DC0000h
  Memory Address Length  . . . .  20000h

  PCI Bus Number . . . . . . . .  7
  Device Number  . . . . . . . .  7
  Function Number  . . . . . . .  00h
  Slot Number  . . . . . . . . .  5
  Vendor ID  . . . . . . . . . .  0E11h
  Device ID  . . . . . . . . . .  B060h
  Revision ID  . . . . . . . . .  02h
  Device Type  . . . . . . . . .  RAID Controller
  Programming Interface  . . . .  00h
  Expansion ROM Base Address . .  FFF00000h
  IRQ Line . . . . . . . . . . .  11
  IRQ Pin  . . . . . . . . . . .  INTA#
  Memory Address Base  . . . . .  F7F80000h
  Memory Address Length  . . . .  40000h
  Memory Address Base  . . . . .  F7E00000h
  Memory Address Length  . . . .  100000h
  IO Address Base  . . . . . . .  3000h
  IO Address Length  . . . . . .  100h


Array Diagnostic Utility Inspection Report Version
1.40 Revision A

USER ENTERED INFORMATION:

dtc1

Date/Time:          Thursday, August 23, 2001 8:07PM
Computer Model:     ProLiant DL580
```


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```
System ROM Version: 04/05/2001

SLOT SUMMARY:
   Slot Num  Slot Type  Array Controllers and Host
Adapters Detected
   --------  ---------  ----------------------------
---------------
   Slot  0   PCI        Integrated Smart Array
Controller
   Slot  5   PCI        Smart Array 5300 Controller

SLOT 0 INTEGRATED SMART ARRAY CONTROLLER ERROR
REPORT:

   No problems detected

SUBSYSTEM INFORMATION:

   Chassis Serial Num:              D050DYV1K065
   This Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available
   Other Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available

CONTROLLER IDENTIFICATION:
   Configured Logical Drives: 1
   Configuration Signature:   0xab6a32dc
   Adapter Firmware Revision: '1.42'
   Adapter ROM Revision:      '1.42'
   Adapter Hardware Revision: 0x02
   Boot Block Version:        '1.42'
   Drive Present Map:         0x00000003
   External Drive Map:        0x00000000
   Board ID:                  0x40400e11
   Cable or Config Error:     0x00 (No)
   Non-disk map:              0x00000000
   Invalid Host RAM Address:  No
   CPU Revision:              0x00
   CPU to PCI ASIC Rev:       0x00
   Cache Controller ASIC Rev: 0x00
   PCI to Host ASIC Rev:      0x00
   Marketing Revision:        0x41 (Rev A)
   Expand Disable Code:       0x01
   SCSI Chip Count:           2
   Max SCSI ID's per Bus:     16
   Big Drive Map:             0x0003 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Ext Drive Map:         0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Non-Disk Drive Map:    0x0080 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

LOGICAL DRIVE IDENTIFICATION:

   Logical Drive 1:
      Sector Size:              512
      Sectors Available:        17756160
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=2176 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

LOGICAL DRIVE CONFIGURATION:

   Logical Drive 1:
      Configuration Signature:  0xa4192719
      Mapping Scheme:           Multiple Block
      Physical Drives:          64 (number not valid
after drive movement)
         This Logical Drive:    2 (excluding spare
drives)
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=2176 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x00000003
      Distribution Factor:      256
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           0
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        17756160
      Sectors per Drive:        17756160
      Big Drive Assignment Map: 0x0003 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

LOGICAL DRIVE STATUS:

   Logical Drive 1:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

MONITOR AND PERFORMANCE DATA:

   SCSI Port 1, Drive ID 0
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         42 33 30 39 35 34 38 32 20 20 20 20 39 39 34
36      B3095482    9946
         00 00 00 00 42 30 31 36 00 00 00 00 43 4f 4d
50      ....B016....COMP
         41 51 20 20 42 44 30 30 39 31 32 32 43 36 20
20      AQ  BD009122C6
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         42 33 30 39 35 34 38 32 20 20 20 20 39 39 34
36      B3095482    9946
         00 00 00 00 00 00 00 00 00 00 00 00 43 4f 4d
50      ............COMP
         41 51 20 20 42 44 30 30 39 31 32 32 43 36 20
20      AQ  BD009122C6
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  000a653c         0000000a
ffffffff          8184
      Read Blks   00000012b04c3929 00000000000000de
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  0000000021b5d1ee 0000000000000019
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       000000000020fdf6 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000001         00000000
ffffffff          8184
      Spin Time   0000             0000
016e              a282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0009             0000
0019              a282
      Test 3      0034             0000
004c              a282
```


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```
      Test 4     005f             0000
0087             a282
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  00000026         00000000
00001964         a584
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0002             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x02
            Total Errors Logged = 0x00000002
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
---- ---- ----- ----- ---- --------- ---
-     --   ----
00    0a    00     00      00     00000000(0)
00029da0   00   0000
00    0a    00     00      00     00000000(0)
00029da1   00   0000

   SCSI Port 1, Drive ID 1
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         4c 4a 43 31 38 34 36 32 30 30 30 30 31 39 33
33      LJC1846200001933
         48 51 36 52 33 32 30 38 00 00 00 00 43 4f 4d
50      HQ6R3208....COMP
         41 51 20 20 48 44 30 30 39 33 31 37 32 43 20
20      AQ  HD0093172C
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         4c 4a 43 31 38 34 36 32 30 30 30 30 31 39 33
33      LJC1846200001933
         48 51 36 52 00 00 00 00 00 00 00 00 43 4f 4d
50      HQ6R........COMP
         41 51 20 20 48 44 30 30 39 33 31 37 32 43 20
20      AQ  HD0093172C
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0003
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  0006e4e9         0000000a
ffffffff          8184
      Read Blks   0000003f4d66000b 00000000000000d8
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
fffffffffffffffff 8188
      Write Blks  0000000012e73bbf 0000000000000019
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000169c69 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
fffffffffffffffff 8188
      Spin Cyls   00000002         00000000
ffffffff          8184
      Spin Time   0000             0000
ffff              8282
      Test 1      ffff             ffff
ffff              0a82
      Test 2      0002             0000
ffff              8282
      Test 3      0036             0000
ffff              8282
      Test 4      0067             0000
ffff              8282
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   000000c9         00000000
ffffffff          8584
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0001             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  0000             0000
ffff              0182
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         No errors logged.

   SCSI Port 1, Drive ID 2
      Not Available
```


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```
   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 3
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 4
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 5
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 6
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 7
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 8
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 9
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 10
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 11
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 12
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 13
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 14
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 1, Drive ID 15
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 0
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 1
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 2
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 3
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 4
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 5
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 6
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 7
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 8
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 9
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 10
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 11
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 12
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 13
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 14
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 2, Drive ID 15
   Not Available

   DRIVE ERROR LOG:
      Not Available

SURFACE ANALYSIS STATUS:

   Time remaining to start: 14 secs.
   Surface analysis delay:  15 secs.

   SCSI Port 1:
                 Big
   Drive ID   Current Block
   --------   -------------
      00      0x00000000
      01      0x00000000
      02      0x00000000
```


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```
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

   SCSI Port 2:
                 Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

                    Big
Surface     Surface
   Logical  Big     Inconsistent  Blocks
Controller  Analysis    Analysis
   Drive    Status  Block         Reassigned  Resets
Passes      Pass Time
   -------  ------  ------------  ----------  -------
---  ----------  ----------
         1   0x01   0x00000000              0      0
1128        1771
         2   0x00   0x00000000              0      0
0           0
         3   0x00   0x00000000              0      0
0           0
         4   0x00   0x00000000              0      0
0           0
         5   0x00   0x00000000              0      0
0           0
         6   0x00   0x00000000              0      0
0           0
         7   0x00   0x00000000              0      0
0           0
         8   0x00   0x00000000              0      0
0           0
         9   0x00   0x00000000              0      0
0           0
        10   0x00   0x00000000              0      0
0           0
        11   0x00   0x00000000              0      0
0           0
        12   0x00   0x00000000              0      0
0           0
        13   0x00   0x00000000              0      0
0           0
        14   0x00   0x00000000              0      0
0           0
        15   0x00   0x00000000              0      0
0           0
        16   0x00   0x00000000              0      0
0           0
        17   0x00   0x00000000              0      0
0           0
        18   0x00   0x00000000              0      0
0           0
        19   0x00   0x00000000              0      0
0           0
        20   0x00   0x00000000              0      0
0           0
        21   0x00   0x00000000              0      0
0           0
        22   0x00   0x00000000              0      0
0           0
        23   0x00   0x00000000              0      0
0           0
        24   0x00   0x00000000              0      0
0           0
        25   0x00   0x00000000              0      0
0           0
        26   0x00   0x00000000              0      0
0           0
        27   0x00   0x00000000              0      0
0           0
        28   0x00   0x00000000              0      0
0           0
        29   0x00   0x00000000              0      0
0           0
        30   0x00   0x00000000              0      0
0           0
        31   0x00   0x00000000              0      0
0           0
        32   0x00   0x00000000              0      0
0           0

ACCELERATOR STATUS:
   Logical Drive Disable Map: 0xffffffffe
   Read Cache Size:           8188 KBytes
   Posted Write Size:         0 KBytes
   Disable Flag:              0x00
   Status:                    0x00000001
   Disable Code:              0x0000
   Total Memory Size:         8188 KBytes
   Battery Count:             0
   Battery Status:            0x0000
   Parity Read Errors:        0000
   Parity Write Errors:       0000
   Error Log:                 N/A
   Failed Batteries:          0x0000
   Board Present:             Yes
   Accelerator Failure Map:   0x00000000
   Max Error Log Entries:     16
   NVRAM Load Status:         0x00
   Memory Size Shift Factor:  0x00
   Non Battery Backed Memory: 8188 KBytes
   Memory State:              0x00

PHYSICAL DRIVE IDENTIFICATION:

   SCSI Port 1, Drive ID 0
      Vendor Id:           COMPAQ
      Product Id:          BD009122C6
      Product Rev:         B016
      Vendor Specific:     B3095482
      Serial Number:       B3095482    9946
      SCSI Inquiry Header: 00 00 02 42 2b 00 01 3a
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        17773524 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3A
      Stamped for M&P:     yes
      Last Failure Reason: 0x14 (Drive removed from
hot plug)
      Phys Drive Flags:    0x05 0x25 0x80
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Asynchronous SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Configured as part of
Logical Drive
                           Drive write cache setting
is changeable and safe
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  2J (controller connector
attached to drive)
      Physical Bay in Box: 0 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   af 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 3f 99 00 00 00 0f 00 75
30
         Page 02:  82 0e 20 20 00 01 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 00 05 00 0c 00 00 00 05 00
a8 02 00 00 01
                   00 47 00 6a 40 00 00 00
         Page 04:  84 16 00 14 99 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 27 29 00 00
         Page 07:  87 0a 04 3f 99 00 00 00 00 00 75
30
         Page 08:  88 0a 00 00 ff ff 00 00 01 f5 ff
ff
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 06 00 10 00 00 00 00
```


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```
         Page 0c:  0c 16 80 00 00 0e 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 00 00 00 00
         Page 1c:  9c 0a 11 04 00 00 00 00 00 00 00
01
         Page 21:  a1 02 8f 00

   SCSI Port 1, Drive ID 1
      Vendor Id:           COMPAQ
      Product Id:          HD0093172C
      Product Rev:         3208
      Vendor Specific:     LJC18462
      Serial Number:       LJC1846200001933HQ6R
      SCSI Inquiry Header: 00 00 02 02 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        17773500 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0x05 0x25 0x80
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Asynchronous SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Configured as part of
Logical Drive
                           Drive write cache setting
is changeable and safe
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  2J (controller connector
attached to drive)
      Physical Bay in Box: 1 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   c7 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a c4 0c e8 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 14 d0 00 00 00 0a 00 00 00
d6 02 00 00 01
                   00 24 00 2c 40 00 00 00
         Page 04:  84 16 00 1b 32 0c 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 27 3d 00 00
         Page 07:  87 0a 04 0c e8 00 00 00 00 00 ff
ff
         Page 08:  88 12 10 00 ff ff 00 00 ff ff ff
ff 80 03 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 00 0a 00
         Page 0a:  8a 0a 02 10 00 00 00 00 00 00 00
00
         Page 0c:  8c 16 80 00 00 0b 00 00 00 00 00
00 00 1b 31 0b
                   00 00 00 00 00 00 10 00
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 00:  80 02 40 00

      SCSI Port 1, Drive ID 2  ---> Not available
      SCSI Port 1, Drive ID 3  ---> Not available
      SCSI Port 1, Drive ID 4  ---> Not available
      SCSI Port 1, Drive ID 5  ---> Not available
      SCSI Port 1, Drive ID 6  ---> Not available
      SCSI Port 1, Drive ID 7  ---> Not available
      SCSI Port 1, Drive ID 8  ---> Not available
      SCSI Port 1, Drive ID 9  ---> Not available
      SCSI Port 1, Drive ID 10 ---> Not available
      SCSI Port 1, Drive ID 11 ---> Not available
      SCSI Port 1, Drive ID 12 ---> Not available
      SCSI Port 1, Drive ID 13 ---> Not available
      SCSI Port 1, Drive ID 14 ---> Not available
      SCSI Port 1, Drive ID 15 ---> Not available
      SCSI Port 2, Drive ID 0  ---> Not available
      SCSI Port 2, Drive ID 1  ---> Not available
      SCSI Port 2, Drive ID 2  ---> Not available
      SCSI Port 2, Drive ID 3  ---> Not available
      SCSI Port 2, Drive ID 4  ---> Not available
      SCSI Port 2, Drive ID 5  ---> Not available
      SCSI Port 2, Drive ID 6  ---> Not available
      SCSI Port 2, Drive ID 7  ---> Not available
      SCSI Port 2, Drive ID 8  ---> Not available
      SCSI Port 2, Drive ID 9  ---> Not available
      SCSI Port 2, Drive ID 10 ---> Not available
      SCSI Port 2, Drive ID 11 ---> Not available
      SCSI Port 2, Drive ID 12 ---> Not available
      SCSI Port 2, Drive ID 13 ---> Not available
      SCSI Port 2, Drive ID 14 ---> Not available
      SCSI Port 2, Drive ID 15 ---> Not available

   CONTROLLER PARAMETERS:

      LED Control:                0x00
      Command List Verification: On
      Backed-out Write drives:    0
      Stripes for Parity:         0
      Distribution Mode:          0x00
      Maximum Driver Requests:    0x0000
      Elevator Trend Count:       0x0000
      Disable Elevator:           0x00
      Force Scan Complete:        0x00
      Synch/Asynch Mode:          Auto Detect
      Force Narrow:               No
      Rebuild Priority:           0
      Expand Priority:            0
      SDB ASIC Fix:               0x00
      PDIP Burst Disable:         0x00
      Software Name:
      Hardware Name:

   SCSI BUS 1 PARAMETERS:
      Inquiry Data Valid:    Yes
      Inquiry Header:        03 00 02 02 21 00 00 00
      Vendor Id:             COMPAQ
      Product Id:            PROLIANT 4L4I
      Product Rev:           JB21
      Installed Drive Map:   0x00000003
      Hot Plug Counts:
         All counts are zero
      Fan Alert Count:       0x0000
      Alarm Status:          0x00 (No Alarms)
      Temperature Status:    0x00
      Valid Alarm Bits:      0x02
      Alarm Count:           0000
      Specific Counts:       00000 00000 00000 00000
   00000 00000 00000 00000
      Connection Info:       0x110a
      SCSI Device Rev:       0x02
      Fan Status:            0x110a
      More Inquiry Data:
           00 02 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       ................
      SCSI Device Type:      0x00101000 (unknown)
      Bus Bitmap:            0x0000007f
      Interrupt Count:       00000000
      Ultra Bus Faults:      0x00000000
      SCSI Initiator ID:     7
      SCSI Target ID:        7
      Physical Connector:    2J (controller connector
   attached to drive)
      Big Inst Drive Map:    0x0003 0x0000 0x0000 0x0000
   0x0000 0x0000 0x0000 0x0000
      Big Bus Map:           0xffff 0x0000 0x0000 0x0000
   0x0000 0x0000 0x0000 0x0000
      More Connection Info:  0x01 (LVD SCSI bus enabled)

   SCSI BUS 2 PARAMETERS:
      Inquiry Data Valid:    No
      Installed Drive Map:   0x00000000
      Hot Plug Counts:
         All counts are zero
      Fan Alert Count:       0x0000
      Alarm Status:          0x00 (No Alarms)
      Temperature Status:    0x00
      Valid Alarm Bits:      0x00
      Alarm Count:           0000
      Specific Counts:       00000 00000 00000 00000
   00000 00000 00000 00000
      Connection Info:       0x1000
      SCSI Device Rev:       0x02
      Fan Status:            0x1000
      More Inquiry Data:
           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       ................
```


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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 00 00 00 00 00 00 00 00 00 00
00       ................
   SCSI Device Type:      0x00101000 (unknown)
   Bus Bitmap:            0x00003f80
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    0x0000 (controller
connector attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0xffff 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

MASTER BOOT RECORD (LOGICAL DRIVE 1)

      Logical Drive 1 (SCSI Port 1, Drive ID 0):
         Master Boot Record hex dump:
            33 c0 8e d0 bc 00 7c fb 50 07 50 1f fc be
1b 7c
            bf 1b 06 50 57 b9 e5 01 f3 a4 cb bd be 07
b1 04
            38 6e 00 7c 09 75 13 83 c5 10 e2 f4 cd 18
8b f5
            83 c6 10 49 74 19 38 2c 74 f6 a0 b5 07 b4
07 8b
            f0 ac 3c 00 74 fc bb 07 00 b4 0e cd 10 eb
f2 88
            4e 10 e8 46 00 73 2a fe 46 10 80 7e 04 0b
74 0b
            80 7e 04 0c 74 05 a0 b6 07 75 d2 80 46 02
06 83
            46 08 06 83 56 0a 00 e8 21 00 73 05 a0 b6
07 eb
            bc 81 3e fe 7d 55 aa 74 0b 80 7e 10 00 74
c8 a0
            b7 07 eb a9 8b fc 1e 57 8b f5 cb bf 05 00
8a 56
            00 b4 08 cd 13 72 23 8a c1 24 3f 98 8a de
8a fc
            43 f7 e3 8b d1 86 d6 b1 06 d2 ee 42 f7 e2
39 56
            0a 77 23 72 05 39 46 08 73 1c b8 01 02 bb
00 7c
            8b 4e 02 8b 56 00 cd 13 73 51 4f 74 4e 32
e4 8a
            56 00 cd 13 eb e4 8a 56 00 60 bb aa 55 b4
41 cd
            13 72 36 81 fb 55 aa 75 30 f6 c1 01 74 2b
61 60
            6a 00 6a 00 ff 76 0a ff 76 08 6a 00 68 00
7c 6a
            01 6a 10 b4 42 8b f4 cd 13 61 61 73 0e 4f
74 0b
            32 e4 8a 56 00 cd 13 eb d6 61 f9 c3 49 6e
76 61
            6c 69 64 20 70 61 72 74 69 74 69 6f 6e 20
74 61
            62 6c 65 00 45 72 72 6f 72 20 6c 6f 61 64
69 6e
            67 20 6f 70 65 72 61 74 69 6e 67 20 73 79
73 74
            65 6d 00 4d 69 73 73 69 6e 67 20 6f 70 65
72 61
            74 69 6e 67 20 73 79 73 74 65 6d 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 2c 44 63 6c 55 55 77 00 00
00 01
            01 00 12 fe 20 08 20 00 00 00 c0 1e 01 00
80 00
            01 09 07 fe e0 ff e0 1e 01 00 40 b1 0d 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 00 00
55 aa

PARTITION TABLES:

      SCSI Port 1, Drive ID 0:
            00 01 01 00 12 fe 20 08 20 00 00 00 c0 1e
01 00
               (Start C/H/S 0000/001/01, End
0008/254/32)
            80 00 01 09 07 fe e0 ff e0 1e 01 00 40 b1
0d 01
               (Start C/H/S 0009/000/01, End
1023/254/32)
            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
      SCSI Port 1, Drive ID 1:  ---> Same as above.

RIS DATA AREA:

   SCSI Port 1, Drive ID 0:
      RIS drive: 0x0
      RIS Copy 0:
         Drive id:          0
         RIS signature:     ASTROS
         Physical Drives:   64
         Logical Drives:    1
         Physical Drive State: (00=OK, 01=bad or not
present, 02=replacement)
            00 00 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
         Signature:         0xab6a32dc
         RIS version:       1010
         Migrated Drive:    no
         Logical Drive State:  (00=OK, 01=failed,
02=unused)
            00 02 02 02 02 02 02 02 02 02 02 02 02 02
02 02
         RIS updates:       24088
         Remap interrupted: 0
         Surface delay:     150
         Overheat delay:    0
         M&P delay:         60
         RIS hex dump:
            00 41 53 54 52 4f 53 20 ab 6a 32 dc 00 00
5e 18
            03 f2 40 01 00 00 00 00 00 00 00 00 00 00
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4d 18
      RIS Copy 1:  Same as above.
   SCSI Port 1, Drive ID 1:
      RIS drive: 0x1
      RIS Copy 0:  Same as above.
      RIS Copy 1:  Same as above.
   SCSI Port 1, Drive ID 2:  Physical drive not
connected.
   SCSI Port 1, Drive ID 3:  Physical drive not
connected.
   SCSI Port 1, Drive ID 4:  Physical drive not
connected.
   SCSI Port 1, Drive ID 5:  Physical drive not
connected.
   SCSI Port 1, Drive ID 6:  Physical drive not
connected.
   SCSI Port 1, Drive ID 7:  Physical drive not
connected.
   SCSI Port 1, Drive ID 8:  Physical drive not
connected.
   SCSI Port 1, Drive ID 9:  Physical drive not
connected.
   SCSI Port 1, Drive ID 10:  Physical drive not
connected.
   SCSI Port 1, Drive ID 11:  Physical drive not
connected.
   SCSI Port 1, Drive ID 12:  Physical drive not
connected.
   SCSI Port 1, Drive ID 13:  Physical drive not
connected.
   SCSI Port 1, Drive ID 14:  Physical drive not
connected.
   SCSI Port 1, Drive ID 15:  Physical drive not
connected.
   SCSI Port 2, Drive ID 0:  Physical drive not
connected.
   SCSI Port 2, Drive ID 1:  Physical drive not
connected.
   SCSI Port 2, Drive ID 2:  Physical drive not
connected.
   SCSI Port 2, Drive ID 3:  Physical drive not
connected.
   SCSI Port 2, Drive ID 4:  Physical drive not
connected.
   SCSI Port 2, Drive ID 5:  Physical drive not
connected.
   SCSI Port 2, Drive ID 6:  Physical drive not
connected.
   SCSI Port 2, Drive ID 7:  Physical drive not
connected.
   SCSI Port 2, Drive ID 8:  Physical drive not
connected.
   SCSI Port 2, Drive ID 9:  Physical drive not
connected.
   SCSI Port 2, Drive ID 10:  Physical drive not
connected.
   SCSI Port 2, Drive ID 11:  Physical drive not
connected.
   SCSI Port 2, Drive ID 12:  Physical drive not
connected.
   SCSI Port 2, Drive ID 13:  Physical drive not
connected.
   SCSI Port 2, Drive ID 14:  Physical drive not
connected.
   SCSI Port 2, Drive ID 15:  Physical drive not
connected.

SLOT 5 SMART ARRAY 5300 CONTROLLER ERROR REPORT:

   No problems detected

SUBSYSTEM INFORMATION:

   Chassis Serial Num:              D050DYV1K065
   This Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available
   Other Controller
      Array Serial Number:          Not Available
      Cache Serial Number:          Not Available

CONTROLLER IDENTIFICATION:
   Configured Logical Drives: 1
   Configuration Signature:   0xa7387484
   Adapter Firmware Revision: '1.28'
   Adapter ROM Revision:      '1.28'
   Adapter Hardware Revision: 0x00
   Boot Block Version:        '1.28'
   Drive Present Map:         0x0000003f
   External Drive Map:        0x0000003f
   Board ID:                  0x40700e11
   Cable or Config Error:     0x00 (No)
   Non-disk map:              0x00000000
   Invalid Host RAM Address:  No
   CPU Revision:              0x00
   CPU to PCI ASIC Rev:       0x02
   Cache Controller ASIC Rev: 0x02
   PCI to Host ASIC Rev:      0x02
   Marketing Revision:        0x41 (Rev A)
   Expand Disable Code:       0x01
   SCSI Chip Count:           4
   Max SCSI ID's per Bus:     16
   Big Drive Map:             0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Ext Drive Map:         0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
   Big Non-Disk Drive Map:    0x0080 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000

LOGICAL DRIVE IDENTIFICATION:

   Logical Drive 1:
      Sector Size:              512
      Sectors Available:        4194240
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=514 heads=255
sec/track=32 xlate sig=0x0
      BIOS Disabled:            No

LOGICAL DRIVE CONFIGURATION:

   Logical Drive 1:
      Configuration Signature:  0xa7387484
      Mapping Scheme:           Multiple Block
      Physical Drives:          14 (number not valid
after drive movement)
         This Logical Drive:    14 (excluding spare
drives)
      Fault Tolerance Mode:     Mirroring
      Logical Param Table:      cyl=514 heads=255
sec/track=32 xlate sig=0x0
      Drive Assignment Map:     0x0000003f
      Distribution Factor:      32
      Spare Assignment Map:     0x00000000
      Operating System:         64768
      Controller Order:         0
      Additional Information:   0
      Offset to Data:           0
      Int 13h Support Enabled:  Yes
      Sectors on Volume:        4194240
      Sectors per Drive:        599200
      Big Drive Assignment Map: 0xff3f 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare Assignment Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Array Accelerator is enabled for this logical
drive.

LOGICAL DRIVE STATUS:

   Logical Drive 1:
      Drive Status:           OK
      Drive Failure Map:      0x00000000
      Blocks to Rebuild:      0
      Blocks Re-mapped:       0000 0000 0000 0000
0000 0000 0000
                              0000 0000 0000 0000
0000 0000 0000
      Replaced Drive Map:     0x00000000
      Active Spare Map:       0x00000000
      Spare Status Flags:     0x00
      Spare to Replaced Map:  See Big Spare to
Replace Map:
      Replaced Marked OK Map: 0x00000000
      Media Was Exchanged:    No
      Cache Failure:          No
      Expand Failure:         0x00
      Unit Flags:             0x00
      Big Remap Count:        All Counts Zero
      Big Drive Failure Map:     0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Replacement Drive Map: 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Active Spare Map:      0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
      Big Spare to Replace Map:  No spares have
replaced any drives
      Big Spare Marked OK Map:   0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000 0x0000
```


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```
MONITOR AND PERFORMANCE DATA:

   SCSI Port 1, Drive ID 0
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 36 43 43 30 30 30 30 37 31 33
35      3CC0E6CC00007135
         31 43 55 58 33 42 30 35 00 00 00 00 43 4f 4d
50      1CUX3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 36 43 43 30 30 30 30 37 31 33
35      3CC0E6CC00007135
         31 43 55 58 33 42 30 35 00 00 00 00 43 4f 4d
50      1CUX3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007cc6a4e4 00000000001a0bb8
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000000b403147 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 1
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 36 35 46 30 30 30 30 37 31 33
35      3CC0E65F00007135
         4b 33 54 45 33 42 30 35 00 00 00 00 43 4f 4d
50      K3TE3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 36 35 46 30 30 30 30 37 31 33
35      3CC0E65F00007135
         4b 33 54 45 33 42 30 35 00 00 00 00 43 4f 4d
50      K3TE3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007cdb96d8 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000003f8dc88 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
```


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```
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x07
            Total Errors Logged = 0x00000007
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 2
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 53 42 35 30 30 30 30 37 31 33
35      3CC0LSB500007135
         46 54 50 58 33 42 30 35 00 00 00 00 43 4f 4d
50      FTPX3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 53 42 35 30 30 30 30 37 31 33
35      3CC0LSB500007135
         46 54 50 58 33 42 30 35 00 00 00 00 43 4f 4d
50      FTPX3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268
                  Factory          Since Power
Threshold         Control
      Serv. Time  00005636         00000009
ffffffff          8184
      Read Blks   000000007cdc0040 00000000001a0bb7
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  0000000003f9aca6 00000000000000cc
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
```


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```
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 3
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4d 34 42 43 30 30 30 30 37 31 34
35      3CC0M4BC00007145
         30 5a 4b 31 33 42 30 35 00 00 00 00 43 4f 4d
50      0ZK13B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4d 34 42 43 30 30 30 30 37 31 34
35      3CC0M4BC00007145
         30 5a 4b 31 33 42 30 35 00 00 00 00 43 4f 4d
50      0ZK13B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00005636         00000009
ffffffff          8184
      Read Blks   000000007cdc97f0 00000000001a0bb7
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  0000000003f9a8b9 00000000000000cc
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 4
```


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```
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 35 33 53 30 30 30 30 37 31 33
35      3CC0E53S00007135
         31 41 43 4b 33 42 30 35 00 00 00 00 43 4f 4d
50      1ACK3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 35 33 53 30 30 30 30 37 31 33
35      3CC0E53S00007135
         31 41 43 4b 33 42 30 35 00 00 00 00 43 4f 4d
50      1ACK3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007cdb2fa5 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000003f98d48 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 5
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 4e 43 4a 30 30 30 30 37 31 33
35      3CC0LNCJ00007135
         4b 33 54 34 33 42 30 35 00 00 00 00 43 4f 4d
50      K3T43B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 4e 43 4a 30 30 30 30 37 31 33
35      3CC0LNCJ00007135
         4b 33 54 34 33 42 30 35 00 00 00 00 43 4f 4d
50      K3T43B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007cda8b9c 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000004b80f86 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
```


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```
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184
```

```
      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x07
            Total Errors Logged = 0x00000007
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 6
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 1, Drive ID 7
      Not Available

      DRIVE ERROR LOG:
         Not Available

   SCSI Port 1, Drive ID 8
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 45 54 4b 30 30 30 30 37 31 34
35      3CC0LETK00007145
         48 32 55 4d 33 42 30 35 00 00 00 00 43 4f 4d
50      H2UM3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 45 54 4b 30 30 30 30 37 31 34
35      3CC0LETK00007145
         48 32 55 4d 33 42 30 35 00 00 00 00 43 4f 4d
50      H2UM3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
```

```
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00005636         00000009
ffffffff          8184
      Read Blks   000000007cc4ca56 00000000001a0bb7
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  000000001fb48db7 00000000000000cc
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
```


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```
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 9
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 4e 48 34 30 30 30 30 37 31 34
35      3CC0LNH400007145
         4b 4b 48 33 33 42 30 35 00 00 00 00 43 4f 4d
50      KKH33B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 4e 48 34 30 30 30 30 37 31 34
35      3CC0LNH400007145
         4b 4b 48 33 33 42 30 35 00 00 00 00 43 4f 4d
50      KKH33B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time  00005636         00000009
ffffffff          8184
      Read Blks   000000007c5ade8d 00000000001a0bb7
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks  000000000affcb0b 00000000000000cc
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
      Hot Plgs    00000000         00000000
ffffffff          0184
      Tk Rwt Err  ffff             ffff
ffff              0982
      Rmp Wt Err  ffff             ffff
ffff              0982
      Bg Fw Rev   0000000000000000 0000000000000000
0a48
      Med Flrs    0000             0000
ffff              0182
      Hrdw Errs   0000             0000
ffff              0182
      Abt Cmd Fl  0000             0000
ffff              0182
      Spn Up Fl   0000             0000
ffff              0182
      Bd Tgt Cnt  0000             0000
ffff              0182
      Pred Fails  00000000         00000000
00000000          2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
```


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```
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 10
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 41 4a 32 30 30 30 30 37 31 33
35      3CC0EAJ200007135
         4b 34 41 37 33 42 30 35 00 00 00 00 43 4f 4d
50      K4A73B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 41 4a 32 30 30 30 30 37 31 33
35      3CC0EAJ200007135
         4b 34 41 37 33 42 30 35 00 00 00 00 43 4f 4d
50      K4A73B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007dcf5c03 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000003b8a393 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x05
            Total Errors Logged = 0x00000005
         Error Log Data:
SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 11
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 54 53 4a 30 30 30 30 37 31 33
35      3CC0LTSJ00007135
         31 42 30 58 33 42 30 35 00 00 00 00 43 4f 4d
50      1B0X3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 54 53 4a 30 30 30 30 37 31 33
35      3CC0LTSJ00007135
         31 42 30 58 33 42 30 35 00 00 00 00 43 4f 4d
50      1B0X3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007c03bde8 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000003f8f621 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
```


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```
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x07
            Total Errors Logged = 0x00000007
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
02    04    01     1f      00     00000000(0)
00000001   37   0000
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 12
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 41 4d 31 30 30 30 30 37 31 33
35      3CC0EAM100007135
         31 42 41 34 33 42 30 35 00 00 00 00 43 4f 4d
50      1BA43B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 41 4d 31 30 30 30 30 37 31 33
35      3CC0EAM100007135
         31 42 41 34 33 42 30 35 00 00 00 00 43 4f 4d
50      1BA43B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control:  0x8248
      Mfg/Model Number Control:   0x8268
                  Factory          Since Power
Threshold         Control
      Serv. Time  00005636         00000009
ffffffff          8184
      Read Blks   000000007c046663 00000000001a0bb7
8108
      Hrd Read    00000000         00000000
ffffffff          8184
      Rtry Read   00000000         00000000
ffffffff          8184
      ECC Read    0000000000000000 0000000000000000
ffffffffffffffff  8188
      Write Blks  0000000003f91cf1 00000000000000cc
8108
      Hrd Write   00000000         00000000
ffffffff          8184
      Rtry Write  00000000         00000000
ffffffff          8184
      Seeks       0000000000000000 0000000000000000
8108
      Seek Errs   0000000000000000 0000000000000000
ffffffffffffffff  8188
      Spin Cyls   00000000         00000000
ffffffff          8184
      Spin Time   ffff             ffff
ffff              8a82
      Test 1      ffff             ffff
ffff              0a82
      Test 2      ffff             ffff
ffff              8a82
      Test 3      ffff             ffff
ffff              8a82
      Test 4      ffff             ffff
ffff              8a82
      Spare Blks  ffffffff         ffffffff
0a04
      Re-mapped   ffffffff         ffffffff
ffffffff          8d84
      DRQ Tmots   ffff             ffff
ffff              0982
      Timeouts    0000             0000
ffff              0182
      Rebuilds    0000             0000
ffff              0182
      Spn Retrs   ffff             ffff
ffff              0982
      Fl Rd Recv  0000             0000
ffff              8182
      Fl Wt Recv  0000             0000
ffff              0182
      Format Err  0000             0000
ffff              0182
      POST Err    ffff             ffff
ffff              0982
      Drv Nt Ry   00000000         00000000
ffffffff          0184
      Reallc Abt  ffffffff         ffffffff
ffffffff          0984
      IRQ Gltchs  ffffffff         ffffffff
ffffffff          0984
      Bus Flts    00000000         00000000
ffffffff          8184
```


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```
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 13
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 43 32 45 30 30 30 30 37 31 33
35      3CC0EC2E00007135
         46 54 4e 56 33 42 30 35 00 00 00 00 43 4f 4d
50      FTNV3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 45 43 32 45 30 30 30 30 37 31 33
35      3CC0EC2E00007135
         46 54 4e 56 33 42 30 35 00 00 00 00 43 4f 4d
50      FTNV3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:            0x0001
      Serial Number Control:      0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                  Factory          Since Power
Threshold         Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007c03c13d 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000003f9b1c5 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time        Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 14
```


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```
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 51 56 58 30 30 30 30 37 31 34
34      3CC0LQVX00007144
         4c 46 57 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      LFWJ3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4c 51 56 58 30 30 30 30 37 31 34
34      3CC0LQVX00007144
         4c 46 57 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      LFWJ3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007c026c8c 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 0000000004b87546 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184

      DRIVE ERROR LOG:
         Error Log Header:
            Parameter Length    = 0x14
            Entry Size          = 0x0014
            Current Entry       = 0x06
            Total Errors Logged = 0x00000006
         Error Log Data:

SCSI  CAM   Sense  Sense
Stat  Stat  Key    Code    Qual   Block(Vl)
Time       Op   Info
----  ----  -----  -----   ----   ---------       ---
-       --   ----
00    22    00     00      00     00000000(0)
000000e7   12   0000
00    22    00     00      00     00000000(0)
000000fe   12   0000
00    22    00     00      00     00000000(0)
0000013d   12   0000
00    22    00     00      00     00000000(0)
00000534   12   0000
00    22    00     00      00     00000000(0)
000007ef   12   0000
00    22    00     00      00     00000000(0)
00000aa9   12   0000

   SCSI Port 1, Drive ID 15
      Factory:     Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4b 5a 4c 37 30 30 30 30 37 31 34
35      3CC0KZL700007145
         48 4b 38 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      HK8J3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Since Power: Serial #, Firmware Rev, and
Mfg/Model #:
         33 43 43 30 4b 5a 4c 37 30 30 30 30 37 31 34
35      3CC0KZL700007145
         48 4b 38 4a 33 42 30 35 00 00 00 00 43 4f 4d
50      HK8J3B05....COMP
         41 51 20 20 42 46 30 31 38 36 33 36 34 34 20
20      AQ  BF01863644
         20 20 20 20 00 00 00 00 00 00 00 00 00 00 00
00          ............
         00 00 00 00
....
      Threshold Flags:           0x0001
      Serial Number Control:     0x8054
      Firmware Revision Control: 0x8248
      Mfg/Model Number Control:  0x8268

                 Factory          Since Power
Threshold        Control
      Serv. Time 00005636         00000009
ffffffff         8184
      Read Blks  000000007c19185f 00000000001a0bb7
8108
      Hrd Read   00000000         00000000
ffffffff         8184
      Rtry Read  00000000         00000000
ffffffff         8184
      ECC Read   0000000000000000 0000000000000000
ffffffffffffffff 8188
      Write Blks 000000001e0ca802 00000000000000cc
8108
      Hrd Write  00000000         00000000
ffffffff         8184
      Rtry Write 00000000         00000000
ffffffff         8184
      Seeks      0000000000000000 0000000000000000
8108
```


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```
      Seek Errs  0000000000000000 0000000000000000
ffffffffffffffff 8188
      Spin Cyls  00000000         00000000
ffffffff         8184
      Spin Time  ffff             ffff
ffff             8a82
      Test 1     ffff             ffff
ffff             0a82
      Test 2     ffff             ffff
ffff             8a82
      Test 3     ffff             ffff
ffff             8a82
      Test 4     ffff             ffff
ffff             8a82
      Spare Blks ffffffff         ffffffff
0a04
      Re-mapped  ffffffff         ffffffff
ffffffff         8d84
      DRQ Tmots  ffff             ffff
ffff             0982
      Timeouts   0000             0000
ffff             0182
      Rebuilds   0000             0000
ffff             0182
      Spn Retrs  ffff             ffff
ffff             0982
      Fl Rd Recv 0000             0000
ffff             8182
      Fl Wt Recv 0000             0000
ffff             0182
      Format Err 0000             0000
ffff             0182
      POST Err   ffff             ffff
ffff             0982
      Drv Nt Ry  00000000         00000000
ffffffff         0184
      Reallc Abt ffffffff         ffffffff
ffffffff         0984
      IRQ Gltchs ffffffff         ffffffff
ffffffff         0984
      Bus Flts   00000000         00000000
ffffffff         8184
      Hot Plgs   00000000         00000000
ffffffff         0184
      Tk Rwt Err ffff             ffff
ffff             0982
      Rmp Wt Err ffff             ffff
ffff             0982
      Bg Fw Rev  0000000000000000 0000000000000000
0a48
      Med Flrs   0000             0000
ffff             0182
      Hrdw Errs  0000             0000
ffff             0182
      Abt Cmd Fl 0000             0000
ffff             0182
      Spn Up Fl  0000             0000
ffff             0182
      Bd Tgt Cnt 0000             0000
ffff             0182
      Pred Fails 00000000         00000000
00000000         2184
```

```
         DRIVE ERROR LOG:
            Error Log Header:
               Parameter Length    = 0x14
               Entry Size          = 0x0014
               Current Entry       = 0x07
               Total Errors Logged = 0x00000007
            Error Log Data:

   SCSI  CAM   Sense  Sense
   Stat  Stat  Key    Code    Qual   Block(Vl)
   Time       Op   Info
   ----  ----  -----  -----   ----   ---------       ---
   -       --   ----
   02    04    01     1f      00     00000000(0)
   00000001   37   0000
   00    22    00     00      00     00000000(0)
   000000e7   12   0000
   00    22    00     00      00     00000000(0)
   000000fe   12   0000
   00    22    00     00      00     00000000(0)
   0000013d   12   0000
   00    22    00     00      00     00000000(0)
   00000534   12   0000
   00    22    00     00      00     00000000(0)
   000007ef   12   0000
   00    22    00     00      00     00000000(0)
   00000aa9   12   0000

      SCSI Port 2, Drive ID 0
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 1
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 2
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 3
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 4
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 5
         Not Available

         DRIVE ERROR LOG:
            Not Available
```

```
      SCSI Port 2, Drive ID 6
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 7
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 8
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 9
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 10
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 11
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 12
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 13
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 14
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 2, Drive ID 15
         Not Available

         DRIVE ERROR LOG:
            Not Available

      SCSI Port 3, Drive ID 0
         Not Available
```


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```
   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 1
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 2
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 3
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 4
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 5
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 6
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 7
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 8
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 9
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 10
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 11
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 12
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 13
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 14
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 3, Drive ID 15
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 0
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 1
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 2
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 3
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 4
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 5
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 6
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 7
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 8
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 9
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 10
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 11
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 12
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 13
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 14
   Not Available

   DRIVE ERROR LOG:
      Not Available

SCSI Port 4, Drive ID 15
   Not Available

   DRIVE ERROR LOG:
      Not Available
```


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```
SURFACE ANALYSIS STATUS:

   Time remaining to start: 13 secs.
   Surface analysis delay:  15 secs.

   SCSI Port 1:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00016780
         01      0x00016780
         02      0x00016780
         03      0x00016780
         04      0x00016780
         05      0x00016780
         06      0x00000000
         07      0x00000000
         08      0x00016780
         09      0x00016780
         10      0x00016780
         11      0x00016780
         12      0x00016780
         13      0x00016780
         14      0x00016780
         15      0x00016780

   SCSI Port 2:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

   SCSI Port 3:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

   SCSI Port 4:
                  Big
      Drive ID   Current Block
      --------   -------------
         00      0x00000000
         01      0x00000000
         02      0x00000000
         03      0x00000000
         04      0x00000000
         05      0x00000000
         06      0x00000000
         07      0x00000000
         08      0x00000000
         09      0x00000000
         10      0x00000000
         11      0x00000000
         12      0x00000000
         13      0x00000000
         14      0x00000000
         15      0x00000000

                     Big
Surface     Surface
   Logical  Big     Inconsistent  Blocks
Controller  Analysis    Analysis
   Drive    Status  Block         Reassigned  Resets
Passes      Pass Time
   -------  ------  ------------  ----------  -------
---  ----------  ----------
         1   0x01   0x00000000             0      0
2208           58
         2   0x00   0x00000000             0      0
0           0
         3   0x00   0x00000000             0      0
0           0
         4   0x00   0x00000000             0      0
0           0
         5   0x00   0x00000000             0      0
0           0
         6   0x00   0x00000000             0      0
0           0
         7   0x00   0x00000000             0      0
0           0
         8   0x00   0x00000000             0      0
0           0
         9   0x00   0x00000000             0      0
0           0
        10   0x00   0x00000000             0      0
0           0
        11   0x00   0x00000000             0      0
0           0
        12   0x00   0x00000000             0      0
0           0
        13   0x00   0x00000000             0      0
0           0
        14   0x00   0x00000000             0      0
0           0
        15   0x00   0x00000000             0      0
0           0
        16   0x00   0x00000000             0      0
0           0
        17   0x00   0x00000000             0      0
0           0
        18   0x00   0x00000000             0      0
0           0
        19   0x00   0x00000000             0      0
0           0
        20   0x00   0x00000000             0      0
0           0
        21   0x00   0x00000000             0      0
0           0
        22   0x00   0x00000000             0      0
0           0
        23   0x00   0x00000000             0      0
0           0
        24   0x00   0x00000000             0      0
0           0
        25   0x00   0x00000000             0      0
0           0
        26   0x00   0x00000000             0      0
0           0
        27   0x00   0x00000000             0      0
0           0
        28   0x00   0x00000000             0      0
0           0
        29   0x00   0x00000000             0      0
0           0
        30   0x00   0x00000000             0      0
0           0
        31   0x00   0x00000000             0      0
0           0
        32   0x00   0x00000000             0      0
0           0

   ACCELERATOR STATUS:
      Logical Drive Disable Map: 0xfffffffe
      Read Cache Size:           0 MBytes
      Posted Write Size:         112 MBytes
      Disable Flag:              0x00
      Status:                    0x00000001
      Disable Code:              0x0000
      Total Memory Size:         112 MBytes
      Battery Count:             2
      Battery Status:            0x0003
      Parity Read Errors:        0000
      Parity Write Errors:       0000
      Error Log:                 N/A
      Failed Batteries:          0x0000
      Board Present:             Yes
      Accelerator Failure Map:   0x00000000
      Max Error Log Entries:     16
      NVRAM Load Status:         0x00
      Memory Size Shift Factor:  0x0a
      Non Battery Backed Memory: 0 MBytes
      Memory State:              0x00

   PHYSICAL DRIVE IDENTIFICATION:

      SCSI Port 1, Drive ID 0
         Vendor Id:           COMPAQ
```


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```
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0E6CC
      Serial Number:       3CC0E6CC000071351CUX
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 0 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 1
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0E65F
      Serial Number:       3CC0E65F00007135K3TE
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 1 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 2
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LSB5
      Serial Number:       3CC0LSB500007135FTPX
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 2 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
```


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```
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 3
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0M4BC
      Serial Number:       3CC0M4BC000071450ZK1
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 3 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 4
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0E53S
      Serial Number:       3CC0E53S000071351ACK
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 4 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 5
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LNCJ
```


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```
      Serial Number:       3CC0LNCJ00007135K3T4
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 5 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 6  ---> Not available
   SCSI Port 1, Drive ID 7  ---> Not available
   SCSI Port 1, Drive ID 8
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LETK
      Serial Number:       3CC0LETK00007145H2UM
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 8 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 9
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LNH4
      Serial Number:       3CC0LNH400007145KKH3
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 9 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
```


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```
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 10
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0EAJ2
      Serial Number:       3CC0EAJ200007135K4A7
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 10 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 11
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LTSJ
      Serial Number:       3CC0LTSJ000071351B0X
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 11 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 12
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0EAM1
      Serial Number:       3CC0EAM1000071351BA4
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
```


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```
                              16-bit Wide Data Transfer
      Block Size:             512 bytes/sector
      Total Blocks:           35565080 sectors/disk
      Reserved Blocks:        1088 reserved sectors/disk
      SCSI Inquiry Bits:      0x3E
      Stamped for M&P:        yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:       0xcd 0x35 0x05
                              Drive present and
operational
                              Wide SCSI transfers
Enabled
                              Ultra2 SCSI Enabled
                              S.M.A.R.T. Supported
                              S.M.A.R.T. Enabled
                              Drive attached to external
SCSI connector
                              Configured as part of
Logical Drive
      SCSI LUN:               0
      Spi Speed Rules:        0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 12 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 13
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0EC2E
      Serial Number:       3CC0EC2E00007135FTNV
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 13 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 14
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0LQVX
      Serial Number:       3CC0LQVX00007144LFWJ
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 14 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
```


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```
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 1, Drive ID 15
      Vendor Id:           COMPAQ
      Product Id:          BF01863644
      Product Rev:         3B05
      Vendor Specific:     3CC0KZL7
      Serial Number:       3CC0KZL700007145HK8J
      SCSI Inquiry Header: 00 00 02 12 8b 00 01 3e
      Device Supports:     Tagged Command Queueing
                           Linked Commands
                           Synchronous Data Transfer
                           16-bit Wide Data Transfer
      Block Size:          512 bytes/sector
      Total Blocks:        35565080 sectors/disk
      Reserved Blocks:     1088 reserved sectors/disk
      SCSI Inquiry Bits:   0x3E
      Stamped for M&P:     yes
      Last Failure Reason: 0x00 (Drive has not
failed)
      Phys Drive Flags:    0xcd 0x35 0x05
                           Drive present and
operational
                           Wide SCSI transfers
Enabled
                           Ultra2 SCSI Enabled
                           S.M.A.R.T. Supported
                           S.M.A.R.T. Enabled
                           Drive attached to external
SCSI connector
                           Configured as part of
Logical Drive
      SCSI LUN:            0
      Spi Speed Rules:     0x00000000
      Physical Connector:  P1 (controller connector
attached to drive)
      Physical Bay in Box: 15 (number of the physical
drive bay in the enclosure)

      MODE SENSE:
         Header:   fb 00 10 08 00 00 00 00 00 00 02
00
         Page 01:  81 0a e4 0b f0 00 00 00 05 00 ff
ff
         Page 02:  82 0e 80 80 00 0a 00 00 00 00 00
00 00 00 00 00
         Page 03:  83 16 02 b8 00 00 00 04 00 00 00
fe 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 04:  84 16 00 1b 59 14 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 07:  87 0a 04 0b f0 00 00 00 00 00 ff
ff
         Page 08:  88 12 00 00 ff ff 00 00 ff ff ff
ff 80 40 00 00
                   00 00 00 00
         Page 09:  89 0e 00 00 00 00 00 00 00 00 00
00 00 04 0a 00
         Page 0a:  8a 0a 00 10 00 00 00 00 00 00 02
87
         Page 0c:  8c 16 80 00 00 16 00 00 00 00 00
00 00 28 88 09
                   00 08 00 00 00 00 10 08
         Page 1a:  9a 0a 00 00 00 00 00 01 00 00 00
04
         Page 1c:  9c 0a 11 04 00 00 00 01 00 00 00
01
         Page 33:  b3 16 02 b8 00 00 00 04 00 00 01
5a 02 00 00 01
                   00 4c 00 50 40 00 00 00
         Page 34:  b4 16 00 28 89 0a 00 00 00 00 00
00 00 00 00 00
                   00 00 00 00 3a a7 00 00
         Page 00:  80 06 00 00 0f 00 00 00

   SCSI Port 2, Drive ID 0  ---> Not available
   SCSI Port 2, Drive ID 1  ---> Not available
   SCSI Port 2, Drive ID 2  ---> Not available
   SCSI Port 2, Drive ID 3  ---> Not available
   SCSI Port 2, Drive ID 4  ---> Not available
   SCSI Port 2, Drive ID 5  ---> Not available
   SCSI Port 2, Drive ID 6  ---> Not available
   SCSI Port 2, Drive ID 7  ---> Not available
   SCSI Port 2, Drive ID 8  ---> Not available
   SCSI Port 2, Drive ID 9  ---> Not available
   SCSI Port 2, Drive ID 10 ---> Not available
   SCSI Port 2, Drive ID 11 ---> Not available
   SCSI Port 2, Drive ID 12 ---> Not available
   SCSI Port 2, Drive ID 13 ---> Not available
   SCSI Port 2, Drive ID 14 ---> Not available
   SCSI Port 2, Drive ID 15 ---> Not available
   SCSI Port 3, Drive ID 0  ---> Not available
   SCSI Port 3, Drive ID 1  ---> Not available
   SCSI Port 3, Drive ID 2  ---> Not available
   SCSI Port 3, Drive ID 3  ---> Not available
   SCSI Port 3, Drive ID 4  ---> Not available
   SCSI Port 3, Drive ID 5  ---> Not available
   SCSI Port 3, Drive ID 6  ---> Not available
   SCSI Port 3, Drive ID 7  ---> Not available
   SCSI Port 3, Drive ID 8  ---> Not available
   SCSI Port 3, Drive ID 9  ---> Not available
   SCSI Port 3, Drive ID 10 ---> Not available
   SCSI Port 3, Drive ID 11 ---> Not available
   SCSI Port 3, Drive ID 12 ---> Not available
   SCSI Port 3, Drive ID 13 ---> Not available
   SCSI Port 3, Drive ID 14 ---> Not available
   SCSI Port 3, Drive ID 15 ---> Not available
   SCSI Port 4, Drive ID 0  ---> Not available
   SCSI Port 4, Drive ID 1  ---> Not available
   SCSI Port 4, Drive ID 2  ---> Not available
   SCSI Port 4, Drive ID 3  ---> Not available
   SCSI Port 4, Drive ID 4  ---> Not available
   SCSI Port 4, Drive ID 5  ---> Not available
   SCSI Port 4, Drive ID 6  ---> Not available
   SCSI Port 4, Drive ID 7  ---> Not available
   SCSI Port 4, Drive ID 8  ---> Not available
   SCSI Port 4, Drive ID 9  ---> Not available
   SCSI Port 4, Drive ID 10 ---> Not available
   SCSI Port 4, Drive ID 11 ---> Not available
   SCSI Port 4, Drive ID 12 ---> Not available
   SCSI Port 4, Drive ID 13 ---> Not available
   SCSI Port 4, Drive ID 14 ---> Not available
   SCSI Port 4, Drive ID 15 ---> Not available

CONTROLLER PARAMETERS:

   LED Control:               0x00
   Command List Verification: On
   Backed-out Write drives:   0
   Stripes for Parity:        0
   Distribution Mode:         0x00
   Maximum Driver Requests:   0x0000
   Elevator Trend Count:      0x0000
   Disable Elevator:          0x00
   Force Scan Complete:       0x00
   Synch/Asynch Mode:         Auto Detect
   Force Narrow:              No
   Rebuild Priority:          0
   Expand Priority:           0
   SDB ASIC Fix:              0x00
   PDIP Burst Disable:        0x00
   Software Name:
   Hardware Name:

SCSI BUS 1 PARAMETERS:
   Inquiry Data Valid:    Yes
   Inquiry Header:        03 00 02 02 21 00 00 00
   Vendor Id:             COMPAQ
   Product Id:            PROLIANT 4LEE
   Product Rev:           JB49
   Installed Drive Map:   0x0000003f
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x03
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2809
   SCSI Device Rev:       0x01
   Fan Status:            0x2809
   More Inquiry Data:
```


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```
        02 20 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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x0000007f
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P1 (controller connector
attached to drive)
   Big Inst Drive Map:    0xff3f 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0xffff 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

SCSI BUS 2 PARAMETERS:
   Inquiry Data Valid:    No
   Installed Drive Map:   0x00000000
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x00
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2000
   SCSI Device Rev:       0x01
   Fan Status:            0x2000
   More Inquiry Data:
        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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x00003f80
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P2 (controller connector
attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0xffff 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

SCSI BUS 3 PARAMETERS:
   Inquiry Data Valid:    No
   Installed Drive Map:   0x00000000
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x00
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2000
   SCSI Device Rev:       0x01
   Fan Status:            0x2000
   More Inquiry Data:
        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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x001fc000
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P3 (controller connector
attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0x0000 0xffff 0x0000
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

SCSI BUS 4 PARAMETERS:
   Inquiry Data Valid:    No
   Installed Drive Map:   0x00000000
   Hot Plug Counts:
      All counts are zero
   Fan Alert Count:       0x0000
   Alarm Status:          0x00 (No Alarms)
   Temperature Status:    0x00
   Valid Alarm Bits:      0x00
   Alarm Count:           0000
   Specific Counts:       00000 00000 00000 00000
00000 00000 00000 00000
   Connection Info:       0x2000
   SCSI Device Rev:       0x01
   Fan Status:            0x2000
   More Inquiry Data:
        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       ................
   SCSI Device Type:      0x00cf9005 (AIC-7899)
   Bus Bitmap:            0x0fe00000
   Interrupt Count:       00000000
   Ultra Bus Faults:      0x00000000
   SCSI Initiator ID:     7
   SCSI Target ID:        7
   Physical Connector:    P4 (controller connector
attached to drive)
   Big Inst Drive Map:    0x0000 0x0000 0x0000 0x0000
0x0000 0x0000 0x0000 0x0000
   Big Bus Map:           0x0000 0x0000 0x0000 0xffff
0x0000 0x0000 0x0000 0x0000
   More Connection Info:  0x01 (LVD SCSI bus enabled)

MASTER BOOT RECORD (LOGICAL DRIVE 1)

      Logical Drive 1 (SCSI Port 1, Drive ID 0):
         Master Boot Record hex dump:
            33 c0 8e d0 bc 00 7c fb 50 07 50 1f fc be
1b 7c
            bf 1b 06 50 57 b9 e5 01 f3 a4 cb bd be 07
b1 04
            38 6e 00 7c 09 75 13 83 c5 10 e2 f4 cd 18
8b f5
            83 c6 10 49 74 19 38 2c 74 f6 a0 b5 07 b4
07 8b
            f0 ac 3c 00 74 fc bb 07 00 b4 0e cd 10 eb
f2 88
            4e 10 e8 46 00 73 2a fe 46 10 80 7e 04 0b
74 0b
            80 7e 04 0c 74 05 a0 b6 07 75 d2 80 46 02
06 83
            46 08 06 83 56 0a 00 e8 21 00 73 05 a0 b6
07 eb
            bc 81 3e fe 7d 55 aa 74 0b 80 7e 10 00 74
c8 a0
            b7 07 eb a9 8b fc 1e 57 8b f5 cb bf 05 00
8a 56
            00 b4 08 cd 13 72 23 8a c1 24 3f 98 8a de
8a fc
            43 f7 e3 8b d1 86 d6 b1 06 d2 ee 42 f7 e2
39 56
            0a 77 23 72 05 39 46 08 73 1c b8 01 02 bb
00 7c
            8b 4e 02 8b 56 00 cd 13 73 51 4f 74 4e 32
e4 8a
            56 00 cd 13 eb e4 8a 56 00 60 bb aa 55 b4
41 cd
            13 72 36 81 fb 55 aa 75 30 f6 c1 01 74 2b
61 60
            6a 00 6a 00 ff 76 0a ff 76 08 6a 00 68 00
7c 6a
            01 6a 10 b4 42 8b f4 cd 13 61 61 73 0e 4f
74 0b
            32 e4 8a 56 00 cd 13 eb d6 61 f9 c3 49 6e
76 61
            6c 69 64 20 70 61 72 74 69 74 69 6f 6e 20
74 61
            62 6c 65 00 45 72 72 6f 72 20 6c 6f 61 64
69 6e
            67 20 6f 70 65 72 61 74 69 6e 67 20 73 79
73 74
            65 6d 00 4d 69 73 73 69 6e 67 20 6f 70 65
72 61
            74 69 6e 67 20 73 79 73 74 65 6d 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 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 2c 44 63 d1 3e 87 24 00 00
00 01
            01 00 07 fe 7f 03 3f 00 00 00 c5 bb 3f 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
55 aa

PARTITION TABLES:

      SCSI Port 1, Drive ID 0:
            00 01 01 00 07 fe 7f 03 3f 00 00 00 c5 bb
3f 00
               (Start C/H/S 0000/001/01, End
0259/254/63)
            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
      SCSI Port 1, Drive ID 9:  ---> Same as above.

RIS DATA AREA:

   SCSI Port 1, Drive ID 0:
      RIS drive: 0x0
      RIS Copy 0:
         Drive id:          0
         RIS signature:     ASTROS
         Physical Drives:   14
         Logical Drives:    1
         Physical Drive State: (00=OK, 01=bad or not
present, 02=replacement)
            00 00 00 00 00 00 01 01 00 00 00 00 00 00 00
00 00
            01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
            01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
01 01
         Signature:         0xa7387484
         RIS version:       1500
         Logical Drive State:  (00=OK, 01=failed,
02=unused)
            00 02 02 02 02 02 02 02 02 02 02 02 02 02 02
02 02
            02 02 02 02 02 02 02 02 02 02 02 02 02 02 02
02 02
         RIS updates:       256
         Remap interrupted: 0
         Surface delay:     150
         Overheat delay:    0
         M&P delay:         60
         RIS hex dump:
            00 41 53 54 52 4f 53 20 a7 38 74 84 00 00
01 00
            05 dc 0e 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 00 00 00 00 00 00 00 00 00 00 00 00
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            00 00 00 00 00 00 00 3c 00 00 00 00 00 00
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            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 01
02 00
00 70 00 70 00 00 00 00 00 00 00 00 ff ff
ff fe
24 00 31 32 00 00 42 20 53 44 00 00 4d 20
44 49
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00 00 20 57 49 54 00 00 42 41 54 54 00 00
59 20
42 41 00 00 55 50 8d 11 00 00 0e 00 00 00
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1e 1f
20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
2e 2f
30 31 32 33 34 35 36 37 38 39 3a 3b 3c 3d
3e 3f
a7 38 74 84 04 00 02 32 01 00 00 00 00 00
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connected.
   SCSI Port 2, Drive ID 3:  Physical drive not
connected.
   SCSI Port 2, Drive ID 4:  Physical drive not
connected.
   SCSI Port 2, Drive ID 5:  Physical drive not
connected.
   SCSI Port 2, Drive ID 6:  Physical drive not
connected.
   SCSI Port 2, Drive ID 7:  Physical drive not
connected.
   SCSI Port 2, Drive ID 8:  Physical drive not
connected.
   SCSI Port 2, Drive ID 9:  Physical drive not
connected.
   SCSI Port 2, Drive ID 10:  Physical drive not
connected.
   SCSI Port 2, Drive ID 11:  Physical drive not
connected.
   SCSI Port 2, Drive ID 12:  Physical drive not
connected.
   SCSI Port 2, Drive ID 13:  Physical drive not
connected.
   SCSI Port 2, Drive ID 14:  Physical drive not
connected.
   SCSI Port 2, Drive ID 15:  Physical drive not
connected.
   SCSI Port 3, Drive ID 0:  Physical drive not
connected.
   SCSI Port 3, Drive ID 1:  Physical drive not
connected.
   SCSI Port 3, Drive ID 2:  Physical drive not
connected.
   SCSI Port 3, Drive ID 3:  Physical drive not
connected.
   SCSI Port 3, Drive ID 4:  Physical drive not
connected.
   SCSI Port 3, Drive ID 5:  Physical drive not
connected.
   SCSI Port 3, Drive ID 6:  Physical drive not
connected.
   SCSI Port 3, Drive ID 7:  Physical drive not
connected.
   SCSI Port 3, Drive ID 8:  Physical drive not
connected.
   SCSI Port 3, Drive ID 9:  Physical drive not
connected.
   SCSI Port 3, Drive ID 10:  Physical drive not
connected.
   SCSI Port 3, Drive ID 11:  Physical drive not
connected.
   SCSI Port 3, Drive ID 12:  Physical drive not
connected.
   SCSI Port 3, Drive ID 13:  Physical drive not
connected.
   SCSI Port 3, Drive ID 14:  Physical drive not
connected.
   SCSI Port 3, Drive ID 15:  Physical drive not
connected.
   SCSI Port 4, Drive ID 0:  Physical drive not
connected.
   SCSI Port 4, Drive ID 1:  Physical drive not
connected.
   SCSI Port 4, Drive ID 2:  Physical drive not
connected.
   SCSI Port 4, Drive ID 3:  Physical drive not
connected.
   SCSI Port 4, Drive ID 4:  Physical drive not
connected.
   SCSI Port 4, Drive ID 5:  Physical drive not
connected.
   SCSI Port 4, Drive ID 6:  Physical drive not
connected.
   SCSI Port 4, Drive ID 7:  Physical drive not
connected.
   SCSI Port 4, Drive ID 8:  Physical drive not
connected.
   SCSI Port 4, Drive ID 9:  Physical drive not
connected.
   SCSI Port 4, Drive ID 10:  Physical drive not
connected.
   SCSI Port 4, Drive ID 11:  Physical drive not
connected.
   SCSI Port 4, Drive ID 12:  Physical drive not
connected.
   SCSI Port 4, Drive ID 13:  Physical drive not
connected.
   SCSI Port 4, Drive ID 14:  Physical drive not
connected.
   SCSI Port 4, Drive ID 15:  Physical drive not
connected.
```

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System Summary

```
System Information report written at: 07/26/2001
10:37:47 PM
g10[System Information]

[ Following are sub-categories of this main category
]

[System Summary]

Item      Value
OS Name   Microsoft Windows 2000 Advanced Server
Version   5.0.2195 Service Pack 1 Build 2195
OS Manufacturer     Microsoft Corporation
System Name         G10
System Manufacturer Compaq
System Model        ProLiant
System Type         X86-based PC
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
Processor x86 Family 6 Model 10 Stepping 4
GenuineIntel ~900 Mhz
BIOS Version        02/16/01
Windows Directory   C:\WINNT
System Directory    C:\WINNT\System32
Boot Device         \Device\Harddisk0\Partition2
Locale    United States
User Name G10\Administrator
Time Zone Central Daylight Time
Total Physical Memory         8,125,756 KB
Available Physical Memory     977,852 KB
Total Virtual Memory          20,244,036 KB
Available Virtual Memory      6,090,252 KB
Page File Space     12,118,280 KB
Page File C:\pagefile.sys

[Hardware Resources]

[ Following are sub-categories of this main category
]

[Conflicts/Sharing]

Resource  Device
No conflicted/shared resources

[DMA]

Channel   Device    Status
7         Direct memory access controller         OK
2         Standard floppy disk controller         OK

[Forced Hardware]

Device    PNP Device ID
No Forced Hardware

[I/O]

Address Range       Device    Status
0x0000-0x2FFF       PCI bus   OK
0x0000-0x2FFF       Direct memory access controller
          OK
0x6000-0xFFFF       PCI bus   OK
0x2000-0x20FF       Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0x1800-0x18FF       Compaq Advanced System Management
Controller          OK
0x2400-0x24FF       ATI Technologies Inc. 3D RAGE IIC
PCI       OK
0x03B0-0x03BB       ATI Technologies Inc. 3D RAGE IIC
PCI       OK
```


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```
0x03C0-0x03DF       ATI Technologies Inc. 3D RAGE IIC
PCI       OK
0x2800-0x28FF       Compaq Smart Array Controller OK
0x0A79-0x0A79       ISAPNP Read Data Port         OK
0x0279-0x0279       ISAPNP Read Data Port         OK
0x02F4-0x02F7       ISAPNP Read Data Port         OK
0x0F50-0x0F58       Motherboard resources         OK
0x1000-0x107F       Motherboard resources         OK
0x0020-0x0021       Programmable interrupt controller
          OK
0x00A0-0x00A1       Programmable interrupt controller
          OK
0x0C00-0x0C01       Programmable interrupt controller
          OK
0x0040-0x0043       System timer        OK
0x0080-0x008F       Direct memory access controller
          OK
0x00C0-0x00DF       Direct memory access controller
          OK
0x040B-0x040B       Direct memory access controller
          OK
0x04D6-0x04D6       Direct memory access controller
          OK
0x01F0-0x01F7       Standard IDE/ESDI Hard Disk
Controller          OK
0x03F6-0x03F6       Standard IDE/ESDI Hard Disk
Controller          OK
0x0061-0x0061       System speaker      OK
0x015C-0x015D       Extended IO Bus     OK
0x0220-0x0223       Extended IO Bus     OK
0x0230-0x0231       Extended IO Bus     OK
0x0240-0x0243       Extended IO Bus     OK
0x0250-0x025B       Extended IO Bus     OK
0x025D-0x025F       Extended IO Bus     OK
0x0378-0x037A       Printer Port (LPT1) OK
0x03F8-0x03FF       Communications Port (COM1)    OK
0x02F8-0x02FF       Communications Port (COM2)    OK
0x03F0-0x03F5       Standard floppy disk controller
          OK
0x03F7-0x03F7       Standard floppy disk controller
          OK
0x0060-0x0060       Standard 101/102-Key or Microsoft
Natural PS/2 Keyboard         OK
0x0064-0x0064       Standard 101/102-Key or Microsoft
Natural PS/2 Keyboard         OK
0x3000-0x4FFF       PCI bus   OK
0x3000-0x4FFF       Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0x4000-0x4FFF       DEC 21154 PCI to PCI bridge   OK
0x4020-0x403F       Compaq NC3131 Fast Ethernet NIC
#4        OK
0x3400-0x34FF       Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0x5000-0x5FFF       PCI bus   OK
0x5000-0x5FFF       Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0x5400-0x54FF       Compaq Smart Array 5300
Controller (Non-Miniport)     OK

[IRQs]

IRQ Number          Device
9         Microsoft ACPI-Compliant System
23        Compaq Smart Array 5300 Controller (Non-
Miniport)
21        Compaq NC6134 Gigabit Module
24        Compaq Smart Array Controller
14        Standard IDE/ESDI Hard Disk Controller
4         Communications Port (COM1)
3         Communications Port (COM2)
6         Standard floppy disk controller
12        PS/2 Compatible Mouse
1         Standard 101/102-Key or Microsoft Natural
PS/2 Keyboard
20        Compaq NC3131 Fast Ethernet NIC #4
18        Compaq Smart Array 5300 Controller (Non-
Miniport)
16        Compaq Smart Array 5300 Controller (Non-
Miniport)
30        Compaq Smart Array 5300 Controller (Non-
Miniport)
28        Compaq Smart Array 5300 Controller (Non-
Miniport)

[Memory]

Range     Device    Status
0xA0000-0xBFFFF     PCI bus   OK
0xA0000-0xBFFFF     ATI Technologies Inc. 3D RAGE IIC
PCI       OK
0xF0000000-0xF72FFFFF         PCI bus   OK
0xFEC00000-0xFFFFFFFF         PCI bus   OK
0xFEC00000-0xFFFFFFFF         Advanced programmable
interrupt controller          OK
0xF72C0000-0xF72FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7100000-0xF71FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF70E0000-0xF70FFFFF         Compaq NC6134 Gigabit
Module    OK
0xF70C0000-0xF70C00FF         Compaq Advanced System
Management Controller         OK
0xF4000000-0xF4FFFFFF         ATI Technologies Inc.
3D RAGE IIC PCI     OK
0xF70B0000-0xF70B0FFF         ATI Technologies Inc.
3D RAGE IIC PCI     OK
0xF6000000-0xF6FFFFFF         Compaq Smart Array
Controller          OK
0xF5000000-0xF5FFFFFF         Compaq Smart Array
Controller          OK
0xC0000-0xDFFFF     Motherboard resources         OK
0xF7300000-0xF7AFFFFF         PCI bus   OK
0xF7300000-0xF7AFFFFF         DEC 21154 PCI to PCI
bridge    OK
0xF7900000-0xF7AFFFFF         DEC 21154 PCI to PCI
bridge    OK
0xF7900000-0xF7AFFFFF         Compaq NC3131 Fast
Ethernet NIC #4     OK
0xF73E0000-0xF73E0FFF         Compaq NC3131 Fast
Ethernet NIC #4     OK
0xF78C0000-0xF78FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7700000-0xF77FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF76C0000-0xF76FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7500000-0xF75FFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7B00000-0xFEBFFFFF         PCI bus   OK
0xF7FC0000-0xF7FFFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7E00000-0xF7EFFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7DC0000-0xF7DFFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK
0xF7C00000-0xF7CFFFFF         Compaq Smart Array 5300
Controller (Non-Miniport)     OK

[Components]

[ Following are sub-categories of this main category
]

[Multimedia]

[ Following are sub-categories of this main category
]

[Audio Codecs]

Codec     Manufacturer        Description
          Status    File      Version   Size
          Creation Date
c:\winnt\system32\tssoft32.acm          DSP GROUP,
INC.                OK
          C:\WINNT\System32\TSSOFT32.ACM
          1.01      9.27 KB (9,488 bytes)
          12/7/1999 6:00:00 AM
c:\winnt\system32\msadp32.acm Microsoft Corporation
                    OK
          C:\WINNT\System32\MSADP32.ACM 5.00.2134.1
          14.77 KB (15,120 bytes)       12/7/1999
6:00:00 AM
c:\winnt\system32\msg711.acm  Microsoft Corporation
                    OK
          C:\WINNT\System32\MSG711.ACM  5.00.2134.1
          10.27 KB (10,512 bytes)       12/7/1999
6:00:00 AM
c:\winnt\system32\iac25_32.ax Intel Corporation
          Indeo® audio software         OK
          C:\WINNT\System32\IAC25_32.AX 2.05.53
          195.00 KB (199,680 bytes)     12/7/1999
6:00:00 AM
c:\winnt\system32\imaadp32.acm          Microsoft
Corporation                 OK
          C:\WINNT\System32\IMAADP32.ACM
          5.00.2134.1         16.27 KB (16,656 bytes)
          12/7/1999 6:00:00 AM
c:\winnt\system32\msgsm32.acm Microsoft Corporation
                    OK
          C:\WINNT\System32\MSGSM32.ACM 5.00.2134.1
          22.27 KB (22,800 bytes)       12/7/1999
6:00:00 AM
c:\winnt\system32\msg723.acm  Microsoft Corporation
                    OK
          C:\WINNT\System32\MSG723.ACM  4.4.3385
          106.77 KB (109,328 bytes)     4/24/2001
11:27:25 AM
```


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```
c:\winnt\system32\lhacm.acm   Microsoft Corporation
                    OK
          C:\WINNT\System32\LHACM.ACM   4.4.3385
          33.27 KB (34,064 bytes)       4/24/2001
11:27:26 AM

[Video Codecs]

Codec     Manufacturer        Description
          Status    File      Version   Size
          Creation Date
c:\winnt\system32\ir50_32.dll Intel Corporation
          Indeo® video 5.10   OK
          C:\WINNT\System32\IR50_32.DLL
          R.5.10.15.2.55      737.50 KB (755,200
bytes)    12/7/1999 6:00:00 AM
c:\winnt\system32\msh261.drv  Microsoft Corporation
                    OK
          C:\WINNT\System32\MSH261.DRV  4.4.3385
          163.77 KB (167,696 bytes)     4/24/2001
11:27:26 AM
c:\winnt\system32\msh263.drv  Microsoft Corporation
                    OK
          C:\WINNT\System32\MSH263.DRV  4.4.3385
          252.27 KB (258,320 bytes)     4/24/2001
11:26:52 AM
c:\winnt\system32\ir32_32.dll Intel(R) Corporation
                    OK
          C:\WINNT\System32\IR32_32.DLL Not Available
          194.50 KB (199,168 bytes)     12/7/1999
6:00:00 AM
c:\winnt\system32\iccvid.dll  Radius Inc.
          OK        C:\WINNT\System32\ICCVID.DLL
          1.10.0.6  108.00 KB (110,592 bytes)
          12/7/1999 6:00:00 AM
c:\winnt\system32\msrle32.dll Microsoft Corporation
                    OK
          C:\WINNT\System32\MSRLE32.DLL 5.00.2134.1
          10.77 KB (11,024 bytes)       12/7/1999
6:00:00 AM
c:\winnt\system32\msvidc32.dll          Microsoft
Corporation                 OK
          C:\WINNT\System32\MSVIDC32.DLL
          5.00.2134.1         27.27 KB (27,920 bytes)
          12/7/1999 6:00:00 AM

[CD-ROM]

Item      Value
Drive     Unknown
Description         Unknown
Media Loaded        Unknown
Media Type          Unknown
Name      Unknown
Manufacturer        Unknown
Status    Unknown
Transfer Rate       Unknown
SCSI Target ID      Unknown
PNP Device ID       Unknown


[Sound Device]

Item      Value
No sound devices

[Display]

Item      Value
Name      ATI Technologies Inc. 3D RAGE IIC PCI
PNP Device ID
          PCI\VEN_1002&DEV_4756&SUBSYS_00000000&REV_7
A\3&267A616A&0&68
Adapter Type        ATI 3D RAGE IIC PCI (A21), ATI
Technologies Inc. compatible
Adapter Description ATI Technologies Inc. 3D RAGE IIC
PCI
Adapter RAM         2.00 MB (2,097,152 bytes)
Installed Drivers   atiraged.dll
Driver Version      5.00.2174.1
INF File  display.inf (atirage section)
Color Planes        1
Color Table Entries 65536
Resolution          1024 x 768 x 60 hertz
Bits/Pixel          16


[Infrared]

Item      Value
No infrared devices

[Input]

[ Following are sub-categories of this main category
]

[Keyboard]

Item      Value
Description         Standard 101/102-Key or Microsoft
Natural PS/2 Keyboard
Name      Enhanced (101- or 102-key)
Layout    00000409
PNP Device ID       ACPI\PNP0303\4&3D912C8&0
NumberOfFunctionKeys          12


[Pointing Device]

Item      Value
Hardware Type       PS/2 Compatible Mouse
Number of Buttons   2
Status    OK
PNP Device ID       ACPI\PNP0F13\4&3D912C8&0
Power Management Supported    False
Double Click Threshold        6
Handedness          Right Handed Operation


[Modem]

Item      Value
No modems

[Network]

[ Following are sub-categories of this main category
]

[Adapter]

Item      Value
Name      [00000000] Compaq NC3131 Fast Ethernet NIC
Adapter Type        Not Available
Product Name        Compaq NC3131 Fast Ethernet NIC
Installed True
PNP Device ID       Not Available
Last Reset          7/26/2001 4:42:47 PM
Index     0
Service Name        N100
IP Address          130.130.1.10
IP Subnet 255.255.255.0
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         00:08:C7:86:5F:67
Service Name        Not Available

Name      [00000001] Compaq NC3131 Fast Ethernet NIC
Adapter Type        Not Available
Product Name        Compaq NC3131 Fast Ethernet NIC
Installed True
PNP Device ID       Not Available
Last Reset          7/26/2001 4:42:47 PM
Index     1
Service Name        N100
IP Address          130.168.209.110
IP Subnet 255.255.0.0
Default IP Gateway  Not Available
DHCP Enabled        True
DHCP Server         192.168.0.1
DHCP Lease Expires  5/4/2001 10:28:58 AM
DHCP Lease Obtained 4/27/2001 10:28:58 AM
MAC Address         00:50:8B:CF:C4:E7
Service Name        Not Available

Name      [00000002] RAS Async Adapter
Adapter Type        Not Available
Product Name        RAS Async Adapter
Installed True
PNP Device ID       Not Available
Last Reset          7/26/2001 4:42:47 PM
Index     2
Service Name        AsyncMac
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         Not Available
Service Name        Not Available

Name      [00000003] WAN Miniport (L2TP)
Adapter Type        Not Available
```


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```
Product Name        WAN Miniport (L2TP)
Installed True
PNP Device ID       ROOT\MS_L2TPMINIPORT\0000
Last Reset          7/26/2001 4:42:47 PM
Index     3
Service Name        Rasl2tp
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         Not Available
Service Name        Rasl2tp
Driver    c:\winnt\system32\drivers\rasl2tp.sys
(50800, 5.00.2179.1)

Name      [00000004] WAN Miniport (PPTP)
Adapter Type        Wide Area Network (WAN)
Product Name        WAN Miniport (PPTP)
Installed True
PNP Device ID       ROOT\MS_PPTPMINIPORT\0000
Last Reset          7/26/2001 4:42:47 PM
Index     4
Service Name        PptpMiniport
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         50:50:54:50:30:30
Service Name        PptpMiniport
Driver    c:\winnt\system32\drivers\raspptp.sys
(47856, 5.00.2160.1)

Name      [00000005] Direct Parallel
Adapter Type        Not Available
Product Name        Direct Parallel
Installed True
PNP Device ID       ROOT\MS_PTIMINIPORT\0000
Last Reset          7/26/2001 4:42:47 PM
Index     5
Service Name        Raspti
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         Not Available
Service Name        Raspti
Driver    c:\winnt\system32\drivers\raspti.sys
(16880, 5.00.2146.1)

Name      [00000006] WAN Miniport (IP)
Adapter Type        Not Available
Product Name        WAN Miniport (IP)
Installed True
PNP Device ID       ROOT\MS_NDISWANIP\0000
Last Reset          7/26/2001 4:42:47 PM
Index     6
Service Name        NdisWan
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         Not Available
Service Name        NdisWan
Driver    c:\winnt\system32\drivers\ndiswan.sys
(90768, 5.00.2184.1)

Name      [00000007] Compaq NC3131 Fast Ethernet NIC
Adapter Type        Not Available
Product Name        Compaq NC3131 Fast Ethernet NIC
Installed True
PNP Device ID
          PCI\VEN_8086&DEV_1229&SUBSYS_B0DD0E11&REV_0
5\4&1138865F&0&2008
Last Reset          7/26/2001 4:42:47 PM
Index     7
Service Name        N100
IP Address          Not Available
IP Subnet Not Available
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         Not Available
Service Name        N100
Driver    c:\winnt\system32\drivers\n100nt5.sys
(87824, 5.29.04.0067)

Name      [00000008] Compaq NC3131 Fast Ethernet NIC
Adapter Type        Ethernet 802.3
Product Name        Compaq NC3131 Fast Ethernet NIC
Installed True
PNP Device ID
          PCI\VEN_8086&DEV_1229&SUBSYS_B0DD0E11&REV_0
5\4&1138865F&0&2808
Last Reset          7/26/2001 4:42:47 PM
Index     8
Service Name        N100
IP Address          130.168.209.110
IP Subnet 255.255.0.0
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         00:50:8B:CF:C4:E7
Service Name        N100
IRQ Number          20
I/O Port  0x4020-0x403F
Driver    c:\winnt\system32\drivers\n100nt5.sys
(87824, 5.29.04.0067)

Name      [00000009] Compaq NC6134 Gigabit Module
Adapter Type        Ethernet 802.3
Product Name        Compaq NC6134 Gigabit Module
Installed True
PNP Device ID
          PCI\VEN_8086&DEV_1000&SUBSYS_B1230E11&REV_0
3\3&267A616A&0&18
Last Reset          7/26/2001 4:42:47 PM
Index     9
Service Name        N1000
IP Address          130.130.1.10
IP Subnet 255.255.255.0
Default IP Gateway  Not Available
DHCP Enabled        False
DHCP Server         Not Available
DHCP Lease Expires  Not Available
DHCP Lease Obtained Not Available
MAC Address         00:08:C7:86:5F:67
Service Name        N1000
IRQ Number          21
Driver    c:\winnt\system32\drivers\n1000nt5.sys
(34576, 1.05.00.1020)


[Protocol]

Item      Value
Name      MSAFD Tcpip [TCP/IP]
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  16 bytes
MaximumMessageSize  0 bytes
MessageOriented     False
MinimumAddressSize  16 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         True
SupportsGracefulClosing       True
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD Tcpip [UDP/IP]
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  16 bytes
MaximumMessageSize  65467 bytes
MessageOriented     True
MinimumAddressSize  16 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          True

Name      RSVP UDP Service Provider
ConnectionlessService         True
```


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```
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  16 bytes
MaximumMessageSize  65467 bytes
MessageOriented     True
MinimumAddressSize  16 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  True
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          True

Name      RSVP TCP Service Provider
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  16 bytes
MaximumMessageSize  0 bytes
MessageOriented     False
MinimumAddressSize  16 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  True
SupportsExpeditedData         True
SupportsGracefulClosing       True
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{E9EA9F17-AA8E-4E12-9494-
3592CDE7B257}] SEQPACKET 6
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{E9EA9F17-AA8E-4E12-9494-
3592CDE7B257}] DATAGRAM 6
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{14B7A22C-7074-45E3-B456-
2AF80E23E511}] SEQPACKET 5
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{14B7A22C-7074-45E3-B456-
2AF80E23E511}] DATAGRAM 5
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{54017C0C-0B00-4178-9F99-
7178ED09E83D}] SEQPACKET 4
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{54017C0C-0B00-4178-9F99-
7178ED09E83D}] DATAGRAM 4
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{4838D198-761D-41EC-81A2-
8C67EE62B187}] SEQPACKET 0
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{4838D198-761D-41EC-81A2-
8C67EE62B187}] DATAGRAM 0
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
```


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```
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{13B298CA-2A90-41D8-A324-
81A90F75C42B}] SEQPACKET 1
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{13B298CA-2A90-41D8-A324-
81A90F75C42B}] DATAGRAM 1
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{56C273B3-C78A-4963-AD3D-
4CC4EB001571}] SEQPACKET 2
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{56C273B3-C78A-4963-AD3D-
4CC4EB001571}] DATAGRAM 2
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{6C27B090-F99D-47DF-95F1-
BA2A3C78E47B}] SEQPACKET 3
ConnectionlessService         False
GuaranteesDelivery  True
GuaranteesSequencing          True
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          False
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

Name      MSAFD NetBIOS
[\Device\NetBT_Tcpip_{6C27B090-F99D-47DF-95F1-
BA2A3C78E47B}] DATAGRAM 3
ConnectionlessService         True
GuaranteesDelivery  False
GuaranteesSequencing          False
MaximumAddressSize  20 bytes
MaximumMessageSize  64000 bytes
MessageOriented     True
MinimumAddressSize  20 bytes
PseudoStreamOriented          False
SupportsBroadcasting          True
SupportsConnectData False
SupportsDisconnectData        False
SupportsEncryption  False
SupportsExpeditedData         False
SupportsGracefulClosing       False
SupportsGuaranteedBandwidth   False
SupportsMulticasting          False

[WinSock]

Item      Value
File      c:\winnt\system32\winsock.dll
Version   3.10
Size      2.80 KB (2,864 bytes)

File      c:\winnt\system32\wsock32.dll
Version   5.00.2195.1207
Size      21.27 KB (21,776 bytes)


[Ports]

[ Following are sub-categories of this main category
]

[Serial]

Item      Value
Name      COM1
Status    OK
PNP Device ID       ACPI\PNP0501\0
Maximum Input Buffer Size     Not Available
Maximum Output Buffer Size    Not Available
Settable Baud Rate  Not Available
Settable Data Bits  Not Available
Settable Flow Control         Not Available
Settable Parity     Not Available
Settable Parity Check         Not Available
Settable Stop Bits  Not Available
Settable RLSD       Not Available
Supports RLSD       Not Available
Supports 16 Bit Mode          Not Available
Supports Special Characters   Not Available
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity    None
Busy      0
Abort Read/Write on Error     0
Binary Mode Enabled -1
Continue XMit on XOff         0
CTS Outflow Control 0
Discard NULL Bytes  0
DSR Outflow Control 0
DSR Sensitivity     0
DTR Flow Control Type         Enable
EOF Character       0
Error Replace Character       0
Error Replacement Enabled     0
Event Character     0
Parity Check Enabled          0
RTS Flow Control Type         Enable
XOff Character      19
XOffXMit Threshold  512
XOn Character       17
XOnXMit Threshold   2048
XOnXOff InFlow Control        0
XOnXOff OutFlow Control       0
IRQ Number          4
I/O Port  0x03F8-0x03FF
```


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```
Driver    c:\winnt\system32\drivers\serial.sys
(62448, 5.00.2134.1)

Name      COM2
Status    OK
PNP Device ID       ACPI\PNP0501\1
Maximum Input Buffer Size     0
Maximum Output Buffer Size    False
Settable Baud Rate  True
Settable Data Bits  True
Settable Flow Control         True
Settable Parity     True
Settable Parity Check         True
Settable Stop Bits  True
Settable RLSD       True
Supports RLSD       True
Supports 16 Bit Mode          False
Supports Special Characters   False
Baud Rate 9600
Bits/Byte 8
Stop Bits 1
Parity    None
Busy      0
Abort Read/Write on Error     0
Binary Mode Enabled -1
Continue XMit on XOff         0
CTS Outflow Control 0
Discard NULL Bytes  0
DSR Outflow Control 0
DSR Sensitivity     0
DTR Flow Control Type         Enable
EOF Character       0
Error Replace Character       0
Error Replacement Enabled     0
Event Character     0
Parity Check Enabled          0
RTS Flow Control Type         Enable
XOff Character      19
XOffXMit Threshold  512
XOn Character       17
XOnXMit Threshold   2048
XOnXOff InFlow Control        0
XOnXOff OutFlow Control       0
IRQ Number          3
I/O Port  0x02F8-0x02FF
Driver    c:\winnt\system32\drivers\serial.sys
(62448, 5.00.2134.1)


[Parallel]

Item      Value
Name      LPT1
PNP Device ID       ACPI\PNP0400\5&3B049A2C&0


[Storage]

[ Following are sub-categories of this main category
]

[Drives]
Item      Value
Drive     A:
Description         3 1/2 Inch Floppy Drive

Drive     C:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      8.43 GB (9,049,370,624 bytes)
Free Space          1.34 GB (1,443,663,872 bytes)
Volume Name
Volume Serial Number          E4E9370B
Partition Disk #22, Partition #1
Partition Size      8.43 GB (9,049,374,720 bytes)
Starting Offset     37601280 bytes
Drive Description   Compaq SCSI Drive Array
Drive Manufacturer  Compaq
Drive Model         Compaq Disk Array SCSI Disk
Device
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    2
Drive SCSIBus       0
Drive SCSILogicalUnit         0
Drive SCSIPort      1
Drive SCSITargetId  0
Drive SectorsPerTrack         32
Drive Size          9091153920 bytes
Drive TotalCylinders          2176
Drive TotalSectors  17756160
Drive TotalTracks   554880
Drive TracksPerCylinder       255

Drive     E:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     F:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     G:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     H:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     I:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     J:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     K:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     L:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     M:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     N:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     O:
Description         Local Fixed Disk
```


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```
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     P:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     Q:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     R:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     S:
Description         Local Fixed Disk
Compressed          Not Available
File System         Not Available
Size      Not Available
Free Space          Not Available
Volume Name         Not Available
Volume Serial Number          Not Available

Drive     T:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.07 GB (89,194,643,456 bytes)
Volume Name         backup1
Volume Serial Number          8CB57BA5
Partition Disk #3, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE3
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     U:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,968,512 bytes)
Volume Name         backup2
Volume Serial Number          ECEC56A6
Partition Disk #6, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE6
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     V:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,968,512 bytes)
Volume Name         backup3
Volume Serial Number          AC2A5D4F
Partition Disk #9, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE9
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     W:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,952,128 bytes)
Volume Name         backup4
Volume Serial Number          545ED5BE
Partition Disk #12, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE12
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     X:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,968,512 bytes)
Volume Name         backup5
Volume Serial Number          FC92709E
Partition Disk #15, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE15
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     Y:
```


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```
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,952,128 bytes)
Volume Name         backup6
Volume Serial Number          D4BDCD47
Partition Disk #18, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE18
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255

Drive     Z:
Description         Local Fixed Disk
Compressed          False
File System         NTFS
Size      102.98 GB (110,572,404,736 bytes)
Free Space          83.58 GB (89,739,952,128 bytes)
Volume Name         backup7
Volume Serial Number          50EA40F8
Partition Disk #21, Partition #0
Partition Size      102.98 GB (110,572,406,784 bytes)
Starting Offset     32256 bytes
Drive Description   \\.\PHYSICALDRIVE21
Drive Manufacturer  Not Available
Drive Model         Not Available
Drive BytesPerSector          512
Drive MediaLoaded   True
Drive MediaType     Fixed hard disk media
Drive Partitions    1
Drive SCSIBus       Not Available
Drive SCSILogicalUnit         Not Available
Drive SCSIPort      Not Available
Drive SCSITargetId  Not Available
Drive SectorsPerTrack         63
Drive Size          110572439040 bytes
Drive TotalCylinders          13443
Drive TotalSectors  215961795
Drive TotalTracks   3427965
Drive TracksPerCylinder       255


[SCSI]

Item      Value
Name      Compaq Smart Array 5300 Controller (Non-
Miniport)
Caption   Compaq Smart Array 5300 Controller (Non-
Miniport)
Driver    cpqcissb
Status    OK
PNP Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&267A616A&0&08
Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&267A616A&0&08
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          23
I/O Port  0x2000-0x20FF
Driver    c:\winnt\system32\drivers\cpqcissb.sys
(36096, 5.01.10.02)

Name      Compaq Smart Array Controller
Caption   Compaq Smart Array Controller
Driver    cpqarry2
Status    OK
PNP Device ID
          PCI\VEN_1000&DEV_0010&SUBSYS_40400E11&REV_0
1\3&267A616A&0&70
Device ID
          PCI\VEN_1000&DEV_0010&SUBSYS_40400E11&REV_0
1\3&267A616A&0&70
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          24
I/O Port  0x2800-0x28FF
Driver    c:\winnt\system32\drivers\cpqarry2.sys
(13424, 5.00.2139.1)

Name      Compaq Smart Array 5300 Controller (Non-
Miniport)
Caption   Compaq Smart Array 5300 Controller (Non-
Miniport)
Driver    cpqcissb
Status    OK
PNP Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&13C0B0C5&0&18
Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&13C0B0C5&0&18
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          18
I/O Port  0x3000-0x4FFF
Driver    c:\winnt\system32\drivers\cpqcissb.sys
(36096, 5.01.10.02)

Name      Compaq Smart Array 5300 Controller (Non-
Miniport)
Caption   Compaq Smart Array 5300 Controller (Non-
Miniport)
Driver    cpqcissb
Status    OK
PNP Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&13C0B0C5&0&28
Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&13C0B0C5&0&28
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          16
I/O Port  0x3400-0x34FF
Driver    c:\winnt\system32\drivers\cpqcissb.sys
(36096, 5.01.10.02)

Name      Compaq Smart Array 5300 Controller (Non-
Miniport)
Caption   Compaq Smart Array 5300 Controller (Non-
Miniport)
Driver    cpqcissb
Status    OK
PNP Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&1070020&0&08
Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&1070020&0&08
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          30
I/O Port  0x5000-0x5FFF
Driver    c:\winnt\system32\drivers\cpqcissb.sys
(36096, 5.01.10.02)

Name      Compaq Smart Array 5300 Controller (Non-
Miniport)
Caption   Compaq Smart Array 5300 Controller (Non-
Miniport)
Driver    cpqcissb
Status    OK
PNP Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&1070020&0&10
Device ID
          PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_0
2\3&1070020&0&10
Device Map          Not Available
Index     Not Available
Max Number Controlled         Not Available
IRQ Number          28
I/O Port  0x5400-0x54FF
Driver    c:\winnt\system32\drivers\cpqcissb.sys
(36096, 5.01.10.02)


[Printing]

Name      Port Name Server Name
No printing information

[Problem Devices]

Device    PNP Device ID       Error Code
```


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```
COMPAQ CD-224E      IDE\CDROMCOMPAQ_CD-
224E_____________________________9.0B____\5&233B1041&0&0
.0.0      22
Compaq NC3131 Fast Ethernet NIC #3
          PCI\VEN_8086&DEV_1229&SUBSYS_B0DD0E11&REV_0
5\4&1138865F&0&2008 22

[USB]

Device    PNP Device ID
No USB Devices

[Software Environment]

[ Following are sub-categories of this main category
]

[Drivers]

Name      Description         File      Type
          Started   Start Mode          State
          Status    Error Control       Accept Pause
          Accept Stop
abiosdsk  Abiosdsk  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Ignore    False     False
abp480n5  abp480n5  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
acpi      Microsoft ACPI Driver
          c:\winnt\system32\drivers\acpi.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
acpiec    ACPIEC
          c:\winnt\system32\drivers\acpiec.sys
          Kernel Driver       False     Disabled
          Stopped   OK        Normal    False
          False
adpu160m  adpu160m  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
afd       AFD Networking Support Environment
          c:\winnt\system32\drivers\afd.sys
          Kernel Driver       True      Auto
          Running   OK        Normal    False
          True
aha154x   Aha154x   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
aic116x   aic116x   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
aic78u2   aic78u2   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
aic78xx   aic78xx   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ami0nt    ami0nt    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
amsint    amsint    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
asc       asc       Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
asc3350p  asc3350p  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
asc3550   asc3550   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
asyncmac  RAS Asynchronous Media Driver
          c:\winnt\system32\drivers\asyncmac.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
atapi     Standard IDE/ESDI Hard Disk Controller
          c:\winnt\system32\drivers\atapi.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
atdisk    Atdisk    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Ignore    False     False
atirage   atirage
          c:\winnt\system32\drivers\atiragem.sys
          Kernel Driver       True      Manual
          Running   OK        Ignore    False
          True
atmarpc   ATM ARP Client Protocol
          c:\winnt\system32\drivers\atmarpc.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
audstub   Audio Stub Driver
          c:\winnt\system32\drivers\audstub.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
beep      Beep
          c:\winnt\system32\drivers\beep.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
buslogic  BusLogic  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
cd20xrnt  cd20xrnt  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
cdaudio   Cdaudio
          c:\winnt\system32\drivers\cdaudio.sys
          Kernel Driver       False     System
          Stopped   OK        Ignore    False
          False
cdfs      Cdfs
          c:\winnt\system32\drivers\cdfs.sys
          File System Driver  False     Disabled
          Stopped   OK        Normal    False
          False
cdrom     CD-ROM Driver
          c:\winnt\system32\drivers\cdrom.sys
          Kernel Driver       False     System
          Stopped   OK        Normal    False
          False
changer   Changer   Not Available       Kernel Driver
          False     System    Stopped   OK
          Ignore    False     False
cpqarray  Cpqarray  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
cpqarry2  cpqarry2
          c:\winnt\system32\drivers\cpqarry2.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
cpqcissb  Compaq CISS Controllers Device Driver
          c:\winnt\system32\drivers\cpqcissb.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
cpqcissd  Compaq CISS Controllers Disk Driver
          c:\winnt\system32\drivers\cpqcissd.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
cpqfcalm  cpqfcalm  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
cpqfws2e  cpqfws2e  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
dac960nt  dac960nt  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
deckzpsx  deckzpsx  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
dfsdriver DfsDriver c:\winnt\system32\drivers\dfs.sys
          File System Driver  True      Boot
          Running   OK        Normal    False
          True
disk      Disk Driver
          c:\winnt\system32\drivers\disk.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
diskperf  Diskperf
          c:\winnt\system32\drivers\diskperf.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
dmboot    dmboot
          c:\winnt\system32\drivers\dmboot.sys
          Kernel Driver       False     Disabled
          Stopped   OK        Normal    False
          False
dmio      Logical Disk Manager Driver
          c:\winnt\system32\drivers\dmio.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
dmload    dmload
          c:\winnt\system32\drivers\dmload.sys
          Kernel Driver       True      Boot
```


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```
          Running   OK        Normal    False
          True
efs       EFS       c:\winnt\system32\drivers\efs.sys
          File System Driver  True      Disabled
          Running   OK        Normal    False
          True
fastfat   Fastfat
          c:\winnt\system32\drivers\fastfat.sys
          File System Driver  True      Disabled
          Running   OK        Normal    False
          True
fd16_700  Fd16_700  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
fdc       Floppy Disk Controller Driver
          c:\winnt\system32\drivers\fdc.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
fireport  fireport  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
flashpnt  flashpnt  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
flpydisk  Floppy Disk Driver
          c:\winnt\system32\drivers\flpydisk.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ftdisk    Volume Manager Driver
          c:\winnt\system32\drivers\ftdisk.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
gpc       Generic Packet Classifier
          c:\winnt\system32\drivers\msgpc.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
i8042prt  i8042 Keyboard and PS/2 Mouse Port Driver
          c:\winnt\system32\drivers\i8042prt.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
ini910u   ini910u   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
intelide  IntelIde  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ipfilterdriver      IP Traffic Filter Driver
          c:\winnt\system32\drivers\ipfltdrv.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
ipinip    IP in IP Tunnel Driver
          c:\winnt\system32\drivers\ipinip.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
ipnat     IP Network Address Translator
          c:\winnt\system32\drivers\ipnat.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
ipsec     IPSEC driver
          c:\winnt\system32\drivers\ipsec.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ipsraidn  ipsraidn  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
isapnp    PnP ISA/EISA Bus Driver
          c:\winnt\system32\drivers\isapnp.sys
          Kernel Driver       True      Boot
          Running   OK        Critical  False
          True
kbdclass  Keyboard Class Driver
          c:\winnt\system32\drivers\kbdclass.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
ksecdd    KSecDD
          c:\winnt\system32\drivers\ksecdd.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
lbrtfdc   lbrtfdc   Not Available       Kernel Driver
          False     System    Stopped   OK
          Ignore    False     False
lp6nds35  lp6nds35  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
mnmdd     mnmdd
          c:\winnt\system32\drivers\mnmdd.sys
          Kernel Driver       True      System
          Running   OK        Ignore    False
          True
modem     Modem
          c:\winnt\system32\drivers\modem.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
mouclass  Mouse Class Driver
          c:\winnt\system32\drivers\mouclass.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
mountmgr  MountMgr
          c:\winnt\system32\drivers\mountmgr.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
mraid35x  mraid35x  Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
mrxsmb    MRXSMB
          c:\winnt\system32\drivers\mrxsmb.sys
          File System Driver  True      System
          Running   OK        Normal    False
          True
msfs      Msfs
          c:\winnt\system32\drivers\msfs.sys
          File System Driver  True      System
          Running   OK        Normal    False
          True
msksrv    Microsoft Streaming Service Proxy
          c:\winnt\system32\drivers\msksrv.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
mspclock  Microsoft Streaming Clock Proxy
          c:\winnt\system32\drivers\mspclock.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
mspqm     Microsoft Streaming Quality Manager Proxy
          c:\winnt\system32\drivers\mspqm.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
mup       Mup       c:\winnt\system32\drivers\mup.sys
          File System Driver  True      Boot
          Running   OK        Normal    False
          True
n100      Compaq Ethernet or Fast Ethernet NIC NT
Driver    c:\winnt\system32\drivers\n100nt5.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
n1000     Compaq Gigabit Ethernet NIC NT Driver
          c:\winnt\system32\drivers\n1000nt5.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ncrc710   Ncrc710   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ndis      NDIS System Driver
          c:\winnt\system32\drivers\ndis.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
ndistapi  Remote Access NDIS TAPI Driver
          c:\winnt\system32\drivers\ndistapi.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ndiswan   Remote Access NDIS WAN Driver
          c:\winnt\system32\drivers\ndiswan.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ndproxy   NDIS Proxy
          c:\winnt\system32\drivers\ndproxy.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
netbios   NetBIOS Interface
          c:\winnt\system32\drivers\netbios.sys
          File System Driver  True      System
          Running   OK        Normal    False
          True
netbt     NetBios over Tcpip
          c:\winnt\system32\drivers\netbt.sys
          Kernel Driver       True      System
```


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```
          Running   OK        Normal    False
          True
netdetect NetDetect
          c:\winnt\system32\drivers\netdtect.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
npfs      Npfs
          c:\winnt\system32\drivers\npfs.sys
          File System Driver  True      System
          Running   OK        Normal    False
          True
ntfs      Ntfs
          c:\winnt\system32\drivers\ntfs.sys
          File System Driver  True      Disabled
          Running   OK        Normal    False
          True
null      Null
          c:\winnt\system32\drivers\null.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
nwlnkflt  IPX Traffic Filter Driver
          c:\winnt\system32\drivers\nwlnkflt.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
nwlnkfwd  IPX Traffic Forwarder Driver
          c:\winnt\system32\drivers\nwlnkfwd.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
parallel  Parallel class driver
          c:\winnt\system32\drivers\parallel.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
parport   Parallel port driver
          c:\winnt\system32\drivers\parport.sys
          Kernel Driver       True      System
          Running   OK        Ignore    False
          True
partmgr   PartMgr
          c:\winnt\system32\drivers\partmgr.sys
          Kernel Driver       True      Boot
          Running   OK        Normal    False
          True
parvdm    ParVdm
          c:\winnt\system32\drivers\parvdm.sys
          Kernel Driver       True      Auto
          Running   OK        Ignore    False
          True
pci       PCI Bus Driver
          c:\winnt\system32\drivers\pci.sys
          Kernel Driver       True      Boot
          Running   OK        Critical  False
          True
pcidump   PCIDump   Not Available       Kernel Driver
          False     System    Stopped   OK
          Ignore    False     False
pciide    PCIIde    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
pcmcia    Pcmcia
          c:\winnt\system32\drivers\pcmcia.sys
          Kernel Driver       False     Disabled
          Stopped   OK        Normal    False
          False
pdcomp    PDCOMP    Not Available       Kernel Driver
          False     Manual    Stopped   OK
          Ignore    False     False
pdframe   PDFRAME   Not Available       Kernel Driver
          False     Manual    Stopped   OK
          Ignore    False     False
pdreli    PDRELI    Not Available       Kernel Driver
          False     Manual    Stopped   OK
          Ignore    False     False
pdrframe  PDRFRAME  Not Available       Kernel Driver
          False     Manual    Stopped   OK
          Ignore    False     False
pptpminiport        WAN Miniport (PPTP)
          c:\winnt\system32\drivers\raspptp.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ptilink   Direct Parallel Link Driver
          c:\winnt\system32\drivers\ptilink.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
ql1080    ql1080    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ql10wnt   Ql10wnt   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ql1240    ql1240    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
ql2100    ql2100    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
rasacd    Remote Access Auto Connection Driver
          c:\winnt\system32\drivers\rasacd.sys
          Kernel Driver       True      System
          Running   OK        Normal    False
          True
rasl2tp   WAN Miniport (L2TP)
          c:\winnt\system32\drivers\rasl2tp.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
raspti    Direct Parallel
          c:\winnt\system32\drivers\raspti.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
rca       Microsoft Streaming Network Raw Channel
Access    c:\winnt\system32\drivers\rca.sys
          Kernel Driver       False     Manual
          Stopped   OK        Normal    False
          False
rdbss     Rdbss
          c:\winnt\system32\drivers\rdbss.sys
          File System Driver  True      System
          Running   OK        Normal    False
          True
rdpdr     Terminal Server Device Redirector Driver
          c:\winnt\system32\drivers\rdpdr.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
rdpwd     RDPWD
          c:\winnt\system32\drivers\rdpwd.sys
          Kernel Driver       True      Manual
          Running   OK        Ignore    False
          True
redbook   Digital CD Audio Playback Filter Driver
          c:\winnt\system32\drivers\redbook.sys
          Kernel Driver       False     System
          Stopped   OK        Normal    False
          False
serenum   Serenum Filter Driver
          c:\winnt\system32\drivers\serenum.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
serial    Serial port driver
          c:\winnt\system32\drivers\serial.sys
          Kernel Driver       True      System
          Running   OK        Ignore    False
          True
sfloppy   Sfloppy
          c:\winnt\system32\drivers\sfloppy.sys
          Kernel Driver       False     System
          Stopped   OK        Ignore    False
          False
sglfb     sglfb     Not Available       Kernel Driver
          False     System    Stopped   OK
          Normal    False     False
simbad    Simbad    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
sparrow   Sparrow   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
srv       Srv       c:\winnt\system32\drivers\srv.sys
          File System Driver  True      Manual
          Running   OK        Normal    False
          True
swenum    Software Bus Driver
          c:\winnt\system32\drivers\swenum.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
symc810   symc810   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
symc8xx   symc8xx   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
sym_hi    sym_hi    Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
tcpip     TCP/IP Protocol Driver
          c:\winnt\system32\drivers\tcpip.sys
          Kernel Driver       True      System
```


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```
          Running   OK        Normal    False
          True
tdasync   TDASYNC
          c:\winnt\system32\drivers\tdasync.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
tdipx     TDIPX
          c:\winnt\system32\drivers\tdipx.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
tdnetb    TDNETB
          c:\winnt\system32\drivers\tdnetb.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
tdpipe    TDPIPE
          c:\winnt\system32\drivers\tdpipe.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
tdspx     TDSPX
          c:\winnt\system32\drivers\tdspx.sys
          Kernel Driver       False     Manual
          Stopped   OK        Ignore    False
          False
tdtcp     TDTCP
          c:\winnt\system32\drivers\tdtcp.sys
          Kernel Driver       True      Manual
          Running   OK        Ignore    False
          True
termdd    Terminal Device Driver
          c:\winnt\system32\drivers\termdd.sys
          Kernel Driver       True      Auto
          Running   OK        Normal    False
          True
tga       tga       Not Available       Kernel Driver
          False     System    Stopped   OK
          Ignore    False     False
udfs      Udfs
          c:\winnt\system32\drivers\udfs.sys
          File System Driver  False     Disabled
          Stopped   OK        Normal    False
          False
ultra66   ultra66   Not Available       Kernel Driver
          False     Disabled  Stopped   OK
          Normal    False     False
update    Microcode Update Driver
          c:\winnt\system32\drivers\update.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
vgasave   VgaSave   c:\winnt\system32\drivers\vga.sys
          Kernel Driver       True      System
          Running   OK        Ignore    False
          True
wanarp    Remote Access IP ARP Driver
          c:\winnt\system32\drivers\wanarp.sys
          Kernel Driver       True      Manual
          Running   OK        Normal    False
          True
wdica     WDICA     Not Available       Kernel Driver
          False     Manual    Stopped   OK
          Ignore    False     False

[Environment Variables]

Variable  Value     User Name
ComSpec   %SystemRoot%\system32\cmd.exe <SYSTEM>
Os2LibPath          %SystemRoot%\system32\os2\dll;
          <SYSTEM>
Path
          %SystemRoot%\system32;%SystemRoot%;%SystemR
oot%\System32\Wbem;C:\Program Files\Microsoft SQL
Server\80\Tools\BINN          <SYSTEM>
windir    %SystemRoot%        <SYSTEM>
OS        Windows_NT          <SYSTEM>
PROCESSOR_ARCHITECTURE        x86       <SYSTEM>
PROCESSOR_LEVEL     6         <SYSTEM>
PROCESSOR_IDENTIFIER          x86 Family 6 Model 10
Stepping 4, GenuineIntel      <SYSTEM>
PROCESSOR_REVISION  0a04      <SYSTEM>
NUMBER_OF_PROCESSORS          8         <SYSTEM>
PATHEXT
          .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF
;.WSH     <SYSTEM>
TEMP      %SystemRoot%\TEMP   <SYSTEM>
TMP       %SystemRoot%\TEMP   <SYSTEM>
TEMP      %USERPROFILE%\Local Settings\Temp
          G10\Administrator
TMP       %USERPROFILE%\Local Settings\Temp
          G10\Administrator

[Jobs]

[ Following are sub-categories of this main category
]

[Print]

Document  Size      Owner     Notify    Status
          Time Submitted      Start Time
          Until Time          Elapsed Time
          Pages Printed       Job ID    Priority
          Parameters          Driver Name
          Print Processor     Host Print Queue
          Data Type Name
No print jobs




[Network Connections]

Local Name          Remote Name         Type
          Status    User Name
No network connections information


[Running Tasks]

Name      Path      Process ID          Priority  Min
Working Set         Max Working Set     Start Time
          Version   Size      File Date
system idle process Not Available       0         0
          Not Available       Not Available       Not
Available Unknown   Unknown   Unknown
system    Not Available       8         8         0
          1413120   Not Available       Unknown
          Unknown   Unknown
smss.exe  c:\winnt\system32\smss.exe    200       11
          204800    1413120   7/26/2001 9:45:23 PM
          5.00.2195.31        44.27 KB (45,328 bytes)
          12/7/1999 6:00:00 AM
csrss.exe c:\winnt\system32\csrss.exe   228       13
          204800    1413120   7/26/2001 9:45:29 PM
          5.00.2137.1         5.27 KB (5,392 bytes)
          12/7/1999 6:00:00 AM
winlogon.exe        c:\winnt\system32\winlogon.exe
          252       13        204800    1413120
          7/26/2001 9:45:30 PM
          5.00.2195.1600      172.77 KB (176,912
bytes)    12/7/1999 6:00:00 AM
services.exe        c:\winnt\system32\services.exe
          284       9         204800    1413120
          7/26/2001 9:45:31 PM          5.00.2134.1
          86.77 KB (88,848 bytes)       12/7/1999
6:00:00 AM
lsass.exe c:\winnt\system32\lsass.exe   296       13
          204800    1413120   7/26/2001 9:45:31 PM
          5.00.2195.1620      32.77 KB (33,552 bytes)
          12/7/1999 6:00:00 AM
svchost.exe         c:\winnt\system32\svchost.exe 472
          8         204800    1413120   7/26/2001
9:45:34 PM          5.00.2134.1         7.77 KB
(7,952 bytes)       12/7/1999 6:00:00 AM
spoolsv.exe         c:\winnt\system32\spoolsv.exe 492
          8         204800    1413120   7/26/2001
9:45:34 PM          5.00.2161.1         43.77 KB
(44,816 bytes)      4/24/2001 6:08:13 AM
msdtc.exe c:\winnt\system32\msdtc.exe   520       8
          204800    1413120   7/26/2001 9:45:34 PM
          1999.9.3421.3       6.77 KB (6,928 bytes)
          4/24/2001 6:25:07 AM
svchost.exe         c:\winnt\system32\svchost.exe 772
          8         204800    1413120   7/26/2001
9:45:36 PM          5.00.2134.1         7.77 KB
(7,952 bytes)       12/7/1999 6:00:00 AM
llssrv.exe          c:\winnt\system32\llssrv.exe  792
          9         204800    1413120   7/26/2001
9:45:36 PM          5.00.2167.1         114.27 KB
(117,008 bytes)     12/7/1999 6:00:00 AM
regsvc.exe          c:\winnt\system32\regsvc.exe  836
          8         204800    1413120   7/26/2001
9:45:36 PM          5.00.2195.31        65.27 KB
(66,832 bytes)      5/7/2001 4:08:40 PM
rshsvc.exe          c:\winnt\system32\rshsvc.exe  868
          8         204800    1413120   7/26/2001
9:45:36 PM          Not Available       36.00 KB
(36,864 bytes)      5/2/2001 3:37:14 PM
mstask.exe          c:\winnt\system32\mstask.exe  888
          8         204800    1413120   7/26/2001
9:45:36 PM          4.71.2137.1         115.27 KB
(118,032 bytes)     4/24/2001 11:27:12 AM
tardisnt.exe        c:\winnt\system32\tardisnt.exe
          928       8         204800    1413120
          7/26/2001 9:45:38 PM          Not Available
```


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```
          179.00 KB (183,296 bytes)     4/24/2001
1:26:57 PM
termsrv.exe         c:\winnt\system32\termsrv.exe
          1044      10        204800    1413120
          7/26/2001 9:45:37 PM
          5.00.2195.1340      136.77 KB (140,048
bytes)    5/7/2001 4:08:37 PM
winmgmt.exe
          c:\winnt\system32\wbem\winmgmt.exe
          1084      8         204800    1413120
          7/26/2001 9:45:37 PM
          1.50.1085.0009      192.08 KB (196,685
bytes)    5/7/2001 4:08:56 PM
mssearch.exe        c:\program files\common
files\system\mssearch\bin\mssearch.exe  1096      8
          204800    1413120   7/26/2001 9:45:38 PM
          9.107.6223.2        64.00 KB (65,536 bytes)
          6/19/2001 4:19:15 PM
dfssvc.exe          c:\winnt\system32\dfssvc.exe
          1180      8         204800    1413120
          7/26/2001 9:45:44 PM
          5.00.2195.1340      87.77 KB (89,872 bytes)
          5/7/2001 4:08:50 PM
explorer.exe        c:\winnt\explorer.exe
          1360      8         204800    1413120
          7/26/2001 9:47:17 PM
          5.00.3103.1000      237.27 KB (242,960
bytes)    5/7/2001 4:08:54 PM
svchost.exe         c:\winnt\system32\svchost.exe
          1400      8         204800    1413120
          7/26/2001 9:47:18 PM          5.00.2134.1
          7.77 KB (7,952 bytes)         12/7/1999
6:00:00 AM
sqlmangr.exe        c:\program files\microsoft sql
server\80\tools\binn\sqlmangr.exe       1508      8
          204800    1413120   7/26/2001 9:47:21 PM
          2000.080.0382.00    72.57 KB (74,308 bytes)
          4/24/2001 1:35:24 PM
cmd.exe   c:\winnt\system32\cmd.exe     400       8
          204800    1413120   7/26/2001 9:48:51 PM
          5.00.2195.1600      230.77 KB (236,304
bytes)    12/7/1999 6:00:00 AM
sqlservr.exe        c:\sql2k\mssql\binn\sqlservr.exe
          1380      13        204800    1413120
          7/26/2001 9:48:51 PM
          2000.080.0384.00    7.05 MB (7,397,457
bytes)    4/24/2001 1:34:44 PM
rsvp.exe  c:\winnt\system32\rsvp.exe    2268      8
          204800    1413120   7/26/2001 10:36:05 PM
          5.00.2167.1         172.77 KB (176,912
bytes)    12/7/1999 6:00:00 AM

[Loaded Modules]

Name      Version   Size      File Date Manufacturer
          Path
traffic.dll         5.00.2139.1         30.77 KB
(31,504 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\traffic.dll
rsvp.exe  5.00.2167.1         172.77 KB (176,912
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\rsvp.exe
sqloledb.rll        2000.080.0380       60.00 KB
(61,440 bytes)      6/19/2001 5:01:55 PM
          Microsoft Corporation         c:\program
files\common files\system\ole db\sqloledb.rll
dbnetlib.dll        2000.080.0380.00    84.08 KB
(86,097 bytes)      6/19/2001 5:01:53 PM
          Microsoft Corporation
          c:\winnt\system32\dbnetlib.dll
oledb32r.dll        2.61.7326.0         68.27 KB
(69,904 bytes)      6/19/2001 5:01:49 PM
          Microsoft Corporation         c:\program
files\common files\system\ole db\oledb32r.dll
oledb32.dll         2.61.7326.0         448.27 KB
(459,024 bytes)     6/19/2001 5:01:49 PM
          Microsoft Corporation         c:\program
files\common files\system\ole db\oledb32.dll
msdatl3.dll         2.61.7326.0         92.27 KB
(94,480 bytes)      6/19/2001 5:01:48 PM
          Microsoft Corporation         c:\program
files\common files\system\ole db\msdatl3.dll
msdart.dll          2.61.7326.0         144.27 KB
(147,728 bytes)     6/19/2001 5:01:48 PM
          Microsoft Corporation
          c:\winnt\system32\msdart.dll
sqloledb.dll        2000.080.0380       484.08 KB
(495,700 bytes)     6/19/2001 5:01:54 PM
          Microsoft Corporation         c:\program
files\common files\system\ole db\sqloledb.dll
sqlftqry.dll        2000.080.0384.00    108.57 KB
(111,180 bytes)     4/24/2001 1:34:57 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\sqlftqry.dll
ssmslpcn.dll        2000.080.0382.00    28.56 KB
(29,244 bytes)      4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\ssmslpcn.dll
ssnmpn70.dll        2000.080.0194.00    24.06 KB
(24,638 bytes)      4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\ssnmpn70.dll
ssnetlib.dll        2000.080.0382.00    84.56 KB
(86,588 bytes)      4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\ssnetlib.dll
sqlevn70.rll        2000.080.0194.00    28.00 KB
(28,672 bytes)      4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\resources\1033\sqlevn70
.rll
msvcirt.dll         6.10.8637.0         76.05 KB
(77,878 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msvcirt.dll
sqlsort.dll         2000.080.0382.00    576.56 KB
(590,396 bytes)     4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\sqlsort.dll
ums.dll   2000.080.0382.00    48.07 KB (49,228 bytes)
          4/24/2001 1:34:46 PM          Microsoft
Corporation         c:\sql2k\mssql\binn\ums.dll
opends60.dll        2000.080.0194.00    24.06 KB
(24,639 bytes)      4/24/2001 1:34:46 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\opends60.dll
sqlservr.exe        2000.080.0384.00    7.05 MB
(7,397,457 bytes)   4/24/2001 1:34:44 PM
          Microsoft Corporation
          c:\sql2k\mssql\binn\sqlservr.exe
cmd.exe   5.00.2195.1600      230.77 KB (236,304
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\cmd.exe
sqlmangr.rll        2000.080.0194.00    96.00 KB
(98,304 bytes)      4/24/2001 1:35:24 PM
          Microsoft Corporation         c:\program
files\microsoft sql
server\80\tools\binn\resources\1033\sqlmangr.rll
sqlsvc.rll          2000.080.0194.00    24.00 KB
(24,576 bytes)      4/24/2001 1:35:22 PM
          Microsoft Corporation         c:\program
files\microsoft sql
server\80\tools\binn\resources\1033\sqlsvc.rll
odbcint.dll         3.520.7326.0        88.00 KB
(90,112 bytes)      6/19/2001 5:01:49 PM
          Microsoft Corporation
          c:\winnt\system32\odbcint.dll
sqlresld.dll        2000.080.0382.00    28.56 KB
(29,248 bytes)      4/24/2001 1:35:22 PM
          Microsoft Corporation         c:\program
files\microsoft sql server\80\tools\binn\sqlresld.dll
odbcbcp.dll          2000.080.0380.00   28.57 KB
(29,252 bytes)      6/19/2001 5:01:53 PM
          Microsoft Corporation
          c:\winnt\system32\odbcbcp.dll
sqlsvc.dll          2000.080.0382.00    92.56 KB
(94,784 bytes)      4/24/2001 1:35:22 PM
          Microsoft Corporation         c:\program
files\microsoft sql server\80\tools\binn\sqlsvc.dll
odbc32.dll          3.520.7326.0        216.27 KB
(221,456 bytes)     6/19/2001 5:01:49 PM
          Microsoft Corporation
          c:\winnt\system32\odbc32.dll
w95scm.dll          2000.080.0194.00    48.56 KB
(49,728 bytes)      4/24/2001 1:35:21 PM
          Microsoft Corporation         c:\program
files\microsoft sql server\80\tools\binn\w95scm.dll
comdlg32.dll        5.00.3103.1000      236.77 KB
(242,448 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\comdlg32.dll
sqlunirl.dll        2000.080.0380.00    176.56 KB
(180,800 bytes)     4/9/2001 10:46:18 AM
          Microsoft Corporation
          c:\winnt\system32\sqlunirl.dll
sqlmangr.exe        2000.080.0382.00    72.57 KB
(74,308 bytes)      4/24/2001 1:35:24 PM
          Microsoft Corporation         c:\program
files\microsoft sql server\80\tools\binn\sqlmangr.exe
tapisrv.dll         5.00.2186.1         168.77 KB
(172,816 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\tapisrv.dll
linkinfo.dll        5.00.2134.1         15.77 KB
(16,144 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\linkinfo.dll
```


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```
msi.dll   1.11.1314.0         1.72 MB (1,798,928
bytes)    5/7/2001 4:08:45 PM Microsoft Corporation
          c:\winnt\system32\msi.dll
powrprof.dll        5.00.3103.1000      13.27 KB
(13,584 bytes)      5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\powrprof.dll
batmeter.dll        5.00.2920.0000      20.27 KB
(20,752 bytes)      5/7/2001 4:08:51 PM Microsoft
Corporation         c:\winnt\system32\batmeter.dll
stobject.dll        5.00.2195.1387      79.27 KB
(81,168 bytes)      5/7/2001 4:08:38 PM Microsoft
Corporation         c:\winnt\system32\stobject.dll
webcheck.dll        5.00.3103.1000      251.77 KB
(257,808 bytes)     5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\webcheck.dll
netui1.dll          5.00.2134.1         210.27 KB
(215,312 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\netui1.dll
netui0.dll          5.00.2134.1         70.27 KB
(71,952 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\netui0.dll
ntlanman.dll        5.00.2157.1         35.27 KB
(36,112 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntlanman.dll
ntshrui.dll         5.00.2134.1         46.77 KB
(47,888 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntshrui.dll
mydocs.dll          5.00.2920.0000      55.77 KB
(57,104 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mydocs.dll
browseui.dll        5.00.3103.1000      788.77 KB
(807,696 bytes)     5/7/2001 4:08:51 PM Microsoft
Corporation         c:\winnt\system32\browseui.dll
shdocvw.dll         5.00.3103.1000      1.05 MB
(1,104,144 bytes)   5/7/2001 4:08:39 PM Microsoft
Corporation         c:\winnt\system32\shdocvw.dll
explorer.exe        5.00.3103.1000      237.27 KB
(242,960 bytes)     5/7/2001 4:08:54 PM Microsoft
Corporation         c:\winnt\explorer.exe
dfssvc.exe          5.00.2195.1340      87.77 KB
(89,872 bytes)      5/7/2001 4:08:50 PM Microsoft
Corporation         c:\winnt\system32\dfssvc.exe
iprop.dll 5.00.2181.1         4.27 KB (4,368 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\iprop.dll
srchidx.dll         9.107.6223.2        380.00 KB
(389,120 bytes)     6/19/2001 4:19:16 PM
          Microsoft Corporation
          c:\progra~1\common~1\system\mssearch\bin\sr
chidx.dll
propdefs.dll        9.107.6223.2        136.00 KB
(139,264 bytes)     6/19/2001 4:19:16 PM
          Microsoft Corporation
          c:\progra~1\common~1\system\mssearch\bin\pr
opdefs.dll
lcdetect.dll        9.107.6223.2        28.00 KB
(28,672 bytes)      6/19/2001 4:19:15 PM
          Microsoft Corporation         c:\program
files\common files\system\mssearch\bin\lcdetect.dll
tquery.dll          9.107.6223.2        1.45 MB
(1,515,520 bytes)   6/19/2001 4:19:16 PM
          Microsoft Corporation         c:\program
files\common files\system\mssearch\bin\tquery.dll
security.dll        5.00.2154.1         5.77 KB
(5,904 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\security.dll
mssrch.dll          9.107.6223.2        1.23 MB
(1,290,240 bytes)   6/19/2001 4:19:16 PM
          Microsoft Corporation
          c:\progra~1\common~1\system\mssearch\bin\ms
srch.dll
mssws.dll 9.107.6223.2        36.00 KB (36,864 bytes)
          6/19/2001 4:19:16 PM          Microsoft
Corporation         c:\program files\common
files\system\mssearch\bin\mssws.dll
mssearch.exe        9.107.6223.2        64.00 KB
(65,536 bytes)      6/19/2001 4:19:15 PM
          Microsoft Corporation         c:\program
files\common files\system\mssearch\bin\mssearch.exe
wshnetbs.dll        5.00.2134.1         7.77 KB
(7,952 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wshnetbs.dll
ntmarta.dll         5.00.2158.1         98.77 KB
(101,136 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntmarta.dll
provthrd.dll        1.50.1085.0000      68.07 KB
(69,708 bytes)      4/24/2001 11:27:11 AM
          Microsoft Corporation
          c:\winnt\system32\wbem\provthrd.dll
ntevt.dll 1.50.1085.0000      192.06 KB (196,669
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\wbem\ntevt.dll
perfos.dll          5.00.2155.1         21.27 KB
(21,776 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\perfos.dll
psapi.dll 5.00.2134.1         28.27 KB (28,944 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\psapi.dll
framedyn.dll        1.50.1085.0000      164.05 KB
(167,992 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wbem\framedyn.dll
cimwin32.dll        1.50.1085.0016      1.02 MB
(1,073,232 bytes)   5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\cimwin32.dll
wbemsvc.dll         1.50.1085.0007      40.07 KB
(41,036 bytes)      5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\wbemsvc.dll
wbemess.dll         1.50.1085.0007      364.07 KB
(372,804 bytes)     5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\wbemess.dll
fastprox.dll        1.50.1085.0007      144.08 KB
(147,536 bytes)     5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\fastprox.dll
wbemcore.dll        1.50.1085.0008      628.07 KB
(643,140 bytes)     5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\wbemcore.dll
wbemcomn.dll        1.50.1085.0007      692.07 KB
(708,675 bytes)     5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\wbemcomn.dll
winmgmt.exe         1.50.1085.0009      192.08 KB
(196,685 bytes)     5/7/2001 4:08:56 PM Microsoft
Corporation
          c:\winnt\system32\wbem\winmgmt.exe
rdpwsx.dll          5.00.2180.1         94.40 KB
(96,664 bytes)      4/24/2001 6:25:10 AM
          Microsoft Corporation
          c:\winnt\system32\rdpwsx.dll
ntlsapi.dll         5.00.2134.1         6.77 KB
(6,928 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntlsapi.dll
mstlsapi.dll        5.00.2181.1         24.77 KB
(25,360 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mstlsapi.dll
icaapi.dll          5.00.2134.1         118.77 KB
(121,616 bytes)     4/24/2001 6:25:09 AM
          Microsoft Corporation
          c:\winnt\system32\icaapi.dll
regapi.dll          5.00.2155.1         35.27 KB
(36,112 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\regapi.dll
termsrv.exe         5.00.2195.1340      136.77 KB
(140,048 bytes)     5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\termsrv.exe
rapilib.dll         5.00.2167.1         25.27 KB
(25,872 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rapilib.dll
rsvpsp.dll          5.00.2167.1         74.77 KB
(76,560 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rsvpsp.dll
tardisnt.exe        Not Available       179.00 KB
(183,296 bytes)     4/24/2001 1:26:57 PM          Not
Available c:\winnt\system32\tardisnt.exe
msidle.dll          5.00.2920.0000      6.27 KB
(6,416 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msidle.dll
mstask.exe          4.71.2137.1         115.27 KB
(118,032 bytes)     4/24/2001 11:27:12 AM
          Microsoft Corporation
          c:\winnt\system32\mstask.exe
rshsvc.dll          Not Available       11.50 KB
(11,776 bytes)      5/2/2001 3:37:14 PM Not Available
          c:\winnt\system32\rshsvc.dll
rshsvc.exe          Not Available       36.00 KB
(36,864 bytes)      5/2/2001 3:37:14 PM Not Available
          c:\winnt\system32\rshsvc.exe
```


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```
regsvc.exe          5.00.2195.31        65.27 KB
(66,832 bytes)      5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\regsvc.exe
llsrpc.dll          5.00.2149.1         45.77 KB
(46,864 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\llsrpc.dll
llssrv.exe          5.00.2167.1         114.27 KB
(117,008 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\llssrv.exe
wmi.dll   5.00.2191.1         6.27 KB (6,416 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\wmi.dll
netshell.dll        5.00.2195.1600      456.77 KB
(467,728 bytes)     5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\netshell.dll
netman.dll          5.00.2195.1600      89.27 KB
(91,408 bytes)      5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\netman.dll
rasdlg.dll          5.00.2194.1         514.27 KB
(526,608 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rasdlg.dll
netcfgx.dll         5.00.2195.1618      533.77 KB
(546,576 bytes)     5/7/2001 4:08:42 PM Microsoft
Corporation         c:\winnt\system32\netcfgx.dll
rasmans.dll         5.00.2195.27        146.77 KB
(150,288 bytes)     5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\rasmans.dll
ntmsdba.dll         5.00.2195.1600      167.77 KB
(171,792 bytes)     5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\ntmsdba.dll
sens.dll  5.00.2163.1         36.77 KB (37,648 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\sens.dll
ntmssvc.dll         5.00.2187.1         390.77 KB
(400,144 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntmssvc.dll
es.dll    1999.9.3422.21      231.77 KB (237,328
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\es.dll
mtxoci.dll          1999.9.3421.3       109.27 KB
(111,888 bytes)     4/24/2001 6:25:09 AM
          Microsoft Corporation
          c:\winnt\system32\mtxoci.dll
resutils.dll        5.00.2195.1613      39.77 KB
(40,720 bytes)      5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\resutils.dll
clusapi.dll         5.00.2195.1613      54.27 KB
(55,568 bytes)      5/7/2001 4:08:50 PM Microsoft
Corporation         c:\winnt\system32\clusapi.dll
msvcp50.dll         5.00.7051 552.50 KB (565,760
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\msvcp50.dll
xolehlp.dll         1999.9.3421.3       17.27 KB
(17,680 bytes)      4/24/2001 6:25:08 AM
          Microsoft Corporation
          c:\winnt\system32\xolehlp.dll
msdtclog.dll        2000.2.3478.0       193.50 KB
(198,144 bytes)     4/24/2001 6:25:07 AM
          Microsoft Corporation
          c:\winnt\system32\msdtclog.dll
mtxclu.dll          1999.9.3421.3       50.27 KB
(51,472 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mtxclu.dll
msdtcprx.dll        2000.2.3482.0       1.32 MB
(1,379,840 bytes)   5/7/2001 4:08:46 PM Microsoft
Corporation         c:\winnt\system32\msdtcprx.dll
txfaux.dll          1999.9.3422.24      341.27 KB
(349,456 bytes)     4/24/2001 6:25:07 AM
          Microsoft Corporation
          c:\winnt\system32\txfaux.dll
msdtctm.dll         2000.2.3478.0       4.09 MB
(4,292,608 bytes)   7/18/2001 12:15:12 PM
          Microsoft Corporation
          c:\winnt\system32\msdtctm.dll
msdtc.exe 1999.9.3421.3       6.77 KB (6,928 bytes)
          4/24/2001 6:25:07 AM          Microsoft
Corporation         c:\winnt\system32\msdtc.exe
inetpp.dll          5.00.2195.25        65.27 KB
(66,832 bytes)      5/7/2001 4:08:48 PM Microsoft
Corporation         c:\winnt\system32\inetpp.dll
win32spl.dll        5.00.2195.1340      92.27 KB
(94,480 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\win32spl.dll
usbmon.dll          5.00.2165.1         11.27 KB
(11,536 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\usbmon.dll
tcpmon.dll          5.00.2195.1225      40.77 KB
(41,744 bytes)      5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\tcpmon.dll
pjlmon.dll          5.00.2165.1         12.77 KB
(13,072 bytes)      11/30/1999 5:39:36 PM
          Microsoft Corporation
          c:\winnt\system32\pjlmon.dll
cnbjmon.dll         5.00.2134.1         43.77 KB
(44,816 bytes)      11/30/1999 5:38:48 PM
          Microsoft Corporation
          c:\winnt\system32\cnbjmon.dll
localspl.dll        5.00.2195.1340      246.27 KB
(252,176 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\localspl.dll
spoolss.dll         5.00.2161.1         61.77 KB
(63,248 bytes)      4/24/2001 6:08:13 AM
          Microsoft Corporation
          c:\winnt\system32\spoolss.dll
spoolsv.exe         5.00.2161.1         43.77 KB
(44,816 bytes)      4/24/2001 6:08:13 AM
          Microsoft Corporation
          c:\winnt\system32\spoolsv.exe
rpcss.dll 5.00.2195.1600      229.27 KB (234,768
bytes)    5/7/2001 4:08:40 PM Microsoft Corporation
          c:\winnt\system32\rpcss.dll
svchost.exe         5.00.2134.1         7.77 KB
(7,952 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\svchost.exe
dssbase.dll         5.00.2195.1391      141.27 KB
(144,656 bytes)     5/7/2001 3:54:47 PM Microsoft
Corporation         c:\winnt\system32\dssbase.dll
oakley.dll          5.00.2195.1600      378.77 KB
(387,856 bytes)     5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\oakley.dll
mfc42u.dll          6.00.8665.0         972.05 KB
(995,384 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mfc42u.dll
polagent.dll        5.00.2183.1         108.27 KB
(110,864 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\polagent.dll
scecli.dll          5.00.2191.1         105.27 KB
(107,792 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\scecli.dll
atl.dll   3.00.8449 57.56 KB (58,938 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\atl.dll
certcli.dll         5.00.2175.1         132.27 KB
(135,440 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\certcli.dll
esent.dll 6.0.3940.4          1.08 MB (1,135,888
bytes)    5/7/2001 4:08:48 PM Microsoft Corporation
          c:\winnt\system32\esent.dll
ntdsatq.dll         5.00.2195.1284      31.27 KB
(32,016 bytes)      5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\ntdsatq.dll
ntdsa.dll 5.00.2195.1600      987.27 KB (1,010,960
bytes)    5/7/2001 4:08:41 PM Microsoft Corporation
          c:\winnt\system32\ntdsa.dll
kdcsvc.dll          5.00.2195.1284      133.77 KB
(136,976 bytes)     5/7/2001 4:08:47 PM Microsoft
Corporation         c:\winnt\system32\kdcsvc.dll
sfmapi.dll          5.00.2134.1         38.77 KB
(39,696 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\sfmapi.dll
rassfm.dll          5.00.2195.1179      21.27 KB
(21,776 bytes)      5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\rassfm.dll
mpr.dll   5.00.2195.1340      53.27 KB (54,544 bytes)
          5/7/2001 4:08:46 PM Microsoft Corporation
          c:\winnt\system32\mpr.dll
schannel.dll        5.00.2195.1163      137.27 KB
(140,560 bytes)     5/7/2001 3:56:38 PM Microsoft
Corporation         c:\winnt\system32\schannel.dll
netlogon.dll        5.00.2195.1600      348.27 KB
(356,624 bytes)     5/7/2001 4:08:41 PM Microsoft
Corporation         c:\winnt\system32\netlogon.dll
msv1_0.dll          5.00.2195.1620      92.77 KB
(94,992 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msv1_0.dll
kerberos.dll        5.00.2195.1378      197.77 KB
(202,512 bytes)     5/7/2001 4:08:47 PM Microsoft
Corporation         c:\winnt\system32\kerberos.dll
msprivs.dll         5.00.2154.1         41.50 KB
(42,496 bytes)      12/7/1999 6:00:00 AM
```


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```
          Microsoft Corporation
          c:\winnt\system32\msprivs.dll
samsrv.dll          5.00.2195.1609      343.27 KB
(351,504 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\samsrv.dll
lsasrv.dll          5.00.2195.1620      475.27 KB
(486,672 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\lsasrv.dll
lsass.exe 5.00.2195.1620      32.77 KB (33,552 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\lsass.exe
wmicore.dll         5.00.2178.1         70.77 KB
(72,464 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wmicore.dll
rasadhlp.dll        5.00.2168.1         7.27 KB
(7,440 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rasadhlp.dll
winrnr.dll          5.00.2160.1         18.77 KB
(19,216 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\winrnr.dll
rnr20.dll 5.00.2195.1207      35.77 KB (36,624 bytes)
          5/7/2001 4:08:40 PM Microsoft Corporation
          c:\winnt\system32\rnr20.dll
mswsock.dll         5.00.2195.1207      62.77 KB
(64,272 bytes)      5/7/2001 4:08:42 PM Microsoft
Corporation         c:\winnt\system32\mswsock.dll
msgsvc.dll          5.00.2181.1         33.77 KB
(34,576 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msgsvc.dll
browser.dll         5.00.2142.1         48.27 KB
(49,424 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\browser.dll
alrsvc.dll          5.00.2134.1         17.77 KB
(18,192 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\alrsvc.dll
trkwks.dll          5.00.2166.1         88.77 KB
(90,896 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\trkwks.dll
seclogon.dll        5.00.2135.1         15.77 KB
(16,144 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\seclogon.dll
wshtcpip.dll        5.00.2134.1         17.27 KB
(17,680 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wshtcpip.dll
msafd.dll 5.00.2195.1614      102.77 KB (105,232
bytes)    5/7/2001 4:08:46 PM Microsoft Corporation
          c:\winnt\system32\msafd.dll
psbase.dll          5.00.2195.1600      111.77 KB
(114,448 bytes)     5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\psbase.dll
cryptsvc.dll        5.00.2181.1         61.77 KB
(63,248 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\cryptsvc.dll
cryptdll.dll        5.00.2135.1         41.27 KB
(42,256 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\cryptdll.dll
wkssvc.dll          5.00.2195.1175      95.27 KB
(97,552 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wkssvc.dll
srvsvc.dll          5.00.2178.1         79.27 KB
(81,168 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\srvsvc.dll
cfgmgr32.dll        5.00.2134.1         16.77 KB
(17,168 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\cfgmgr32.dll
dmserver.dll        2195.23.297.2       11.77 KB
(12,048 bytes)      5/7/2001 4:08:49 PM VERITAS
Software Corp.      c:\winnt\system32\dmserver.dll
lmhsvc.dll          5.00.2134.1         9.27 KB
(9,488 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\lmhsvc.dll
dnsrslvr.dll        5.00.2195.1600      88.77 KB
(90,896 bytes)      5/7/2001 4:08:49 PM Microsoft
Corporation         c:\winnt\system32\dnsrslvr.dll
tapi32.dll          5.00.2182.1         123.27 KB
(126,224 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\tapi32.dll
rasman.dll          5.00.2188.1         54.77 KB
(56,080 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rasman.dll
rasapi32.dll        5.00.2188.1         189.77 KB
(194,320 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rasapi32.dll
rtutils.dll         5.00.2168.1         43.77 KB
(44,816 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\rtutils.dll
adsldpc.dll         5.00.2195.1600      125.77 KB
(128,784 bytes)     5/7/2001 4:08:51 PM Microsoft
Corporation         c:\winnt\system32\adsldpc.dll
activeds.dll        5.00.2172.1         172.77 KB
(176,912 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\activeds.dll
mprapi.dll          5.00.2181.1         79.27 KB
(81,168 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mprapi.dll
iphlpapi.dll        5.00.2173.2         67.77 KB
(69,392 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\iphlpapi.dll
icmp.dll  5.00.2134.1         7.27 KB (7,440 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\icmp.dll
dhcpcsvc.dll        5.00.2153.1         88.77 KB
(90,896 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\dhcpcsvc.dll
eventlog.dll        5.00.2178.1         43.77 KB
(44,816 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\eventlog.dll
ntdsapi.dll         5.00.2160.1         56.27 KB
(57,616 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ntdsapi.dll
scesrv.dll          5.00.2188.1         225.77 KB
(231,184 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\scesrv.dll
umpnpmgr.dll        5.00.2182.1         86.27 KB
(88,336 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\umpnpmgr.dll
services.exe        5.00.2134.1         86.77 KB
(88,848 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\services.exe
clbcatq.dll         2000.2.3449.0       496.27 KB
(508,176 bytes)     5/7/2001 4:08:50 PM Microsoft
Corporation         c:\winnt\system32\clbcatq.dll
oleaut32.dll        2.40.4514 600.27 KB (614,672
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\oleaut32.dll
cscui.dll 5.00.2195.1387      227.27 KB (232,720
bytes)    5/7/2001 4:08:50 PM Microsoft Corporation
          c:\winnt\system32\cscui.dll
winspool.drv        5.00.2195.1340      109.77 KB
(112,400 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\winspool.drv
winscard.dll        5.00.2134.1         77.27 KB
(79,120 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\winscard.dll
wlnotify.dll        5.00.2195.1163      53.27 KB
(54,544 bytes)      5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\wlnotify.dll
cscdll.dll          5.00.2195.1600      98.27 KB
(100,624 bytes)     5/7/2001 4:08:50 PM Microsoft
Corporation         c:\winnt\system32\cscdll.dll
lz32.dll  5.00.2134.1         9.77 KB (10,000 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\lz32.dll
version.dll         5.00.2134.1         15.77 KB
(16,144 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\version.dll
rsabase.dll         5.00.2195.1391      129.27 KB
(132,368 bytes)     5/7/2001 3:56:34 PM Microsoft
Corporation         c:\winnt\system32\rsabase.dll
mscat32.dll         5.131.2134.1        7.77 KB
(7,952 bytes)       12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\mscat32.dll
```


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```
ole32.dll 5.00.2195.1607      965.27 KB (988,432
bytes)    5/7/2001 4:08:40 PM Microsoft Corporation
          c:\winnt\system32\ole32.dll
imagehlp.dll        5.00.2195.1         125.27 KB
(128,272 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\imagehlp.dll
msasn1.dll          5.00.2134.1         51.27 KB
(52,496 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msasn1.dll
crypt32.dll         5.131.2195.1340     464.77 KB
(475,920 bytes)     5/7/2001 4:08:50 PM Microsoft
Corporation         c:\winnt\system32\crypt32.dll
wintrust.dll        5.131.2143.1        162.27 KB
(166,160 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\wintrust.dll
setupapi.dll        5.00.2195.1608      552.77 KB
(566,032 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\setupapi.dll
winmm.dll 5.00.2161.1         184.77 KB (189,200
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\winmm.dll
comctl32.dll        5.81      537.77 KB (550,672
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\comctl32.dll
shlwapi.dll         5.00.3103.1000      282.27 KB
(289,040 bytes)     5/7/2001 4:08:38 PM Microsoft
Corporation         c:\winnt\system32\shlwapi.dll
shell32.dll         5.00.3103.1000      2.25 MB
(2,358,032 bytes)   5/7/2001 4:08:38 PM Microsoft
Corporation         c:\winnt\system32\shell32.dll
msgina.dll          5.00.2195.1600      323.27 KB
(331,024 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msgina.dll
winsta.dll          5.00.2195.32        36.27 KB
(37,136 bytes)      5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\winsta.dll
wsock32.dll         5.00.2195.1207      21.27 KB
(21,776 bytes)      5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\wsock32.dll
dnsapi.dll          5.00.2195.1600      127.77 KB
(130,832 bytes)     5/7/2001 4:08:49 PM Microsoft
Corporation         c:\winnt\system32\dnsapi.dll
wldap32.dll         5.00.2195.1175      155.27 KB
(158,992 bytes)     5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\wldap32.dll
ws2help.dll         5.00.2134.1         17.77 KB
(18,192 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\ws2help.dll
ws2_32.dll          5.00.2195.1340      68.77 KB
(70,416 bytes)      5/7/2001 4:08:37 PM Microsoft
Corporation         c:\winnt\system32\ws2_32.dll
samlib.dll          5.00.2160.1         46.27 KB
(47,376 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\samlib.dll
netrap.dll          5.00.2134.1         11.27 KB
(11,536 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\netrap.dll
netapi32.dll        5.00.2195.1600      303.27 KB
(310,544 bytes)     5/7/2001 4:08:42 PM Microsoft
Corporation         c:\winnt\system32\netapi32.dll
profmap.dll         5.00.2181.1         29.27 KB
(29,968 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\profmap.dll
secur32.dll         5.00.2195.1600      47.27 KB
(48,400 bytes)      5/7/2001 4:08:39 PM Microsoft
Corporation         c:\winnt\system32\secur32.dll
sfc.dll   5.00.2195.1618      90.05 KB (92,216 bytes)
          5/7/2001 4:08:39 PM Microsoft Corporation
          c:\winnt\system32\sfc.dll
nddeapi.dll         5.00.2137.1         15.27 KB
(15,632 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\nddeapi.dll
userenv.dll         5.00.2195.1600      359.27 KB
(367,888 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\userenv.dll
rpcrt4.dll          5.00.2195.1615      436.27 KB
(446,736 bytes)     5/7/2001 4:08:40 PM Microsoft
Corporation         c:\winnt\system32\rpcrt4.dll
advapi32.dll        5.00.2195.1600      349.27 KB
(357,648 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\advapi32.dll
msvcrt.dll          6.10.8637.0         288.09 KB
(295,000 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\msvcrt.dll
winlogon.exe        5.00.2195.1600      172.77 KB
(176,912 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\winlogon.exe
gdi32.dll 5.00.2195.1340      228.77 KB (234,256
bytes)    12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\gdi32.dll
kernel32.dll        5.00.2195.1600      713.27 KB
(730,384 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\kernel32.dll
user32.dll          5.00.2195.1600      392.77 KB
(402,192 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\user32.dll
winsrv.dll          5.00.2195.1600      245.77 KB
(251,664 bytes)     11/30/1999 5:39:54 PM
          Microsoft Corporation
          c:\winnt\system32\winsrv.dll
basesrv.dll         5.00.2191.1         35.27 KB
(36,112 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\basesrv.dll
csrsrv.dll          5.00.2137.1         33.77 KB
(34,576 bytes)      12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\csrsrv.dll
csrss.exe 5.00.2137.1         5.27 KB (5,392 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\csrss.exe
sfcfiles.dll        5.00.2195.1         973.27 KB
(996,624 bytes)     12/7/1999 6:00:00 AM
          Microsoft Corporation
          c:\winnt\system32\sfcfiles.dll
ntdll.dll 5.00.2195.1600      475.27 KB (486,672
bytes)    5/7/2001 3:56:09 PM Microsoft Corporation
          c:\winnt\system32\ntdll.dll
smss.exe  5.00.2195.31        44.27 KB (45,328 bytes)
          12/7/1999 6:00:00 AM          Microsoft
Corporation         c:\winnt\system32\smss.exe

[Services]

Display Name        Name      State     Start Mode
          Service Type        Path      Error Control
          Start Name          Tag ID
Alerter   Alerter   Running   Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Application Management        AppMgmt   Stopped
          Manual    Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Computer Browser    Browser   Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Indexing Service    cisvc     Stopped   Manual
          Share Process
          c:\winnt\system32\cisvc.exe   Normal
          LocalSystem         0
ClipBook  ClipSrv   Stopped   Manual    Own Process
          c:\winnt\system32\clipsrv.exe Normal
          LocalSystem         0
Distributed File System       Dfs       Running
          Auto      Own Process
          c:\winnt\system32\dfssvc.exe  Normal
          LocalSystem         0
DHCP Client         Dhcp      Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Logical Disk Manager Administrative Service
          dmadmin   Stopped   Manual    Share Process
          c:\winnt\system32\dmadmin.exe /com
          Normal    LocalSystem         0
Logical Disk Manager          dmserver  Running
          Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
DNS Client          Dnscache  Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Event Log Eventlog  Running   Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
COM+ Event System   EventSystem         Running
          Manual    Share Process
```


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```
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Fax Service         Fax       Stopped   Manual    Own
Process   c:\winnt\system32\faxsvc.exe  Normal
          LocalSystem         0
Intersite Messaging IsmServ   Stopped   Disabled  Own
Process   c:\winnt\system32\ismserv.exe Normal
          LocalSystem         0
Kerberos Key Distribution Center        kdc
          Stopped   Disabled  Share Process
          c:\winnt\system32\lsass.exe   Normal
          LocalSystem         0
Server    lanmanserver        Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Workstation         lanmanworkstation   Running
          Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
License Logging Service       LicenseService
          Running   Auto      Own Process
          c:\winnt\system32\llssrv.exe  Normal
          LocalSystem         0
TCP/IP NetBIOS Helper Service LmHosts   Running
          Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Messenger Messenger Running   Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
NetMeeting Remote Desktop Sharing       mnmsrvc
          Stopped   Manual    Own Process
          c:\winnt\system32\mnmsrvc.exe Normal
          LocalSystem         0
Distributed Transaction Coordinator     MSDTC
          Running   Auto      Own Process
          c:\winnt\system32\msdtc.exe   Normal
          LocalSystem         0
Windows Installer   MSIServer Stopped   Manual
          Share Process
          c:\winnt\system32\msiexec.exe /v
          Normal    LocalSystem         0
Microsoft Search    MSSEARCH  Running   Auto
          Share Process       "c:\program
files\common files\system\mssearch\bin\mssearch.exe"
          Normal    LocalSystem         0
MSSQLSERVER         MSSQLSERVER         Stopped
          Manual    Own Process
          c:\sql2k\mssql\binn\sqlservr.exe
          Normal    LocalSystem         0
MSSQLServerADHelper MSSQLServerADHelper Stopped
          Manual    Own Process         c:\program
files\microsoft sql server\80\tools\binn\sqladhlp.exe
          Normal    LocalSystem         0
Network DDE         NetDDE    Stopped   Manual
          Share Process
          c:\winnt\system32\netdde.exe  Normal
          LocalSystem         0
Network DDE DSDM    NetDDEdsdm          Stopped
          Manual    Share Process
          c:\winnt\system32\netdde.exe  Normal
          LocalSystem         0
Net Logon Netlogon  Stopped   Manual    Share Process
          c:\winnt\system32\lsass.exe   Normal
          LocalSystem         0
Network Connections Netman    Running   Manual
          Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
File Replication    NtFrs     Stopped   Manual    Own
Process   c:\winnt\system32\ntfrs.exe   Ignore
          LocalSystem         0
NT LM Security Support Provider         NtLmSsp
          Running   Manual    Share Process
          c:\winnt\system32\lsass.exe   Normal
          LocalSystem         0
Removable Storage   NtmsSvc   Running   Auto
          Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Plug and Play       PlugPlay  Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
IPSEC Policy Agent  PolicyAgent         Running
          Auto      Share Process
          c:\winnt\system32\lsass.exe   Normal
          LocalSystem         0
Protected Storage   ProtectedStorage    Running
          Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Remote Access Auto Connection Manager   RasAuto
          Stopped   Manual    Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Remote Access Connection Manager        RasMan
          Stopped   Manual    Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Routing and Remote Access     RemoteAccess
          Stopped   Disabled  Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Remote Registry Service       RemoteRegistry
          Running   Auto      Own Process
          c:\winnt\system32\regsvc.exe  Normal
          LocalSystem         0
Remote Procedure Call (RPC) Locator     RpcLocator
          Stopped   Manual    Own Process
          c:\winnt\system32\locator.exe Normal
          LocalSystem         0
Remote Procedure Call (RPC)   RpcSs     Running
          Auto      Share Process
          c:\winnt\system32\svchost -k rpcss
          Normal    LocalSystem         0
Remote Shell Service          RshSvc    Running
          Auto      Own Process
          c:\winnt\system32\rshsvc.exe  Normal
          LocalSystem         0
QoS RSVP  RSVP      Running   Manual    Own Process
          c:\winnt\system32\rsvp.exe -s Normal
          LocalSystem         0
Security Accounts Manager     SamSs     Running
          Auto      Share Process
          c:\winnt\system32\lsass.exe   Normal
          LocalSystem         0
Smart Card Helper   SCardDrv  Stopped   Manual
          Share Process
          c:\winnt\system32\scardsvr.exe
          Ignore    LocalSystem         0
Smart Card          SCardSvr  Stopped   Manual
          Share Process
          c:\winnt\system32\scardsvr.exe
          Ignore    LocalSystem         0
Task Scheduler      Schedule  Running   Auto
          Share Process
          c:\winnt\system32\mstask.exe  Normal
          LocalSystem         0
RunAs Service       seclogon  Running   Auto
          Share Process
          c:\winnt\system32\services.exe
          Ignore    LocalSystem         0
System Event Notification     SENS      Running
          Auto      Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Internet Connection Sharing   SharedAccess
          Stopped   Manual    Share Process
          c:\winnt\system32\svchost.exe -k netsvcs
          Normal    LocalSystem         0
Print Spooler       Spooler   Running   Auto      Own
Process   c:\winnt\system32\spoolsv.exe Normal
          LocalSystem         0
SQLSERVERAGENT      SQLSERVERAGENT      Stopped
          Manual    Own Process
          c:\sql2k\mssql\binn\sqlagent.exe
          Normal    LocalSystem         0
Performance Logs and Alerts   SysmonLog Stopped
          Manual    Own Process
          c:\winnt\system32\smlogsvc.exe
          Normal    LocalSystem         0
Telephony TapiSrv   Running   Manual    Share Process
          c:\winnt\system32\svchost.exe -k tapisrv
          Normal    LocalSystem         0
Tardis time service Tardis    Running   Auto      Own
Process   c:\winnt\system32\tardisnt.exe
          Normal    LocalSystem         0
Terminal Services   TermService        Running
          Auto      Own Process
          c:\winnt\system32\termsrv.exe Normal
          LocalSystem         0
Telnet    TlntSvr   Stopped   Manual    Own Process
          c:\winnt\system32\tlntsvr.exe Normal
          LocalSystem         0
Distributed Link Tracking Server        TrkSvr
          Stopped   Manual    Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Distributed Link Tracking Client        TrkWks
          Running   Auto      Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Uninterruptible Power Supply  UPS       Stopped
          Manual    Own Process
          c:\winnt\system32\ups.exe     Normal
          LocalSystem         0
```


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```
Utility Manager     UtilMan   Stopped   Manual    Own
Process   c:\winnt\system32\utilman.exe Normal
          LocalSystem         0
Windows Time        W32Time   Stopped   Manual
          Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0
Windows Management Instrumentation      WinMgmt
          Running   Auto      Own Process
          c:\winnt\system32\wbem\winmgmt.exe
          Ignore    LocalSystem         0
Windows Management Instrumentation Driver Extensions
          Wmi       Running   Manual    Share Process
          c:\winnt\system32\services.exe
          Normal    LocalSystem         0

[Program Groups]

Group Name          Name      User Name
Accessories         Default User:Accessories
          Default User
Accessories\Accessibility     Default
User:Accessories\Accessibility          Default User
Accessories\Entertainment     Default
User:Accessories\Entertainment          Default User
Accessories\System Tools      Default
User:Accessories\System Tools Default User
Startup   Default User:Startup          Default User
Accessories         All Users:Accessories         All
Users
Accessories\Communications    All
Users:Accessories\Communications        All Users
Accessories\Entertainment     All
Users:Accessories\Entertainment         All Users
Accessories\Microsoft Script Debugger   All
Users:Accessories\Microsoft Script Debugger       All
Users
Accessories\System Tools      All
Users:Accessories\System Tools          All Users
Administrative Tools          All
Users:Administrative Tools    All Users
Microsoft SQL Server          All Users:Microsoft SQL
Server    All Users
Microsoft SQL Server - Switch All Users:Microsoft SQL
Server - Switch     All Users
Startup   All Users:Startup   All Users
Accessories         G10\Administrator:Accessories
          G10\Administrator
Accessories\Accessibility
          G10\Administrator:Accessories\Accessibility
          G10\Administrator
Accessories\Entertainment
          G10\Administrator:Accessories\Entertainment
          G10\Administrator
Accessories\System Tools
          G10\Administrator:Accessories\System Tools
          G10\Administrator
Administrative Tools
          G10\Administrator:Administrative Tools
          G10\Administrator
Debugging Tools     G10\Administrator:Debugging Tools
          G10\Administrator
Debugging Tools\Exception Monitor
          G10\Administrator:Debugging Tools\Exception
Monitor   G10\Administrator
Startup   G10\Administrator:Startup
          G10\Administrator

[Startup Programs]

Program   Command   User Name Location
Service Manager
          c:\progra~1\micros~3\80\tools\binn\sqlmangr
.exe  /n  All Users Common Startup

[OLE Registration]

Object    Local Server
Sound (OLE2)        sndrec32.exe
Media Clip          mplay32.exe
Video Clip          mplay32.exe /avi
MIDI Sequence       mplay32.exe /mid
Sound     Not Available
Media Clip          Not Available
Image Document      "C:\Program Files\Windows
NT\Accessories\ImageVue\KodakImg.exe"
WordPad Document    "%ProgramFiles%\Windows
NT\Accessories\WORDPAD.EXE"
Windows Media Services DRM Storage object         Not
Available
Bitmap Image        mspaint.exe

[Internet Explorer 5]

[ Following are sub-categories of this main category
]

[Summary]

Item      Value
Version   5.00.3103.1000
Build     53103.1000
Product ID          51879-000-0000007-05775
Application Path    C:\Program Files\Internet
Explorer
Language  English (United States)
Active Printer      Not Available

Cipher Strength     56-bit
Content Advisor     Disabled
IEAK Install        No

[File Versions]

File      Version   Size      Date      Path
          Company
advapi32.dll        5.0.2195.1600       349 KB
          5/7/2001 3:54:16 PM C:\WINNT\system32
          Microsoft Corporation
advpack.dll         5.0.3103.1000       87 KB
          5/7/2001 3:54:16 PM C:\WINNT\system32
          Microsoft Corporation
browselc.dll        5.0.3103.1000       35 KB
          5/7/2001 3:54:22 PM C:\WINNT\system32
          Microsoft Corporation
browseui.dll        5.0.3103.1000       789 KB
          5/7/2001 3:54:22 PM C:\WINNT\system32
          Microsoft Corporation
ckcnv.exe 5.0.2189.1          9 KB      12/7/1999
7:00:00 AM          C:\WINNT\system32   Microsoft
Corporation
comctl32.dll        5.81.3103.1000      538 KB
          5/7/2001 3:54:34 PM C:\WINNT\system32
          Microsoft Corporation
crypt32.dll         5.131.2195.1340     465 KB
          5/7/2001 3:54:38 PM C:\WINNT\system32
          Microsoft Corporation
enhsig.dll          <File Missing>      Not Available
          Not Available       Not Available       Not
Available
iemigrat.dll        <File Missing>      Not Available
          Not Available       Not Available       Not
Available
iesetup.dll         5.0.3103.1000       57 KB
          5/7/2001 3:55:06 PM C:\WINNT\system32
          Microsoft Corporation
iexplore.exe        5.0.2920.0          59 KB
          12/7/1999 7:00:00 AM          C:\Program
Files\Internet Explorer       Microsoft Corporation
imagehlp.dll        5.0.2195.1          125 KB
          12/7/1999 7:00:00 AM
          C:\WINNT\system32   Microsoft Corporation
imghelp.dll         <File Missing>      Not Available
          Not Available       Not Available       Not
Available
inseng.dll          5.0.3103.1000       72 KB
          5/7/2001 3:55:16 PM C:\WINNT\system32
          Microsoft Corporation
jobexec.dll         5.0.0.1   47 KB     12/7/1999
7:00:00 AM          C:\WINNT\system32   Microsoft
Corporation
jscript.dll         5.1.0.5010          476 KB
          5/7/2001 3:55:24 PM C:\WINNT\system32
          Microsoft Corporation
jsproxy.dll         5.0.2920.0          13 KB
          12/7/1999 7:00:00 AM
          C:\WINNT\system32   Microsoft Corporation
msaahtml.dll        <File Missing>      Not Available
          Not Available       Not Available       Not
Available
mshtml.dll          5.0.3103.1000       2292 KB
          5/7/2001 3:55:46 PM C:\WINNT\system32
          Microsoft Corporation
msjava.dll          5.0.3310.0          922 KB
          5/7/2001 3:55:50 PM C:\WINNT\system32
          Microsoft Corporation
msoss.dll <File Missing>      Not Available       Not
Available Not Available       Not Available
msxml.dll 8.0.5226.0          506 KB    5/7/2001
3:56:00 PM          C:\WINNT\system32   Microsoft
Corporation
occache.dll         5.0.3103.1000       86 KB
          5/7/2001 3:56:20 PM C:\WINNT\system32
          Microsoft Corporation
ole32.dll 5.0.2195.1607       965 KB    5/7/2001
3:56:26 PM          C:\WINNT\system32   Microsoft
Corporation
```


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```
oleaut32.dll        2.40.4514.1         600 KB
          5/7/2001 3:56:26 PM C:\WINNT\system32
          Microsoft Corporation
olepro32.dll        5.0.4514.1          160 KB
          5/7/2001 3:56:26 PM C:\WINNT\system32
          Microsoft Corporation
rsabase.dll         5.0.2195.1391       129 KB
          5/7/2001 3:56:34 PM C:\WINNT\system32
          Microsoft Corporation
rsaenh.dll          <File Missing>      Not Available
          Not Available       Not Available       Not
Available
rsapi32.dll         <File Missing>      Not Available
          Not Available       Not Available       Not
Available
rsasig.dll          <File Missing>      Not Available
          Not Available       Not Available       Not
Available
schannel.dll        5.0.2195.0          137 KB
          5/7/2001 3:56:38 PM C:\WINNT\system32
          Microsoft Corporation
shdoc401.dll        <File Missing>      Not Available
          Not Available       Not Available       Not
Available
shdocvw.dll         5.0.3103.1000       1078 KB
          5/7/2001 3:56:42 PM C:\WINNT\system32
          Microsoft Corporation
shell32.dll         5.0.3103.1000       2303 KB
          5/7/2001 3:56:42 PM C:\WINNT\system32
          Microsoft Corporation
shlwapi.dll         5.0.3103.1000       282 KB
          5/7/2001 3:56:42 PM C:\WINNT\system32
          Microsoft Corporation
url.dll   5.0.2920.0          82 KB     12/7/1999
7:00:00 AM          C:\WINNT\system32   Microsoft
Corporation
urlmon.dll          5.0.3103.1000       441 KB
          5/7/2001 3:56:56 PM C:\WINNT\system32
          Microsoft Corporation
vbscript.dll        5.1.0.5010          428 KB
          5/7/2001 3:56:56 PM C:\WINNT\system32
          Microsoft Corporation
webcheck.dll        5.0.3103.1000       252 KB
          5/7/2001 3:57:02 PM C:\WINNT\system32
          Microsoft Corporation
win.com   5.0.2134.1          24 KB     12/7/1999
7:00:00 AM          C:\WINNT\system32   Microsoft
Corporation
wininet.dll         5.0.3103.1000       457 KB
          5/7/2001 3:57:08 PM C:\WINNT\system32
          Microsoft Corporation
winsock.dll         3.10.0.103          3 KB
          12/7/1999 7:00:00 AM
          C:\WINNT\system32   Microsoft Corporation
wintrust.dll        5.131.2143.1        162 KB
          12/7/1999 7:00:00 AM
          C:\WINNT\system32   Microsoft Corporation
wsock.vxd <File Missing>      Not Available       Not
Available Not Available       Not Available
wsock32.dll         5.0.2195.1207       21 KB
          5/7/2001 3:57:26 PM C:\WINNT\system32
          Microsoft Corporation
wsock32n.dll        <File Missing>      Not Available
          Not Available       Not Available       Not
Available

[Connectivity]

Item      Value
Connection Preference         Never dial
EnableHttp1.1       1
ProxyHttp1.1        0

LAN Settings

AutoConfigProxy     Not Available
AutoProxyDetectMode Enabled
AutoConfigURL
Proxy     Disabled
ProxyServer
ProxyOverride

[Cache]

[ Following are sub-categories of this main category
]

[Summary]

Item      Value
Page Refresh Type   Automatic
Temporary Internet Files Folder         C:\Documents
and Settings\Administrator\Local Settings\Temporary
Internet Files
Total Disk Space    8630 MB
Available Disk Space          1376 MB
Maximum Cache Size  269 MB
Available Cache Size          270 MB

[List of Objects]

Program File        Status    CodeBase
No cached object information available

[Content]

[ Following are sub-categories of this main category
]

[Summary]

Item      Value
Content Advisor     Disabled

[Personal Certificates]

Issued To Issued By Validity  Signature Algorithm
Administrator       Administrator       4/26/2001 to
4/2/2101  sha1RSA
Administrator       Administrator       4/24/2001 to
3/31/2101 sha1RSA
Administrator       Administrator       4/27/2001 to
4/3/2101  sha1RSA

[Other People Certificates]

Issued To Issued By Validity  Signature Algorithm
No other people certificate information available

[Publishers]

Name
No publisher information available

[Security]

Zone      Security Level
Local intranet      Medium-low
Trusted sites       Low
Internet  Medium
Restricted sites    High
```

Software Updates

QFE355122 for SQL Server and QFE15 and QFE16 for Windows 2000 SP2 (for MSDTC).

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Appendix D: 60-Day Space

TPC-C 60 Day Space Requirements						
Warehouses	35200				TpmC	**410,769.88**
Table	Rows	Data KB	Index KB	Extra 5% KB	8hr Space	Total Space KB
Warehouse	**35,200**	**3,840**	**952**	240		5032
District	**352,000**	**39,680**	**1,024**	2,035		42739
Customer	**1,056,000,000**	**768,000,000**	**47,878,472**	40,793,924		856672396
History	**1,056,000,000**	**63,044,864**	**206,552**		127,305,564	63251416
NewOrder	**316,800,000**	**5,644,544**	**14,592**	282,957		5942093
Orders	**1,056,000,000**	**34,481,664**	**16,822,784**		50,400,343	51304448
OrderLine	**10,559,926,763**	**703,995,184**	**1,666,304**		144,508,615	705661488
Item	**1,600,000**	**152,448**	**1,280**	7,686		161414
Stock	**3,520,000,000**	**1,126,400,000**	**2,386,176**	56,439,309		1185225485
Total		2,701,762,224	68,978,136	97,526,150	322,214,522	2,868,266,510

	MB	
Dynamic Space	**782,736**	Sum of Data for Order, Orderline and History
Static Space	**2,018,305**	Sum of Data+Index+5%-Dynamic Space
Free Space	**na**	Total Allocated Spac - (Dynamic + Static Space)
Daily Growth	**146,147**	(Dynamic Space/(W*62.5))*tpmc
Daily Spread	-	(Free Space -1.5*Daily Growth) Zero Assumed
60 Day Space MB	10,787,153	
60 Day Space GB	**10,534.33**	GB
Log Size	85,999.99	MB
KB Per New Order	5,895.90	KB
8 hr log MB	1,108,638.97	MB
8 hr log GB	1,082.66	GB

Space Usage	GB Needed	Disks Measured	Disk Size	Formatted Size	GB Measured
60 Day Space DB	10,534.33	**1568**	18GB	16.950	26,578
		0	9GB	8.473	0.00
		0	4GB	3.999	0.00
Total DB disk space		**1568**			**26,578**
DTC OS drives		4	18GB	16.950	67.80
DTC log drives		4	9GB	8.473	33.89
8-hr log + mirror	**2,165.31**	**160**	**18GB**	**16.950**	**2,712**
OS, Swap	48	64	9GB	8.473	542.25
Total Storage	12,747.64				29,934

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Appendix E: Third Party Letters

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CISCO SYSTEMS

Cisco Systems

Ph: 713.778.5640
Fax:

Price Quotation

Date: 8/28/2001
To: Compaq Computer

Attn: Michael
V. Nikolaiev

Ph:
Fax:

Quote Number: 85S-E1L
Total Price: $130,170.00

Product Number	Product Description	Qty	Unit List Price	Disc Price	Disc %	Extended Price
WS-C6509-1300AC=	Catalyst 6509 Chassis w/ 1300W AC Power Supply	1	$13,990.00		0.000%	$13,990.00
WS-X6K-S2-MSFC2	Catalyst 6500 Supervisor Engine-2, 2GE, plus MSFC-2 & PFC-2	1	$34,995.00		0.000%	$34,995.00
WS-X6416-GBIC	Catalyst 6000 16-port Gig-Ethernet Mod. (Req. GBICs)	2	$19,995.00		0.000%	$39,990.00
WS-X6408A-GBIC	Catalyst 6000 8-port GE, Enhanced QoS (Req. GBICs)	1	$9,995.00		0.000%	$9,995.00
CON-SNTP-WS-C6509	24x7x4 Service,Catalyst 6509	3	$10,400.00		0.000%	$31,200.00

FOB Point: Origin
Ship Date:
Quote Valid Until: 09/27/2001

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Signed:

Ramsey McCreary

Notes:

This price quotation does not constitute an offer by Cisco to sell products, but is instead an invitation to issue a purchase order to Cisco until the Quotation Valid date specified on this Price Quotation. Such a purchase order will be subject to Cisco's standard procedures, terms, and conditions for the acceptance of purchase orders. This order may be subject to sales tax, VAT, duty and freight charges even if not noted on this quote.

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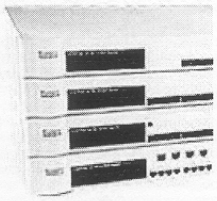

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Suggested Add

Linksys
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$16.99 buy no

Linksys
Instant Broadba
USB Modem
$120.54 buy n

Linksys
WPC11 Instant
Network PC Car
$105.00 buy n

Linksys
WDT11 Instant
PCI Adapter
$39.91 buy no

Linksys
WAP11 Instant Wireless N
Access Point
$192.99buy now!

Product Detail | Tech Specs

The EtherFast 10/100 Dual-Speed 16 Port Switch is the most flexible way to boost your network's performance while increasing manageability and migrating to the power of Fast Ethernet. Designed to meet the needs of medium businesses, corporate LANs and enterprise networks. Allow your 10Mbps and 100Mbps network segments to communicate directly with one another and increase network performance. With support for half and full duplex speeds, the switches allow your network to run as fast as 200Mbps!

When you upgrade your Ethernet network, Linksys EtherFast Switches offer you cost-effective solutions that complement your migration strategy. The EtherFast 10/100 Dual-Speed Switches have two expansion slots built in. Add a 100BASE-FX ST or SC-Type Fiber Optic Distance Extender module. With just one of these versatile switches, you can uplink to fiber backbones, connect to other fiber LAN segments, track down network bandwidth problems, re-direct network traffic, and much more.

EtherFast Switches eliminate bottlenecks and bandwidth constraints, optimizing network performance while protecting your investment in your existing infrastructure. The EtherFast 10/100

Site Categories

Systems
- Desktop & Towers
- Notebooks
- Servers
- Handhelds / PDAs
- Server Appliances

Hardware
- Accessories
- Books & Video
- Cables & Wiring
- CD & DVD
- Communications
- Controller Cards
- CPU Products
- Digital Cameras
- Input Devices
- Memory
- Modems
- Monitors
- Multimedia

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Video Cards
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Business
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Entertainment
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Internet
Utilities
Linux
Linux

Switches pack a full suite of error detection and correction features for reliable communication every time. Auto-partitioning, data collision control, preamble regeneration and incoming frame retiming ensures that not a single bit is lost, even during the heaviest moments of network activity. Utilize the full power of managed Fast Ethernet switching and take control of your network today!

Features:

- 16 10/100 auto-sensing switched RJ-45 ports (dual-speed per port)
- Optional 100BASE-FX ST or SC-Type fiber optic distance extender expansion module - transmit your data up to 2,000 meters (2 Kilometers)
- Fully rack mountable (includes hardware)
- Non-blocking internal speed of up to 2.5Gbps
- Full wire speed of 200Mbps per port
- 1536 bytes maximum MAC layer frame size
- Over 16,000 MAC address table entries available
- NWAY technology detects cabling type, speed and duplex operation
- LEDs: Power, Management, Link/Activity, Full Duplex/Collision, and 100Mbps
- Advanced store-and-forward packet switching
- Auto partitioning protects PCs from downed network Lines
- Preamble regeneration and incoming frame retiming
- VLSI components for reliability
- Free technical support
- Five year limited warranty

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Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
http://www.microsoft.com/

Microsoft

September 14, 2001

Compaq
Paul Cao
20555 SH 249
Houston, TX 77070

Paul:

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-C V5.0 benchmark testing.

All pricing shown is in US Dollars ($).

Part Number	Description	Unit Price	Quantity	Price
810-00945	**SQL Server 2000 Enterprise Edition** *Per processor licensing* *Discount schedule: Select B discount plan*	$ 15,802	128	$ 2,022,656
C11-00821	**Windows 2000 Server** *Server license only - No CALs* *Discount schedule: Open Program - No Level*	$ 738	1	$ 738
C10-00475	**Windows 2000 Advanced Server** *Server license only - No CALs* *Discount schedule: Open Program - No Level*	$ 2,399	1	$ 2,399
048-00317	**Visual C++ Professional 6.0 Win32**	$ 549	1	$ 549
	3-year maintenance for above software	$ 2,095	1	$ 100,560

All products are currently orderable through Microsoft's normal distribution channels.

This quote is valid for the next 90 days.

If we can be of any further assistance, please contact Jamie Reding at
(425) 703-0510 or jamiere@microsoft.com.

Reference ID: Pvsxk0114097510
Please include this Reference ID in any correspondence regarding this price quote.

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