



Hewlett-Packard Company

TPC Benchmark™ H
Full Disclosure Report
for
HP ProLiant DL760G2 8P
using
Microsoft SQL Server 2000 Enterprise Edition
and
Windows Server 2003, Enterprise Server

First Edition
February 2003

First Edition – February, 2003

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

All performance data contained in this report was obtained in a rigorously controlled environment. Results obtained in other operating environments may vary significantly. No warranty of system performance or price/performance is expressed or implied in this report.

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HP ProLiant DL760G2 8P

TPC-H Rev. 2.0

Report Date:
Feb 28, 2003

Total System Cost

\$216,782

Composite Query per Hour Metric

3346.6

QphH@100GB

Price / Performance

\$65

\$ / QphH@100GB

Database Size

100GB

Database Manager

**Microsoft SQL
Server 2000
Enterprise Edition**

Operating System

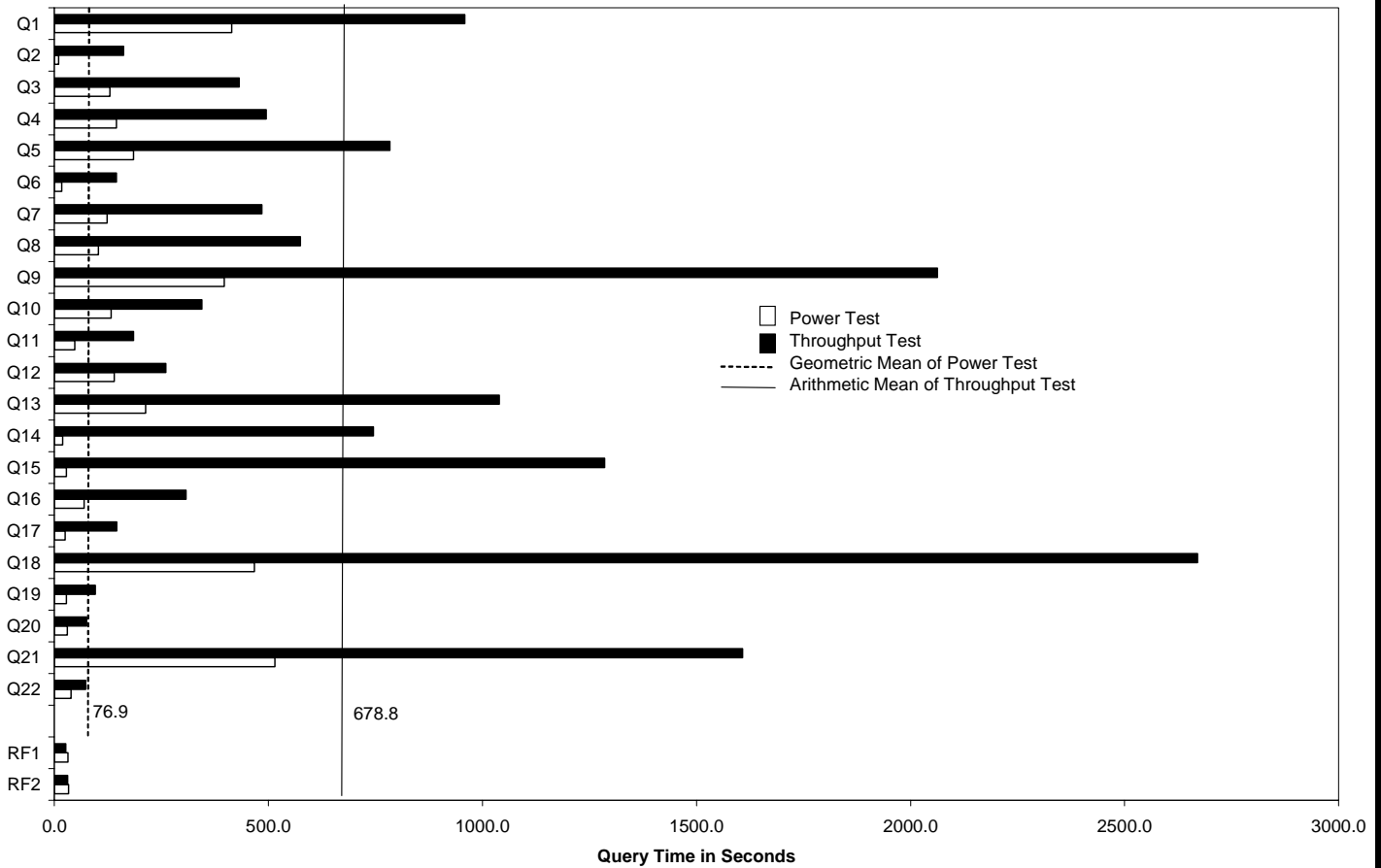
**Windows Server
2003, Enterprise
Server**

Other Software

**Visual C++
.Net Standard**

Availability Date

April 24, 2003



Database Load Time = 2:57:19

Load Included Backup: Y

Total Data Storage / Database Size = 31.47

RAID (Base tables only): N

RAID (Base tables and auxiliary data structures): N

RAID (All): N

System Configuration:

Processors : 8 x Intel Xeon MP 2.0 GHz with 2MB L2 cache
Memory : 16 GB memory
Disk Controllers : 6x Smart Array 5304, 4x Smart Array 5302
Disks : 186 x 18.2 GB 15K RPM drives
Total Disk Storage: 3147.1 GB

Note: Database Size includes only raw data (e.g., no temp, index, redundant storage space, etc).

**HP ProLiant DL760 G2 8P**

TPC-H Rev. 2.0

Report Date:

28-Feb-03

Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
Server Hardware						
		Brand Pricing				
ProLiant DL760 G2 X2.0-2M 4P 4G - 4GB addressable RAM, 1GB redundant RAM - integrated Smart Array 5i controller	171206-B21	1	47,999	1	47,999	
X2.0-2M 4P DL760 G2	287520-B21	1	28,399	1	28,399	
512 REG PC133	236853-B21	1	499	22	10,978	
Monitor 15" S5500	261602-169	1	139	1	139	
Scroll Mouse-Carbon	231947-B21	1	5	1	5	
PS/2 Easy Access Internet Keyboard	265977-001	1	12	1	12	
Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21	1	1,321	1	1,321	
Rack Sidewall Kit	120670-B21	1	207	1	207	
18.2 GB Hot-Plug Wide U320 15K 1"	286775-B22	1	359	4	1,436	
UPS T1500 XR	204155-002	1	621	1	621	
Servers 700 Series CarePak, 3yr 7x24, 4hr resp. (FM-HE724-3)	401784-002	1	3,390	1		3,390
			Subtotal		91,117	3,390
Storage						
Smart Array 5302/128	283552-B21	1	1,299	4	5,196	
Smart Array 5304/128	158939-B21	1	2,052	6	12,312	
StorageWorks Enclosure Model 4354R - Rack-mountable	190211-001	1	3,523	11	38,753	
StorageWorks Enclosure Model 4314T - Tower-mountable	190210-001	1	3,182	2	6,364	
Ultra3 Dual I/O module upgrade for 4214, 4254 or 4314	190213-B21	1	569	2	1,138	
18.2 GB Hot-Plug Wide U320 15K 1"	286775-B22	1	359	182	65,338	
18.2 GB Hot-Plug Wide U320 15K 1" (10% spare)	286775-B22	1	359	19	6,821	
CarePak 43xx Enclosure, 3yr, 7x24, 4hr resp. (FM-4E724-36)	171242-002	1	157	13		2,041
			Subtotal		135,922	2,041
Hardware and Maintenance Discount						
Large Purchase and Net 30 discount	16.0%	1			(\$36,326)	(\$869)
			Hardware Subtotal		190,713	4,562
Software						
Microsoft SQL Server 2000 Enterprise Edition	810-00652	Microsoft	2	5,549	5,549	5,850
Microsoft SQL Server 2000 Client Licenses	359-00532	Microsoft	2	7,300	7,300	included
Windows Server 2003, Enterprise Server	N/A	Microsoft	2	2,699	2,699	included
Visual C++ .Net Standard	254-00170	Microsoft	2	109	109	included
			Subtotal		15,657	5,850
			Total		\$206,370	\$10,412
3-Year Cost of Ownership:						\$216,782
QpH Rating:						3346.6
\$/QpH@100GB:						\$65
Pricing: 1=HP; 2= Microsoft						
Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics						

Audited by: Lorna Livingtree of Performance Metrics Inc.

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on 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 specifications. If you find that the stated prices are not available according to these terms, please inform at pricing@tpc.org. Thank you.



HP ProLiant DL760G2 8P

TPC-H Rev. 2.0

Report Date:
Feb 28, 2003

Numerical Quantities

Measurement Results:

Database Scale Factor	= 100
Total Data Storage / Database Size	= 31.47
Start of Database Load	= 2003-02-21 23:45:21
End of Database Load	= 2003-02-22 02:42:40
Database Load Time	= 2:57:19
Query Streams for Throughput Test	= 5
TPC-H Power	= 4681.2
TPC-H Throughput	= 2392.5
TPC-H Composite Query-per-Hour Metric (QphH@300GB)	= 3346.6
Total System Price Over 3 Years	= \$216,782
TPC-H Price/ Performance Metric (\$/QphH@300GB)	= \$65

Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 16551.4 seconds
--	-------------------

Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	222024240	2/22/2003	8:58:28	2/22/2003	9:54:12	0:55:44
Stream01	222024241	2/22/2003	9:54:13	2/22/2003	14:14:08	4:19:55
Stream02	222024242	2/22/2003	9:54:13	2/22/2003	14:19:49	4:25:36
Stream03	222024243	2/22/2003	9:54:13	2/22/2003	13:56:01	4:01:48
Stream04	222024244	2/22/2003	9:54:13	2/22/2003	14:25:14	4:31:01
Stream05	222024245	2/22/2003	9:54:13	2/22/2003	13:20:21	3:26:08
Refresh00		2/22/2003	8:58:28	2/22/2003	9:54:12	0:55:44
Refresh01		2/22/2003	14:25:14	2/22/2003	14:26:13	0:00:59
Refresh02		2/22/2003	14:26:13	2/22/2003	14:27:07	0:00:53
Refresh03		2/22/2003	14:27:07	2/22/2003	14:28:06	0:00:59
Refresh04		2/22/2003	14:28:06	2/22/2003	14:29:06	0:01:00
Refresh05		2/22/2003	14:29:06	2/22/2003	14:30:04	0:00:58



HP ProLiant DL760G2 8P

TPC-H Rev. 2.0

Report Date:
Feb 28, 2003

TPC-H Timing Intervals (in seconds)

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream 00	414.3	9.9	129.5	145.4	184.8	17.6	123.3	102.8
Stream 01	1138.1	110.5	495.0	342.8	461.2	165.6	698.7	683.2
Stream 02	870.8	127.7	590.2	478.5	929.3	26.6	473.5	566.5
Stream 03	781.3	160.1	511.6	511.2	1518.1	207.1	426.3	1000.7
Stream 04	1138.2	328.0	127.4	503.5	685.5	142.2	150.1	293.6
Stream 05	866.8	83.5	433.6	638.2	326.0	184.6	674.2	330.9
Min Qi	781.3	83.5	127.4	342.8	326.0	26.6	150.1	293.6
Max Qi	1138.2	328.0	590.2	638.2	1518.1	207.1	698.7	1000.7
Avg Qi	959.0	162.0	431.6	494.8	784.0	145.2	484.6	575.0
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	397.0	132.3	47.3	139.9	213.4	19.3	28.2	69.7
Stream 01	1380.8	363.3	144.3	429.0	1270.0	807.0	1460.5	251.0
Stream 02	1341.3	427.1	345.9	228.8	978.8	1671.6	1412.9	509.0
Stream 03	1849.0	267.5	154.6	194.1	984.7	254.8	1529.7	312.4
Stream 04	3919.4	420.0	148.2	172.1	643.5	437.3	1863.7	278.5
Stream 05	1825.4	243.5	131.9	276.7	1321.0	555.0	159.0	188.5
Min Qi	1341.3	243.5	131.9	172.1	643.5	254.8	159.0	188.5
Max Qi	3919.4	427.1	345.9	429.0	1321.0	1671.6	1863.7	509.0
Avg Qi	2063.2	344.3	185.0	260.1	1039.6	745.1	1285.2	307.9
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	24.8	467.7	27.9	30.1	515.6	38.8	31.5	33.3
Stream 01	159.8	3245.2	74.3	105.3	1755.5	54.7	28.2	30.8
Stream 02	222.0	3421.6	135.4	64.3	1012.7	102.0	23.4	30.0
Stream 03	159.0	2032.4	31.9	92.7	1453.8	75.2	26.4	32.6
Stream 04	58.1	2626.9	143.9	43.3	2098.5	39.5	28.3	31.9
Stream 05	130.7	2024.0	90.4	70.7	1719.6	94.8	26.8	31.8
Min Qi	58.1	2024.0	31.9	43.3	1012.7	39.5	23.4	30.0
Max Qi	222.0	3421.6	143.9	105.3	2098.5	102.0	28.3	32.6
Avg Qi	145.9	2670.0	95.2	75.3	1608.0	73.2	26.6	31.4

Abstract

Overview

This report documents the methodology and results of the TPC Benchmark™ H test conducted on the HP ProLiant DL760G2 using Microsoft SQL Server 2000 Enterprise Edition SP3, in conformance with the requirements of the TPC Benchmark™ H Standard Specification, Revision 2.0. The operating system used for the benchmark was Microsoft Windows 2003 Enterprise Server.

The benchmark results are summarized in the following table.

Hardware	Software	Total System Cost	QppH @ 100GB	QthH @ 100GB	QphH @ 100GB	\$ / QphH @ 100GB
HP ProLiant DL760G2 8P	Microsoft SQL Server 2000 SP3 Windows Server 2003, Enterprise Server	\$216,820	4681.2	2392.5	3346.6	\$ 65

The TPC Benchmark™ H 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.

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

Transaction Processing Performance Council (TPC)
c/o Shanley Public Relations
777 North First Street, Suite 600
San Jose, CA 95112 USA
Telephone: (408) 295-8894
Fax: (408) 295-9768

or

Hewlett-Packard Company
Database Performance Engineering
P.O. Box 692000
Houston, TX 77269-2000

Standard and Executive Summary Statements

Pages ii-iv contains the Executive Summary and Numerical Quantities Summary of the benchmark results for the HP ProLiant DL760G2.

Auditor

The benchmark configuration, environment and methodology used to produce and validate the test results, and the pricing model used to calculate the cost per QppH and QthH were audited by Lorna Livingtree of Performance Metrics, Inc. to verify compliance with the relevant TPC specifications. The auditor's letter of attestation is attached in Section 9.1 "Auditors' Report."

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1.0 General Items

1.1 Test Sponsor

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

This benchmark was sponsored by Hewlett-Packard Company. The benchmark was developed and engineered by Hewlett-Packard Company. Testing took place at HP benchmarking laboratories in Houston, Texas.

1.2 Parameter Settings

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

- *Database Tuning Options*
- *Optimizer/Query execution options*
- *Query processing tool/language configuration parameters*
- *Recovery/commit options*
- *Consistency/locking options*
- *Operating system and configuration parameters*
- *Configuration parameters and options for any other software component incorporated into the pricing structure*
- *Compiler optimization options*

This requirement can be satisfied by providing a full list of all parameters and options, as long as all those which have been modified from their default values have been clearly identified and these parameters and options are only set once.

Appendix A, "Tunable Parameters," contains a list of all database parameters and operating system parameters.

1.3 Configuration Items

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

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

The server System Under Test (SUT), a HP ProLiant DL760G2 8P , depicted in Figure 1.1, consisted of :

- 8x Intel Xeon MP 2.0GHz with 2MB L2 Cache
- 16 GB of memory
- 6 x HP 5304 Array Controllers
- 4 x HP 5302 Array Controllers
- 13 x StorageWorks Enclosure 4354R
- 186 x 18.2GB Pluggable Ultra320 15K rpm 1” height drives

Figure 1.1 Benchmarked configuration

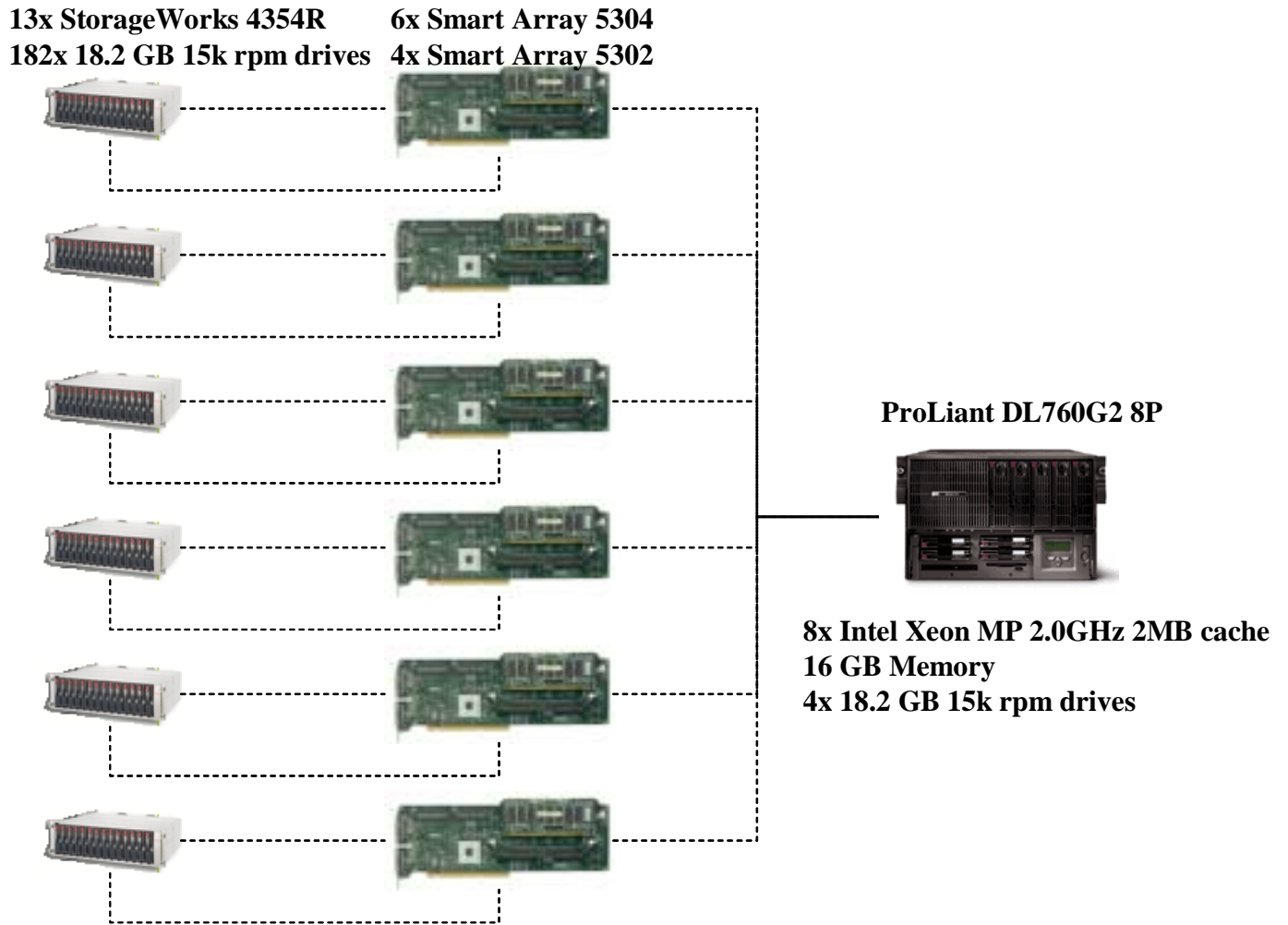
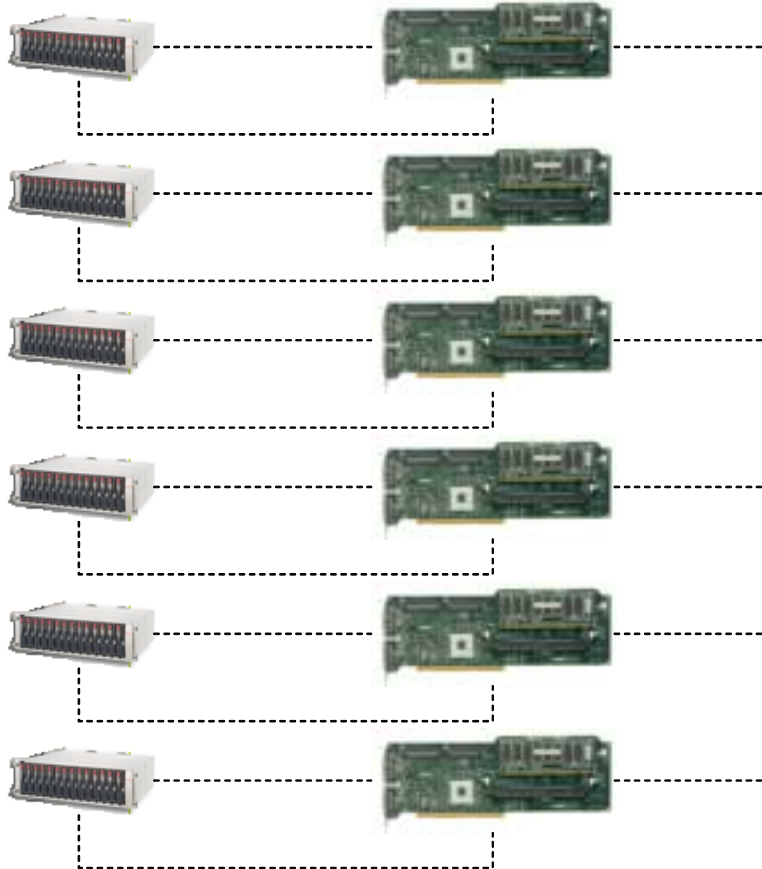


Figure 1.2 Priced configuration

11x StorageWorks 4354R
2x StorageWorks 4354T
182x 18.2 GB 15k rpm drives

6x Smart Array 5304
4x Smart Array 5302



ProLiant DL760G2 8P



8x Intel Xeon MP 2.0GHz 2MB cache
16 GB Memory
4x 18.2 GB 15k rpm drives

2.0 Clause 1: Logical Database Design

2.1 Table Definitions

Listings must be provided for all table definition statements and all other statements used to set up the test and qualification databases. (8.1.2.1)

Appendix B, "Database Build Scripts," contains the table definitions and the program used to load the database.

2.2 Physical Organization of Database

The physical organization of tables and indices, within the test and qualification databases, must be disclosed. If the column ordering of any table is different from that specified in Clause 1.4, it must be noted.

Appendix B, "Database Build Scripts," contains the DDL for the index definitions.

2.3 Horizontal Partitioning

Horizontal partitioning of tables and rows in the test and qualification databases (see Clause 1.5.4) must be disclosed.

Horizontal partitioning was not used

2.4 Replication

Any replication of physical objects must be disclosed and must conform to the requirements of Clause 1.5.6.

No replication was used.

3.0 Clause 2: Queries and Refresh Functions Related Items

3.1 Query Language

The query language used to implement the queries must be identified.

SQL was the query language used.

3.2 Random Number Generation

The method of verification for the random number generation must be described unless the supplied DBGEN and QGEN were used.

The TPC-supplied DBGEN version 1.3.0 and QGEN version 1.3.0 were used to generate all database populations.

3.3 Substitution Parameters Generation

The method used to generate values for substitution parameters must be disclosed. If QGEN is not used for this purpose, then the source code of any non-commercial tool used must be disclosed. If QGEN is used, the version number, release number, modification number and patch level of QGEN must be disclosed.

The supplied QGEN version 1.3.0 was used to generate the substitution parameters.

3.4 Query Text and Output Data from Database

The executable query text used for query validation must be disclosed along with the corresponding output data generated during the execution of the query text against the qualification database. If minor modifications (see Clause 2.2.3) have been applied to any functional query definitions or approved variants in order to obtain executable query text, these modifications must be disclosed and justified. The justification for a particular minor query modification can apply collectively to all queries for which it has been used. The output data for the power and throughput tests must be made available electronically upon request..

Appendix C contains the query text and query output. The following modifications were used:

- In Q1, Q4, Q5, Q6, Q10, Q12, Q14, Q15 and Q20, the “dateadd” function is used to perform date arithmetic.
- In Q7, Q8 and Q9, the “datepart” function is used to extract part of a date (e.g., “YY”).
- In Q2, Q3, Q10, Q18 and Q21, the “top” function is used to restrict the number of output rows.
- The word GO is used as a command delimiter.

3.5 Query Substitution Parameters and Seeds Used

All the query substitution parameters used during the performance test must be disclosed in tabular format, along with the seeds used to generate these parameters.

Appendix D contains the seed and query substitution parameters used.

3.6 Isolation Level

The isolation level used to run the queries must be disclosed. If the isolation level does not map closely to one of the isolation levels defined in Clause 3.4, additional descriptive detail must be provided.

The queries and transactions were run with isolation level 1.

3.7 Refresh Functions

The details of how the refresh functions were implemented must be disclosed (including source code of any non-commercial program used).

Appendix E contains the source code for the refresh functions.

4.0 Clause 3: Database System Properties

4.1 Atomicity Requirements

The results of the ACID tests must be disclosed along with a description of how the ACID requirements were met. This includes disclosing the code written to implement the ACID Transaction and Query.

All ACID tests were conducted according to specification. The Atomicity, Isolation, Consistency and Durability tests were performed on the HP ProLiant DL760G2.

4.1.1 Atomicity of the Completed Transactions

Perform the ACID Transaction for a randomly selected set of input data and verify that the appropriate rows have been changed in the ORDER, LINEITEM, and HISTORY tables.

The following steps were performed to verify the Atomicity of completed transactions.

1. The total price from the ORDER table and the extended price from the LINEITEM table were retrieved for a randomly selected order key.
2. The ACID Transaction was performed using the order key from step 1.
3. The ACID Transaction committed.
4. The total price from the ORDER table and the extended price from the LINEITEM table were retrieved for the same order key. It was verified that the appropriate rows had been changed.

4.1.2 Atomicity of Aborted Transactions

Perform the ACID transaction for a randomly selected set of input data, submitting a ROLLBACK of the transaction for the COMMIT of the transaction. Verify that the appropriate rows have not been changed in the ORDER, LINEITEM, and HISTORY tables.

The following steps were performed to verify the Atomicity of the aborted ACID transaction:

1. The total price from the ORDER table and the extended price from the LINEITEM table were retrieved for a randomly selected order key.
2. The ACID Transaction was performed using the order key from step 1. The transaction was stopped prior to the commit.
3. The ACID Transaction was ROLLED BACK. .
4. The total price from the ORDER table and the extended price from the LINEITEM table were retrieved for the same order key used in steps 1 and 2. It was verified that the appropriate rows had not been changed.

4.2 Consistency Requirements

Consistency is the property of the application that requires any execution of transactions to take the database from one consistent state to another.

A consistent state for the TPC-H database is defined to exist when:

$$O_TOTALPRICE = SUM(L_EXTENDEDPRICE - L_DISCOUNT) * (1 + L_TAX)$$

For each ORDER and LINEITEM defined by (O_ORDERKEY = L_ORDERKEY)

4.2.1 Consistency Tests

Verify that ORDER and LINEITEM tables are initially consistent as defined in Clause 3.3.2.1, based upon a random sample of at least 10 distinct values of O_ORDERKEY.

The following steps were performed to verify consistency:

1. The consistency of the ORDER and LINEITEM tables was verified based on a sample of O_ORDERKEYs.
2. One hundred ACID Transactions were submitted from each of six execution streams.

3. The consistency of the ORDER and LINEITEM tables was reverified.

4.3 Isolation Requirements

Operations of concurrent transactions must yield results which are indistinguishable from the results which would be obtained by forcing each transaction to be serially executed to completion in some order.

4.3.1 Isolation Test 1 - Read-Write Conflict with Commit

Demonstrate isolation for the read-write conflict of a read-write transaction and a read-only transaction when the read-write transaction is committed.

The following steps were performed to satisfy the test of isolation for a read-only and a read-write committed transaction:

1. An ACID Transaction was started for a randomly selected O_KEY, L_KEY and DELTA. The ACID Transaction was suspended prior to Commit.
2. An ACID query was started for the same O_KEY used in step 1. The ACID query blocked and did not see any uncommitted changes made by the ACID Transaction.
3. The ACID Transaction was resumed and committed.
4. The ACID query completed. It returned the data as committed by the ACID Transaction.

4.3.2 Isolation Test 2 - Read-Write Conflict with Rollback

Demonstrate isolation for the read-write conflict of a read-write transaction and a read-only transaction when the read-write transaction is rolled back.

The following steps were performed to satisfy the test of isolation for read-only and a rolled back read-write transaction:

1. An ACID transaction was started for a randomly selected O_KEY, L_KEY and DELTA. The ACID Transaction was suspended prior to Rollback.
2. An ACID query was started for the same O_KEY used in step 1. The ACID query did not see any uncommitted changes made by the ACID Transaction.
3. The ACID Transaction was ROLLED BACK.
4. The ACID query completed.

4.3.3 Isolation Test 3 - Write-Write Conflict with Commit

Demonstrate isolation for the write-write conflict of two update transactions when the first transaction is committed.

The following steps were performed to verify isolation of two update transactions:

1. An ACID Transaction T1 was started for a randomly selected O_KEY, L_KEY and DELTA. The ACID transaction T1 was suspended prior to Commit.
2. Another ACID Transaction T2 was started using the same O_KEY and L_KEY and a randomly selected DELTA.
3. T2 waited.
4. The ACID transaction T1 was allowed to Commit and T2 completed.
5. It was verified that:

$$T2.L_EXTENDEDPRICE = T1.L_EXTENDEDPRICE + (DELTA1*(T1.L_EXTENDEDPRICE/T1.L_QUANTITY))$$

4.3.4 Isolation Test 4 - Write-Write Conflict with Rollback

Demonstrate isolation for the write-write conflict of two update transactions when the first transaction is rolled back.

The following steps were performed to verify the isolation of two update transactions after the first one is rolled back:

1. An ACID Transaction T1 was started for a randomly selected O_KEY, L_KEY and DELTA. The ACID Transaction T1 was suspended prior to Rollback.

2. Another ACID Transaction T2 was started using the same O_KEY and L_KEY used in step 1 and a randomly selected DELTA.
3. T2 waited.
4. T1 was allowed to ROLLBACK and T2 completed.
5. It was verified that T2.L_EXTENDEDPRICE = T1.L_EXTENDEDPRICE.

4.3.5 Isolation Test 5 – Concurrent Read and Write Transactions on Different Tables

Demonstrate the ability of read and write transactions affecting different database tables to make progress concurrently.

The following steps were performed:

1. An ACID Transaction T1 for a randomly selected O_KEY, L_KEY and DELTA. The ACID Transaction T1 was suspended prior to Commit.
2. Another ACID Transaction T2 was started using random values for PS_PARTKEY and PS_SUPPKEY.
3. T2 completed.
4. T1 completed and the appropriate rows in the ORDER, LINEITEM and HISTORY tables were changed.

4.3.6 Isolation Test 6 – Update Transactions During Continuous Read-Only Query Stream

Demonstrate the continuous submission of arbitrary (read-only) queries against one or more tables of the database does not indefinitely delay update transactions affecting those tables from making progress.

The following steps were performed:

1. An ACID Transaction T1 was started, executing Q1 against the qualification database. The substitution parameter was chosen from the interval [0..2159] so that the query ran for a sufficient amount of time.
2. Before T1 completed, an ACID Transaction T2 was started using randomly selected values of O_KEY, L_KEY and DELTA.
3. T2 completed before T1 completed.
4. It was verified that the appropriate rows in the ORDER, LINEITEM and HISTORY tables were changed.

4.4 Durability Requirements

The tested system must guarantee durability: the ability to preserve the effects of committed transactions and insure database consistency after recovery from any one of the failures listed in Clause 3.5.2.

4.4.1 Permanent Unrecoverable Failure of Any Durable Medium and Loss of System Power

Guarantee the database and committed updates are preserved across a permanent irrecoverable failure of any single durable medium containing TPC-H database tables or recovery log tables.

The database log was stored on a RAID-1 protected array of two physical drives. The tables for the database were stored on 26 RAID-0 arrays each containing 7 physical drives. A backup of the database was taken. The backup was spread across 26 RAID-5 arrays.

The tests were conducted on the qualification database. The steps performed are shown below:

1. The complete database was backed up.
2. Six streams of ACID transactions were started. Each stream executed a minimum of 100 transactions.
3. While the test was running, one of the disks from the database RAID-1 log was removed.
4. After it was determined that the test would still run with the loss of a log disk, one physical drive of a RAID-0 data volume was removed.
5. A checkpoint was issued to force a failure.
6. The six streams of ACID transactions failed and recorded their number of committed transaction in success files.
7. The database log was dumped to disk.
8. The database and log disks were replaced with new disks and RAID rebuild process started
9. When log RAID rebuild process finished a database restore was done.
10. A command was issued causing the database to run through its roll-forward recovery.
11. The counts in the success files and the HISTORY table count were compared and were found to match.

4.4.2 System Crash

Guarantee the database and committed updates are preserved across an instantaneous interruption (system crash/system hang) in processing which requires the system to reboot to recover.

1. Six streams of ACID transactions were started. Each stream executed a minimum of 100 transactions.
2. While the streams of ACID transactions were running, the system was powered off.
3. When power was restored, the system rebooted and the database was restarted.
4. The database went through a recovery period.
5. The success file and the HISTORY table counts were compared and were found to match.

4.4.3 Memory Failure

Guarantee the database and committed updates are preserved across failure of all or part of memory (loss of contents).

See section 4.4.2

5.0 Clause 4: Scaling and Database Population

5.1 Initial Cardinality of Tables

The cardinality (e.g., the number of rows) of each table of the test database, as it existed at the completion of the database load (see clause 4.2.5) must be disclosed.

Table 5.1 lists the TPC Benchmark H defined tables and the row count for each table as they existed upon completion of the build.

Table 5. 1: Initial Number of Rows

Table Name	Row Count
Region	5
Nation	25
Supplier	1,000,000
Customer	15,000,000
Part	20,000,000
Partsupp	80,000,000
Orders	150,000,000
Lineitem	600,037,902

5.2 Distribution of Tables and Logs Across Media

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

Microsoft SQL Server was configured on a HP ProLiant DL760 with the following configuration:

- 6 x Smart Array 5304 disk controllers
- 4 x Smart Array 5302 disk controllers
- 13 x StorageWorks Enclosure 4354R
- 182 x 18.2GB 15k rpm external disk drives
- 4 x 18.2GB 15k rpm internal disk drives

All 186 disks were used to hold table data, indexes, database log and the temporary database (TempDB).

A detailed description of distribution of database filegroups and log can be found in Table 5.2.1

Table 5.2.1: SMART Array Controller Disk Array to Logical Drive Mapping

SMART Array Controller	SMART Logical Drive Array Letter	Number of Physical Drives in SMART LDA	SMART Logical Drive Number	SMART Fault Tolerance	Disk Format	Size (MB)	Contents
Slot 1	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 1	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 3	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 3	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 5	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 5	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 7	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 7	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 10	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 10	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 10	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 11	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 11	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles
Slot 11	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID5	NTFS	20000	Flatfiles

			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 2	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
			4	RAID0	RAW	3000	Tpch1g
Slot 2	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 2	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 4	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 4	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 4	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 6	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 6	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 6	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 8	A	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 8	B	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Slot 8	C	7	1	RAID0	RAW	9000	Tpch100g
			2	RAID0	RAW	5000	TempDB
			3	RAID5	NTFS	8000	LoadFg
Embedded	A	2	1	RAID1+0	NTFS	18000	OS
Embedded	B	2	1	RAID1+0	RAW	12000	TpchLog
			2	RAID0	RAW	6000	TempLog
			1	RAID1+0	RAW	500	Tpch1GLog

5.3 Mapping of Database Partitions/Replications

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

Database partitioning/replication was not used..

5.4 Implementation of RAID

Implementations may use some form of RAID to ensure high availability. If used for data, auxiliary storage (e.g. indexes) or temporary space, the level of RAID used must be disclosed for each device.

RAID 0 was used for database filegroups and tempdb, and RAID 1 for database recovery logs.

5.5 DBGEN Modifications

The version number, release number, modification number, and patch level of DBGEN must be disclosed. Any modifications to the DBGEN (see Clause 4.2.1) source code must be disclosed. In the event that a program other than DBGEN was used to populate the database, it must be disclosed in its entirety.

The standard distribution DBGEN version 1.3.0 was used for database population. No modifications were made.

5.6 Database Load time

The database load time for the test database (see clause 4.3) must be disclosed.

The database load time was 2 hour 57 minutes 19 seconds.

5.7 Data Storage Ratio

The data storage ratio must be disclosed. It is computed by dividing the total data storage of the priced configuration (expressed in GB) by the size chosen for the test database as defined in 4.1.3.1. The ratio must be reported to the nearest 1/100th, rounded up.

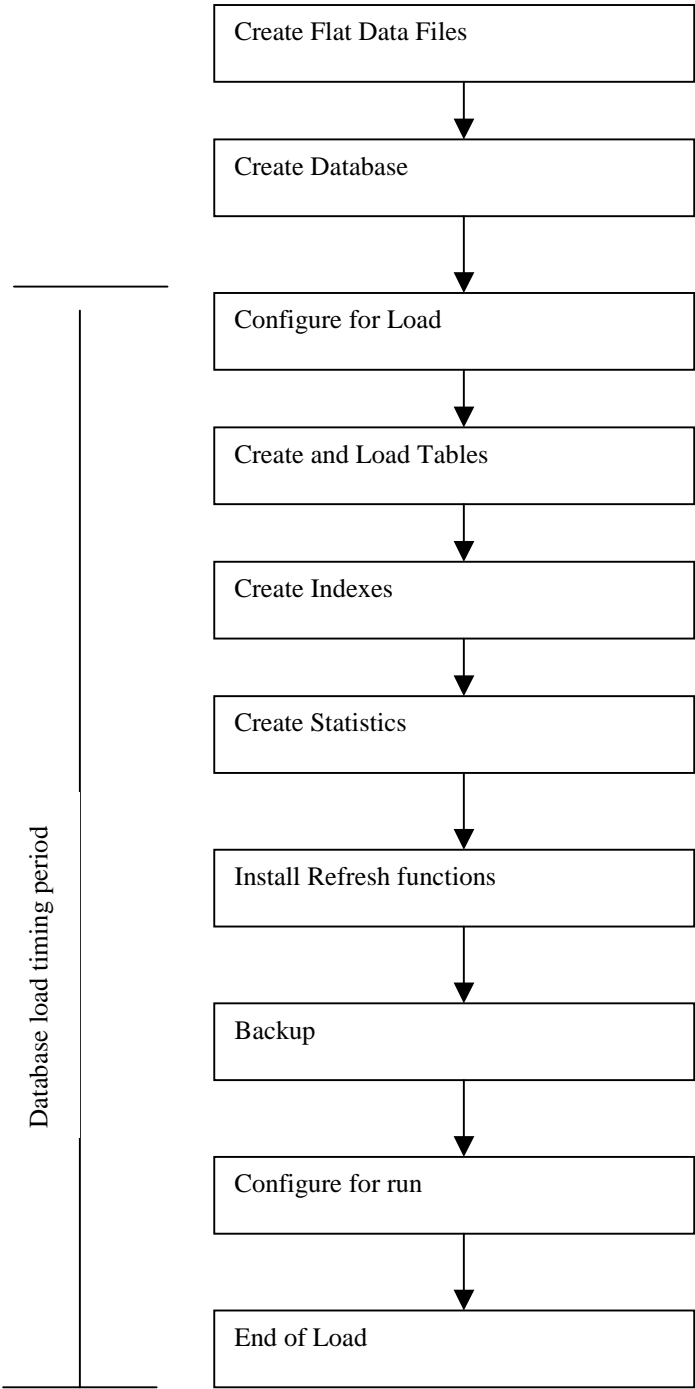
Disk Type	Number of Disks	Space per Disk	Total Disk Space	Data Storage Ratio
18.2 GB 15k rpm Ultra320 SCSI	186	16.92 GB	3147.12 GB	31.47

5.8 Database Load Mechanism Details and Illustration

The details of the database load must be disclosed, including a block diagram illustrating the overall process. Disclosure of the load procedure includes all steps, scripts, input and configuration files required to completely reproduce the test and qualification databases.

Flat files for each of the tables were created using DBGEN.
The tables were loaded as depicted in Figure 5-8.

Figure 5.8: Block Diagram of Database Load Process



6.0 Clause 5: Performance Metrics and Execution Rules Related Items

6.1 Steps in the Power Test

The details of the steps followed to implement the power test (e.g., system boot, database restart, etc.) must be disclosed.

The following steps were used to implement the power test:

1. The system was rebooted
2. RF1 Refresh Transaction
3. Stream 00 Execution
4. RF2 Refresh Transaction.

6.2 Timing Intervals for Each Query and Refresh Function

The timing intervals (see Clause 5.3.6) for each query of the measured set and for both refresh functions must be reported for the power test.

The timing intervals for each query and both refresh functions are given in the Numerical Quantities Summary earlier in the executive summary.

6.3 Number of Streams for The Throughput Test

The number of execution streams used for the throughput test must be disclosed.

Five streams were used for the Throughput Test.

6.4 Start and End Date/Times for Each Query Stream

The start time and finish time for each query execution stream must be reported for the throughput test.

The Numerical Quantities Summary contains the start and stop times for the query execution streams run on the system reported.

6.5 Total Elapsed Time for the Measurement Interval

The total elapsed time of the measurement interval(see Clause 5.3.5) must be reported for the throughput test.

The Numerical Quantities Summary contains the timing intervals for the throughput test run on the system reported.

6.6 Refresh Function Start Date/Time and Finish Date/Time

Start and finish time for each update function in the update stream must be reported for the throughput test.

Stream ID	RF	Start Date	Start time	Stop Date	Stop Time
Stream00	RF1	2/22/2003	8:58:28	2/22/2003	8:58:59
Stream00	RF2	2/22/2003	9:53:39	2/22/2003	9:54:12
Stream01	RF1	2/22/2003	14:25:14	2/22/2003	14:25:42
Stream01	RF2	2/22/2003	14:25:42	2/22/2003	14:26:13
Stream02	RF1	2/22/2003	14:26:13	2/22/2003	14:26:36
Stream02	RF2	2/22/2003	14:26:36	2/22/2003	14:27:06
Stream03	RF1	2/22/2003	14:27:06	2/22/2003	14:27:33
Stream03	RF2	2/22/2003	14:27:33	2/22/2003	14:28:05
Stream04	RF1	2/22/2003	14:28:05	2/22/2003	14:28:34
Stream04	RF2	2/22/2003	14:28:34	2/22/2003	14:29:06
Stream05	RF1	2/22/2003	14:29:06	2/22/2003	14:29:33
Stream05	RF2	2/22/2003	14:29:33	2/22/2003	14:30:05

6.7 Timing Intervals for Each Query and Each Refresh Function for Each Stream

The timing intervals (see Clause 5.3.6) for each query of each stream and for each update function must be reported for the throughput test.

The timing intervals for each query and each update function are given in the Numerical Quantities Summary earlier in the executive summary.

6.8 Performance Metrics

The computed performance metrics, related numerical quantities and the price performance metric must be reported.

The Numerical Quantities Summary contains the performance metrics, related numerical quantities, and the price/performance metric for the system reported.

6.9 The Performance Metric and Numerical Quantities from Both Runs

A description of the method used to determine the reproducibility of the measurement results must be reported. This must include the performance metrics (*QppH* and *QthH*) from the reproducibility runs.

Performance results from the first two executions of the TPC-H benchmark indicated the following difference for the metric points:

Run	QppH @ 100GB	QthH @ 100GB	QphH @ 100GB
Run 1	4681.2	2392.5	3346.6
Run 2	4699.0	2442.6	3387.9

6.11 System Activity Between Tests

Any activity on the SUT that takes place between the conclusion of Run1 and the beginning of Run2 must be disclosed.

SQL Server was restarted between runs.

7.0 Clause 6: SUT and Driver Implementation

Related Items

7.1 Driver

A detailed description of how the driver performs its functions must be supplied, including any related source code or scripts. This description should allow an independent reconstruction of the driver.

Two scripts were used. The first one was used to create and load the database, while the second was used to run the Power and Throughput tests. These scripts are in Appendix F. A C program, semaphore.c, was used for coordination of parallel processes..

7.2 Implementation Specific Layer (ISL)

If an implementation-specific layer is used, then a detailed description of how it performs its functions must be supplied, including any related source code or scripts. This description should allow an independent reconstruction of the implementation-specific layer.

A command script was used to control and track the execution of queries. The scripts are contained in Appendix F. Qgen was used to generate the query streams, along with the appropriate substitution values.

The following steps are performed, to accomplish the Power and Throughput Runs:

1. Power Run

- Execute sixteen concurrent RF1 processes, each of which will apply a segment of an update set generated by dbgen.
- Each process submits multiple transactions, where a transaction spans a set of orders and their associated line items.
- Execute the Stream0 queries, in the prescribed order.
- Execute sixteen concurrent RF2 processes, each of which will apply a segment of an update set generated by dbgen. Each thread submits multiple transactions, where a transaction spans a set of orders and their associated line items.

2. Throughput Run

- Execute five concurrent query streams. Each stream executes queries in the prescribed order for the appropriate Stream Id (1-5). Upon completion of each stream, a semaphore is set to indication completion.
- Execute five consecutive RF1/RF2 transactions, against ascending Update sets produced by dbgen. The first RF1 waits on a semaphore prior to beginning its insert operations.

Each step is timed by the script. The timing information is stored in the database for later analysis. The inputs and outputs of steps are stored in text files for later analysis.

7.3 Profile-Directed Optimization

If profile-directed optimization as described in Clause 5.2.9 is used, such used must be disclosed.

Profile-directed optimization was not used.

8.0 Clause 7: Pricing Related Items

8.1 Hardware and Software Used

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

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the front of this report. The price quotations are included in Appendix G, at the end of this document.

8.2 Total 3 Year Price

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

A detailed list of all hardware and software, including the 3-year price, is provided in the Executive Summary at the front of this report. The price quotations are included in Appendix G, at the end of this document. As a large purchase, this purchase qualifies for a 16% discount from Hewlett-Packard Company.

8.3 Availability Date

The committed delivery date for general availability of products used in the price calculations must be reported. When the priced system includes products with different availability dates, the availability date reported on the executive summary must be the date by which all components are committed to being available. The full disclosure report must report availability dates individually for at least each of the categories for which a pricing subtotal must be provided.

The HP ProLiant DL760G2, system memory, additional processors, disk controllers and hard drives are available at the time of publication. All other hardware is generally available at the time of publication.

The system software, Microsoft Windows Server 2003, Enterprise Server, used in this test is will be available by April 24, 2003. The database software, Microsoft SQL Server 2000 Enterprise Edition is generally available at the time of publication. Service Pack 3 for Microsoft SQL Server 2000 is generally available at the time of publication.

8.4 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.

The configuration is priced for the United States of America.

9.0 Clause 9: Related Items

9.1 Auditors' Report

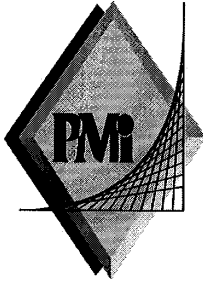
The auditor's agency name, address, phone number, and Attestation letter with a brief audit summary report indicating compliance must be included in the full disclosure report. A statement should be included specifying who to contact in order to obtain further information regarding the audit process.

This implementation of the TPC Benchmark H was audited by Lorna Livingtree of Performance Metrics. Further information regarding the audit process may be obtained from:

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

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

Transaction Processing Performance Council
c/o Shanley Public Relations
777 North First Street, Suite 6000
San Jose, CA 95112-6311 USA
Telephone: (408) 295-8894
Fax: (408) 295-9768



PERFORMANCE METRICS INC.
TPC Certified Auditors

February 27, 2003

Mr. Daniel Pol
Hewlett-Packard
Database Performance Lab
20555 SH 249
Houston, TX 77070

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

Platform: Proliant DL760G2 8P
Database Manager: Microsoft SQL Server 2000 Enterprise Edition
Operating System: Microsoft Windows .NET Server 2003, Enterprise Edition

CPU's	Memory	Total Disks	QppH@100GB	QthH@100GB	QphH@100GB
8 Pentium III @ 2 Ghz	16 GB	186 @ 18GB,15Krpm	4,681.2	2,392.6	3,346.6

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

- The database tables were defined with the proper columns, layout and sizes.
- The tested database was correctly scaled and populated for 100GB using DBGEN. The version of DBGEN was 1.3.0.
- The qualification database layout was identical to the tested database except for the size of the files.
- The query text was verified to use only compliant variants and minor modifications.
- The executable query text was generated by QGEN and submitted through Microsoft's standard OSQL interactive interface. The version of QGEN was 1.3.0.
- The validation of the query text against the qualification database produced compliant results.

PERFORMANCE METRICS INC.
TPC Certified Auditors

- The refresh functions were properly implemented and executed the correct number of inserts and deletes.
- The load timing was properly measured and reported.
- The execution times were correctly measured and reported.
- The performance metrics were correctly computed and reported.
- The repeatability of the measurement was verified.
- The ACID properties were tested and verified.
- Sufficient mirrored log space was present on the tested system.
- The system pricing was checked for major components and maintenance.
- The executive summary pages of the FDR were verified for accuracy.

Auditor's Notes:
None.

Sincerely,



Lorna Livingtree
Auditor

Appendix A: Tunable Parameters

- Note: These are the settings used during the power test. The settings altered for the load are documented in Appendix B.

A.1 Microsoft SQL Server 2000 Version

The following text was output was generated by executing the select @@version command:

```
Microsoft SQL Server 2000 - 8.00.760 (Intel X86)
Dec 17 2002 14:22:05
Copyright (c) 1988-2003 Microsoft Corporation
Enterprise Edition on Windows NT 5.2 (Build 3718: )
```

A.2 SQL Server 2000 Installation

Microsoft SQL Server 2000 was installed on the SUT. All default options were selected during the install except:

- Database Server Enterprise Edition was installed.
- “Custom installation” was selected. The SQL Server
- Development tools were not installed.
- Binary Sort Order was used. (Collation Settings>SQL Collation>Binary)
- Services Accounts > Customized > SQL Server > Use Local System Account Authentication Mode > Mixed > Blank Password
- Microsoft SQL Server 2000 Service Pack 3 was installed using the default settings during installation.

A.3 SQL Server 2000 Startup Parameters

```
SQLSERVER -x -c -g100
```

Where :

- x Disable the Keeping of CPU time and cache-hit ratio statistics.
- c Start SQL Server independently of Windows NT Service Control Manager
- g Reserve 100MB for non-buffer pool allocations.

A.4 Microsoft SQL Server 2000 Configuration Parameters

name	,minimum	,maximum	,config_value	,run_value
affinity mask	,-2147483648,	2147483647,	65535,	65535
allow updates	, 0,	1,	1,	1
awe enabled	, 0,	1,	1,	1
c2 audit mode	, 0,	1,	0,	0
cost threshold for parallelism	, 0,	32767,	0,	0
Cross DB Ownership Chaining	, 0,	1,	0,	0
cursor threshold	,-1,	2147483647,	-1,	-1
default full-text language	, 0,	2147483647,	1033,	1033
default language	, 0,	9999,	0,	0
fill factor (%)	, 0,	100,	0,	0
index create memory (KB)	, 704,	2147483647,	0,	0
lightweight pooling	, 0,	1,	1,	1
locks	, 5000,	2147483647,	0,	0

max degree of parallelism	, 0,	32,	15,	15
max server memory (MB)	, 4,	2147483647,	2147483647,	
max text repl size (B)	, 0,	2147483647,	65536,	65536
max worker threads	, 32,	32767,	500,	500
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,	32768,	32768
open objects	, 0,	2147483647,	0,	0
priority boost	, 0,	1,	1,	1
query governor cost limit	, 0,	2147483647,	0,	0
query wait (s)	, -1,	2147483647,	-1,	-1
recovery interval (min)	, 0,	32767,	32767,	32767
remote access	, 0,	1,	1,	1
remote login timeout (s)	, 0,	2147483647,	20,	20
remote proc trans	, 0,	1,	0,	0
remote query timeout (s)	, 0,	2147483647,	600,	600
scan for startup procs	, 0,	1,	0,	0
set working set size	, 0,	1,	0,	0
show advanced options	, 0,	1,	1,	1
two digit year cutoff	, 1753,	9999,	2049,	2049
user connections	, 0,	32767,	0,	0
user options	, 0,	32767,	0,	0

A.5 Windows .Net Configuration

The default installation of Windows 2003 Enterprise Server Build 3718 was used. All default options were selected during the install except:

- A TCP/IP address was configured on the system.

Updated installation to optimize performance for applications. (System Properties > Advanced > Performance Options > Programs)

Boot.ini parameters:

- /3GB - Give SQL Server access to 3GB memory
- /PAE - Allow the system to use addresses above 4GB
- /MAXPROCSPERCLUSTER=2 - max cpus to use in cluster

A.6 HP SMART Array Controller Cache Settings and registry entries

The HP SMART Array Controller cache settings for all drives was configured for the cache ratio of 0% read / 100% write .

The HP SMART Array Controller cache was enabled for all drives.

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\hpqciss
b]
"Type"=dword:00000001
"Start"=dword:00000000
"ErrorControl"=dword:00000001
"Tag"=dword:00000102
"ImagePath"=hex(2):73,00,79,00,73,00,74,00,65,00,6d,00,33,00,32,00,5c,00,
44,00,\
```


Memory Address 0xA0000-0xBFFFF Adapter	Standard VGA Graphics	0x000004D6-0x000004D6	Direct memory access controller	OK
I/O Port 0x00007000-0x00007FFF I/O Port 0x00007000-0x00007FFF (Non-Miniport)	PCI bus Smart Array 5300 Controller	0x00000061-0x00000061 0x000003F8-0x000003FF	System speaker Communications Port (COM1)	OK OK
I/O Port 0x00008000-0x00008FFF I/O Port 0x00008000-0x00008FFF (Non-Miniport)	PCI bus Smart Array 5300 Controller	0x000003F2-0x000003F5 0x000003F7-0x000003F7	Standard floppy disk controller	OK OK
[DMA]		0x00000060-0x00000060 0x00000064-0x00000064 0x00002820-0x0000282F 0x000001F0-0x000001F7 0x000003F6-0x000003F6 0x00000170-0x00000177	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard Standard 101/102-Key or Microsoft Natural PS/2 Keyboard CSB5 IDE Controller Primary IDE Channel Primary IDE Channel Secondary IDE Channel	OK OK OK OK OK OK OK
Resource Device Status Channel 7 Direct memory access controller Channel 2 Standard floppy disk controller				OK OK
[Forced Hardware]		0x00000376-0x00000376	Secondary IDE Channel	OK
Device PNP Device ID		0x00000A79-0x00000A79	ISAPNP Read Data Port	OK
[I/O]		0x00000279-0x00000279	ISAPNP Read Data Port	OK
Resource Device Status 0x00000000-0x000017FF 0x00000000-0x000017FF	PCI bus Direct memory access controller	0x00000274-0x00000277 0x00000020-0x00000021 OK	ISAPNP Read Data Port Programmable interrupt controller	OK OK
0x00001800-0x00002FFF 0x00001800-0x00002FFF Controller 0x00002000-0x000020FF	PCI bus Compaq Advanced System Management Standard VGA Graphics Adapter	0x000000A0-0x000000A1 OK 0x000004D0-0x000004D1 OK	Programmable interrupt controller Programmable interrupt controller	OK OK
0x000003B0-0x000003BB	Standard VGA Graphics Adapter	0x00003000-0x00003FFF 0x00003000-0x00003FFF	PCI bus Smart Array 5300 Controller (Non-Miniport)	OK OK
0x000003C0-0x000003DF	Standard VGA Graphics Adapter	0x00003400-0x000034FF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00002400-0x000024FF OK	Compaq Smart Array 5i Controller	0x00005000-0x00005FFF 0x00005000-0x00005FFF	PCI bus Smart Array 5300 Controller (Non-Miniport)	OK OK
0x00000F50-0x00000F58	Motherboard resources	0x00005400-0x000054FF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000F57-0x00000F57	Motherboard resources	0x00006000-0x00006FFF	PCI bus	OK
0x00000700-0x0000076F	Motherboard resources	0x00006000-0x00006FFF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000900-0x0000095F	Motherboard resources	0x00006400-0x000064FF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000800-0x0000081F	Motherboard resources	0x00007000-0x00007FFF 0x00007000-0x00007FFF	PCI bus Smart Array 5300 Controller (Non-Miniport)	OK OK
0x00000010-0x0000001F	Motherboard resources	0x00007400-0x000074FF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000022-0x0000002F	Motherboard resources	0x00008000-0x00008FFF	PCI bus	OK
0x00000070-0x00000073	Motherboard resources	0x00008000-0x00008FFF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000092-0x00000092	Motherboard resources	0x00008400-0x000084FF	Smart Array 5300 Controller (Non-Miniport)	OK
0x00000C00-0x00000CD7	Motherboard resources			OK
0x00001000-0x0000107F	Motherboard resources			OK
0x00001080-0x000010FF	Motherboard resources			OK
0x00000040-0x00000043 0x00000080-0x0000008F	System timer Direct memory access controller			OK OK
0x000000C0-0x000000DF	Direct memory access controller			OK
0x0000040B-0x0000040B	Direct memory access controller			OK
		[IRQs]		
	Resource Device Status	IRQ 9	Microsoft ACPI-Compliant System	OK
		IRQ 47	Compaq NC7770 Gigabit Server Adapter	OK
		IRQ 5	Compaq Advanced System Management Controller	OK
		IRQ 40	Compaq Smart Array 5i Controller	OK
		IRQ 0	System timer	OK
		IRQ 4	Communications Port (COM1)	OK
		IRQ 6	Standard floppy disk controller	OK
		IRQ 12	PS/2 Compatible Mouse	OK

IRQ 1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard OK		0xF5C00000-0xF5CFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 14	Primary IDE Channel OK		0xF5BC0000-0xF5BFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 11	ServerWorks (RCC) PCI to USB Open Host Controller OK		0xF5A00000-0xF5AFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 39	hp Memory Host Controller OK		0xF59F0000-0xF59FFFFF	Compaq PCI Hotplug Controller OK
IRQ 32	hp Memory Host Controller OK			
IRQ 38	hp Memory Host Controller OK			
IRQ 3	Compaq PCI Hotplug Controller OK		0xF5400000-0xF58FFFFF	PCI bus OK
IRQ 3	Compaq PCI Hotplug Controller OK		0xF58C0000-0xF58FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 3	Compaq PCI Hotplug Controller OK		0xF5700000-0xF57FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 3	Compaq PCI Hotplug Controller OK		0xF56C0000-0xF56FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 3	Compaq PCI Hotplug Controller OK		0xF5500000-0xF55FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 45	Smart Array 5300 Controller (Non-Miniport) OK		0xF54F0000-0xF54FFFFF	Compaq PCI Hotplug Controller OK
IRQ 43	Smart Array 5300 Controller (Non-Miniport) OK			
IRQ 19	Smart Array 5300 Controller (Non-Miniport) OK		0xF4F00000-0xF53FFFFF	PCI bus OK
IRQ 17	Smart Array 5300 Controller (Non-Miniport) OK		0xF53C0000-0xF53FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 23	Smart Array 5300 Controller (Non-Miniport) OK		0xF5200000-0xF52FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 21	Smart Array 5300 Controller (Non-Miniport) OK		0xF51C0000-0xF51FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 27	Smart Array 5300 Controller (Non-Miniport) OK		0xF5000000-0xF50FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
IRQ 25	Smart Array 5300 Controller (Non-Miniport) OK		0xF4FF0000-0xF4FFFFF	Compaq PCI Hotplug Controller OK
IRQ 31	Smart Array 5300 Controller (Non-Miniport) OK		0xF4A00000-0xF4EFFFFF	PCI bus OK
IRQ 29	Smart Array 5300 Controller (Non-Miniport) OK		0xF4EC0000-0xF4EFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4D00000-0xF4DFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4CC0000-0xF4CFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4B00000-0xF4BFFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4AF0000-0xF4AFFFFF	Compaq PCI Hotplug Controller OK
			0xF4500000-0xF49FFFFF	PCI bus OK
			0xF49C0000-0xF49FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4800000-0xF48FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF47C0000-0xF47FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF4600000-0xF46FFFFF	Smart Array 5300 Controller (Non-Miniport) OK
			0xF45F0000-0xF45FFFFF	Compaq PCI Hotplug Controller OK
[Memory]				
Resource	Device	Status		
0xA0000-0xBFFFF	PCI bus	OK		
0xA0000-0xBFFFF	Standard VGA Graphics Adapter	OK		
0xF5E00000-0xF7FFFFFF	PCI bus	OK		
0xF7F00000-0xF7FFFFFF	Compaq NC7770 Gigabit Server Adapter	OK		
0xF7FE0000-0xF7FE00FF	Compaq Advanced System Management Controller	OK		
0xF6000000-0xF6FFFFFF	Standard VGA Graphics Adapter	OK		
0xF5FF0000-0xF5FF0FFF	Standard VGA Graphics Adapter	OK		
0xF5F80000-0xF5FBFFFF	Compaq Smart Array 5i Controller	OK		
0xF5EF0000-0xF5EF3FFF	Compaq Smart Array 5i Controller	OK		
0xC0000-0xDFFFF	Motherboard resources	OK		
0xF5F70000-0xF5F70FFF	ServerWorks (RCC) PCI to USB Open Host Controller	OK		
0xF5F60000-0xF5F607FF	hp Memory Host Controller	OK		
0xF5F50000-0xF5F507FF	hp Memory Host Controller	OK		
0xF5F40000-0xF5F407FF	hp Memory Host Controller	OK		
0xF5F30000-0xF5F30FFF	Compaq PCI Hotplug Controller	OK		
0xFEC00000-0xFFFFFFF	Advanced programmable interrupt controller	OK		
0xF5900000-0xF5DFFFFF	PCI bus	OK		
0xF5DC0000-0xF5DFFFFF	Smart Array 5300 Controller (Non-Miniport)	OK		
			[Components]	
			[Multimedia]	
			[Audio Codecs]	
	CODEC	Manufacturer	Description	Status
		Version	Creation Date	File
	c:\windows\system32\sl_anet.acm		Sipro Lab Telecom Inc.	
		Size	Sipro Lab Telecom Audio Codec OK	
	C:\WINDOWS\system32\SL_ANET.ACM	3.02		84.00 KB
	(86,016 bytes)	11/15/2002 6:00 AM		

c:\windows\system32\msgsm32.acm Microsoft Corporation
 OK C:\WINDOWS\system32\MSGSM32.ACM 5.2.3718.0
 (dnsvr.021114-1947) 20.50 KB (20,992 bytes) 11/15/2002 6:00 AM

c:\windows\system32\tsoft32.acm DSP GROUP, INC.
 OK C:\WINDOWS\system32\TSOFT32.ACM 1.01
 9.50 KB (9,728 bytes) 11/15/2002 6:00 AM

c:\windows\system32\msadp32.acm Microsoft Corporation
 OK C:\WINDOWS\system32\MSADP32.ACM
 5.2.3718.0 (dnsvr.021114-1947) 14.50 KB (14,848 bytes)
 11/15/2002 6:00 AM

c:\windows\system32\imaadp32.acm Microsoft Corporation
 OK C:\WINDOWS\system32\IMAADP32.ACM 5.2.3718.0
 (dnsvr.021114-1947) 15.50 KB (15,872 bytes) 11/15/2002 6:00 AM

c:\windows\system32\msg723.acm Microsoft Corporation
 OK C:\WINDOWS\system32\MSG723.ACM
 4.4.4000 116.00 KB (118,784 bytes) 2/18/2003 3:15 PM

c:\windows\system32\msg711.acm Microsoft Corporation
 OK C:\WINDOWS\system32\MSG711.ACM
 5.2.3718.0 (dnsvr.021114-1947) 10.00 KB (10,240 bytes)
 11/15/2002 6:00 AM

c:\windows\system32\msaud32.acm Microsoft Corporation
 Windows Media Audio Codec OK
 C:\WINDOWS\system32\MSAUD32.ACM 8.00.00.4487
 288.00 KB (294,912 bytes) 11/15/2002 6:00 AM

c:\windows\system32\l3codeca.acm Fraunhofer Institut Integrierte
 Schaltungen IIS Fraunhofer IIS MPEG Layer-3 Codec OK
 C:\WINDOWS\system32\L3CODECA.ACM 1, 9, 0,
 0305 284.00 KB (290,816 bytes) 11/15/2002 6:00 AM

[Video Codecs]

CODEC	Manufacturer	Description	Status	File
	Version	Size	Creation Date	

c:\windows\system32\ir32_32.dll	Not Available			OK
C:\WINDOWS\system32\IR32_32.DLL	Not Available			
	194.50 KB (199,168 bytes)		11/15/2002 6:00 AM	

c:\windows\system32\iyuv_32.dll Microsoft Corporation
 OK C:\WINDOWS\system32\IYUV_32.DLL
 5.2.3718.0 (dnsvr.021114-1947) 45.00 KB (46,080 bytes)
 11/15/2002 9:35 AM

c:\windows\system32\tsbyuv.dll Microsoft Corporation
 OK C:\WINDOWS\system32\TSBYUV.DLL
 5.2.3718.0 (dnsvr.021114-1947) 8.00 KB (8,192 bytes)
 11/15/2002 9:36 AM

c:\windows\system32\iccvid.dll Radius Inc. OK
 C:\WINDOWS\system32\ICCVID.DLL 1.10.0.6 108.00
 KB (110,592 bytes) 11/15/2002 6:00 AM

c:\windows\system32\msrle32.dll Microsoft Corporation
 OK C:\WINDOWS\system32\MSRLE32.DLL
 5.2.3718.0 (dnsvr.021114-1947) 10.50 KB (10,752 bytes)
 11/15/2002 6:00 AM

c:\windows\system32\msh263.driv Microsoft Corporation
 OK C:\WINDOWS\system32\MSH263.DRV
 4.4.4000 284.00 KB (290,816 bytes) 11/15/2002 9:34 AM

c:\windows\system32\msyuv.dll Microsoft Corporation
 OK C:\WINDOWS\system32\MSYUV.DLL
 5.2.3718.0 (dnsvr.021114-1947) 16.50 KB (16,896 bytes)
 11/15/2002 9:35 AM

c:\windows\system32\msvidc32.dll Microsoft Corporation
 OK C:\WINDOWS\system32\MSVIDC32.DLL 5.2.3718.0
 (dnsvr.021114-1947) 26.50 KB (27,136 bytes) 11/15/2002 6:00 AM

c:\windows\system32\msh261.driv Microsoft Corporation
 OK C:\WINDOWS\system32\MSH261.DRV
 4.4.4000 180.00 KB (184,320 bytes) 2/18/2003 3:15 PM

[CD-ROM]

Item	Value
Drive	D:
Description	CD-ROM Drive
Media Loaded	No
Media Type	CD-ROM
Name	COMPAQ CD-224E
Manufacturer	(Standard CD-ROM drives)
Status	OK
Transfer Rate	Not Available
SCSI Target ID	0
PNP Device ID	IDE\CDROMCOMPAQ_CD-224E_____A.8D____\5&FB0C83D&0&0.0.0

Driver c:\windows\system32\drivers\cdrom.sys (5.2.3718.0
 (dnsvr.021114-1947), 47.38 KB (48,512 bytes), 11/15/2002 6:00 AM)

[Sound Device]

Item	Value
------	-------

[Display]

Item	Value
Name	Standard VGA Graphics Adapter
PNP Device ID	PCI\VEN_1002&DEV_4752&SUBSYS_001E0E11&REV_27\3 &267A616A&0&68
Adapter Type	ATI MACH64, (Standard display types) compatible

Adapter Description	Standard VGA Graphics Adapter
Adapter RAM	7.94 MB (8,323,072 bytes)
Installed Drivers	vga.dll,framebuf.dll,vga256.dll,vga64k.dll
Driver Version	5.2.3718.0
INF File	display.inf (vga section)
Color Planes	1
Color Table Entries	65536
Resolution	1024 x 768 x 1 hertz
Bits/Pixel	16
Memory Address	0xF6000000-0xF6FFFFFF
I/O Port	0x00002000-0x000020FF
Memory Address	0xF5FF0000-0xF5FF0FFF
I/O Port	0x000003B0-0x000003BB
I/O Port	0x000003C0-0x000003DF
Memory Address	0xA0000-0xBFFFF
Driver	c:\windows\system32\drivers\vgapnp.sys (5.2.3718.0 (dnsvr.021114-1947), 21.50 KB (22,016 bytes), 2/19/2003 11:54 AM)

[Infrared]

Item	Value
------	-------

[Input]

[Keyboard]

Item	Value
Description	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
Name	Enhanced (101- or 102-key)

Layout 00000409
 PNP Device ID ACPI\PNP0303\4&35118DFF&0
 Number of Function Keys 12
 I/O Port 0x00000060-0x00000064
 I/O Port 0x00000064-0x00000064
 IRQ Channel IRQ 1
 Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3718.0
 (dnsrv.021114-1947), 50.63 KB (51,840 bytes), 11/15/2002 6:00 AM)

[Pointing Device]

Item Value
 Hardware Type PS/2 Compatible Mouse
 Number of Buttons 2
 Status OK
 PNP Device ID ACPI\PNP0F13\4&35118DFF&0
 Power Management Supported No
 Double Click Threshold 6
 Handedness Right Handed Operation
 IRQ Channel IRQ 12
 Driver c:\windows\system32\drivers\i8042prt.sys (5.2.3718.0
 (dnsrv.021114-1947), 50.63 KB (51,840 bytes), 11/15/2002 6:00 AM)

[Modem]

Item Value

[Network]

[Adapter]

Item Value
 Name [00000001] Compaq NC7770 Gigabit Server Adapter
 Adapter Type Ethernet 802.3
 Product Type Compaq NC7770 Gigabit Server Adapter
 Installed Yes
 PNP Device ID PCI\VEN_14E4&DEV_1645&SUBSYS_007C0E11&REV_15\3
 &267A616A&0&08
 Last Reset 2/25/2003 1:38 PM
 Index 1
 Service Name q57w2k
 IP Address 130.168.253.22
 IP Subnet 255.255.0.0
 Default IP Gateway Not Available
 DHCP Enabled Yes
 DHCP Server 130.168.253.2
 DHCP Lease Expires 2/26/2003 1:39 PM
 DHCP Lease Obtained 2/25/2003 1:39 PM
 MAC Address 00:08:02:ED:28:DC
 Memory Address 0xF7FF0000-0xF7FFFFFF
 IRQ Channel IRQ 47
 Driver c:\windows\system32\drivers\q57xp32.sys (2.77.0.0 built by:
 WinDDK, 133.13 KB (136,320 bytes), 2/18/2003 3:36 PM)

Name [00000002] RAS Async Adapter
 Adapter Type Not Available
 Product Type RAS Async Adapter
 Installed Yes
 PNP Device ID Not Available
 Last Reset 2/25/2003 1:38 PM
 Index 2
 Service Name AsyncMac
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available

DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available

Name [00000003] WAN Miniport (L2TP)
 Adapter Type Not Available
 Product Type WAN Miniport (L2TP)
 Installed Yes
 PNP Device ID ROOT\MS_L2TPMINIPOINT\0000
 Last Reset 2/25/2003 1:38 PM
 Index 3
 Service Name Rasl2tp
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\rasl2tp.sys (5.2.3718.0
 (dnsrv.021114-1947), 61.63 KB (63,104 bytes), 11/15/2002 6:00 AM)

Name [00000004] WAN Miniport (PPTP)
 Adapter Type Wide Area Network (WAN)
 Product Type WAN Miniport (PPTP)
 Installed Yes
 PNP Device ID ROOT\MS_PPTPMINIPOINT\0000
 Last Reset 2/25/2003 1:38 PM
 Index 4
 Service Name PptpMiniport
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 50:50:54:50:30:30
 Driver c:\windows\system32\drivers\raspptp.sys (5.2.3718.0
 (dnsrv.021114-1947), 56.63 KB (57,984 bytes), 11/15/2002 6:00 AM)

Name [00000005] WAN Miniport (PPPOE)
 Adapter Type Wide Area Network (WAN)
 Product Type WAN Miniport (PPPOE)
 Installed Yes
 PNP Device ID ROOT\MS_PPPOEMINIPOINT\0000
 Last Reset 2/25/2003 1:38 PM
 Index 5
 Service Name RasPppoe
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address 33:50:6F:45:30:30
 Driver c:\windows\system32\drivers\raspppoe.sys (5.2.3718.0
 (dnsrv.021114-1947), 36.88 KB (37,760 bytes), 11/15/2002 6:00 AM)

Name [00000006] Direct Parallel
 Adapter Type Not Available
 Product Type Direct Parallel
 Installed Yes

PNP Device ID ROOT\MS_PTMINIPORT\0000
 Last Reset 2/25/2003 1:38 PM
 Index 6
 Service Name Raspti
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\raspti.sys (5.2.3718.0
 (dnsrv.021114-1947), 16.38 KB (16,768 bytes), 11/15/2002 6:00 AM)

Name [00000007] WAN Miniport (IP)
 Adapter Type Not Available
 Product Type WAN Miniport (IP)
 Installed Yes
 PNP Device ID ROOT\MS_NDISWANIP\0000
 Last Reset 2/25/2003 1:38 PM
 Index 7
 Service Name NdisWan
 IP Address Not Available
 IP Subnet Not Available
 Default IP Gateway Not Available
 DHCP Enabled No
 DHCP Server Not Available
 DHCP Lease Expires Not Available
 DHCP Lease Obtained Not Available
 MAC Address Not Available
 Driver c:\windows\system32\drivers\ndiswan.sys (5.2.3718.0
 (dnsrv.021114-1947), 87.25 KB (89,344 bytes), 11/15/2002 6:00 AM)

[Protocol]

Item Value
 Name MSADF Tcpip [TCP/IP]
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 16 bytes
 Maximum Message Size 0 bytes
 Message Oriented No
 Minimum Address Size 16 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data Yes
 Supports Graceful Closing Yes
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSADF Tcpip [UDP/IP]
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 16 bytes
 Maximum Message Size 63.93 KB (65,467 bytes)
 Message Oriented Yes
 Minimum Address Size 16 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No

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

Name RSVP UDP Service Provider
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 16 bytes
 Maximum Message Size 63.93 KB (65,467 bytes)
 Message Oriented Yes
 Minimum Address Size 16 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption Yes
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting Yes

Name RSVP TCP Service Provider
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 16 bytes
 Maximum Message Size 0 bytes
 Message Oriented No
 Minimum Address Size 16 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption Yes
 Supports Expedited Data Yes
 Supports Graceful Closing Yes
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSADF NetBIOS [\Device\NetBT_Tcpip_{1C085C9E-29BD-4751-AC7F-97F6F7BCB325}] SEQUENCE
 Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSADF NetBIOS [\Device\NetBT_Tcpip_{1C085C9E-29BD-4751-AC7F-97F6F7BCB325}] DATAGRAM
 Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No

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

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{56612D58-356B-4E90-947A-C22940798EF6}] SEQPACKET 1

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{56612D58-356B-4E90-947A-C22940798EF6}] DATAGRAM 1

Connectionless Service Yes
 Guarantees Delivery No
 Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{64A06413-290F-42A7-A88B-C6A29EFC7871}] SEQPACKET 2

Connectionless Service No
 Guarantees Delivery Yes
 Guarantees Sequencing Yes
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting No
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

Name MSAFD NetBIOS [\Device\NetBT_Tcpip_{64A06413-290F-42A7-A88B-C6A29EFC7871}] DATAGRAM 2

Connectionless Service Yes
 Guarantees Delivery No

Guarantees Sequencing No
 Maximum Address Size 20 bytes
 Maximum Message Size 62.50 KB (64,000 bytes)
 Message Oriented Yes
 Minimum Address Size 20 bytes
 Pseudo Stream Oriented No
 Supports Broadcasting Yes
 Supports Connect Data No
 Supports Disconnect Data No
 Supports Encryption No
 Supports Expedited Data No
 Supports Graceful Closing No
 Supports Guaranteed Bandwidth No
 Supports Multicasting No

[WinSock]

Item	Value
File	c:\windows\system32\winsock.dll
Size	2.80 KB (2,864 bytes)
Version	3.10
File	c:\windows\system32\wssock32.dll
Size	22.00 KB (22,528 bytes)
Version	5.2.3718.0 (dnsvr.021114-1947)

[Ports]

[Serial]

Item	Value
Name	Communications Port (COM1)
Status	OK
PNP Device ID	ACPI\PNP0501\0
Maximum Input Buffer Size	0
Maximum Output Buffer Size	No
Settable Baud Rate	Yes
Settable Data Bits	Yes
Settable Flow Control	Yes
Settable Parity	Yes
Settable Parity Check	Yes
Settable Stop Bits	Yes
Settable RLSD	Yes
Supports RLSD	Yes
Supports 16 Bit Mode	No
Supports Special Characters	No
Baud Rate	9600
Bits/Byte	8
Stop Bits	1
Parity	None
Busy	No
Abort Read/Write on Error	No
Binary Mode Enabled	Yes
Continue XMit on XOff	No
CTS Outflow Control	No
Discard NULL Bytes	No
DSR Outflow Control	0
DSR Sensitivity	0
DTR Flow Control Type	Enable
EOF Character	0
Error Replace Character	0
Error Replacement Enabled	No
Event Character	0
Parity Check Enabled	No
RTS Flow Control Type	Enable
XOff Character	19
XOffXMit Threshold	512
XOn Character	17

XOnXMit Threshold 2048
 XOnXOff InFlow Control 0
 XOnXOff OutFlow Control 0
 IRQ Channel IRQ 4
 I/O Port 0x000003F8-0x000003FF
 Driver c:\windows\system32\drivers\serial.sys (5.2.3718.0
 (dnsvr.021114-1947), 61.63 KB (63,104 bytes), 11/15/2002 6:00 AM)

[Parallel]

Item Value

[Storage]

[Drives]

Item Value
 Drive A:
 Description 3 1/2 Inch Floppy Drive

Drive C:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 16.95 GB (18,198,999,040 bytes)
 Free Space 13.01 GB (13,969,518,592 bytes)
 Volume Name
 Volume Serial Number 8CFD3984

Drive D:
 Description CD-ROM Disc

Drive Z:
 Description Local Fixed Disk
 Compressed No
 File System NTFS
 Size 117.15 GB (125,791,367,168 bytes)
 Free Space 5.20 GB (5,584,187,392 bytes)
 Volume Name New Volume
 Volume Serial Number 743C2B43

[Disks]

Item Value
 Description \\.\PHYSICALDRIVE27
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #27, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE28
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #28, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE29
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #29, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE30
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #30, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE31
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #31, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE32
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #32, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE33
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #33, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE34
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435

Tracks/Cylinder 255
 Partition Disk #34, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE35
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #35, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE43
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #43, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE44
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #44, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE45
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #45, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE46
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #46, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE47
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #47, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE48
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #48, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE49
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #49, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE50
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #50, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE51
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
Partition Disk #51, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE52
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #52, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE53
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #53, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE54
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #54, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE55
Manufacturer Not Available

Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #55, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE56
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #56, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE57
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #57, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE58
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 19.53 GB (20,966,238,720 bytes)
 Total Cylinders 2,549
 Total Sectors 40,949,685
 Total Tracks 649,995
 Tracks/Cylinder 255
 Partition Disk #58, Partition #0
 Partition Size 19.53 GB (20,966,206,464 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE68
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #68, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE69
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #69, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE70
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
 Partition Disk #70, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE71
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #71, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE72
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #72, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE73
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #73, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE74
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 19.53 GB (20,966,238,720 bytes)
 Total Cylinders 2,549
 Total Sectors 40,949,685
 Total Tracks 649,995
 Tracks/Cylinder 255
 Partition Disk #74, Partition #0
 Partition Size 19.53 GB (20,966,206,464 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE0
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #0, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE1
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #1, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE2
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #2, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE3
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #3, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE4
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #4, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE5
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
Partition Disk #5, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE6
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #6, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE7
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #7, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE8
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #8, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE9
Manufacturer Not Available

Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 19.53 GB (20,966,238,720 bytes)
Total Cylinders 2,549
Total Sectors 40,949,685
Total Tracks 649,995
Tracks/Cylinder 255
Partition Disk #9, Partition #0
Partition Size 19.53 GB (20,966,206,464 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE59
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #59, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE60
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #60, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE61
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #61, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE62
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #62, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE63
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #63, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE64
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
 Partition Disk #64, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE65
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #65, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE66
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #66, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE67
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #67, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE20
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #20, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE21
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #21, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE22
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #22, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE23
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #23, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE24
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #24, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE25
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #25, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE26
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 19.53 GB (20,966,238,720 bytes)
 Total Cylinders 2,549
 Total Sectors 40,949,685
 Total Tracks 649,995

Tracks/Cylinder 255
Partition Disk #26, Partition #0
Partition Size 19.53 GB (20,966,206,464 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE36
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #36, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE37
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #37, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE38
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #38, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE39
Manufacturer Not Available

Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #39, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE40
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #40, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE41
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #41, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE42
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 19.53 GB (20,966,238,720 bytes)
 Total Cylinders 2,549
 Total Sectors 40,949,685
 Total Tracks 649,995
 Tracks/Cylinder 255
 Partition Disk #42, Partition #0
 Partition Size 19.53 GB (20,966,206,464 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE75
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #75, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE76
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #76, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE77
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
 Partition Disk #77, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE78
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #78, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE79
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #79, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE80
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #80, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE81
 Manufacturer Not Available

Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #81, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE82
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #82, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE83
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845
 Tracks/Cylinder 255
 Partition Disk #83, Partition #0
 Partition Size 7.81 GB (8,381,528,064 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE84
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 2.93 GB (3,142,056,960 bytes)
 Total Cylinders 382
 Total Sectors 6,136,830
 Total Tracks 97,410
 Tracks/Cylinder 255
 Partition Disk #84, Partition #0
 Partition Size 2.93 GB (3,142,024,704 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE10
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 8.79 GB (9,434,396,160 bytes)
 Total Cylinders 1,147
 Total Sectors 18,426,555
 Total Tracks 292,485
 Tracks/Cylinder 255
 Partition Disk #10, Partition #0
 Partition Size 8.79 GB (9,434,363,904 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE11
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 4.88 GB (5,239,503,360 bytes)
 Total Cylinders 637
 Total Sectors 10,233,405
 Total Tracks 162,435
 Tracks/Cylinder 255
 Partition Disk #11, Partition #0
 Partition Size 4.88 GB (5,239,471,104 bytes)
 Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE12
 Manufacturer Not Available
 Model Not Available
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus Not Available
 SCSI Logical Unit Not Available
 SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 7.81 GB (8,381,560,320 bytes)
 Total Cylinders 1,019
 Total Sectors 16,370,235
 Total Tracks 259,845

Tracks/Cylinder 255
Partition Disk #12, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE13
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #13, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE14
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #14, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE15
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #15, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE16
Manufacturer Not Available

Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 8.79 GB (9,434,396,160 bytes)
Total Cylinders 1,147
Total Sectors 18,426,555
Total Tracks 292,485
Tracks/Cylinder 255
Partition Disk #16, Partition #0
Partition Size 8.79 GB (9,434,363,904 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE17
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 4.88 GB (5,239,503,360 bytes)
Total Cylinders 637
Total Sectors 10,233,405
Total Tracks 162,435
Tracks/Cylinder 255
Partition Disk #17, Partition #0
Partition Size 4.88 GB (5,239,471,104 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE18
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available
SCSI Port Not Available
SCSI Target ID Not Available
Sectors/Track 63
Size 7.81 GB (8,381,560,320 bytes)
Total Cylinders 1,019
Total Sectors 16,370,235
Total Tracks 259,845
Tracks/Cylinder 255
Partition Disk #18, Partition #0
Partition Size 7.81 GB (8,381,528,064 bytes)
Partition Starting Offset 32,256 bytes

Description \\.\PHYSICALDRIVE19
Manufacturer Not Available
Model Not Available
Bytes/Sector 512
Media Loaded Yes
Media Type Fixed hard disk
Partitions 1
SCSI Bus Not Available
SCSI Logical Unit Not Available

SCSI Port Not Available
 SCSI Target ID Not Available
 Sectors/Track 63
 Size 19.53 GB (20,966,238,720 bytes)
 Total Cylinders 2,549
 Total Sectors 40,949,685
 Total Tracks 649,995
 Tracks/Cylinder 255
 Partition Disk #19, Partition #0
 Partition Size 19.53 GB (20,966,206,464 bytes)
 Partition Starting Offset 32,256 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ LOGICAL VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 4
 SCSI Logical Unit 0
 SCSI Port 2
 SCSI Target ID 0
 Sectors/Track 32
 Size 16.95 GB (18,203,197,440 bytes)
 Total Cylinders 4,357
 Total Sectors 35,553,120
 Total Tracks 1,111,035
 Tracks/Cylinder 255
 Partition Disk #85, Partition #0
 Partition Size 16.95 GB (18,199,003,136 bytes)
 Partition Starting Offset 16,384 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ LOGICAL VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 4
 SCSI Logical Unit 0
 SCSI Port 2
 SCSI Target ID 1
 Sectors/Track 32
 Size 11.72 GB (12,583,895,040 bytes)
 Total Cylinders 3,012
 Total Sectors 24,577,920
 Total Tracks 768,060
 Tracks/Cylinder 255
 Partition Disk #86, Partition #0
 Partition Size 11.72 GB (12,579,700,736 bytes)
 Partition Starting Offset 16,384 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ LOGICAL VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 4
 SCSI Logical Unit 0
 SCSI Port 2
 SCSI Target ID 2
 Sectors/Track 32
 Size 5.86 GB (6,291,947,520 bytes)
 Total Cylinders 1,506
 Total Sectors 12,288,960
 Total Tracks 384,030

Tracks/Cylinder 255
 Partition Disk #87, Partition #0
 Partition Size 5.86 GB (6,287,753,216 bytes)
 Partition Starting Offset 16,384 bytes

Description Disk drive
 Manufacturer (Standard disk drives)
 Model COMPAQ LOGICAL VOLUME SCSI Disk Device
 Bytes/Sector 512
 Media Loaded Yes
 Media Type Fixed hard disk
 Partitions 1
 SCSI Bus 4
 SCSI Logical Unit 0
 SCSI Port 2
 SCSI Target ID 3
 Sectors/Track 32
 Size 498.05 MB (522,240,000 bytes)
 Total Cylinders 125
 Total Sectors 1,020,000
 Total Tracks 31,875
 Tracks/Cylinder 255
 Partition Disk #88, Partition #0
 Partition Size 494.16 MB (518,160,384 bytes)
 Partition Starting Offset 32,256 bytes

[SCSI]

Item Value
 Name Compaq Smart Array 5i Controller
 Manufacturer Compaq
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B178&SUBSYS_40800E11&REV_01\3
 &267A616A&0&70
 Memory Address 0xF5F80000-0xF5FBFFFF
 I/O Port 0x00002400-0x000024FF
 Memory Address 0xF5EF0000-0xF5EF3FFF
 IRQ Channel IRQ 40
 Driver c:\windows\system32\drivers\cpqcissm.sys (5.8.74.1
 (Lab01_N(Microsoft).020410-1632), 19.25 KB (19,712 bytes), 11/15/2002
 6:00 AM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &13C0B0C5&0&08
 Memory Address 0xF5DC0000-0xF5DFFFFF
 Memory Address 0xF5C00000-0xF5CFFFFF
 I/O Port 0x00003000-0x00003FFF
 IRQ Channel IRQ 45
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &13C0B0C5&0&10
 Memory Address 0xF5BC0000-0xF5BFFFFF
 Memory Address 0xF5A00000-0xF5AFFFFF
 I/O Port 0x00003400-0x000034FF
 IRQ Channel IRQ 43
 Driver c:\windows\system32\drivers\hpqcissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)

Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &1070020&0&08
 Memory Address 0xF58C0000-0xF58FFFFF
 Memory Address 0xF5700000-0xF57FFFFF
 I/O Port 0x00005000-0x00005FFF
 IRQ Channel IRQ 19
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &1070020&0&10
 Memory Address 0xF56C0000-0xF56FFFFF
 Memory Address 0xF5500000-0xF55FFFFF
 I/O Port 0x00005400-0x000054FF
 IRQ Channel IRQ 17
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &29E81982&0&08
 Memory Address 0xF53C0000-0xF53FFFFF
 Memory Address 0xF5200000-0xF52FFFFF
 I/O Port 0x00006000-0x00006FFF
 IRQ Channel IRQ 23
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &29E81982&0&10
 Memory Address 0xF51C0000-0xF51FFFFF
 Memory Address 0xF5000000-0xF50FFFFF
 I/O Port 0x00006400-0x000064FF
 IRQ Channel IRQ 21
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &172E68DD&0&08
 Memory Address 0xF4EC0000-0xF4EFFFFF
 Memory Address 0xF4D00000-0xF4DFFFFF
 I/O Port 0x00007000-0x00007FFF
 IRQ Channel IRQ 27
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &172E68DD&0&10

Memory Address 0xF4CC0000-0xF4CFFFFF
 Memory Address 0xF4B00000-0xF4BFFFFF
 I/O Port 0x00007400-0x000074FF
 IRQ Channel IRQ 25
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &474B838&0&08
 Memory Address 0xF49C0000-0xF49FFFFF
 Memory Address 0xF4800000-0xF48FFFFF
 I/O Port 0x00008000-0x00008FFF
 IRQ Channel IRQ 31
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

Name Smart Array 5300 Controller (Non-Miniport)
 Manufacturer Hewlett-Packard
 Status OK
 PNP Device ID
 PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
 &474B838&0&10
 Memory Address 0xF47C0000-0xF47FFFFF
 Memory Address 0xF4600000-0xF46FFFFF
 I/O Port 0x00008400-0x000084FF
 IRQ Channel IRQ 29
 Driver c:\windows\system32\drivers\hpcqissb.sys (5.5.58.32 built by:
 WinDDK, 35.25 KB (36,096 bytes), 2/18/2003 3:36 PM)

[IDE]

Item	Value
Name	CSB5 IDE Controller
Manufacturer	ServerWorks
Status	OK
PNP Device ID	PCI\VEN_1166&DEV_0212&SUBSYS_02121166&REV_93\3 &267A616A&0&79
I/O Port	0x00002820-0x0000282F
Driver	c:\windows\system32\drivers\pciide.sys (5.2.3718.0 (dnsrv.021114-1947), 3.50 KB (3,584 bytes), 11/15/2002 6:00 AM)
Name	Primary IDE Channel
Manufacturer	(Standard IDE ATA/ATAPI controllers)
Status	OK
PNP Device ID	PCI\IDE\IDECHANNEL\4&1024D5C6&0&0
I/O Port	0x000001F0-0x000001F7
I/O Port	0x000003F6-0x000003F6
IRQ Channel	IRQ 14
Driver	c:\windows\system32\drivers\atapi.sys (5.2.3718.0 (dnsrv.021114-1947), 90.50 KB (92,672 bytes), 11/15/2002 6:00 AM)
Name	Secondary IDE Channel
Manufacturer	(Standard IDE ATA/ATAPI controllers)
Status	OK
PNP Device ID	PCI\IDE\IDECHANNEL\4&1024D5C6&0&1
I/O Port	0x00000170-0x00000177
I/O Port	0x00000376-0x00000376
Driver	c:\windows\system32\drivers\atapi.sys (5.2.3718.0 (dnsrv.021114-1947), 90.50 KB (92,672 bytes), 11/15/2002 6:00 AM)

[Printing]

Name Driver Port Name Server Name

[Problem Devices]

Device PNP Device ID Error Code

[USB]

Device PNP Device ID
 ServerWorks (RCC) PCI to USB Open Host Controller
 PCI\VEN_1166&DEV_0220&SUBSYS_02201166&REV_05\3
 &267A616A&0&7A
 USB Root Hub USB\ROOT_HUB\4&AF5358C&0

[Software Environment]

[System Drivers]

Name	Description	File	Type	Started	Start
Mode	State	Status	Error Control	Accept	Pause
abiosdsk	Abiosdsk	Not Available	Kernel Driver	No	No
acpi	Microsoft ACPI Driver	c:\windows\system32\drivers\acpi.sys	Kernel Driver	Yes	Boot
acpiec	ACPIEC	c:\windows\system32\drivers\acpiec.sys	Kernel Driver	No	Disabled
adpu160m	adpu160m	Not Available	Kernel Driver	No	No
adpu320	adpu320	Not Available	Kernel Driver	No	No
afcnt	afcnt	Not Available	Kernel Driver	No	No
afd	AFD Networking Support Environment	c:\windows\system32\drivers\afd.sys	Kernel Driver	Yes	Auto
aha154x	Aha154x	Not Available	Kernel Driver	No	No
aic78u2	aic78u2	Not Available	Kernel Driver	No	No
aic78xx	aic78xx	Not Available	Kernel Driver	No	No
aliide	AliIde	Not Available	Kernel Driver	No	No
asynmac	RAS Asynchronous Media Driver	c:\windows\system32\drivers\asynmac.sys	Kernel Driver	No	Manual
atapi	Standard IDE/ESDI Hard Disk Controller	c:\windows\system32\drivers\atapi.sys	Kernel Driver	Yes	Boot

atdisk	Atdisk	Not Available	Kernel Driver	No	No
ati2mpad	ati2mpad	c:\windows\system32\drivers\ati2mpad.sys	Kernel Driver	No	Manual
atirage	atirage	c:\windows\system32\drivers\ati2mpah.sys	Kernel Driver	No	Manual
atmarpc	ATM ARP Client Protocol	c:\windows\system32\drivers\atmarpc.sys	Kernel Driver	No	Manual
audstub	Audio Stub Driver	c:\windows\system32\drivers\audstub.sys	Kernel Driver	Yes	Manual
b57w2k	BCM5701 Gigabit Ethernet	c:\windows\system32\drivers\b57xp32.sys	Kernel Driver	No	Manual
beep	Beep	c:\windows\system32\drivers\beep.sys	Kernel Driver	Yes	System
cbidf2k	cbidf2k	c:\windows\system32\drivers\cbidf2k.sys	Kernel Driver	No	Disabled
cd20xrnt	cd20xrnt	Not Available	Kernel Driver	No	Disabled
cdfs	Cdfs	c:\windows\system32\drivers\cdfs.sys	File System Driver	Yes	Disabled
cdrom	CD-ROM Driver	c:\windows\system32\drivers\cdrom.sys	Kernel Driver	Yes	System
changer	Changer	Not Available	Kernel Driver	No	System
clusdisk	Cluster Disk Driver	c:\windows\system32\drivers\clusdisk.sys	Kernel Driver	No	Disabled
cmdide	CmdIde	Not Available	Kernel Driver	No	Disabled
cpqarray	Cpqarray	Not Available	Kernel Driver	No	Disabled
cpqarry2	cpqarry2	Not Available	Kernel Driver	No	Disabled
cpqcissm	cpqcissm	c:\windows\system32\drivers\cpqcissm.sys	Kernel Driver	Yes	Boot
cpqfcalm	cpqfcalm	Not Available	Kernel Driver	No	Disabled
cpqmhp	hp ProLiant Hot Plug Memory Driver	c:\windows\system32\drivers\cpqmhp.sys	Kernel Driver	Yes	Manual
crcdisk	CRC Disk Filter Driver	c:\windows\system32\drivers\crcdisk.sys	Kernel Driver	Yes	Boot
dac960nt	dac960nt	Not Available	Kernel Driver	No	Disabled
dfsdriver	DfsDriver	c:\windows\system32\drivers\dfs.sys	File System Driver	Yes	Boot

disk	Disk Driver	c:\windows\system32\drivers\disk.sys	No	System	Stopped	OK	Normal	No
	Kernel Driver	Yes	Boot	Running	OK			
	Normal	No	Yes					
dmboot Driver	dmboot	c:\windows\system32\drivers\dmboot.sys	Kernel Driver	Yes	Disabled	Running	OK	Normal
	Yes							No
dmio	Logical Disk Manager Driver	c:\windows\system32\drivers\dmio.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
dmload Driver	dmload	c:\windows\system32\drivers\dmload.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
dpti2o	dpti2o	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
fastfat System Driver	Fastfat	c:\windows\system32\drivers\fastfat.sys	File	No	Disabled	Stopped	OK	Normal
	No							
fdc	Floppy Disk Controller Driver	c:\windows\system32\drivers\fdc.sys	Kernel Driver	Yes	Manual	Running	OK	Normal
	Yes							No
fips Driver	Fips	c:\windows\system32\drivers\fips.sys	Kernel Driver	Yes	System	Running	OK	Normal
	Yes							No
flpydisk	Floppy Disk Driver	c:\windows\system32\drivers\flpydisk.sys	Kernel Driver	Yes	Manual	Running	OK	Normal
	Normal	No	Yes					
ftdisk	Volume Manager Driver	c:\windows\system32\drivers\ftdisk.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
gpc	Generic Packet Classifier	c:\windows\system32\drivers\msgpc.sys	Kernel Driver	Yes	Manual	Running	OK	Normal
	Yes							No
hpn	hpn	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
hpqccissb	Smart Array Controllers Non-Miniport Bus Driver	c:\windows\system32\drivers\hpqccissb.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
hpqccissd	Smart Array Controllers Non-Miniport Disk Driver	c:\windows\system32\drivers\hpqccissd.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
hpt3xx	hpt3xx	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
http Driver	HTTP	c:\windows\system32\drivers\http.sys	Kernel Driver	No	Manual	Stopped	OK	Normal
	No							No
i2omgmt	i2omgmt	Not Available	Kernel Driver	System	Stopped	OK	Normal	No
	System							No
i2omp	i2omp	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
i8042prt	i8042 Keyboard and PS/2 Mouse Port Driver	c:\windows\system32\drivers\i8042prt.sys	Kernel Driver	Yes	System	Running	OK	Normal
	Yes							No
iirsp	iirsp	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
imapi	CD-Burning Filter Driver	c:\windows\system32\drivers\imapi.sys	Kernel Driver					
intelide	IntelIde	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
ipfilterdriver	IP Traffic Filter Driver	c:\windows\system32\drivers\ipfltdrv.sys	Kernel Driver	No	Manual	Stopped	OK	Normal
	No							No
ipinip	IP in IP Tunnel Driver	c:\windows\system32\drivers\ipinip.sys	Kernel Driver	Normal	No	No	Manual	Stopped
	Kernel Driver							OK
ipnat	IP Network Address Translator	c:\windows\system32\drivers\ipnat.sys	Kernel Driver	No	Manual	Stopped	OK	Normal
	No							No
ipsecc	IPSEC driver	c:\windows\system32\drivers\ipsecc.sys	Kernel Driver	Normal	No	Yes	System	Running
	Kernel Driver							OK
ipsraidn	ipsraidn	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
isapnp	PnP ISA/EISA Bus Driver	c:\windows\system32\drivers\isapnp.sys	Kernel Driver	Yes	Boot	Running	OK	Critical
	Yes							No
kbdclass	Keyboard Class Driver	c:\windows\system32\drivers\kbdclass.sys	Kernel Driver	Yes	System	Running	OK	Normal
	Yes							No
ksecdd Driver	KSecDD	c:\windows\system32\drivers\ksecdd.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
lp6nds35	lp6nds35	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
mmdd Driver	mmdd	c:\windows\system32\drivers\mmdd.sys	Kernel Driver	Yes	System	Running	OK	Ignore
	Yes							No
modem Driver	Modem	c:\windows\system32\drivers\modem.sys	Kernel Driver	No	Manual	Stopped	OK	Ignore
	No							No
mouclass	Mouse Class Driver	c:\windows\system32\drivers\mouclass.sys	Kernel Driver	Normal	No	Yes	System	Running
	Kernel Driver							OK
mountmgr	Mount Point Manager	c:\windows\system32\drivers\mountmgr.sys	Kernel Driver	Yes	Boot	Running	OK	Normal
	Yes							No
mraid35x	mraid35x	Not Available	Kernel Driver	Disabled	Stopped	OK	Normal	No
								No
mrxdav	WebDav Client Redirector	c:\windows\system32\drivers\mrxdav.sys	File System Driver	No	Manual	Stopped	OK	Normal
	No							No
mrxsmb	MRXSMB	c:\windows\system32\drivers\mrxsmb.sys	File System Driver	No	Yes	System	Running	OK
	File System Driver							Normal
msfs	Msfs	c:\windows\system32\drivers\msfs.sys	File System Driver	No	Yes	System	Running	OK
	File System Driver							Normal
mup System Driver	Mup	c:\windows\system32\drivers\mup.sys	File System Driver	Yes	Boot	Running	OK	Normal
	File System Driver							Normal
ndis	NDIS System Driver	c:\windows\system32\drivers\ndis.sys	Kernel Driver	Normal	No	Yes	Boot	Running
	Kernel Driver							OK
ndistapi	Remote Access NDIS TAPI Driver	c:\windows\system32\drivers\ndistapi.sys	Kernel Driver					

	Yes	Manual	Running	OK	Normal	No
ndisuio	Yes	NDIS Usermode I/O Protocol				
	c:\windows\system32\drivers\ndisuio.sys	Kernel Driver	Yes	Manual	Running	OK
ndiswan	Yes	Remote Access NDIS WAN Driver				
	c:\windows\system32\drivers\ndiswan.sys	Kernel Driver	Yes	Manual	Running	OK
ndproxy	Yes	NDIS Proxy				
	c:\windows\system32\drivers\ndproxy.sys	Kernel Driver	Yes	Manual	Running	OK
netbios	Normal	No	Yes	NetBIOS Interface		
	c:\windows\system32\drivers\netbios.sys	File System Driver	Yes	System	Running	OK
netbt	Normal	No	Yes	NetBios over Tcpip		
	c:\windows\system32\drivers\netbt.sys	Kernel Driver	Yes	System	Running	OK
nfrd960	Disabled	Not Available	Stopped	OK	Kernel Driver	No
npfs	No	Npfs				
	c:\windows\system32\drivers\npfs.sys	System Driver	Yes	System	Running	OK
ntfs	No	Ntfs				
	c:\windows\system32\drivers\ntfs.sys	System Driver	Yes	Disabled	Running	OK
null	Yes	Null				
	c:\windows\system32\drivers\null.sys	Kernel Driver	Yes	System	Running	OK
parport	No	Parport				
	c:\windows\system32\drivers\parport.sys	Kernel Driver	No	Manual	Stopped	OK
partmgr	Normal	No	Yes	Partition Manager		
	c:\windows\system32\drivers\partmgr.sys	Kernel Driver	Yes	Boot	Running	OK
pci	Critical	No	Yes	PCI Bus Driver		
	c:\windows\system32\drivers\pci.sys	Kernel Driver	Yes	Boot	Running	OK
pciide	Yes	PCIide				
	c:\windows\system32\drivers\pciide.sys	Kernel Driver	Yes	Boot	Running	OK
pcmcia	No	Pcmcia				
	c:\windows\system32\drivers\pcmcia.sys	Kernel Driver	No	Disabled	Stopped	OK
pdcomp	Manual	Not Available	Stopped	OK	Kernel Driver	No
pdframe	No	PDFRAME				
	Manual	Not Available	Stopped	OK	Kernel Driver	No
pdreli	Manual	Not Available	Stopped	OK	Kernel Driver	No
pdframe	No	PDRFRAME				
	Manual	Not Available	Stopped	OK	Kernel Driver	No
perc2	Disabled	Not Available	Stopped	OK	Kernel Driver	No
perc2hib	Disabled	Not Available	Stopped	OK	Kernel Driver	No
pptpminiport	Yes	WAN Miniport (PPTP)				
	c:\windows\system32\drivers\rasppptp.sys	Kernel Driver	Yes	Manual	Running	OK

processor	Processor Driver	c:\windows\system32\drivers\processr.sys	Kernel Driver	Yes	Manual	Running	OK
ptilink	Direct Parallel Link Driver	c:\windows\system32\drivers\ptilink.sys	Kernel Driver	Yes	Manual	Running	OK
q57w2k	Compaq NC7770 Gigabit Server Adapter	c:\windows\system32\drivers\q57xp32.sys	Kernel Driver	Yes	Manual	Running	OK
ql1080	ql1080	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql10wnt	Ql10wnt	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql12160	ql12160	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql1240	ql1240	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql1280	ql1280	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql2100	ql2100	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql2200	ql2200	Not Available	Disabled	Stopped	OK	Kernel Driver	No
ql2300	ql2300	Not Available	Disabled	Stopped	OK	Kernel Driver	No
rasacd	Remote Access Auto Connection Driver	c:\windows\system32\drivers\rasacd.sys	Kernel Driver	Yes	System	Running	OK
rasl2tp	WAN Miniport (L2TP)	c:\windows\system32\drivers\rasl2tp.sys	Kernel Driver	Yes	Manual	Running	OK
raspppoe	Remote Access PPPOE Driver	c:\windows\system32\drivers\raspppoe.sys	Kernel Driver	Yes	Manual	Running	OK
raspti	Direct Parallel	c:\windows\system32\drivers\raspti.sys	Kernel Driver	Yes	Manual	Running	OK
rdbss	Rdbss	c:\windows\system32\drivers\rdbss.sys	File System Driver	Yes	System	Running	OK
rdpcdd	RDPCDD	c:\windows\system32\drivers\rdpcdd.sys	Kernel Driver	Yes	System	Running	OK
rdpdr	Terminal Server Device Redirector Driver	c:\windows\system32\drivers\rdpdr.sys	Kernel Driver	Yes	Manual	Running	OK
rdpwd	RDPWD	c:\windows\system32\drivers\rdpwd.sys	Kernel Driver	Yes	Manual	Running	OK
redbook	Digital CD Audio Playback Filter Driver	c:\windows\system32\drivers\redbook.sys	Kernel Driver	Yes	System	Running	OK
secdrv	Secdrv	c:\windows\system32\drivers\secdrv.sys	Kernel Driver	No	Manual	Stopped	OK

serenum	Serenum Filter Driver	c:\windows\system32\drivers\serenum.sys	Kernel Driver	Yes	Manual	Running	OK
	Normal	No	Yes				
serial	Serial port driver	c:\windows\system32\drivers\serial.sys	Kernel Driver	Yes	System	Running	OK
	Ignore	No	Yes				
sfloppy	Sfloppy	c:\windows\system32\drivers\sfloppy.sys	Kernel Driver	No	System	Stopped	OK
	No	No	System	Stopped	OK	Ignore	No
simbad	Simbad	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
sparrow	Sparrow	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
srv	Srv	c:\windows\system32\drivers\srv.sys	File System Driver	Yes	Manual	Running	OK
	No	Yes					
startdss	startdss	c:\windows\system32\drivers\startdss.sys	Kernel Driver	No	Disabled	Stopped	OK
	No	No	Disabled	Stopped	OK	Normal	No
swenum	Software Bus Driver	c:\windows\system32\drivers\swenum.sys	Kernel Driver	Yes	Manual	Running	OK
	Normal	No	Yes				
symc810	symc810	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
symc8xx	symc8xx	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
symmpi	symmpi	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
sym_hi	sym_hi	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
sym_u3	sym_u3	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
tcpip	TCP/IP Protocol Driver	c:\windows\system32\drivers\tcpip.sys	Kernel Driver	Yes	System	Running	OK
	Yes		System	Running	OK	Normal	No
tdpipe	TDPIPE	c:\windows\system32\drivers\tdpipe.sys	Kernel Driver	No	Manual	Stopped	OK
	No	No	Manual	Stopped	OK	Ignore	No
tdtcp	TDTCP	c:\windows\system32\drivers\tdtcp.sys	Kernel Driver	Yes	Manual	Running	OK
	Yes		Manual	Running	OK	Ignore	No
termdd	Terminal Device Driver	c:\windows\system32\drivers\termdd.sys	Kernel Driver	Yes	System	Running	OK
	Yes		System	Running	OK	Normal	No
	Yes						
toside	TosIde	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
udfs	Udfs	c:\windows\system32\drivers\udfs.sys	File System Driver	No	Disabled	Stopped	OK
	No	No	Disabled	Stopped	OK	Normal	
ultra	ultra	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
update	Microcode Update Driver	c:\windows\system32\drivers\update.sys	Kernel Driver	Yes	Manual	Running	OK
	Yes		Manual	Running	OK	Normal	No
	Yes						
usbhub	USB2 Enabled Hub	c:\windows\system32\drivers\usbhub.sys	Kernel Driver	Yes	Manual	Running	OK
	Normal	No	Yes				

usbohci	Microsoft USB Open Host Controller Miniport Driver	c:\windows\system32\drivers\usbohci.sys	Kernel Driver	Yes	Manual	Running	OK
	Yes		Manual	Running	OK	Normal	No
vga	vga	c:\windows\system32\drivers\vgapnp.sys	Kernel Driver	Yes	Manual	Running	OK
	Driver	Yes	Manual	Running	OK	Ignore	No
	Yes						
vgasave	VGA Display Controller.	c:\windows\system32\drivers\vga.sys	Kernel Driver	No	System	Stopped	OK
	No		System	Stopped	OK	Ignore	No
	No						
viaide	Vialde	Not Available	Kernel Driver	No			
	Disabled	Stopped	OK	Normal	No	No	No
volsnap	Storage volumes	c:\windows\system32\drivers\volsnap.sys	Kernel Driver	Yes	Boot	Running	OK
	Normal	No	Yes				
wanarp	Remote Access IP ARP Driver	c:\windows\system32\drivers\wanarp.sys	Kernel Driver	Yes	Manual	Running	OK
	Yes		Manual	Running	OK	Normal	No
	Yes						
wdica	WDICA	Not Available	Kernel Driver	No			
	Manual	Stopped	OK	Ignore	No	No	No
wlbs	Network Load Balancing	c:\windows\system32\drivers\wlbs.sys	Kernel Driver	No	Manual	Stopped	OK
	No		Manual	Stopped	OK	Normal	No
	No						

[Signed Drivers]

Device Name	Signed	Device Class	Driver Version
Name	Driver Date	Manufacturer	INF Name Driver
Not Available	Not Available	Not Available	Not Available
Available	Not Available	Not Available	Not Available
Not Available	Not Available	HTREE\ROOT\0	Not Available
ACPI Multiprocessor PC	Yes	COMPUTER	
5.2.3718.0	10/1/2002	(Standard computers)	hal.inf Not
Available	ROOT\ACPI_HAL\0000		
Microsoft	ACPI-Compliant System	Yes	SYSTEM
5.2.3718.0	10/1/2002	Microsoft	acpi.inf Not Available
ACPI_HAL\PNP0C08\0			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_0			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_1			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_2			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_3			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_4			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2_5			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)
	cpu.inf	Not Available	

ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\6				SCSI\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLUME&REV_2.04\4&37E0A253&0&400			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Disk drive	Yes	DISKDRIVE	5.2.3718.0 10/1/2002 (Standard disk drives)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\7				SCSI\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLUME&REV_2.04\4&37E0A253&0&410			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Disk drive	Yes	DISKDRIVE	5.2.3718.0 10/1/2002 (Standard disk drives)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\8				SCSI\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLUME&REV_2.04\4&37E0A253&0&420			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Disk drive	Yes	DISKDRIVE	5.2.3718.0 10/1/2002 (Standard disk drives)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\9				SCSI\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLUME&REV_2.04\4&37E0A253&0&430			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	ServerWorks	Champion CSB5 - SouthBridge 5	Yes	SYSTEM
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\10				5.2.3718.0 10/1/2002 ServerWorks (RCC) machine.inf			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Not Available			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\11				PCI\VEN_1166&DEV_0201&SUBSYS_00000000&REV_93\3&267A616A&0&78			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Motherboard resources	Yes	SYSTEM	5.2.3718.0
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\12				10/1/2002 (Standard system devices) machine.inf			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Not Available			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\13				ACPI\PNP0C02\0			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	System timer	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\14				machine.inf Not Available			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Direct memory access controller	Yes	SYSTEM	5.2.3718.0
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\15				10/1/2002 (Standard system devices) machine.inf			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Not Available			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\16				ACPI\PNP0200\4&35118DFF&0			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	System speaker	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\17				machine.inf Not Available			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Extended IO Bus	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\18				machine.inf Not Available			
Processor	Yes	PROCESSOR	5.2.3718.0 10/1/2002 (Standard processor types)	Communications Port	Yes	PORTS	5.2.3718.0 10/1/2002 (Standard port types)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\19				msports.inf Not Available			
PCI bus	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)	Standard floppy disk controller	Yes	FDC	5.2.3718.0
machine.inf Not Available				10/1/2002 (Standard floppy disk controllers) fdc.inf			
Compaq NC7770 Gigabit Server Adapter	No	NET	2.77.0.0 6/26/2002 Compaq oem1.inf Not Available	Floppy disk drive	Yes	FLOPPYDISK	5.2.3718.0
PCI\VEN_14E4&DEV_1645&SUBSYS_007C0E11&REV_15\3&267A616A&0&08				10/1/2002 (Standard floppy disk drives) fplydisk.inf			
Compaq Advanced System Management Controller	Yes	SYSTEM	5.2.3718.0 10/1/2002 Compaq machine.inf	Not Available			
FDC\GENERIC_FLOPPY_DRIVE\6&1C650E5D&0&0				PS/2 Compatible Mouse			
Available	PCI\VEN_0E11&DEV_A0F0&SUBSYS_B0F30E11&REV_00\3&267A616A&0&60			Yes	MOUSE	5.2.3718.0	10/1/2002 Microsoft msmouse.inf Not Available
Standard VGA Graphics Adapter	Yes	DISPLAY	5.2.3718.0 10/1/2002 (Standard display types)	ACPI\PNP0F13\4&35118DFF&0			
Available	PCI\VEN_1002&DEV_4752&SUBSYS_001E0E11&REV_27\3&267A616A&0&68			Standard 101/102-Key or Microsoft Natural PS/2 Keyboard	Yes	KEYBOARD	5.2.3718.0 10/1/2002 (Standard keyboards)
Default Monitor	Yes	MONITOR	5.1.2001.0 6/6/2001 (Standard monitor types)	keyboard.inf Not Available			
Available	DISPLAY\DEFAULT_MONITOR\4&85FC1EE&0&12345678&00&0D			ACPI\PNP0303\4&35118DFF&0			
Compaq Smart Array 5i Controller	Yes	SCSIADAPTER	5.2.3718.0 10/1/2002 Compaq pnpscsi.inf Not Available	CSB5 IDE Controller	Yes	HDC	5.2.3718.0 10/1/2002
PCI\VEN_0E11&DEV_B178&SUBSYS_40800E11&REV_01\3&267A616A&0&70				ServerWorks mshdc.inf Not Available			
Compaq Virtual LUN	Yes	SYSTEM	5.2.3718.0 10/1/2002 Compaq scsidev.inf Not Available	PCI\VEN_1166&DEV_0212&SUBSYS_02121166&REV_93\3&267A616A&0&79			
SCSI\OTHER&VEN_COMPAQ&PROD_SCSI_COMMUNICA				Primary IDE Channel	Yes	HDC	5.2.3718.0 10/1/2002 (Standard IDE ATA/ATAPI controllers)
TE&REV_CISS\4&37E0A253&0&000	Disk drive			Yes	DISKDRIVE	5.2.3718.0 10/1/2002 (Standard disk drives)	machine.inf
disk.inf Not Available				PCIIDE\IDECHANNEL\4&1024D5C6&0&0			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\20				CD-ROM Drive	Yes	CDROM	5.2.3718.0 10/1/2002 (Standard CD-ROM drives)
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\21				cdrom.inf Not Available			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\22				IDE\CDROMCOMPAQ_CD-224E_____A.8D_____\5&FB0C83D&0&0.0.0			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\23				Secondary IDE Channel	Yes	HDC	5.2.3718.0
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\24				10/1/2002 (Standard IDE ATA/ATAPI controllers) mshdc.inf			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\25				Not Available			
ACPI\GENUINEINTEL_-_X86_FAMILY_15_MODEL_2\26				PCIIDE\IDECHANNEL\4&1024D5C6&0&1			

ServerWorks (RCC) PCI to USB Open Host Controller	Yes	USB	5.2.3718.0	10/1/2002	ServerWorks (RCC)	usbport.inf	Not Available
PCI\VEN_1166&DEV_0220&SUBSYS_02201166&REV_05\3&267A616A&0&7A							
USB Root Hub	Yes	USB	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
USB Host Controller	usbport.inf	Not Available					
Serverworks Champion CSB5 - SouthBridge 5 LPC	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0225&SUBSYS_00000000&REV_00\3&267A616A&0&7B							
ISAPNP Read Data Port	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
ISAPNP\READDATAPORT0							
hp Memory Host Controller	No	SYSTEM	1.0.130.3	2/10/2003	Hewlett-Packard Development Group, L.P.	oem0.inf	Not Available
PCI\VEN_0E11&DEV_B200&SUBSYS_00010E11&REV_03\3&267A616A&0&80							
hp Memory Host Controller	No	SYSTEM	1.0.130.3	2/10/2003	Hewlett-Packard Development Group, L.P.	oem0.inf	Not Available
PCI\VEN_0E11&DEV_B200&SUBSYS_B2000E11&REV_03\3&267A616A&0&81							
hp Memory Host Controller	No	SYSTEM	1.0.130.3	2/10/2003	Hewlett-Packard Development Group, L.P.	oem0.inf	Not Available
PCI\VEN_0E11&DEV_B200&SUBSYS_B2000E11&REV_03\3&267A616A&0&82							
PCI standard host CPU bridge	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B201&SUBSYS_00000000&REV_01\3&267A616A&0&88							
PCI standard host CPU bridge	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B201&SUBSYS_00000000&REV_01\3&267A616A&0&89							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&90							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&91							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&98							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&99							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&A0							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&A1							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&A8							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&A9							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&B0							
PCI standard RAM Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B10A&SUBSYS_B10A0E11&REV_03\3&267A616A&0&B1							
PCI standard host CPU bridge	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
PCI\VEN_0E11&DEV_B1C2&SUBSYS_00000000&REV_00\3&267A616A&0&B8							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&C0							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&C2							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&C4							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&C6							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&C8							
ServerWorks Grand Champion CIOB_X - I/O Bridge 100 Mhz	Yes	SYSTEM	5.2.3718.0	10/1/2002	ServerWorks (RCC)	machine.inf	Not Available
PCI\VEN_1166&DEV_0010&SUBSYS_00000000&REV_04\3&267A616A&0&CA							
Compaq PCI Hotplug Controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	Compaq	machine.inf	Not Available
PCI\VEN_0E11&DEV_A0F7&SUBSYS_A2F80E11&REV_14\3&267A616A&0&F0							
Advanced programmable interrupt controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
ACPI\PNP0003\3&267A616A&0							
Programmable interrupt controller	Yes	SYSTEM	5.2.3718.0	10/1/2002	(Standard system devices)	machine.inf	Not Available
ACPI\PNP0000\3&267A616A&0							

Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	ME\4&38EB4840&0&0500004000000000
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				
ME\4&16A16360&0&0000004000000000				
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	ME\4&38EB4840&0&0600004000000000
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				
ME\4&16A16360&0&0100004000000000				
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	Smart Array 5300 Controller (Non-Miniport)
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	No
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard
ME\4&16A16360&0&0200004000000000				oem2.inf Not Available
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	&29E81982&0&10
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				Smart Array Logical Volume
ME\4&16A16360&0&0300004000000000				No
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	DISKDRIVE 5.5.55.32
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	9/17/2002 Hewlett-Packard
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				oem3.inf Not Available
ME\4&16A16360&0&0400004000000000				HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	ME\4&1C5980EA&0&0000004000000000
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	Smart Array Logical Volume
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				No
ME\4&16A16360&0&0500004000000000				DISKDRIVE 5.5.55.32
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	9/17/2002 Hewlett-Packard
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
ME\4&16A16360&0&0600004000000000				ME\4&1C5980EA&0&0100004000000000
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	Smart Array Logical Volume
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	No
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				DISKDRIVE 5.5.55.32
ME\4&16A16360&0&0700004000000000				9/17/2002 Hewlett-Packard
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	oem3.inf Not Available
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				ME\4&1C5980EA&0&0400004000000000
ME\4&16A16360&0&0800004000000000				Smart Array Logical Volume
Compaq PCI Hotplug Controller	Yes	SYSTEM 5.2.3718.0		No
10/1/2002 Compaq machine.inf		Not Available		DISKDRIVE 5.5.55.32
PCI\VEN_0E11&DEV_A0F7&SUBSYS_A2FE0E11&REV_14\3&1070020&0&F0				9/17/2002 Hewlett-Packard
PCI bus	Yes	SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices)		oem3.inf Not Available
machine.inf		Not Available		HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
		ACPI\PNP0A03\3		ME\4&1C5980EA&0&0600004000000000
Smart Array 5300 Controller (Non-Miniport)	No			Smart Array Logical Volume
SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard				No
oem2.inf Not Available				DISKDRIVE 5.5.55.32
PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3&29E81982&0&08				9/17/2002 Hewlett-Packard
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	oem3.inf Not Available
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				ME\4&1C5980EA&0&0800004000000000
ME\4&38EB4840&0&0000004000000000				Compaq PCI Hotplug Controller
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	Yes
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	SYSTEM 5.2.3718.0
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				10/1/2002 Compaq machine.inf
ME\4&38EB4840&0&0100004000000000				Not Available
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	PCI\VEN_0E11&DEV_A0F7&SUBSYS_A2FE0E11&REV_14\3&29E81982&0&F0
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	PCI bus
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				Yes
ME\4&38EB4840&0&0300004000000000				SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices)
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	machine.inf
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				ACPI\PNP0A03\4
ME\4&38EB4840&0&0400004000000000				Smart Array 5300 Controller (Non-Miniport)
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	No
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				oem2.inf Not Available
ME\4&38EB4840&0&0200004000000000				PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	&17E68DD&0&08
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	Smart Array Logical Volume
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				No
ME\4&38EB4840&0&0000004000000000				DISKDRIVE 5.5.55.32
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	9/17/2002 Hewlett-Packard
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
ME\4&38EB4840&0&0300004000000000				ME\4&1F72F2BD&0&0000004000000000
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	Smart Array Logical Volume
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	No
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				DISKDRIVE 5.5.55.32
ME\4&38EB4840&0&0400004000000000				9/17/2002 Hewlett-Packard
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	oem3.inf Not Available
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				ME\4&1F72F2BD&0&0100004000000000
ME\4&38EB4840&0&0500004000000000				Smart Array Logical Volume
Smart Array Logical Volume	No	DISKDRIVE	5.5.55.32	No
9/17/2002 Hewlett-Packard		oem3.inf	Not Available	DISKDRIVE 5.5.55.32
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU				9/17/2002 Hewlett-Packard
ME\4&38EB4840&0&0600004000000000				oem3.inf Not Available

HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&1F72F2BD&0&0200004000000000	PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3 &474B838&0&08
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&1F72F2BD&0&0300004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0000004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&1F72F2BD&0&0400004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0100004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&1F72F2BD&0&0500004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0200004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&1F72F2BD&0&0600004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0300004000000000
Smart Array 5300 Controller (Non-Miniport) No SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard oem2.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3 &172E68DD&0&10	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0400004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0000004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0500004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0100004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&27F87BD9&0&0600004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array 5300 Controller (Non-Miniport) No SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard oem2.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0200004000000000	PCI\VEN_0E11&DEV_B060&SUBSYS_40700E11&REV_02\3 &474B838&0&10
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0300004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0000004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0400004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0100004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0500004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0200004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0600004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0300004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0700004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0400004000000000
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&2E12B67&0&0800004000000000	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0500004000000000
Compaq PCI Hotplug Controller Yes SYSTEM 5.2.3718.0 10/1/2002 Compaq machine.inf Not Available	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
PCI\VEN_0E11&DEV_A0F7&SUBSYS_A2FE0E11&REV_14\3 &172E68DD&0&F0	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0600004000000000
PCI bus Yes SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\PNP0A03\5	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available
Smart Array 5300 Controller (Non-Miniport) No SCSIADAPTER 5.5.58.32 9/17/2002 Hewlett-Packard oem2.inf Not Available	HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0700004000000000
	Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available

HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0800004000000000	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 00FFSET7E00LENGTH1384BFC00
Smart Array Logical Volume No DISKDRIVE 5.5.55.32 9/17/2002 Hewlett-Packard oem3.inf Not Available	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
HPQCISS\DISK&VEN_COMPAQ&PROD_LOGICAL_VOLU ME\4&62E2361&0&0900004000000000	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 10FFSET7E00LENGTH1F393F800
Compaq PCI Hotplug Controller Yes SYSTEM 5.2.3718.0 10/1/2002 Compaq machine.inf Not Available	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
PCI\VEN_0E11&DEV_A0F7&SUBSYS_A2FE0E11&REV_14\ 3&474B838&0&F0	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 60FFSET7E00LENGTH23254F800
ACPI Thermal Zone Yes SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices) machine.inf Not Available	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
ACPI\THERMALZONE\THM1	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 70FFSET7E00LENGTH1384BFC00
ACPI Fixed Feature Button Yes SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices) machine.inf Not Available ACPI\FIXEDBUTTON\2&DABA3FF&0	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Logical Disk Manager Yes SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices) machine.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 40FFSET7E00LENGTH1F393F800
ROOT\DMIO\0000	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C10FFSET7E00LENGTH23254F800
STORAGE\VOLUME\1&3735C57B&0&LDM#\{6666C8FB- 1B0E-4DED-9D55-0E235CA1208F}	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Volume Manager Yes SYSTEM 5.2.3718.0 10/1/2002 (Standard system devices) machine.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C20FFSET7E00LENGTH1384BFC00
ROOT\FTDISK\0000	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C30FFSET7E00LENGTH1F393F800
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 60FFSET7E00LENGTH23254F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 C0FFSET7E00LENGTH23254F800
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 70FFSET7E00LENGTH1384BFC00	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 D0FFSET7E00LENGTH1384BFC00
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 40FFSET7E00LENGTH1F393F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 20FFSET7E00LENGTH1F393F800
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 50FFSET7E00LENGTH23254F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 30FFSET7E00LENGTH23254F800
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 A0FFSET7E00LENGTH1384BFC00	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 00FFSET7E00LENGTH1384BFC00
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F27 B0FFSET7E00LENGTH1F393F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 10FFSET7E00LENGTH1F393F800
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C60FFSET7E00LENGTH23254F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 70FFSET7E00LENGTH23254F800
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C70FFSET7E00LENGTH1384BFC00	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 40FFSET7E00LENGTH1384BFC00
STORAGE\VOLUME\1&30A96598&0&SIGNATUREAC35C7 C00FFSET7E00LENGTH1F393F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 50FFSET7E00LENGTH1F393F800
STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F26 30FFSET7E00LENGTH23254F800	Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available
Generic volume Yes VOLUME 5.2.3718.0 10/1/2002 Microsoft volume.inf Not Available	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F29 A0FFSET7E00LENGTH23254F800

Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	STORAGE\VOLUME\1&30A96598&0&SIGNATURECFB6CF			
	volume.inf	Not Available	B6OFFSET4000LENGTH2EDCF0000			
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B					
50FFSET7E00LENGTH23254F800						
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	STORAGE\VOLUME\1&30A96598&0&SIGNATURECFB6CF			
	volume.inf	Not Available	B7OFFSET4000LENGTH176C78000			
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B					
A0FFSET7E00LENGTH1384BFC00						
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	STORAGE\VOLUME\1&30A96598&0&SIGNATURECBA01			
	volume.inf	Not Available	28OFFSET7E00LENGTH1EE28000			
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B					
BOFFSET7E00LENGTH1F393F800						
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	AFD Networking Support Environment	Not Available		
	volume.inf	Not Available	LEGACYDRIVER	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B		Not Available	Not Available	Not Available	
80FFSET7E00LENGTH23254F800			ROOT\LEGACY_AFD\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	Beep	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B		Not Available	ROOT\LEGACY_BEEP\0000		
80FFSET7E00LENGTH23254F800						
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	CRC Disk Filter Driver	Not Available	LEGACYDRIVER	
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B		Not Available	Not Available	Not Available	
90FFSET7E00LENGTH1384BFC00			Not Available	Not Available	Not Available	
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	dmboot	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B		Not Available	Not Available	Not Available	
FOFFSET7E00LENGTH1F393F800			ROOT\LEGACY_CRCDISK\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	dmload	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2B		Not Available	Not Available	Not Available	
DOFFSET7E00LENGTH23254F800			ROOT\LEGACY_DMLOAD\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	Fips	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2A		Not Available	ROOT\LEGACY_FIPS\0000		
20FFSET7E00LENGTH1384BFC00						
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	Generic Packet Classifier	Not Available	LEGACYDRIVER	
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2A		Not Available	Not Available	Not Available	
30FFSET7E00LENGTH1F393F800			ROOT\LEGACY_GPC\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	IPSEC driver	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Available	Not Available	Not Available	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2A		Not Available	Not Available	Not Available	
00FFSET7E00LENGTH23254F800			ROOT\LEGACY_IPSEC\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	ksecdd	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2A		Not Available	Not Available	Not Available	
10FFSET7E00LENGTH1384BFC00			ROOT\LEGACY_KSECDD\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	mmdd	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2A		Not Available	Not Available	Not Available	
60FFSET7E00LENGTH1F393F800			ROOT\LEGACY_MNMDD\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	mountmgr	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2F		Not Available	Not Available	Not Available	
80FFSET7E00LENGTH23254F800			ROOT\LEGACY_MOUNTMGR\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	NDIS System Driver	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Available	Not Available	Not Available	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2F		Not Available	Not Available	Not Available	
90FFSET7E00LENGTH1384BFC00			ROOT\LEGACY_NDIS\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	Remote Access NDIS TAPI Driver	Not Available		
	volume.inf	Not Available	LEGACYDRIVER	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2F		Not Available	Not Available	Not Available	
90FFSET7E00LENGTH1384BFC00			ROOT\LEGACY_NDISTAPI\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	NDIS Usermode I/O Protocol	Not Available		
	volume.inf	Not Available	Not Available	Not Available	LEGACYDRIVER	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURE4997F2F		Not Available	Not Available	Not Available	
E0FFSET7E00LENGTH1F393F800			ROOT\LEGACY_NDISUIO\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	NDProxy	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Not Available	Not Available	Not Available	
	STORAGE\VOLUME\1&30A96598&0&SIGNATURECBA01		Not Available	Not Available	Not Available	
29OFFSET7E00LENGTHBB477E00			ROOT\LEGACY_NDPROXY\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft	NetBios over Tcpip	Not Available	LEGACYDRIVER	Not Available
	volume.inf	Not Available	Available	Not Available	Not Available	Not Available
	STORAGE\VOLUME\1&30A96598&0&SIGNATUREAEEB56		Not Available	Not Available	Not Available	
88OFFSET4000LENGTH43CBEC000			ROOT\LEGACY_NETBT\0000			
Generic volume	Yes	VOLUME 5.2.3718.0 10/1/2002 Microsoft				
	volume.inf	Not Available				

Null	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_NULL\0000	
Partition Manager	Not Available	LEGACYDRIVER	Not Available
Available	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_PARTMGR\0000	
Remote Access Auto Connection Driver	Not Available		
	LEGACYDRIVER	Not Available	Not Available
	Not Available	Not Available	Not Available
		ROOT\LEGACY_RASACD\0000	
RDPCCD	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_RDPCCD\0000	
RDPWD	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_RDPWD\0000	
startdss	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_STARTDSS\0000	
TCP/IP Protocol Driver	Not Available	LEGACYDRIVER	
	Not Available	Not Available	Not Available
	Not Available	Not Available	
		ROOT\LEGACY_TCPIP\0000	
TDTCP	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_TDTCP\0000	
volsnap	Not Available	LEGACYDRIVER	Not Available
	Not Available	Not Available	Not Available
	Not Available	ROOT\LEGACY_VOLSNAP\0000	
Remote Access IP ARP Driver	Not Available	LEGACYDRIVER	
	Not Available	Not Available	Not Available
	Not Available	Not Available	
		ROOT\LEGACY_WANARP\0000	
Audio Codexes	Yes	MEDIA	5.2.3718.0 10/1/2002 (Standard system devices)
	wave.inf	Not Available	
		ROOT\MEDIA\MS_MMCM	
Legacy Audio Drivers	Yes	MEDIA	5.2.3718.0 10/1/2002 (Standard system devices)
	wave.inf	Not Available	
		ROOT\MEDIA\MS_MMDRV	
Media Control Devices	Yes	MEDIA	5.2.3718.0 10/1/2002 (Standard system devices)
	wave.inf	Not Available	
Available		ROOT\MEDIA\MS_MMMCI	
Legacy Video Capture Devices	Yes	MEDIA	5.2.3718.0 10/1/2002 (Standard system devices)
	wave.inf	Not Available	
Available		ROOT\MEDIA\MS_MMVCD	
Video Codexes	Yes	MEDIA	5.2.3718.0 10/1/2002 (Standard system devices)
	wave.inf	Not Available	
		ROOT\MEDIA\MS_MMVID	
WAN Miniport (L2TP)	Yes	NET	5.2.3718.0 10/1/2002 Microsoft
	netrasa.inf	Not Available	
		ROOT\MS_L2TPMINIPORT\0000	
WAN Miniport (IP)	Yes	NET	5.2.3718.0 10/1/2002 Microsoft
	netrasa.inf	Not Available	
		ROOT\MS_NDISWANIP\0000	
WAN Miniport (PPPOE)	Yes	NET	5.2.3718.0 10/1/2002 Microsoft
	netrasa.inf	Not Available	
		ROOT\MS_PPPOEMINIPORT\0000	
WAN Miniport (PPTP)	Yes	NET	5.2.3718.0 10/1/2002 Microsoft
	netrasa.inf	Not Available	
		ROOT\MS_PPTPMINIPORT\0000	
Direct Parallel	Yes	NET	5.2.3718.0 10/1/2002 Microsoft
	netrasa.inf	Not Available	
		ROOT\MS_PTMINIPORT\0000	
Terminal Server Device Redirector	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)

	machine.inf	Not Available	
	ROOT\RDPDR\0000		
Terminal Server Keyboard Driver	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
	machine.inf	Not Available	
		ROOT\RDP_KBD\0000	
Terminal Server Mouse Driver	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
	machine.inf	Not Available	
		ROOT\RDP_MOU\0000	
Plug and Play Software Device Enumerator	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
	machine.inf	Not Available	
		ROOT\SYSTEM\0000	
Microcode Update Device	Yes	SYSTEM	5.2.3718.0 10/1/2002 (Standard system devices)
	machine.inf	Not Available	
		ROOT\SYSTEM\0001	
[Environment Variables]			
Variable	Value	User Name	
ComSpec	%SystemRoot%\system32\cmd.exe		<SYSTEM>
Path	%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\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	15		<SYSTEM>
PROCESSOR_IDENTIFIER	x86 Family 15 Model 2 Stepping 2, GenuineIntel		<SYSTEM>
PROCESSOR_REVISION	0202		<SYSTEM>
NUMBER_OF_PROCESSORS	16		<SYSTEM>
ClusterLogC:\WINDOWS\Cluster\cluster.log			<SYSTEM>
PATHEXT			
	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH		<SYSTEM>
TEMP	%SystemRoot%\TEMP		<SYSTEM>
TMP	%SystemRoot%\TEMP		<SYSTEM>
TEMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\SYSTEM
TMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\SYSTEM
TEMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\LOCAL SERVICE
TMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\LOCAL SERVICE
TEMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\NETWORK SERVICE
TMP	%USERPROFILE%\Local Settings\Temp	NT	AUTHORITY\NETWORK SERVICE
TEMP	%USERPROFILE%\Local Settings\Temp		PHOENIX\Administrator
TMP	%USERPROFILE%\Local Settings\Temp		PHOENIX\Administrator
[Print Jobs]			
Document Size	Owner	Notify	Status
Start Time	Until Time	Elapsed Time	Time Submitted
Job ID	Priority	Parameters	Driver
Host Print Queue	Data	Type	Name
Print Processor			
[Network Connections]			
Local Name	Remote Name	Type	Status
User Name			User

Not Available \\inforb\audit_fdr Disk Current Connection
PHOENIX\dpol

[Running Tasks]

Name	Path	Process ID	Priority	Min Working Set	Max
system idle process	Not Available	Not Available	0	0	Not Available
system	Not Available	Not Available	4	8	0 1413120
smss.exe	c:\windows\system32\smss.exe	444	11	204800	
	1413120 2/25/2003 1:38 PM	5.2.3718.0 (dnsvr.021114-1947)			
	46.50 KB (47,616 bytes)	11/15/2002 6:00 AM			
csrss.exe	Not Available	492	13	Not Available	
	Not Available	2/25/2003 1:38 PM	Not Available		
	Not Available	Not Available			
winlogon.exe	c:\windows\system32\winlogon.exe			516	
	13 204800 1413120 2/25/2003 1:38 PM				
	5.2.3718.0 (dnsvr.021114-1947)	524.00 KB (536,576 bytes)			
	11/15/2002 6:00 AM				
services.exe	c:\windows\system32\services.exe			560	
	9 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	99.50 KB (101,888 bytes)			
	11/15/2002 6:00 AM				
lsass.exe	c:\windows\system32\lsass.exe	572	9	204800	
	1413120 2/25/2003 1:39 PM	5.2.3718.0 (dnsvr.021114-1947)			
	13.00 KB (13,312 bytes)	11/15/2002 6:00 AM			
svchost.exe	c:\windows\system32\svchost.exe			784	
	8 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	12.00 KB (12,288 bytes)			
	11/15/2002 6:00 AM				
svchost.exe	Not Available	860	8	Not Available	
Available	Not Available	2/25/2003 1:39 PM	Not Available		
	Not Available	Not Available			
svchost.exe	Not Available	928	8	Not Available	
Available	Not Available	2/25/2003 1:39 PM	Not Available		
	Not Available	Not Available			
svchost.exe	c:\windows\system32\svchost.exe			944	
	8 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	12.00 KB (12,288 bytes)			
	11/15/2002 6:00 AM				
spoolsv.exe	c:\windows\system32\spoolsv.exe			1112	
	8 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	52.00 KB (53,248 bytes)			
	11/15/2002 6:00 AM				
svchost.exe	c:\windows\system32\svchost.exe			1144	
	8 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	12.00 KB (12,288 bytes)			
	11/15/2002 6:00 AM				
svchost.exe	Not Available	1188	8	Not Available	
Available	Not Available	2/25/2003 1:39 PM	Not Available		
	Not Available	Not Available			
dfssvc.exe	c:\windows\system32\dfssvc.exe	1596	8	204800	
	1413120 2/25/2003 1:39 PM	5.2.3718.0 (dnsvr.021114-1947)			
	127.00 KB (130,048 bytes)	11/15/2002 6:00 AM			
explorer.exe	c:\windows\explorer.exe			1716	8
	204800 1413120 2/25/2003 1:39 PM	6.00.3718.0			
	(dnsvr.021114-1947)	995.50 KB (1,019,392 bytes)			11/15/2002 6:00 AM
svchost.exe	c:\windows\system32\svchost.exe			1792	
	8 204800 1413120 2/25/2003 1:39 PM				
	5.2.3718.0 (dnsvr.021114-1947)	12.00 KB (12,288 bytes)			
	11/15/2002 6:00 AM				
wmiprvse.exe	Not Available	1276	8	Not Available	
Available	Not Available	2/25/2003 1:40 PM	Not Available		
	Not Available	Not Available			

wpabaln.exe	c:\windows\system32\wpabaln.exe	356			
	8 204800 1413120 2/25/2003 1:41 PM				
	5.2.3718.0 (dnsvr.021114-1947)	31.00 KB (31,744 bytes)			
	11/15/2002 6:00 AM				
cmd.exe	c:\windows\system32\cmd.exe	1888	8	204800	
	1413120 2/25/2003 2:24 PM	5.2.3718.0 (dnsvr.021114-1947)			
	370.00 KB (378,880 bytes)	11/15/2002 6:00 AM			
msinfo32.exe	c:\program files\microsoft				
shared\msinfo\msinfo32.exe	1348	8	204800	1413120	
	2/25/2003 2:25 PM	5.2.3718.0 (dnsvr.021114-1947)			40.50 KB
	(41,472 bytes)	2/18/2003 3:14 PM			
wmiprvse.exe	Not Available	1648	8	Not Available	
Available	Not Available	2/25/2003 2:25 PM	Not Available		
	Not Available	Not Available			
taskmgr.exe	c:\windows\system32\taskmgr.exe	180			
	13 204800 1413120 2/25/2003 2:25 PM				
	5.2.3718.0 (dnsvr.021114-1947)	124.00 KB (126,976 bytes)			
	11/15/2002 6:00 AM				

[Loaded Modules]

Name	Version	Size	File Date	Manufacturer	Path
smss	5.2.3718.0 (dnsvr.021114-1947)	46.50 KB (47,616 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\smss.exe				
ntdll	5.2.3718.0 (dnsvr.021114-1947)	708.00 KB (724,992 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\ntdll.dll				
winlogon	5.2.3718.0 (dnsvr.021114-1947)	524.00 KB (536,576 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\winlogon.exe				
kernel32	5.2.3718.0 (dnsvr.021114-1947)	949.00 KB (971,776 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\kernel32.dll				
msvrt	7.0.3718.0 (dnsvr.021114-1947)	319.50 KB (327,168 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\msvrt.dll				
advapi32	5.2.3718.0 (dnsvr.021114-1947)	534.00 KB (546,816 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\advapi32.dll				
rpcrt4	5.2.3718.0 (dnsvr.021114-1947)	540.00 KB (552,960 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\rpcrt4.dll				
user32	5.2.3718.0 (dnsvr.021114-1947)	552.50 KB (565,760 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\user32.dll				
gdi32	5.2.3718.0 (dnsvr.021114-1947)	255.00 KB (261,120 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\gdi32.dll				
userenv	5.2.3718.0 (dnsvr.021114-1947)	726.50 KB (743,936 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\userenv.dll				
nddeapi	5.2.3718.0 (dnsvr.021114-1947)	15.50 KB (15,872 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\nddeapi.dll				
crypt32	5.131.3718.0 (dnsvr.021114-1947)	534.50 KB (547,328 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\crypt32.dll				
msasn1	5.2.3718.0 (dnsvr.021114-1947)	50.50 KB (51,712 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\msasn1.dll				
secur32	5.2.3718.0 (dnsvr.021114-1947)	56.00 KB (57,344 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\secur32.dll				
winsta	5.2.3718.0 (dnsvr.021114-1947)	48.50 KB (49,664 bytes)			
	11/15/2002 6:00 AM	Microsoft Corporation			
	c:\windows\system32\winsta.dll				

netapi32	5.2.3718.0 (dnsvr.021114-1947) 311.50 KB (318,976 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netapi32.dll	rsaenh	5.2.3718.0 (dnsvr.021114-1947) 177.07 KB (181,320 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rsaenh.dll
profmap	5.2.3718.0 (dnsvr.021114-1947) 21.50 KB (22,016 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\profmap.dll	cscdll	5.2.3718.0 (dnsvr.021114-1947) 93.50 KB (95,744 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cscdll.dll
regapi	5.2.3718.0 (dnsvr.021114-1947) 47.50 KB (48,640 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\regapi.dll	wlnotify	5.2.3718.0 (dnsvr.021114-1947) 86.00 KB (88,064 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wlnotify.dll
ws2_32	5.2.3718.0 (dnsvr.021114-1947) 75.00 KB (76,800 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ws2_32.dll	winmm	5.2.3718.0 (dnsvr.021114-1947) 162.50 KB (166,400 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\winmm.dll
ws2help	5.2.3718.0 (dnsvr.021114-1947) 19.00 KB (19,456 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ws2help.dll	winspool	5.2.3718.0 (dnsvr.021114-1947) 135.00 KB (138,240 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\winspool.drv
psapi	5.2.3718.0 (dnsvr.021114-1947) 21.00 KB (21,504 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\psapi.dll	mpr	5.2.3718.0 (dnsvr.021114-1947) 55.00 KB (56,320 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mpr.dll
version	5.2.3718.0 (dnsvr.021114-1947) 16.50 KB (16,896 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\version.dll	comctl32	5.82 (dnsvr.021114-1947) 561.00 KB (574,464 bytes) 2/18/2003 8:54 AM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.common- controls_6595b64144ccf1df_5.82.0.0_x-ww_8a69ba05\comctl32.dll
setupapi	5.2.3718.0 (dnsvr.021114-1947) 999.00 KB (1,022,976 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\setupapi.dll	uxtheme	6.00.3718.0 (dnsvr.021114-1947) 191.50 KB (196,096 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\uxtheme.dll
msgina	5.2.3718.0 (dnsvr.021114-1947) 1.13 MB (1,186,304 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msgina.dll	samlib	5.2.3718.0 (dnsvr.021114-1947) 41.00 KB (41,984 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\samlib.dll
shsvcs	6.00.3718.0 (dnsvr.021114-1947) 121.50 KB (124,416 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\shsvcs.dll	cscuri	5.2.3718.0 (dnsvr.021114-1947) 300.00 KB (307,200 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cscuri.dll
shlwapi	6.00.3718.0 (dnsvr.021114-1947) 272.00 KB (278,528 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\shlwapi.dll	mprapi	5.2.3718.0 (dnsvr.021114-1947) 77.50 KB (79,360 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mprapi.dll
sfc	5.2.3718.0 (dnsvr.021114-1947) 4.50 KB (4,608 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\sfc.dll	activeds	5.2.3718.0 (dnsvr.021114-1947) 182.50 KB (186,880 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\activeds.dll
sfc_os	5.2.3718.0 (dnsvr.021114-1947) 133.00 KB (136,192 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\sfc_os.dll	adslldpc	5.2.3718.0 (dnsvr.021114-1947) 138.50 KB (141,824 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\adslldpc.dll
wintrust	5.131.3718.0 (dnsvr.021114-1947) 159.50 KB (163,328 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wintrust.dll	credui	5.2.3718.0 (dnsvr.021114-1947) 158.50 KB (162,304 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\credui.dll
ole32	5.2.3718.0 (dnsvr.021114-1947) 1.09 MB (1,139,200 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ole32.dll	atl	3.05.2283 83.00 KB (84,992 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\atl.dll
imagehlp	5.2.3718.0 (dnsvr.021114-1947) 136.50 KB (139,776 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\imagehlp.dll	oleaut32	5.2.3718.0 485.00 KB (496,640 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\oleaut32.dll
comctl32	6.0 (dnsvr.021114-1947) 907.00 KB (928,768 bytes) 2/18/2003 8:54 AM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.common- controls_6595b64144ccf1df_6.0.100.0_x-ww_8417450b\comctl32.dll	rtutils	5.2.3718.0 (dnsvr.021114-1947) 31.50 KB (32,256 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rtutils.dll
winscard	5.2.3718.0 (dnsvr.021114-1947) 94.00 KB (96,256 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\winscard.dll	clbcatq	2001.12.4648.0 (dnsvr.021114-1947) 469.00 KB (480,256 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\clbcatq.dll
wtsapi32	5.2.3718.0 (dnsvr.021114-1947) 17.00 KB (17,408 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wtsapi32.dll	comres	2001.12.4648.0 (dnsvr.021114-1947) 778.00 KB (796,672 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\comres.dll
sxs	5.2.3718.0 (dnsvr.021114-1947) 714.00 KB (731,136 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\sxs.dll	ntmarta	5.2.3718.0 (dnsvr.021114-1947) 111.50 KB (114,176 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntmarta.dll
shell32	6.00.3718.0 (dnsvr.021114-1947) 7.77 MB (8,152,064 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\shell32.dll	services	5.2.3718.0 (dnsvr.021114-1947) 99.50 KB (101,888 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\services.exe
wldap32	5.2.3718.0 (dnsvr.021114-1947) 137.00 KB (140,288 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wldap32.dll	scserv	5.2.3718.0 (dnsvr.021114-1947) 311.50 KB (318,976 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\scserv.dll

authz	5.2.3718.0 (dnsvr.021114-1947) 61.00 KB (62,464 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\authz.dll	mwssock	5.2.3718.0 (dnsvr.021114-1947) 226.00 KB (231,424 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mwssock.dll
umpnprmgr	5.2.3718.0 (dnsvr.021114-1947) 119.50 KB (122,368 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\umpnprmgr.dll	esent	5.2.3718.0 (dnsvr.021114-1947) 920.50 KB (942,592 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\esent.dll
ncobjapi	5.2.3718.0 (dnsvr.021114-1947) 32.50 KB (33,280 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ncobjapi.dll	scecli	5.2.3718.0 (dnsvr.021114-1947) 176.00 KB (180,224 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\scecli.dll
msvcp60	6.05.2144.0 388.00 KB (397,312 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msvcp60.dll	wshtcpip	5.2.3718.0 (dnsvr.021114-1947) 17.50 KB (17,920 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wshtcpip.dll
eventlog	5.2.3718.0 (dnsvr.021114-1947) 58.50 KB (59,904 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\eventlog.dll	ipsecvsc	5.2.3718.0 (dnsvr.021114-1947) 155.50 KB (159,232 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ipsecvsc.dll
lsass	5.2.3718.0 (dnsvr.021114-1947) 13.00 KB (13,312 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\lsass.exe	oakley	5.2.3718.0 (dnsvr.021114-1947) 314.50 KB (322,048 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\oakley.dll
lsasrv	5.2.3718.0 (dnsvr.021114-1947) 715.50 KB (732,672 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\lsasrv.dll	winiipsec	5.2.3718.0 (dnsvr.021114-1947) 32.50 KB (33,280 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\winiipsec.dll
samsrv	5.2.3718.0 (dnsvr.021114-1947) 412.50 KB (422,400 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\samsrv.dll	ptstorsvc	5.2.3718.0 (dnsvr.021114-1947) 24.00 KB (24,576 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ptstorsvc.dll
cryptdll	5.2.3718.0 (dnsvr.021114-1947) 29.00 KB (29,696 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cryptdll.dll	psbase	5.2.3718.0 (dnsvr.021114-1947) 83.00 KB (84,992 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\psbase.dll
dnsapi	5.2.3718.0 (dnsvr.021114-1947) 146.00 KB (149,504 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\dnsapi.dll	dssenh	5.2.3718.0 (dnsvr.021114-1947) 131.07 KB (134,216 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\dssenh.dll
ntdsapi	5.2.3718.0 (dnsvr.021114-1947) 67.00 KB (68,608 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntdsapi.dll	wlbcctrl	5.2.3718.0 (dnsvr.021114-1947) 78.00 KB (79,872 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wlbcctrl.dll
msprivs	5.2.3718.0 (dnsvr.021114-1947) 45.50 KB (46,592 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msprivs.dll	svchost	5.2.3718.0 (dnsvr.021114-1947) 12.00 KB (12,288 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\svchost.exe
kerberos	5.2.3718.0 (dnsvr.021114-1947) 305.50 KB (312,832 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\kerberos.dll	rpcss	5.2.3718.0 (dnsvr.021114-1947) 268.50 KB (274,944 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rpcss.dll
msv1_0	5.2.3718.0 (dnsvr.021114-1947) 114.00 KB (116,736 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msv1_0.dll	wzcsvc	5.2.3718.0 (dnsvr.021114-1947) 272.50 KB (279,040 bytes) 11/15/2002 9:36 AM Microsoft Corporation c:\windows\system32\wzcsvc.dll
netlogon	5.2.3718.0 (dnsvr.021114-1947) 404.00 KB (413,696 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netlogon.dll	wmi	5.2.3718.0 (dnsvr.021114-1947) 6.50 KB (6,656 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wmi.dll
w32time	5.2.3718.0 (dnsvr.021114-1947) 210.50 KB (215,552 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\w32time.dll	dhcpcsvc	5.2.3718.0 (dnsvr.021114-1947) 100.50 KB (102,912 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\dhcpcsvc.dll
iphlpapi	5.2.3718.0 (dnsvr.021114-1947) 81.00 KB (82,944 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\iphlpapi.dll	rastls	5.2.3718.0 (dnsvr.021114-1947) 155.00 KB (158,720 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rastls.dll
schannel	5.2.3718.0 (dnsvr.021114-1947) 145.00 KB (148,480 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\schannel.dll	cryptui	5.131.3718.0 (dnsvr.021114-1947) 468.50 KB (479,744 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cryptui.dll
wdigest	5.2.3718.0 (dnsvr.021114-1947) 61.00 KB (62,464 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wdigest.dll	rasapi32	5.2.3718.0 (dnsvr.021114-1947) 219.50 KB (224,768 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rasapi32.dll
rassfm	5.2.3718.0 (dnsvr.021114-1947) 20.50 KB (20,992 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rassfm.dll	rasman	5.2.3718.0 (dnsvr.021114-1947) 55.00 KB (56,320 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rasman.dll
kdcsvc	5.2.3718.0 (dnsvr.021114-1947) 203.00 KB (207,872 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\kdcsvc.dll	tapi32	5.2.3718.0 (dnsvr.021114-1947) 170.50 KB (174,592 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\tapi32.dll
ntdsa	5.2.3718.0 (dnsvr.021114-1947) 1.31 MB (1,376,256 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntdsa.dll	raschap	5.2.3718.0 (dnsvr.021114-1947) 106.00 KB (108,544 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\raschap.dll
ntdsatq	5.2.3718.0 (dnsvr.021114-1947) 27.50 KB (28,160 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntdsatq.dll	schedsvc	5.2.3718.0 (dnsvr.021114-1947) 173.50 KB (177,664 bytes) 2/18/2003 3:14 PM Microsoft Corporation c:\windows\system32\schedsvc.dll

msidle	6.00.3718.0 (dnsvr.021114-1947)5.50 KB (5,632 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msidle.dll	netshell	5.2.3718.0 (dnsvr.021114-1947) 1.64 MB (1,721,856 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netshell.dll
wkssvc	5.2.3718.0 (dnsvr.021114-1947) 123.00 KB (125,952 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wkssvc.dll	clusapi	5.2.3718.0 (dnsvr.021114-1947) 54.50 KB (55,808 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\clusapi.dll
wiarpc	5.2.3718.0 (dnsvr.021114-1947) 30.00 KB (30,720 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wiarpc.dll	hnetcfg	5.2.3718.0 (dnsvr.021114-1947) 243.50 KB (249,344 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\hnetcfg.dll
cryptsvc	5.2.3718.0 (dnsvr.021114-1947) 50.50 KB (51,712 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cryptsvc.dll	wbemcomn	5.2.3718.0 (dnsvr.021114-1947) 202.50 KB (207,360 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wbem\wbemcomn.dll
certcli	5.2.3718.0 (dnsvr.021114-1947) 217.50 KB (222,720 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\certcli.dll	wbemcore	5.2.3718.0 (dnsvr.021114-1947) 453.50 KB (464,384 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wbemcore.dll
vssapi	5.2.3718.0 (dnsvr.021114-1947) 526.00 KB (538,624 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\vssapi.dll	esscli	5.2.3718.0 (dnsvr.021114-1947) 232.50 KB (238,080 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\esscli.dll
dmservr	5.2.3718.0 (dnsvr.021114-1947) 23.50 KB (24,064 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\dmservr.dll	fastprox	5.2.3718.0 (dnsvr.021114-1947) 442.00 KB (452,608 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\fastprox.dll
es	2001.12.4648.0 (dnsvr.021114-1947) 221.00 KB (226,304 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\es.dll	wbemsvc	5.2.3718.0 (dnsvr.021114-1947) 42.00 KB (43,008 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wbemsvc.dll
pchsvc	5.2.3718.0 (dnsvr.021114-1947) 30.00 KB (30,720 bytes) 2/18/2003 3:15 PM Microsoft Corporation c:\windows\pchealth\helpctr\binaries\pchsvc.dll	wmiutils	5.2.3718.0 (dnsvr.021114-1947) 90.00 KB (92,160 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wmiutils.dll
srvsvc	5.2.3718.0 (dnsvr.021114-1947) 87.50 KB (89,600 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\srvsvc.dll	repdrvfs	5.2.3718.0 (dnsvr.021114-1947) 165.50 KB (169,472 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\repdrvfs.dll
seclogon	5.2.3718.0 (dnsvr.021114-1947) 16.00 KB (16,384 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\seclogon.dll	wmiprvsd	5.2.3718.0 (dnsvr.021114-1947) 405.50 KB (415,232 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wmiprvsd.dll
trkwks	5.2.3718.0 (dnsvr.021114-1947) 81.00 KB (82,944 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\trkwks.dll	wbemess	5.2.3718.0 (dnsvr.021114-1947) 255.00 KB (261,120 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wbemess.dll
wmisvc	5.2.3718.0 (dnsvr.021114-1947) 131.50 KB (134,656 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\wmisvc.dll	rasdlg	5.2.3718.0 (dnsvr.021114-1947) 640.50 KB (655,872 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rasdlg.dll
wuauerv	5.4.3718.0 (dnsvr.021114-1947) 9.50 KB (9,728 bytes) 2/18/2003 3:11 PM Microsoft Corporation c:\windows\system32\wuauerv.dll	rasadhlp	5.2.3718.0 (dnsvr.021114-1947) 6.00 KB (6,144 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\rasadhlp.dll
wuaueng	5.4.3718.0 (dnsvr.021114-1947) 188.50 KB (193,024 bytes) 2/18/2003 3:11 PM Microsoft Corporation c:\windows\system32\wuaueng.dll	ncprov	5.2.3718.0 (dnsvr.021114-1947) 43.00 KB (44,032 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\wbem\ncprov.dll
advpack	6.00.3718.0 (dnsvr.021114-1947)93.50 KB (95,744 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\advpack.dll	winhttp	5.2.3718.0 (dnsvr.021114-1947) 325.50 KB (333,312 bytes) 2/18/2003 8:54 AM Microsoft Corporation c:\windows\winsxs\x86_microsoft.windows.winhttp_6595b64144
wininet	6.00.3718.0 (dnsvr.021114-1947)591.50 KB (605,696 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wininet.dll	ccf1df_5.1.0.0_x-ww_e0651936\winhttp.dll	
sens	5.2.3718.0 (dnsvr.021114-1947) 35.00 KB (35,840 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\sens.dll	xactsrv	5.2.3718.0 (dnsvr.021114-1947) 86.50 KB (88,576 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\xactsrv.dll
comsvcs	2001.12.4648.0 (dnsvr.021114-1947) 1.11 MB (1,160,704 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\comsvcs.dll	spoolsv	5.2.3718.0 (dnsvr.021114-1947) 52.00 KB (53,248 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\spoolsv.exe
browser	5.2.3718.0 (dnsvr.021114-1947) 69.50 KB (71,168 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\browser.dll	spoolss	5.2.3718.0 (dnsvr.021114-1947) 77.00 KB (78,848 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\spoolss.dll
netrap	5.2.3718.0 (dnsvr.021114-1947) 11.50 KB (11,776 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netrap.dll	localspl	5.2.3718.0 (dnsvr.021114-1947) 297.50 KB (304,640 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\localspl.dll
netman	5.2.3718.0 (dnsvr.021114-1947) 200.00 KB (204,800 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netman.dll	cnbjmon	5.2.3680.0 (Lab03_dev\skatari).020509-1043) 45.50 KB (46,592 bytes) 11/15/2002 9:35 AM Microsoft Corporation c:\windows\system32\cnbjmon.dll
wzcsapi	5.2.3718.0 (dnsvr.021114-1947) 24.00 KB (24,576 bytes) 11/15/2002 9:36 AM Microsoft Corporation c:\windows\system32\wzcsapi.dll	pjlmon	5.2.3718.0 (dnsvr.021114-1947) 14.50 KB (14,848 bytes) 11/15/2002 9:35 AM Microsoft Corporation c:\windows\system32\pjlmon.dll
		tcpmon	5.2.3718.0 (dnsvr.021114-1947) 42.00 KB (43,008 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\tcpmon.dll

mgmtapi	5.2.3718.0 (dnsvr.021114-1947) 14.00 KB (14,336 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mgmtapi.dll	webcheck	6.00.3718.0 (dnsvr.021114-1947)256.00 KB (262,144 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\webcheck.dll
snmpapi	5.2.3718.0 (dnsvr.021114-1947) 17.50 KB (17,920 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\snmpapi.dll	stobject	5.2.3718.0 (dnsvr.021114-1947) 117.00 KB (119,808 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\stobject.dll
wsnmp32	5.2.3718.0 (dnsvr.021114-1947) 39.50 KB (40,448 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wsnmp32.dll	batmeter	6.00.3718.0 (dnsvr.021114-1947)28.00 KB (28,672 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\batmeter.dll
usbmon	5.2.3718.0 (dnsvr.021114-1947) 16.00 KB (16,384 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\usbmon.dll	powrprof	6.00.3718.0 (dnsvr.021114-1947)14.00 KB (14,336 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\powrprof.dll
winnr	5.2.3718.0 (dnsvr.021114-1947) 14.50 KB (14,848 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\winnr.dll	urlmon	6.00.3718.0 (dnsvr.021114-1947)457.50 KB (468,480 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\urlmon.dll
wshqos	5.2.3718.0 (dnsvr.021114-1947) 23.00 KB (23,552 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wshqos.dll	browselec	6.00.3718.0 (dnsvr.021114-1947)61.50 KB (62,976 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\browselec.dll
win32spl	5.2.3718.0 (dnsvr.021114-1947) 102.00 KB (104,448 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\win32spl.dll	printui	5.2.3718.0 (dnsvr.021114-1947) 527.00 KB (539,648 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\printui.dll
inetpp	5.2.3718.0 (dnsvr.021114-1947) 68.50 KB (70,144 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\inetpp.dll	cfgmgr32	5.2.3718.0 (dnsvr.021114-1947) 17.00 KB (17,408 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\cfgmgr32.dll
icmp	5.2.3718.0 (dnsvr.021114-1947) 4.50 KB (4,608 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\icmp.dll	shdoclc	6.00.3718.0 (dnsvr.021114-1947)521.00 KB (533,504 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\shdoclc.dll
ersvc	5.2.3718.0 (dnsvr.021114-1947) 22.00 KB (22,528 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ersvc.dll	zipfldr	6.00.3718.0 (dnsvr.021114-1947)316.00 KB (323,584 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\zipfldr.dll
dfssvc	5.2.3718.0 (dnsvr.021114-1947) 127.00 KB (130,048 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\dfssvc.exe	mydocs	6.00.3718.0 (dnsvr.021114-1947)87.00 KB (89,088 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mydocs.dll
resutils	5.2.3718.0 (dnsvr.021114-1947) 58.00 KB (59,392 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\resutils.dll	drprov	5.2.3718.0 (dnsvr.021114-1947) 11.50 KB (11,776 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\drprov.dll
mfc42u	6.05.2283.0 960.00 KB (983,040 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\mfc42u.dll	ntlanman	5.2.3718.0 (dnsvr.021114-1947) 39.50 KB (40,448 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntlanman.dll
wsock32	5.2.3718.0 (dnsvr.021114-1947) 22.00 KB (22,528 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\wsock32.dll	netui0	5.2.3718.0 (dnsvr.021114-1947) 73.00 KB (74,752 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netui0.dll
explorer	6.00.3718.0 (dnsvr.021114-1947)995.50 KB (1,019,392 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\explorer.exe	netui1	5.2.3718.0 (dnsvr.021114-1947) 177.00 KB (181,248 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\netui1.dll
browseui	6.00.3718.0 (dnsvr.021114-1947)1,009.00 KB (1,033,216 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\browseui.dll	davclnt	5.2.3718.0 (dnsvr.021114-1947) 23.00 KB (23,552 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\davclnt.dll
shdocvw	6.00.3718.0 (dnsvr.021114-1947)1.30 MB (1,358,336 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\shdocvw.dll	msxml3	8.40.9214.0 1.06 MB (1,108,992 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msxml3.dll
apphelp	5.2.3718.0 (dnsvr.021114-1947) 120.00 KB (122,880 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\apphelp.dll	jscrip	5.6.0.8028 424.00 KB (434,176 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\jscrip.dll
themeui	6.00.3718.0 (dnsvr.021114-1947)360.50 KB (369,152 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\themeui.dll	sensapi	5.2.3718.0 (dnsvr.021114-1947) 6.00 KB (6,144 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\sensapi.dll
msimg32	5.2.3718.0 (dnsvr.021114-1947) 4.50 KB (4,608 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\msimg32.dll	mstask	5.2.3718.0 (dnsvr.021114-1947) 280.50 KB (287,232 bytes) 2/18/2003 3:14 PM Microsoft Corporation c:\windows\system32\mstask.dll
actxprxy	6.00.3718.0 (dnsvr.021114-1947)90.50 KB (92,672 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\actxprxy.dll	comdlg32	6.00.3718.0 (dnsvr.021114-1947)257.00 KB (263,168 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\comdlg32.dll
linkinfo	5.2.3718.0 (dnsvr.021114-1947) 15.50 KB (15,872 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\linkinfo.dll	termsrv	5.2.3718.0 (dnsvr.021114-1947) 215.00 KB (220,160 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\termsrv.dll
ntshrui	6.00.3718.0 (dnsvr.021114-1947)134.50 KB (137,728 bytes) 11/15/2002 6:00 AM Microsoft Corporation c:\windows\system32\ntshrui.dll	icaapi	5.2.3718.0 (dnsvr.021114-1947) 10.00 KB (10,240 bytes) 2/18/2003 3:10 PM Microsoft Corporation c:\windows\system32\icaapi.dll

mstlsapi 5.2.3718.0 (dnsvr.021114-1947) 104.00 KB (106,496 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\mstlsapi.dll
 rdpwsx 5.2.3718.0 (dnsvr.021114-1947) 80.13 KB (82,056 bytes)
 2/18/2003 3:10 PM Microsoft Corporation
 c:\windows\system32\rdpwsx.dll
 wpabaln 5.2.3718.0 (dnsvr.021114-1947) 31.00 KB (31,744 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\wpabaln.exe
 cmd 5.2.3718.0 (dnsvr.021114-1947) 370.00 KB (378,880 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\cmd.exe
 msinfo32 5.2.3718.0 (dnsvr.021114-1947) 40.50 KB (41,472 bytes)
 2/18/2003 3:14 PM Microsoft Corporation
 c:\program files\common files\microsoft
 shared\msinfo\msinfo32.exe
 msinfo 5.2.3718.0 (dnsvr.021114-1947) 358.50 KB (367,104 bytes)
 2/18/2003 3:15 PM Microsoft Corporation
 c:\windows\pchealth\helpctr\binaries\msinfo.dll
 riched32 5.2.3718.0 (dnsvr.021114-1947) 3.50 KB (3,584 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\riched32.dll
 riched20 5.31.23.1218 395.00 KB (404,480 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\riched20.dll
 wbemprox 5.2.3718.0 (dnsvr.021114-1947) 16.50 KB (16,896 bytes)
 2/18/2003 3:10 PM Microsoft Corporation
 c:\windows\system32\wbem\wbemprox.dll
 taskmgr 5.2.3718.0 (dnsvr.021114-1947) 124.00 KB (126,976 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\taskmgr.exe
 vdmdbg 5.2.3718.0 (dnsvr.021114-1947) 25.00 KB (25,600 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\vdmdbg.dll
 util.dll 5.2.3718.0 (dnsvr.021114-1947) 27.00 KB (27,648 bytes)
 11/15/2002 6:00 AM Microsoft Corporation
 c:\windows\system32\util.dll

[Services]

Display Name	Name	State	Start Mode	Service Type	Tag ID
Path	Error Control	Start Name			
Alerter	Alerter	Stopped	Disabled	Share Process	
c:\windows\system32\svchost.exe -k localservice				Normal	
Application Layer Gateway Service	ALG	Stopped	Manual	Share Process	
c:\windows\system32\alg.exe				Normal	
Application Management	AppMgmt	Stopped	Manual	Share Process	
c:\windows\system32\svchost.exe -k netsvcs				Normal	
Windows Audio	AudioSrv	Stopped	Disabled	Share Process	
c:\windows\system32\svchost.exe -k netsvcs				Normal	
Background Intelligent Transfer Service	BITS	Stopped	Manual	Share Process	
c:\windows\system32\svchost.exe -k netsvcs				Normal	
Computer Browser	Browser	Running	Auto	Share Process	
c:\windows\system32\svchost.exe -k netsvcs				Normal	
Indexing Service	CiSvc	Stopped	Manual	Share Process	
c:\windows\system32\cisvc.exe				Normal	
ClipBook	ClipSrv	Stopped	Disabled	Own Process	
c:\windows\system32\clipsrv.exe				Normal	
COM+ System Application	COMSysApp	Stopped	Manual	Own Process	
c:\windows\system32\dllhost.exe					

/processid:{02d4b3f1-fd88-11d1-960d-00805fc79235} Normal
 LocalSystem 0
 Cryptographic Services CryptSvc Running Auto Share
 Process c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 Distributed File System Dfs Running Auto Own
 Process c:\windows\system32\dfssvc.exe Normal LocalSystem
 0
 DHCP Client Dhcp Running Auto Share Process
 c:\windows\system32\svchost.exe -k networkservice Normal
 NT AUTHORITY\NetworkService 0
 Logical Disk Manager Administrative Service dmadmin Stopped
 Manual Share Process
 c:\windows\system32\dmadmin.exe /com Normal
 LocalSystem 0
 Logical Disk Managerdmsrver Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 DNS Client Dnscache Running Auto Share Process
 c:\windows\system32\svchost.exe -k networkservice Normal
 NT AUTHORITY\NetworkService 0
 Error Reporting Service ERSvc Running Auto Share
 Process c:\windows\system32\svchost.exe -k winerr Ignore
 LocalSystem 0
 Event Log Eventlog Running Auto Share Process
 c:\windows\system32\services.exe Normal
 LocalSystem 0
 COM+ Event System EventSystem Running Manual Share
 Process c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 Help and Support helpsvc Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 Human Interface Device Access HidServ Stopped Disabled Share
 Process c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 HTTP SSLHTTPFilter Stopped Manual Share Process
 c:\windows\system32\lsass.exe Normal LocalSystem
 0
 IMAPI CD-Burning COM Service ImapiService Stopped
 Disabled Own Process c:\windows\system32\imapi.exe
 Normal LocalSystem 0
 Intersite Messaging IsmServ Stopped Disabled Own Process
 c:\windows\system32\ismserv.exe Normal
 LocalSystem 0
 Kerberos Key Distribution Center kdc Stopped Disabled
 Share Process c:\windows\system32\lsass.exe Normal
 LocalSystem 0
 Server lanmanserver Running Auto Share Process
 c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 Workstation lanmanworkstation Running Auto Share
 Process c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 License Logging LicenseService Stopped Disabled Own
 Process c:\windows\system32\llssrv.exe Normal NT
 AUTHORITY\NetworkService 0
 TCP/IP NetBIOS Helper LmHosts Running Auto Share
 Process c:\windows\system32\svchost.exe -k localservice Normal
 NT AUTHORITY\LocalService 0
 Messenger Messenger Stopped Disabled Share Process
 c:\windows\system32\svchost.exe -k netsvcs Normal
 LocalSystem 0
 NetMeeting Remote Desktop Sharing mnmsrvc Stopped Disabled
 Own Process c:\windows\system32\mnmsrvc.exe
 Normal LocalSystem 0
 Distributed Transaction Coordinator MSDTC Stopped Manual
 Own Process c:\windows\system32\msdtc.exe Normal
 NT AUTHORITY\NetworkService 0

Windows Installer	MSIServer	Stopped	Manual	Share Process		Special Administration Console Helper	sacsvr	Stopped	Manual
	c:\windows\system32\msiexec.exe /v			Normal		Share Process	c:\windows\system32\svchost.exe -k		
	LocalSystem	0				netsh	Normal	LocalSystem	0
MSSQLSERVER	MSSQLSERVER	Stopped	Manual	Own		Security Accounts Manager	SamSs	Running	Auto
Process	c:\progra~1\micro~1\mssql\bin\sqlservr.exe			Normal		Process	c:\windows\system32\lsass.exe	Normal	LocalSystem
	LocalSystem	0					0		
MSSQLServerADHelper	MSSQLServerADHelper	Stopped				Smart Card	SCardSvr	Stopped	Manual
Manual	Own Process						c:\windows\system32\scardsvr.exe		Ignore
server\80\tools\bin\sqladhlp.exe	Normal	LocalSystem	0			AUTHORITY\LocalService	0		NT
Network DDE	NetDDE	Stopped	Disabled	Share Process		Task Scheduler	Schedule	Running	Auto
	c:\windows\system32\netdde.exe		Normal	LocalSystem			c:\windows\system32\svchost.exe -k	netsh	Normal
	0					LocalSystem	0		
Network DDE	DSDMNetDDEdsdm	Stopped	Disabled	Share		Secondary Logon	seclogon	Running	Auto
Process	c:\windows\system32\netdde.exe		Normal	LocalSystem			c:\windows\system32\svchost.exe -k	netsh	Ignore
	0					LocalSystem	0		
Net Logon	Netlogon	Stopped	Manual	Share Process		System Event Notification	SENS	Running	Auto
	c:\windows\system32\lsass.exe		Normal	LocalSystem		Process	c:\windows\system32\svchost.exe -k	netsh	Normal
	0					LocalSystem	0		
Network Connections	Netman	Running	Manual	Share Process		Internet Connection Firewall (ICF) / Internet Connection Sharing (ICS)			
	c:\windows\system32\svchost.exe -k		netsh	Normal		SharedAccess	Stopped	Disabled	Share Process
	LocalSystem	0					c:\windows\system32\svchost.exe -k	netsh	Normal
	0					LocalSystem	0		
Network Location Awareness (NLA)		Nla	Running	Manual		Shell Hardware Detection	ShellHWDetection	Running	Auto
	Share Process		c:\windows\system32\svchost.exe -k			Share Process	c:\windows\system32\svchost.exe -k		
netsh	Normal	LocalSystem	0			netsh	Ignore	LocalSystem	0
File Replication	NtFrs	Stopped	Manual	Own Process		Print Spooler	Spooler	Running	Auto
	c:\windows\system32\ntfrs.exe		Ignore	LocalSystem			c:\windows\system32\spoolsv.exe		Normal
	0					LocalSystem	0		
NT LM Security Support Provider		NtLmSsp	Stopped	Manual		SQLSERVERAGENT	SQLSERVERAGENT		Stopped
	Share Process		c:\windows\system32\lsass.exe	Normal		Manual	Own Process		
	LocalSystem	0					c:\progra~1\micro~1\mssql\bin\sqlagent.exe		Normal
Removable Storage	NtmsSvc	Stopped	Manual	Share Process			LocalSystem	0	
	c:\windows\system32\svchost.exe -k		netsh	Normal		Windows Image Acquisition (WIA)	stisvc	Stopped	Disabled
	LocalSystem	0				Share Process	c:\windows\system32\svchost.exe -k		
Plug and Play	PlugPlay	Running	Auto	Share Process		imgsvc	Normal	NT AUTHORITY\LocalService	0
	c:\windows\system32\services.exe		Normal			Microsoft Software Shadow Copy Provider	swprv	Stopped	Manual
	LocalSystem	0				Own Process	c:\windows\system32\svchost.exe -k	swprv	
IPSEC Services	PolicyAgent	Running	Auto	Share		Normal	LocalSystem	0	
Process	c:\windows\system32\lsass.exe		Normal	LocalSystem		Performance Logs and Alerts	SysmonLog	Stopped	Manual
	0					Own Process	c:\windows\system32\smlogsvc.exe		
Protected Storage	ProtectedStorage	Running	Auto	Share		Normal	NT Authority\NetworkService	0	
Process	c:\windows\system32\lsass.exe		Normal	LocalSystem		Telephony	TapiSrv	Stopped	Manual
	0						c:\windows\system32\svchost.exe -k	tapisrv	Normal
Remote Access Auto Connection Manager	RasAuto	Stopped	Manual			LocalSystem	0		
	Share Process		c:\windows\system32\svchost.exe -k			Terminal Services	TermService	Running	Manual
netsh	Normal	LocalSystem	0			Process	c:\windows\system32\svchost.exe -k	termshvc	Normal
Remote Access Connection Manager	RasMan	Stopped	Manual			LocalSystem	0		
	Share Process		c:\windows\system32\svchost.exe -k			Themes	Themes	Stopped	Disabled
netsh	Normal	LocalSystem	0				c:\windows\system32\svchost.exe -k	netsh	Normal
Remote Desktop Help Session Manager	RDSessMgr		Stopped			LocalSystem	0		
Manual	Own Process					Telnet	TlntSvr	Stopped	Disabled
	c:\windows\system32\sessmgr.exe		Normal				c:\windows\system32\tlntsvr.exe		Normal
	LocalSystem	0				AUTHORITY\LocalService	0		NT
Routing and Remote Access	RemoteAccess	Stopped	Disabled			Distributed Link Tracking Server	TrkSvr	Stopped	Disabled
	Share Process		c:\windows\system32\svchost.exe -k			Process	c:\windows\system32\svchost.exe -k	netsh	Normal
netsh	Normal	LocalSystem	0			LocalSystem	0		
Remote Registry	RemoteRegistry	Running	Auto	Share		Distributed Link Tracking Client	TrkWks	Running	Auto
Process	c:\windows\system32\svchost.exe -k	regsvc	Normal	NT		Process	c:\windows\system32\svchost.exe -k	netsh	Normal
	AUTHORITY\LocalService	0				LocalSystem	0		
Remote Procedure Call (RPC) Locator	RpcLocator		Stopped			Terminal Services Session Directory	Tssdis	Stopped	Disabled
	Manual	Own Process				Own Process	c:\windows\system32\tssdis.exe		Normal
	c:\windows\system32\locator.exe		Normal	NT		LocalSystem	0		
AUTHORITY\NetworkService	0					Upload Manager	uploadmgr	Stopped	Manual
Remote Procedure Call (RPC)	RpcSs	Running	Auto	Share			c:\windows\system32\svchost.exe -k	netsh	Normal
Process	c:\windows\system32\svchost -k	rpss	Normal			LocalSystem	0		
	LocalSystem	0				Uninterruptible Power Supply	UPS	Stopped	Manual
Resultant Set of Policy Provider	RSOPProv	Stopped	Manual	Share		Process	c:\windows\system32\ups.exe	Normal	LocalSystem
Process	c:\windows\system32\rsopprov.exe		Normal				0		
	LocalSystem	0							

Virtual Disk Service	0	vdsvds.exe	Stopped	Manual	Own Process	LocalSystem
Volume Shadow Copy Process	0	vssvc.exe	VSS	Stopped	Manual	Own LocalSystem
Windows Time	0	W32Time	Running	Auto	Share Process	Normal LocalSystem
WebClient	0	WebClient	Stopped	Disabled	Share Process	Normal
WinHTTP	0	Web Proxy	Auto-Discovery Service	Stopped	Manual	Share Normal
Process	0	WinHttpAutoProxySvc	Stopped	Manual	Share Normal	LocalSystem
Windows Management	0	Instrumentation	winmgmt	Running	Auto	Share Process
netsvcs	0	Ignore	LocalSystem	0		
Portable Media	0	Serial Number Service	WmdmPmSN	Stopped		
Windows Management	0	Instrumentation Driver Extensions			Wmi	
WMI Performance	0	Adapter	WmiApSrv	Stopped	Manual	Own Process
Automatic Updates	0	wuauserv	Running	Auto	Share Process	Normal LocalSystem
Wireless Configuration	0	Process	WZCSVC	Running	Auto	Share Normal LocalSystem

[Program Groups]

Group Name	Name	User Name	Default User
Accessories	Default User:Accessories		Default User
Accessories\Accessibility	Default User:Accessories\Accessibility		Default User
Accessories\Entertainment	Default User:Accessories\Entertainment		Default User
Startup	Default User:Startup		Default User
Accessories	All Users:Accessories		All Users
Accessories\Accessibility	All Users:Accessories\Accessibility		All Users
Accessories\Communications	All Users:Accessories\Communications		All Users
Accessories\Entertainment	All Users:Accessories\Entertainment		All Users
Accessories\System Tools	All Users:Accessories\System Tools		All Users
Administrative Tools	All Users:Administrative Tools		All Users
Microsoft SQL Server	All Users:Microsoft SQL Server		All Users
Startup	All Users:Startup		All Users
Accessories	NT AUTHORITY\SYSTEM:Accessories		NT AUTHORITY\SYSTEM
Accessories\Accessibility	NT AUTHORITY\SYSTEM:Accessories\Accessibility		NT AUTHORITY\SYSTEM
Accessories\Entertainment	NT AUTHORITY\SYSTEM:Accessories\Entertainment		NT AUTHORITY\SYSTEM
Startup	NT AUTHORITY\SYSTEM:Startup		NT AUTHORITY\SYSTEM

Accessories	PHOENIX\Administrator:Accessories		
Accessories\Accessibility	PHOENIX\Administrator:Accessories\Accessibility		
Accessories\Entertainment	PHOENIX\Administrator:Accessories\Entertainment		
Startup	PHOENIX\Administrator:Startup		PHOENIX\Administrator

[Startup Programs]

Program	Command	User Name	Location	Startup
desktop	desktop.ini	NT AUTHORITY\SYSTEM		Startup
desktop	desktop.ini	PHOENIX\Administrator		Startup
desktop	desktop.ini	DEFAULT		Startup
desktop	desktop.ini	All Users	Common	Startup

[OLE Registration]

Object	Local Server	Location
Sound (OLE2)	sndrec32.exe	
Media Clip	mplay32.exe	
Video Clip	mplay32.exe	/avi
MIDI Sequence	mplay32.exe	/mid
Sound	Not Available	
Media Clip	Not Available	
WordPad Document	"%programfiles%\windows nt\accessories\wordpad.exe"	
Windows Media Services DRM Storage object		Not Available

Bitmap Image	mspaint.exe
--------------	-------------

[Windows Error Reporting]

Time	Type	Details
------	------	---------

[Internet Settings]

[Internet Explorer]

[Following are sub-categories of this main category]
[Summary]

Item	Value
Version	6.0.3718.0
Build	63718
Application Path	C:\Program Files\Internet Explorer
Language	English (United States)
Active Printer	Not Available

Cipher Strength	128-bit
Content Advisor	Disabled
IEAK Install	No

[File Versions]

File	Version	Size	Date	Path	Company
actxprxy.dll	6.0.3718.0	91 KB	11/15/2002 6:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
advpack.dll	6.0.3718.0	94 KB	11/15/2002 6:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation
asctrls.ocx	6.0.3718.0	90 KB	11/15/2002 6:00:00 AM	C:\WINDOWS\system32	Microsoft Corporation

browsecl.dll	6.0.3718.0 62 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
browseui.dll	6.0.3718.0 1,009 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
cdfview.dll	6.0.3718.0 142 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
comctl32.dll	5.82.3718.0	561 KB	11/15/2002 6:00:00 AM
AM	C:\WINDOWS\system32		Microsoft Corporation
dxtrans.dll	6.3.3718.0 192 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
dxtmsft.dll	6.3.3718.0 333 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
iecont.dll	<File Missing>	Not Available	Not Available
	Not Available	Not Available	
iecontlc.dll	<File Missing>	Not Available	Not Available
	Not Available	Not Available	
iedkcs32.dll	16.0.3718.0	296 KB	11/15/2002 6:00:00 AM
AM	C:\WINDOWS\system32		Microsoft Corporation
iepeers.dll	6.0.3718.0 230 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
iesetup.dll	6.0.3718.0 57 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
ieunit.inf	Not Available	19 KB	11/15/2002 6:00:00 AM
	C:\WINDOWS\system32		Not Available
ieexplore.exe	6.0.3718.0 90 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\Program Files\Internet Explorer		
imgutil.dll	6.0.3718.0 30 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
inetctl.cpl	6.0.3718.0 294 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
inetctl.dll	6.0.3718.0 108 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
inseng.dll	6.0.3718.0 71 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mlang.dll	6.0.3718.0 567 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
msencode.dll	2002.10.4.0	112 KB	11/15/2002 6:00:00 AM
AM	C:\WINDOWS\system32		Not Available
mshta.exe	6.0.3718.0 26 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mshtml.dll	6.0.3718.0 2,771 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mshtml.tlb	6.0.3718.0 1,319 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mshtmlmed.dll	6.0.3718.0 434 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mshtmlmer.dll	6.0.3718.0 55 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		

msident.dll	6.0.3718.0 47 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
msidentld.dll	6.0.3718.0 15 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
msieftp.dll	6.0.3718.0 230 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
msrating.dll	6.0.3718.0 132 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
mstime.dll	6.0.3718.0 491 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
occache.dll	6.0.3718.0 89 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
proctexe.ocx	6.3.3718.0 78 KB	11/15/2002 6:00:00 AM	Intel Corporation
	C:\WINDOWS\system32		
sendmail.dll	6.0.3718.0 52 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
shdocl.dll	6.0.3718.0 521 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
shdocvw.dll	6.0.3718.0 1,327 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
shfolder.dll	6.0.3718.0 23 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
shlwapi.dll	6.0.3718.0 272 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
tdc.ocx	1.3.0.3130 57 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
url.dll	6.0.3718.0 36 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
urlmon.dll	6.0.3718.0 458 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
webcheck.dll	6.0.3718.0 256 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		
wininet.dll	6.0.3718.0 592 KB	11/15/2002 6:00:00 AM	Microsoft Corporation
	C:\WINDOWS\system32		

[Connectivity]

Item	Value
Connection Preference	Never dial

LAN Settings

AutoConfigProxy	Not Available
AutoProxyDetectMode	Disabled
AutoConfigURL	
Proxy	Disabled
ProxyServer	
ProxyOverride	

[Cache]

[Following are sub-categories of this main category]
[Summary]

Item	Value
Page Refresh Type	Automatic
Temporary Internet Files Folder	C:\Documents and Settings\NetworkService\Local Settings\Temporary Internet Files
Total Disk Space	Not Available
Available Disk Space	Not Available
Maximum Cache Size	Not Available
Available Cache Size	Not Available

[List of Objects]

Program File	Status	CodeBase
No cached object information available		

[Content]

[Following are sub-categories of this main category]

[Summary]

Item	Value
Content Advisor	Disabled

[Personal Certificates]

Issued To	Issued By	Validity	Signature Algorithm
No personal certificate information available			

[Other People Certificates]

Issued To	Issued By	Validity	Signature Algorithm
No other people certificate information available			

[Publishers]

Name
No publisher information available

[Security]

Zone	Security Level
My Computer	Custom
Local intranet	Medium-low
Trusted sites	Low
Internet	Medium
Restricted sites	High

A.8 Server Registry Parameters

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session
Manager\I/O System]
"CountOperations"=dword:00000000
```

Appendix B: Database Build Scripts

B.1 CreateDatabase.sql

```
-- CreateDatabase
-- for use with StepMaster
-- Uses FileGroups
```

Create Database tpch100g on

```
Primary (name=tpch100g,
filename='c:\dev\tpch100g.mdf',size=10mb,filegrowth=0),
FileGroup tpch100g
```

```
(name=tpch100g1,filename='c:\dev\tpch_1',size=8950mb,filegrowth=0),
(name=tpch100g2,filename='c:\dev\tpch_2',size=8950mb,filegrowth=0),
(name=tpch100g3,filename='c:\dev\tpch_3',size=8950mb,filegrowth=0),
(name=tpch100g4,filename='c:\dev\tpch_4',size=8950mb,filegrowth=0),
(name=tpch100g5,filename='c:\dev\tpch_5',size=8950mb,filegrowth=0),
(name=tpch100g6,filename='c:\dev\tpch_6',size=8950mb,filegrowth=0),
(name=tpch100g7,filename='c:\dev\tpch_7',size=8950mb,filegrowth=0),
(name=tpch100g8,filename='c:\dev\tpch_8',size=8950mb,filegrowth=0),
(name=tpch100g9,filename='c:\dev\tpch_9',size=8950mb,filegrowth=0),
(name=tpch100g10,filename='c:\dev\tpch_10',size=8950mb,filegrowth=0),
,
(name=tpch100g11,filename='c:\dev\tpch_11',size=8950mb,filegrowth=0),
,
(name=tpch100g12,filename='c:\dev\tpch_12',size=8950mb,filegrowth=0),
,
(name=tpch100g13,filename='c:\dev\tpch_13',size=8950mb,filegrowth=0),
,
(name=tpch100g14,filename='c:\dev\tpch_14',size=8950mb,filegrowth=0),
,
(name=tpch100g15,filename='c:\dev\tpch_15',size=8950mb,filegrowth=0),
,
(name=tpch100g16,filename='c:\dev\tpch_16',size=8950mb,filegrowth=0),
,
(name=tpch100g17,filename='c:\dev\tpch_17',size=8950mb,filegrowth=0),
,
(name=tpch100g18,filename='c:\dev\tpch_18',size=8950mb,filegrowth=0),
,
(name=tpch100g19,filename='c:\dev\tpch_19',size=8950mb,filegrowth=0),
,
(name=tpch100g20,filename='c:\dev\tpch_20',size=8950mb,filegrowth=0),
,
(name=tpch100g21,filename='c:\dev\tpch_21',size=8950mb,filegrowth=0),
,
```

```
(name=tpch100g22,filename='c:\dev\tpch_22',size=8950mb,filegrowth=0),
,
(name=tpch100g23,filename='c:\dev\tpch_23',size=8950mb,filegrowth=0),
,
(name=tpch100g24,filename='c:\dev\tpch_24',size=8950mb,filegrowth=0),
,
(name=tpch100g25,filename='c:\dev\tpch_25',size=8950mb,filegrowth=0),
,
(name=tpch100g26,filename='c:\dev\tpch_26',size=8950mb,filegrowth=0)
```

Log on

```
(name=tpch100gLog,filename='c:\dev\tpchlog',size=11000mb,
ilegrowth=0)
```

Alter Database tpch100g Add FileGroup LoadFg

Alter Database tpch100g Add File

```
(name=LoadFg1,
filename='c:\dev\load_1\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg2,
filename='c:\dev\load_2\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg3,
filename='c:\dev\load_3\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg4,
filename='c:\dev\load_4\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg5,
filename='c:\dev\load_5\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg6,
filename='c:\dev\load_6\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg7,
filename='c:\dev\load_7\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg8,
filename='c:\dev\load_8\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg9,
filename='c:\dev\load_9\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg10,
filename='c:\dev\load_10\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg11,
filename='c:\dev\load_11\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg12,
filename='c:\dev\load_12\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg13,
filename='c:\dev\load_13\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg14,
filename='c:\dev\load_14\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg15,
filename='c:\dev\load_15\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg16,
filename='c:\dev\load_16\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg17,
filename='c:\dev\load_17\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg18,
filename='c:\dev\load_18\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg19,
filename='c:\dev\load_19\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg20,
filename='c:\dev\load_20\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg21,
filename='c:\dev\load_21\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg22,
filename='c:\dev\load_22\load.ldf',size=7950mb,filegrowth=0),
```

```

(name=LoadFg23,
filename='c:\dev\load_23\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg24,
filename='c:\dev\load_24\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg25,
filename='c:\dev\load_25\load.ldf',size=7950mb,filegrowth=0),
(name=LoadFg26,
filename='c:\dev\load_26\load.ldf',size=7950mb,filegrowth=0)

```

to FileGroup LoadFg

B.2 CreateTables.sql

```

-- CreateTables
-- Uses filegroups

--
-- BASE TABLES
--

create table PART
(P_PARTKEY int not null,
P_NAME varchar(55) not null,
P_MFGR char(25) not null,
P_BRAND char(10) not null,
P_TYPE varchar(25) not null,
P_SIZE int not null,
P_CONTAINER char(10) not null,
P_RETAILPRICE money not null,
P_COMMENT varchar(23) not null)
on LoadFg

create table SUPPLIER
(S_SUPPKEY int not null,
S_NAME char(25) not null,
S_ADDRESS varchar(40) not null,
S_NATIONKEY int not null,
S_PHONE char(15) not null,
S_ACCTBAL money not null,
S_COMMENT varchar(101) not null)
on LoadFg

create table PARTSUPP
(PS_PARTKEY int not null,
PS_SUPPKEY int not null,
PS_AVAILQTY int not null,
PS_SUPPLYCOST money not null,
PS_COMMENT varchar(199) not null)
on LoadFg

create table CUSTOMER
(C_CUSTKEY int not null,
C_NAME varchar(25) not null,
C_ADDRESS varchar(40) not null,
C_NATIONKEY int not null,
C_PHONE char(15) not null,
C_ACCTBAL money not null,
C_MKTSEGMENT char(10) not null,
C_COMMENT varchar(117) not null)
on LoadFg

create table ORDERS
(O_ORDERKEY int not null,
O_CUSTKEY int not null,
O_ORDERSTATUS char(1) not null,
O_TOTALPRICE money not null,
O_ORDERDATE smalldatetime not null,
O_ORDERPRIORITY char(15) not null,
O_CLERK char(15) not null,

```

```

O_SHIPPRIORITY int not null,
O_COMMENT varchar(79) not null)
on LoadFg

```

```

create table LINEITEM
(L_ORDERKEY int not null,
L_PARTKEY int not null,
L_SUPPKEY int not null,
L_LINENUMBER int not null,
L_QUANTITY money not null,
L_EXTENDEDPRI money not null,
L_DISCOUNT money not null,
L_TAX money not null,
L_RETURNFLAG char(1) not null,
L_LINestatus char(1) not null,
L_SHIPDATE smalldatetime not null,
L_COMMITDATE smalldatetime not null,
L_RECEIPTDATE smalldatetime not null,
L_SHIPINSTRUCT char(25) not null,
L_SHIPMODE char(10) not null,
L_COMMENT varchar(44) not null)
on LoadFg

```

```

create table NATION
(N_NATIONKEY int not null,
N_NAME char(25) not null,
N_REGIONKEY int not null,
N_COMMENT varchar(152) not null)
on LoadFg

```

```

create table REGION
(R_REGIONKEY int not null,
R_NAME char(25) not null,
R_COMMENT varchar(152) not null)
on LoadFg

```

B.3 CreateCUSTOMERIndexes.sql

```

create unique clustered index C_KEY_CLUIDX
on CUSTOMER(C_CUSTKEY)
with SORT_IN_TEMPDB
on tpch100g
create index C_NATION_KEYIDX
on CUSTOMER (C_NATIONKEY)
with SORT_IN_TEMPDB
on tpch100g

```

B.4 CreateLINEITEMIndexes.sql

```

create clustered index L_SHIPDATE_CLUIDX
on LINEITEM(L_SHIPDATE)
with fillfactor=95, SORT_IN_TEMPDB
on tpch100g

create index L_PARTKEY_SUPPKEY_IDX
on LINEITEM (L_PARTKEY,L_SUPPKEY)
with fillfactor=95, SORT_IN_TEMPDB
on tpch100g

create index L_ORDERKEY_IDX
on LINEITEM (L_ORDERKEY)
with fillfactor=95, SORT_IN_TEMPDB
on tpch100g

```


B.5 CreateNATIONIndexes.sql

```
create unique clustered index N_KEY_CLUIDX
  on NATION(N_NATIONKEY)
  on tpch100g
create index N_REGIONKEY_IDX
  on NATION (N_REGIONKEY)
  on tpch100g
```

B.6 CreateORDERSIndexes.sql

```
create clustered index O_ORDERDATE_CLUIDX
  on ORDERS (O_ORDERDATE)
  with fillfactor=95, SORT_IN_TEMPDB
  on tpch100g

create index O_CUSTKEY_IDX
  on ORDERS (O_CUSTKEY)
  with fillfactor=95, SORT_IN_TEMPDB
  on tpch100g

create unique index O_KEY_IDX
  on ORDERS(O_ORDERKEY)
  with fillfactor=95, SORT_IN_TEMPDB
  on tpch100g
```

B.7 CreatePARTIndexes.sql

```
create unique clustered index P_KEY_CLUIDX
  on PART(P_PARTKEY)
  with SORT_IN_TEMPDB
  on tpch100g
```

B.8 CreatePARTSUPPIndexes.sql

```
create unique clustered index PS_KEY_CLUIDX
  on PARTSUPP(PS_PARTKEY,PS_SUPPKEY)
  with SORT_IN_TEMPDB
  on tpch100g
create index PS_SUPPKEY_IDX
  on PARTSUPP (PS_SUPPKEY)
  with SORT_IN_TEMPDB
  on tpch100g
```

B.9 CreateREGIONIndexes.sql

```
create unique clustered index R_KEY_CLUIDX
  on REGION(R_REGIONKEY)
  on tpch100g
```

B.10 createSUPPLIERindexes.sql

```
create unique clustered index S_SUPPKEY_CLUIDX
  on SUPPLIER (S_SUPPKEY)
  with SORT_IN_TEMPDB
  on tpch100g
create index S_NATION_KEYIDX
  on SUPPLIER (S_NATIONKEY)
  with SORT_IN_TEMPDB
```

on tpch100g

B.11 Backup.sql

```
backup database tpch100g to
disk=c:\dev\load_1\test.bak',
disk=c:\dev\load_2\test.bak',
disk=c:\dev\load_3\test.bak',
disk=c:\dev\load_4\test.bak',
disk=c:\dev\load_5\test.bak',
disk=c:\dev\load_6\test.bak',
disk=c:\dev\load_7\test.bak',
disk=c:\dev\load_8\test.bak',
disk=c:\dev\load_9\test.bak',
disk=c:\dev\load_10\test.bak',
disk=c:\dev\load_11\test.bak',
disk=c:\dev\load_12\test.bak',
disk=c:\dev\load_13\test.bak',
disk=c:\dev\load_14\test.bak',
disk=c:\dev\load_15\test.bak',
disk=c:\dev\load_16\test.bak',
disk=c:\dev\load_17\test.bak',
disk=c:\dev\load_18\test.bak',
disk=c:\dev\load_19\test.bak',
disk=c:\dev\load_20\test.bak',
disk=c:\dev\load_21\test.bak',
disk=c:\dev\load_22\test.bak',
disk=c:\dev\load_23\test.bak',
disk=c:\dev\load_24\test.bak',
disk=c:\dev\load_25\test.bak',
disk=c:\dev\load_26\test.bak'
with init,stats=10
```

B.12 Restore.sql

```
restore database tpch100g from
disk=c:\dev\load_1\test.bak',
disk=c:\dev\load_2\test.bak',
disk=c:\dev\load_3\test.bak',
disk=c:\dev\load_4\test.bak',
disk=c:\dev\load_5\test.bak',
disk=c:\dev\load_6\test.bak',
disk=c:\dev\load_7\test.bak',
disk=c:\dev\load_8\test.bak',
disk=c:\dev\load_9\test.bak',
disk=c:\dev\load_10\test.bak',
disk=c:\dev\load_11\test.bak',
disk=c:\dev\load_12\test.bak',
disk=c:\dev\load_13\test.bak',
disk=c:\dev\load_14\test.bak',
disk=c:\dev\load_15\test.bak',
disk=c:\dev\load_16\test.bak',
disk=c:\dev\load_17\test.bak',
disk=c:\dev\load_18\test.bak',
disk=c:\dev\load_19\test.bak',
disk=c:\dev\load_20\test.bak',
disk=c:\dev\load_21\test.bak',
disk=c:\dev\load_22\test.bak',
disk=c:\dev\load_23\test.bak',
disk=c:\dev\load_24\test.bak',
disk=c:\dev\load_25\test.bak',
disk=c:\dev\load_26\test.bak'
with stats=1, replace
```

B.13 MoveTemp.sql

```
alter database tempdb modify file
(name=tempdev,filename='c:\dev\tempdev\',size=15MB)
alter database tempdb modify file
(name=templog,filename='c:\dev\templog\',size=20MB)
```

B.14 AddTemp.sql

```
alter database tempdb modify file
(name=tempdev, filename='c:\dev\tempdev\',size=4950mb,filegrowth=0)
alter database tempdb modify file
(name=templog, filename='c:\dev\templog\',size=5556mb,filegrowth=0)
alter database tempdb add file
(name=tempdev2,
filename='c:\dev\tempdev_2\',size=4950mb,filegrowth=0),
(name=tempdev3,
filename='c:\dev\tempdev_3\',size=4950mb,filegrowth=0),
(name=tempdev4,
filename='c:\dev\tempdev_4\',size=4950mb,filegrowth=0),
(name=tempdev5,
filename='c:\dev\tempdev_5\',size=4950mb,filegrowth=0),
(name=tempdev6,
filename='c:\dev\tempdev_6\',size=4950mb,filegrowth=0),
(name=tempdev7,
filename='c:\dev\tempdev_7\',size=4950mb,filegrowth=0),
(name=tempdev8,
filename='c:\dev\tempdev_8\',size=4950mb,filegrowth=0),
(name=tempdev9,
filename='c:\dev\tempdev_9\',size=4950mb,filegrowth=0),
(name=tempdev10,
filename='c:\dev\tempdev_10\',size=4950mb,filegrowth=0),
(name=tempdev11,
filename='c:\dev\tempdev_11\',size=4950mb,filegrowth=0),
(name=tempdev12,
filename='c:\dev\tempdev_12\',size=4950mb,filegrowth=0),
(name=tempdev13,
filename='c:\dev\tempdev_13\',size=4950mb,filegrowth=0),
(name=tempdev14,
filename='c:\dev\tempdev_14\',size=4950mb,filegrowth=0),
(name=tempdev15,
filename='c:\dev\tempdev_15\',size=4950mb,filegrowth=0),
(name=tempdev16,
filename='c:\dev\tempdev_16\',size=4950mb,filegrowth=0),
(name=tempdev17,
filename='c:\dev\tempdev_17\',size=4950mb,filegrowth=0),
(name=tempdev18,
filename='c:\dev\tempdev_18\',size=4950mb,filegrowth=0),
(name=tempdev19,
filename='c:\dev\tempdev_19\',size=4950mb,filegrowth=0),
(name=tempdev20,
filename='c:\dev\tempdev_20\',size=4950mb,filegrowth=0),
(name=tempdev21,
filename='c:\dev\tempdev_21\',size=4950mb,filegrowth=0),
(name=tempdev22,
filename='c:\dev\tempdev_22\',size=4950mb,filegrowth=0),
(name=tempdev23,
filename='c:\dev\tempdev_23\',size=4950mb,filegrowth=0),
(name=tempdev24,
filename='c:\dev\tempdev_24\',size=4950mb,filegrowth=0),
(name=tempdev25,
filename='c:\dev\tempdev_25\',size=4950mb,filegrowth=0),
(name=tempdev26,
filename='c:\dev\tempdev_26\',size=4950mb,filegrowth=0)
```

B.15 DelLoadFg.sql

```
alter database tpch100g remove file LoadFg1
alter database tpch100g remove file LoadFg2
alter database tpch100g remove file LoadFg3
alter database tpch100g remove file LoadFg4
alter database tpch100g remove file LoadFg5
alter database tpch100g remove file LoadFg6
alter database tpch100g remove file LoadFg7
alter database tpch100g remove file LoadFg8
alter database tpch100g remove file LoadFg9
alter database tpch100g remove file LoadFg10
alter database tpch100g remove file LoadFg11
alter database tpch100g remove file LoadFg12
alter database tpch100g remove file LoadFg13
alter database tpch100g remove file LoadFg14
alter database tpch100g remove file LoadFg15
alter database tpch100g remove file LoadFg16
alter database tpch100g remove file LoadFg17
alter database tpch100g remove file LoadFg18
alter database tpch100g remove file LoadFg19
alter database tpch100g remove file LoadFg20
alter database tpch100g remove file LoadFg21
alter database tpch100g remove file LoadFg22
alter database tpch100g remove file LoadFg23
alter database tpch100g remove file LoadFg24
alter database tpch100g remove file LoadFg25
alter database tpch100g remove file LoadFg26
alter database tpch100g remove filegroup LoadFg
```

Appendix C: Query Text and Output

C.1 Qualification Queries and Output

Qualification Query 1

-- using default substitutions

/* tpch 1.sql */

```
SELECT
L_RETURNFLAG
,L_LINESTATUS
,SUM(L_QUANTITY) AS SUM_QTY
,SUM(L_EXTENDEDPRICE) AS SUM_BASE_PRICE
,SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS SUM_DISC_PRICE
,SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)*(1+L_TAX)) AS
SUM_CHARGE
,AVG(L_QUANTITY) AS AVG_QTY
,AVG(L_EXTENDEDPRICE) AS AVG_PRICE
,AVG(L_DISCOUNT) AS AVG_DISC
,COUNT(*) AS COUNT_ORDER
FROM
LINEITEM
WHERE
L_SHIPDATE <= DATEADD(dd, -90, '1998/12/01')
GROUP BY
L_RETURNFLAG
,L_LINESTATUS
ORDER BY
L_RETURNFLAG
,L_LINESTATUS
L_RETURNFLAG L_LINESTATUS SUM_QTY
SUM_BASE_PRICE SUM_DISC_PRICE SUM_CHARGE
AVG_QTY AVG_PRICE AVG_DISC
COUNT_ORDER
```

```
-----
-----
----
A      F      37734107.0000  56586554400.7300
53758257134.8700  55909065224.7041      25.5220
38273.1297      .0499  1478493
N      F      991417.0000  1487504710.3800
1413082168.0541  1469649223.2395      25.5164      38284.4677
.0500  38854
N      O      74476040.0000  111701729697.7400
106118230307.6056  110367043876.2372      25.5022
38249.1179      .0499  2920374
R      F      37719753.0000  56568041380.9000
53741292684.6040  55889619121.7027      25.5057
38250.8546      .0500  1478870
```

(4 rows affected)

Qualification Query 2

-- using default substitutions

/* tpch 2.sql */

```
SELECT TOP 100
S_ACCTBAL
,S_NAME
,N_NAME
```

```
,P_PARTKEY
,P_MFGR
,S_ADDRESS
,S_PHONE
,S_COMMENT
FROM
PART
,SUPPLIER
,PARTSUPP
,NATION
,REGION
WHERE
P_PARTKEY = PS_PARTKEY
AND S_SUPPKEY = PS_SUPPKEY
AND P_SIZE = 15
AND P_TYPE LIKE '%BRASS'
AND S_NATIONKEY = N_NATIONKEY
AND N_REGIONKEY = R_REGIONKEY
AND R_NAME = 'EUROPE'
AND PS_SUPPLYCOST =
(
SELECT MIN(PS_SUPPLYCOST)
FROM
PARTSUPP
,SUPPLIER
,NATION
,REGION
WHERE P_PARTKEY = PS_PARTKEY
AND S_SUPPKEY = PS_SUPPKEY
AND S_NATIONKEY = N_NATIONKEY
AND N_REGIONKEY = R_REGIONKEY
AND R_NAME = 'EUROPE'
)
ORDER BY
S_ACCTBAL DESC
,N_NAME
,S_NAME
,P_PARTKEY
,S_ACCTBAL S_NAME N_NAME
P_PARTKEY P_MFGR S_ADDRESS
S_PHONE S_COMMENT
-----
-----
9938.5300 Supplier#000005359 UNITED KINGDOM
185358 Manufacturer#4 QKuHYh,vZGiwu2FWEJJoLDx04
33-429-790-6131 blithely silent pinto beans are furiously. slyly final deposits
acros
9937.8400 Supplier#000005969 ROMANIA
108438 Manufacturer#1
ANDENSOSmk,miq23Xfb5RWt6dvUcvt6Qa 29-520-692-3537
carefully slow deposits use furiously. slyly ironic platelets above the ironic
9936.2200 Supplier#000005250 UNITED KINGDOM
249 Manufacturer#4 B3rqp0xbSEim4Mpy2RH J 33-320-
228-2957 blithely special packages are. stealthily express deposits across the
closely final instructi
9923.7700 Supplier#000002324 GERMANY
29821 Manufacturer#4 y3OD9UywSTok 17-779-
299-1839 quickly express packages breach quiet pinto beans. requ
9871.2200 Supplier#000006373 GERMANY
43868 Manufacturer#5 J8fcXWstQM 17-813-485-
8637 never silent deposits integrate furiously blit
9870.7800 Supplier#000001286 GERMANY
81285 Manufacturer#2
YKA,E2fjVd7eUrzp2Ef8j1QxGo2DFnosATEH 17-516-924-4574 final
theodolites cajole slyly special,
```

9870.7800 Supplier#000001286 GERMANY
 181285 Manufacturer#4
 YKA,E2fjiVd7eUrzp2Ef8j1QxGo2DFnosaTEH 17-516-924-4574 final
 theodolites cajole slyly special,
 9852.5200 Supplier#000008973 RUSSIA 18972
 Manufacturer#2 t5L67YdBYH6o,Vz24jpDyQ9 32-188-
 594-7038 quickly regular instructions wake-- carefully unusual braids into
 the expres
 9847.8300 Supplier#000008097 RUSSIA 130557
 Manufacturer#2 xMe97bpE69NzdwLoX 32-375-640-
 3593 slyly regular dependencies sleep slyly furiously express dep
 9847.5700 Supplier#000006345 FRANCE
 86344 Manufacturer#1
 VS3trzk3qG698u6ld8HhOBYvrTcStSvQIDQDag 16-886-766-7945 silent
 pinto beans should have to snooze carefully along the final reqes
 7914.4500 Supplier#000001013 RUSSIA 125988
 Manufacturer#2 riRcntps4KEDtYScjpMIWeYF6mNnR 32-
 194-698-3365 final, ironic theodolites alongside of the ironic

 Additional rows deleted

7912.9100 Supplier#000004211 GERMANY
 159180 Manufacturer#5 2wQRVovHrm3,v03IKzfTd,1PYsFXQFFOG
 17-266-947-7315 final requests integrate slyly above the silent, even
 7912.9100 Supplier#000004211 GERMANY
 184210 Manufacturer#4 2wQRVovHrm3,v03IKzfTd,1PYsFXQFFOG
 17-266-947-7315 final requests integrate slyly above the silent, even
 7894.5600 Supplier#000007981 GERMANY
 85472 Manufacturer#4 NSJ96vMROAbeXP 17-963-
 404-3760 regular, even theodolites integrate carefully. bold, special
 theodolites are slyly fluffily iron
 7887.0800 Supplier#000009792 GERMANY
 164759 Manufacturer#3 Y28ITVeYriT3kiGdV2K8fSZ
 V2UqT5H1Otz 17-988-938-4296 pending, ironic packages sleep among
 the carefully ironic accounts. quickly final accounts
 7871.5000 Supplier#000007206 RUSSIA 104695
 Manufacturer#1 3w fNCnrVmvJjE95sgWZzvW 32-432-
 452-7731 furiously dogged pinto beans cajole. bold, express notornis until
 the slyly pending
 7852.4500 Supplier#000005864 RUSSIA 8363
 Manufacturer#4 WCNfBPZeSXh3h,c 32-454-883-
 3821 blithely regular deposits
 7850.6600 Supplier#000001518 UNITED KINGDOM
 86501 Manufacturer#1 ONda3YJiHKJOC 33-730-
 383-3892 furiously final accounts wake carefully idle requests. even dolphins
 wake acc
 7843.5200 Supplier#000006683 FRANCE
 11680 Manufacturer#4 2Z0JGkiv01Y00oCFwUGfviIbhzCdy
 16-464-517-8943 carefully bold accounts doub

(100 rows affected)

Qualification Query 3

-- using default substitutions

/* tpch 3.sql */

```
SELECT TOP 10
L_ORDERKEY
,SUM(L_EXTENDEDPRISE*(1-L_DISCOUNT)) AS REVENUE
,O_ORDERDATE
,O_SHIPPRIORITY
FROM
CUSTOMER
,ORDERS
,LINEITEM
WHERE
C_MKTSEGMENT = 'BUILDING'
AND C_CUSTKEY = O_CUSTKEY
```

```
AND L_ORDERKEY = O_ORDERKEY
AND O_ORDERDATE < '1995-03-15'
AND L_SHIPDATE > '1995-03-15'
GROUP BY
L_ORDERKEY
,O_ORDERDATE
,O_SHIPPRIORITY
ORDER BY
REVENUE DESC
,O_ORDERDATE
L_ORDERKEY REVENUE O_ORDERDATE
O_SHIPPRIORITY
```

2456423	406181.0111	1995-03-05 00:00:00.000	0
3459808	405838.6989	1995-03-04 00:00:00.000	0
492164	390324.0610	1995-02-19 00:00:00.000	0
1188320	384537.9359	1995-03-09 00:00:00.000	0
2435712	378673.0558	1995-02-26 00:00:00.000	0
4878020	378376.7952	1995-03-12 00:00:00.000	0
5521732	375153.9215	1995-03-13 00:00:00.000	0
2628192	373133.3094	1995-02-22 00:00:00.000	0
993600	371407.4595	1995-03-05 00:00:00.000	0
2300070	367371.1452	1995-03-13 00:00:00.000	0

(10 rows affected)

Qualification Query 4

-- using default substitutions

/* tpch 4.sql */

```
SELECT
O_ORDERPRIORITY
,COUNT(*) AS ORDER_COUNT
FROM
ORDERS
WHERE O_ORDERDATE >= '1993-07-01'
AND O_ORDERDATE < DATEADD (mm, 3, '1993-07-01')
AND EXISTS
(
SELECT *
FROM LINEITEM
WHERE L_ORDERKEY = O_ORDERKEY
AND L_COMMITDATE < L_RECEIPTDATE
)
GROUP BY
O_ORDERPRIORITY
ORDER BY
O_ORDERPRIORITY
O_ORDERPRIORITY ORDER_COUNT
```

1-URGENT	10594
2-HIGH	10476
3-MEDIUM	10410
4-NOT SPECIFIED	10556
5-LOW	10487

(5 rows affected)

Qualification Query 5

-- using default substitutions

/* tpch 5.sql */

```
SELECT
N_NAME
,SUM(L_EXTENDEDPRISE*(1-L_DISCOUNT)) AS REVENUE
FROM
```

```

CUSTOMER
,ORDERS
,LINEITEM
,SUPPLIER
,NATION
,REGION
WHERE
C_CUSTKEY = O_CUSTKEY
AND L_ORDERKEY = O_ORDERKEY
AND L_SUPPKEY = S_SUPPKEY
AND C_NATIONKEY = S_NATIONKEY
AND S_NATIONKEY = N_NATIONKEY
AND N_REGIONKEY = R_REGIONKEY
AND R_NAME = 'ASIA'
AND O_ORDERDATE >= '1994-01-01'
AND O_ORDERDATE < DATEADD(YY, 1, '1994-01-01')
GROUP BY
N_NAME
ORDER BY
REVENUE DESC
N_NAME          REVENUE
-----
INDONESIA          55502041.1697
VIETNAM           55295086.9967
CHINA             53724494.2566
INDIA             52035512.0002
JAPAN            45410175.6954

```

(5 rows affected)

Qualification Query 6

-- using default substitutions

/* tpch 6.sql */

```

SELECT
SUM(L_EXTENDEDPRI* L_DISCOUNT) AS REVENUE
FROM
LINEITEM
WHERE
L_SHIPDATE >= '1994-01-01'
AND L_SHIPDATE < dateadd (yy, 1, '1994-01-01')
AND L_DISCOUNT BETWEEN .06 - 0.01 AND .06 + 0.01
AND L_QUANTITY < 24
REVENUE
-----

```

123141078.2283

(1 row affected)

Qualification Query 7

-- using default substitutions

/* tpch 7.sql */

```

SELECT
SUPP_NATION
,CUST_NATION
,L_YEAR
,SUM(VOLUME) AS REVENUE
FROM
(
SELECT
N1.N_NAME AS SUPP_NATION
,N2.N_NAME AS CUST_NATION
,DATEPART(YY,L_SHIPDATE) AS L_YEAR
,L_EXTENDEDPRI*(1-L_DISCOUNT) AS VOLUME
FROM

```

```

SUPPLIER
,LINEITEM
,ORDERS
,CUSTOMER
,NATION N1
,NATION N2
WHERE S_SUPPKEY = L_SUPPKEY
AND O_ORDERKEY = L_ORDERKEY
AND C_CUSTKEY = O_CUSTKEY
AND S_NATIONKEY = N1.N_NATIONKEY
AND C_NATIONKEY = N2.N_NATIONKEY
AND (
(N1.N_NAME = 'FRANCE' AND N2.N_NAME = 'GERMANY')
OR
(N1.N_NAME = 'GERMANY' AND N2.N_NAME = 'FRANCE')
)
AND L_SHIPDATE BETWEEN '1995-01-01' AND '1996-12-31'
)
AS SHIPPING
GROUP BY
SUPP_NATION
,CUST_NATION
,L_YEAR
ORDER BY
SUPP_NATION
,CUST_NATION
,L_YEAR
SUPP_NATION      CUST_NATION      L_YEAR
REVENUE
-----
FRANCE           GERMANY           1995
54639732.7336
FRANCE           GERMANY           1996
54633083.3076
GERMANY          FRANCE            1995
52531746.6697
GERMANY          FRANCE            1996
52520549.0224

```

(4 rows affected)

Qualification Query 8

-- using default substitutions

/* tpch 8.sql */

```

SELECT
O_YEAR
,SUM(CASE WHEN NATION = 'BRAZIL'
THEN VOLUME
ELSE 0
END) / SUM(VOLUME) AS MKT_SHARE
FROM
(
SELECT
DATEPART(YY,O_ORDERDATE) AS O_YEAR
,L_EXTENDEDPRI * (1-L_DISCOUNT) AS VOLUME
,N2.N_NAME AS NATION
FROM
PART
,SUPPLIER
,LINEITEM
,ORDERS
,CUSTOMER
,NATION N1
,NATION N2
,REGION
WHERE
P_PARTKEY = L_PARTKEY

```

```

AND S_SUPPKEY = L_SUPPKEY
AND L_ORDERKEY = O_ORDERKEY
AND O_CUSTKEY = C_CUSTKEY
AND C_NATIONKEY = N1.N_NATIONKEY
AND N1.N_REGIONKEY = R_REGIONKEY
AND R_NAME = 'AMERICA'
AND S_NATIONKEY = N2.N_NATIONKEY
AND O_ORDERDATE BETWEEN '1995-01-01' AND '1996-12-31'
AND P_TYPE = 'ECONOMY ANODIZED STEEL'
) AS ALL_NATIONS
GROUP BY
O_YEAR
ORDER BY
O_YEAR
O_YEAR      MKT_SHARE
-----
1995          .0344
1996          .0414

```

(2 rows affected)

Qualification Query 9

-- using default substitutions

/* tpch 9.sql */

```

SELECT
NATION
,O_YEAR
,SUM(AMOUNT) AS SUM_PROFIT
FROM
(
SELECT
N_NAME AS NATION
,DATEPART(YY, O_ORDERDATE) AS O_YEAR
,L_EXTENDEDPRI*(1-L_DISCOUNT)-
PS_SUPPLYCOST*L_QUANTITY AS AMOUNT
FROM
PART
,SUPPLIER
,LINEITEM
,PARTSUPP
,ORDERS
,NATION
WHERE
S_SUPPKEY = L_SUPPKEY
AND PS_SUPPKEY = L_SUPPKEY
AND PS_PARTKEY = L_PARTKEY
AND P_PARTKEY = L_PARTKEY
AND O_ORDERKEY = L_ORDERKEY
AND S_NATIONKEY = N_NATIONKEY
AND P_NAME LIKE '%green%'
)
AS PROFIT
GROUP BY
NATION
,O_YEAR
ORDER BY
NATION
,O_YEAR DESC
NATION      O_YEAR      SUM_PROFIT
-----
ALGERIA      1998      31342867.2345
ALGERIA      1997      57138193.0233
ALGERIA      1996      56140140.1330
ALGERIA      1995      53051469.6534
ALGERIA      1994      53867582.1286
ALGERIA      1993      54942718.1324
ALGERIA      1992      54628034.7127

```

```

ARGENTINA      1998      30211185.7081
UNITED STATES  1993      48029946.8014
UNITED STATES  1992      48671944.4983

```

..... Additional rows deleted

```

VIETNAM      1998      30442736.0594
VIETNAM      1997      50309179.7942
VIETNAM      1996      50488161.4100
VIETNAM      1995      49658284.6125
VIETNAM      1994      50596057.2607
VIETNAM      1993      50953919.1519
VIETNAM      1992      49613838.3151

```

(175 rows affected)

Qualification Query 10

-- using default substitutions

/* tpch 10.sql */

```

SELECT TOP 20
C_CUSTKEY
,C_NAME
,SUM(L_EXTENDEDPRI*(1-L_DISCOUNT)) AS REVENUE
,C_ACCTBAL
,N_NAME
,C_ADDRESS
,C_PHONE
,C_COMMENT
FROM
CUSTOMER
,ORDERS
,LINEITEM
,NATION
WHERE
C_CUSTKEY = O_CUSTKEY
AND L_ORDERKEY = O_ORDERKEY
AND O_ORDERDATE >= '1993-10-01'
AND O_ORDERDATE < DATEADD(MM, 3, '1993-10-01')
AND L_RETURNFLAG = 'R'
AND C_NATIONKEY = N_NATIONKEY
GROUP BY
C_CUSTKEY
,C_NAME
,C_ACCTBAL
,C_PHONE
,N_NAME
,C_ADDRESS
,C_COMMENT
ORDER BY
REVENUE DESC
C_CUSTKEY  C_NAME      REVENUE      C_ACCTBAL
N_NAME      C_ADDRESS      C_PHONE
-----
---
57040 Customer#000057040      734235.2455      632.8700
JAPAN      Eioyjf4pp      22-895-641-3466
requests sleep blithely about the furiously i
143347 Customer#000143347      721002.6948      2557.4700
EGYPT      IaReFYv,Kw4      14-742-935-3718
fluffily bold excuses haggle finally after the u
60838 Customer#000060838      679127.3077      2454.7700
BRAZIL      64EaJ5vMAHWJIBOXJklpNc2RjWE      12-913-
494-9813 furiously even pinto beans integrate under the ruthless foxes;
ironic, even dolphins across the slyl

```

101998 Customer#000101998 637029.5667 3790.8900
 UNITED KINGDOM 01e9CILnNtfOQYmZj 33-593-
 865-6378 accounts doze blithely! enticing, final deposits sleep blithely
 special accounts. slyly express accounts pla
 125341 Customer#000125341 633508.0860 4983.5100
 GERMANY S29ODD6bceU8QSuueJznkNaK 17-582-
 695-5962 quickly express requests wake quickly blithely
 25501 Customer#000025501 620269.7849 7725.0400
 ETHIOPIA W556MXuoiaYCCZamJI,Rn0B4ACUGdkQ8DZ
 15-874-808-6793 quickly special requests sleep evenly among the special
 deposits. special deposi
 115831 Customer#000115831 596423.8672 5098.1000
 FRANCE rFeBbEEyk dl ne7zV5fDrmiq1oK09wV7pxqCgIc 16-
 715-386-3788 carefully bold excuses sleep alongside of the thinly idle
 84223 Customer#000084223 594998.0239 528.6500
 UNITED KINGDOM nAVZCs6BaWap rrM27N 2qBnze5WBauxbA
 33-442-824-8191 pending, final ideas haggle final requests. unusual, regular
 asymptotes affix according to the even foxes.
 54289 Customer#000054289 585603.3918 5583.0200
 IRAN vXCxoCsU0Bad5JQI ,oobkZ 20-834-292-
 4707 express requests sublate blithely regular requests. regular, even ideas
 solve.
 39922 Customer#000039922 584878.1134 7321.1100
 GERMANY Zgy4s5012GKN4pLDPBU8m342glw6R 17-
 147-757-8036 even pinto beans haggle. slyly bold accounts inte
 6226 Customer#000006226 576783.7606 2230.0900
 UNITED KINGDOM 8gPu8,NPGkfyQQ0hcIYUGPIBWc,ybP5g,
 33-657-701-3391 quickly final requests against the regular instructions wake
 blithely final instructions. pa
 922 Customer#000000922 576767.5333 3869.2500
 GERMANY Az9RFaut7NkPnc5zSD2PwHgVwr4jRzq 17-
 945-916-9648 boldly final requests cajole blith
 147946 Customer#000147946 576455.1320 2030.1300
 ALGERIA iANyZHjqhy7Ajah0pTrYyhJ 10-886-956-
 3143 furiously even accounts are blithely above the furiousl
 115640 Customer#000115640 569341.1933 6436.1000
 ARGENTINA Vtgifia9qI 7EpHgecU1X 11-411-543-
 4901 final instructions are slyly according to the
 73606 Customer#000073606 568656.8578 1785.6700
 JAPAN xuR0Tro5yChDfOCrjkd2ol 22-437-653-
 6966 furiously bold orbits about the furiously busy requests wake across the
 furiously quiet theodolites. d
 110246 Customer#000110246 566842.9815 7763.3500
 VIETNAM 7KzflgX MDOq7sOkI 31-943-426-
 9837 dolphins sleep blithely among the slyly final
 142549 Customer#000142549 563537.2368 5085.9900
 INDONESIA ChqEoK43OysjdHbtKCp6dKqjNyvvi9 19-
 955-562-2398 regular, unusual dependencies boost slyly; ironic attainments
 nag fluffily into the unusual packages?
 146149 Customer#000146149 557254.9865 1791.5500
 ROMANIA s87fvzFQpU 29-744-164-6487
 silent, unusual requests detect quickly slyly regul
 52528 Customer#000052528 556397.3509 551.7900
 ARGENTINA NFztyTOR10UOJ 11-208-192-
 3205 unusual requests detect. slyly dogged theodolites use slyly. deposit
 23431 Customer#000023431 554269.5360 3381.8600
 ROMANIA HgiVOpqhala9aydNoIlb 29-915-458-
 2654 instructions nag quickly. furiously bold accounts cajol

(20 rows affected)

Qualification Query 11

-- using default substitutions

/* tpch 11.sql */

```
SELECT
PS_PARTKEY
,SUM(PS_SUPPLYCOST*PS_AVAILQTY) AS VALUE
```

```
FROM
PARTSUPP
,SUPPLIER
,NATION
WHERE
PS_SUPPKEY = S_SUPPKEY
AND S_NATIONKEY = N_NATIONKEY
AND N_NAME = 'GERMANY'
GROUP BY
PS_PARTKEY
HAVING
SUM(PS_SUPPLYCOST*PS_AVAILQTY) >
(
SELECT
SUM(PS_SUPPLYCOST*PS_AVAILQTY) * 0.0001000000
FROM PARTSUPP
,SUPPLIER
,NATION
WHERE PS_SUPPKEY = S_SUPPKEY
AND S_NATIONKEY = N_NATIONKEY
AND N_NAME = 'GERMANY'
)
ORDER BY
VALUE DESC
PS_PARTKEY VALUE
-----
129760 17538456.8600
166726 16503353.9200
191287 16474801.9700
161758 16101755.5400
34452 15983844.7200
139035 15907078.3400
9403 15451755.6200
154358 15212937.8800
38823 15064802.8600
85606 15053957.1500
33354 14408297.4000
154747 14407580.6800
82865 14235489.7800
76094 14094247.0400
```

..... Additional rows deleted

```
171154 7896814.5000
79373 7896186.0000
113808 7893353.8800
27901 7892952.0000
128820 7892882.7200
25891 7890511.2000
122819 7888881.0200
154731 7888301.3300
101674 7879324.6000
51968 7879102.2100
72073 7877736.1100
5182 7874521.7300
```

(1048 rows affected)

Qualification Query 12

-- using default substitutions

/* tpch 12.sql */

```
SELECT
L_SHIPMODE
,SUM(CASE
WHEN O_ORDERPRIORITY = '1-URGENT'
OR O_ORDERPRIORITY = '2-HIGH'
THEN 1
```

```

ELSE 0
END) AS HIGH_LINE_COUNT,
SUM(CASE
WHEN O_ORDERPRIORITY <> '1-URGENT'
AND O_ORDERPRIORITY <> '2-HIGH'
THEN 1
ELSE 0
END) AS LOW_LINE_COUNT
FROM
ORDERS
,LINEITEM
WHERE
O_ORDERKEY = L_ORDERKEY
AND L_SHIPMODE IN ('MAIL','SHIP')
AND L_COMMITDATE < L_RECEIPTDATE
AND L_SHIPDATE < L_COMMITDATE
AND L_RECEIPTDATE >= '1994-01-01'
AND L_RECEIPTDATE < dateadd(YY, 1, '1994-01-01')
GROUP BY
L_SHIPMODE
ORDER BY
L_SHIPMODE
L_SHIPMODE HIGH_LINE_COUNT LOW_LINE_COUNT
-----
MAIL          6202    9324
SHIP          6200    9262

```

(2 rows affected)

Qualification Query 13

-- using default substitutions

/* tpch 13.sql */

```

SELECT
C_COUNT
,COUNT(*) AS CUSTDIST
FROM
(
SELECT
C_CUSTKEY
,COUNT(O_ORDERKEY)
FROM
CUSTOMER LEFT OUTER JOIN ORDERS ON
C_CUSTKEY = O_CUSTKEY
AND O_COMMENT NOT LIKE '%special%requests%'
GROUP BY
C_CUSTKEY
) AS C_ORDERS (C_CUSTKEY, C_COUNT)
GROUP BY
C_COUNT
ORDER BY
CUSTDIST DESC
,C_COUNT DESC
C_COUNT  CUSTDIST
-----

```

```

0    50004
9    6641
10   6566
11   6058
8    5949
12   5553
13   4989
19   4748
7    4707
18   4625
15   4552
17   4530
14   4484

```

```

20   4461
16   4323
21   4217
22   3730
6    3334
23   3129
24   2622
25   2079
5    1972
26   1593
27   1185
4    1033
28   869
29   559
3    398
30   373
31   235
2    144
32   128
33   71
34   48
35   33
1    23
36   17
37   7
40   4
38   4
39   2
41   1

```

(42 rows affected)

Qualification Query 14

-- using default substitutions

/* tpch 14.sql */

```

SELECT
100.00 * SUM (CASE
WHEN P_TYPE LIKE 'PROMO%' THEN L_EXTENDEDPRICE*(1-
L_DISCOUNT)
ELSE 0 END
) / SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS
PROMO_REVENUE
FROM
LINEITEM
,PART
WHERE
L_PARTKEY = P_PARTKEY
AND L_SHIPDATE >= '1995-09-01'
AND L_SHIPDATE < DATEADD(MM, 1, '1995-09-01')
PROMO_REVENUE
-----

```

16.380778626395540

(1 row affected)

Qualification Query 15

-- using default substitutions

/* tpch 15.sql */

```

if exists (select * from sysindexes where name = 'REVENUE0')
drop view REVENUE0

```

```

CREATE VIEW REVENUE0 (SUPPLIER_NO, TOTAL_REVENUE) AS
SELECT
L_SUPPKEY

```



```

,SUM(L_EXTENDEDPRI * (1 - L_DISCOUNT))
FROM
LINEITEM
WHERE
L_SHIPDATE >= '1996-01-01'
AND L_SHIPDATE < DATEADD(MM, 3, '1996-01-01')
GROUP BY
L_SUPPKEY

```

```

SELECT
S_SUPPKEY
,S_NAME
,S_ADDRESS
,S_PHONE
,TOTAL_REVENUE
FROM
SUPPLIER
,REVENUE0
WHERE
S_SUPPKEY = SUPPLIER_NO
AND TOTAL_REVENUE = (
SELECT
MAX(TOTAL_REVENUE)
FROM
REVENUE0
)
ORDER BY
S_SUPPKEY

```

```

DROP VIEW REVENUE0
S_SUPPKEY S_NAME S_ADDRESS
S_PHONE TOTAL_REVENUE
-----

```

```

8449 Supplier#000008449 Wp34zim9qYFbVctdW
20-469-856-8873 1772627.2087

```

(1 row affected)

Qualification Query 16

-- using default substitutions

/* tpch 16.sql */

```

SELECT
P_BRAND
,P_TYPE
,P_SIZE
,COUNT(DISTINCT PS_SUPPKEY) AS SUPPLIER_CNT
FROM
PARTSUPP
,PART
WHERE
P_PARTKEY = PS_PARTKEY
AND P_BRAND <> 'Brand#45'
AND P_TYPE NOT LIKE 'MEDIUM POLISHED%'
AND P_SIZE IN (49, 14, 23, 45, 19, 3, 36, 9)
AND PS_SUPPKEY NOT IN
(SELECT S_SUPPKEY
FROM SUPPLIER
WHERE S_COMMENT LIKE '%Customer%Complaints%'
)
GROUP BY
P_BRAND
,P_TYPE
,P_SIZE
ORDER BY
SUPPLIER_CNT DESC
,P_BRAND

```

```

,P_TYPE
,P_SIZE
P_BRAND P_TYPE P_SIZE SUPPLIER_CNT
-----
Brand#41 MEDIUM BRUSHED TIN 3 28
Brand#54 STANDARD BRUSHED COPPER 14 27
Brand#11 STANDARD BRUSHED TIN 23 24
Brand#11 STANDARD BURNISHED BRASS 36 24
Brand#15 MEDIUM ANODIZED NICKEL 3 24
Brand#15 SMALL ANODIZED BRASS 45 24
Brand#15 SMALL BURNISHED NICKEL 19 24

```

..... Additional rows deleted

```

Brand#32 STANDARD ANODIZED COPPER 23 3
Brand#33 SMALL ANODIZED BRASS 9 3
Brand#35 MEDIUM ANODIZED TIN 19 3
Brand#51 SMALL PLATED BRASS 23 3
Brand#52 MEDIUM BRUSHED BRASS 45 3
Brand#53 MEDIUM BRUSHED TIN 45 3
Brand#54 ECONOMY POLISHED BRASS 9 3
Brand#55 PROMO PLATED BRASS 19 3
Brand#55 STANDARD PLATED TIN 49 3

```

(18314 rows affected)

Qualification Query 17

-- using default substitutions

/* tpch 17.sql */

```

SELECT
SUM(L_EXTENDEDPRI)/7.0 AS AVG_YEARLY
FROM
LINEITEM
,PART
WHERE
P_PARTKEY = L_PARTKEY
AND P_BRAND = 'Brand#23'
AND P_CONTAINER = 'MED BOX'
AND L_QUANTITY <
(
SELECT
0.2 * AVG(L_QUANTITY)
FROM LINEITEM
WHERE L_PARTKEY = P_PARTKEY
)
AVG_YEARLY
-----
348406.0542857

```

(1 row affected)

Qualification Query 18

-- using default substitutions

/* tpch 18.sql */

```

SELECT TOP 100
C_NAME
,C_CUSTKEY
,O_ORDERKEY
,O_ORDERDATE
,O_TOTALPRICE
,SUM(L_QUANTITY)
FROM
CUSTOMER
,ORDERS

```

```

.LINEITEM
WHERE
O_ORDERKEY IN
(
SELECT
L_ORDERKEY
FROM
LINEITEM
GROUP BY
L_ORDERKEY HAVING
SUM(L_QUANTITY) > 300
)
AND C_CUSTKEY = O_CUSTKEY
AND O_ORDERKEY = L_ORDERKEY
GROUP BY
C_NAME
,C_CUSTKEY
,O_ORDERKEY
,O_ORDERDATE
,O_TOTALPRICE
ORDER BY
O_TOTALPRICE DESC
,O_ORDERDATE
C_NAME      C_CUSTKEY  O_ORDERKEY  O_ORDERDATE
O_TOTALPRICE

```

```

-----
Customer#000128120      128120   4722021  1994-04-07 00:00:00.000
544089.0900      323.0000
Customer#000093392      93392    5200102  1997-01-22 00:00:00.000
425487.5100      304.0000
Customer#000015631      15631    1845057  1994-05-12 00:00:00.000
419879.5900      302.0000
Customer#000112987      112987   4439686  1996-09-17 00:00:00.000
418161.4900      305.0000

```

.... Additional rows deleted

```

Customer#000012599      12599    4259524  1998-02-12 00:00:00.000
415200.6100      304.0000
Customer#000105410      105410   4478371  1996-03-05 00:00:00.000
412754.5100      302.0000
Customer#000149842      149842   5156581  1994-05-30 00:00:00.000
411329.3500      302.0000
Customer#000010129      10129    5849444  1994-03-21 00:00:00.000
409129.8500      309.0000
Customer#000069904      69904    1742403  1996-10-19 00:00:00.000
408513.0000      305.0000
Customer#000017746      17746    6882     1997-04-09 00:00:00.000
408446.9300      303.0000
Customer#000013072      13072    1481925  1998-03-15 00:00:00.000
399195.4700      301.0000
Customer#000082441      82441    857959   1994-02-07 00:00:00.000
382579.7400      305.0000
Customer#000088703      88703    2995076  1994-01-30 00:00:00.000
363812.1200      302.0000

```

(57 rows affected)

Qualification Query 19

-- using default substitutions

```
/* tpch 19.sql */
```

```

SELECT
SUM(L_EXTENDEDPRI* (1 - L_DISCOUNT)) AS REVENUE
FROM
LINEITEM

```

```

,PART
WHERE
(
P_PARTKEY = L_PARTKEY
AND P_BRAND = 'Brand#12'
AND P_CONTAINER IN ('SM CASE', 'SM BOX', 'SM PACK', 'SM PKG')
AND L_QUANTITY >= 1 AND L_QUANTITY <= 1 + 10
AND P_SIZE BETWEEN 1 AND 5
AND L_SHIPMODE IN ('AIR', 'AIR REG')
AND L_SHIPINSTRUCT = 'DELIVER IN PERSON'
)
OR
(
P_PARTKEY = L_PARTKEY
AND P_BRAND = 'Brand#23'
AND P_CONTAINER IN ('MED BAG', 'MED BOX', 'MED PKG', 'MED
PACK')
AND L_QUANTITY >= 10 AND L_QUANTITY <= 10 + 10
AND P_SIZE BETWEEN 1 AND 10
AND L_SHIPMODE IN ('AIR', 'AIR REG')
AND L_SHIPINSTRUCT = 'DELIVER IN PERSON'
)
)
OR
(
P_PARTKEY = L_PARTKEY
AND P_BRAND = 'Brand#34'
AND P_CONTAINER IN ('LG CASE', 'LG BOX', 'LG PACK', 'LG PKG')
AND L_QUANTITY >= 20 AND L_QUANTITY <= 20 + 10
AND P_SIZE BETWEEN 1 AND 15
AND L_SHIPMODE IN ('AIR', 'AIR REG')
AND L_SHIPINSTRUCT = 'DELIVER IN PERSON'
)
)
REVENUE

```

```

-----
3083843.0578

```

(1 row affected)

Qualification Query 20

-- using default substitutions

```
/* tpch 20.sql */
```

```

SELECT
S_NAME
,S_ADDRESS
FROM
SUPPLIER
,NATION
WHERE
S_SUPPKEY IN
(
SELECT
PS_SUPPKEY
FROM
PARTSUPP
WHERE
PS_PARTKEY IN
(
SELECT
P_PARTKEY
FROM
PART
WHERE
P_NAME LIKE 'forest%'
)
)
AND PS_AVAILQTY >
(

```

```

SELECT
0.5 * SUM(L_QUANTITY)
FROM
LINEITEM
WHERE
L_PARTKEY = PS_PARTKEY
AND L_SUPPKEY = PS_SUPPKEY
AND L_SHIPDATE >= '1994-01-01'
AND L_SHIPDATE < DATEADD(YY,1,'1994-01-01')
)
)
AND S_NATIONKEY = N_NATIONKEY
AND N_NAME = 'CANADA'
ORDER BY
S_NAME
S_NAME          S_ADDRESS
-----
Supplier#00000020  iybAE,RmTymrZVYaFZva2SH,j
Supplier#00000091
YV45D7TkfdQanOOZ7q9QxkyGUapU1oOWU6q3
Supplier#000000197  YC2Acon6kjY3zj3Fbxs2k4Vdf7X0cd2F
Supplier#000000226  83qOdU2EYRdPQAQhEtn GRZEd
Supplier#000009601  51m637bO,Rw5DnHWFUvLacRx9
Supplier#000009709  rRnCbHYgDgl9PZYnyWKVYSUW0vKg
Supplier#000009753  wLhVEcRmd7PkJF4FBnGK7Z

```

.... Additional rows deleted ...

```

Supplier#000009796  z,y4Idmr15DOvPUqYG
Supplier#000009799  4wNjXGa4OKW1
Supplier#000009811  E3iuyq7UnZxU7oPZle2Gu6
Supplier#000009812  APFRMy3lCbGfGa53n5t9DxzFPQPgnjrGt32
Supplier#000009862  rJzweWeN58
Supplier#000009868  ROjGgx5gvtkmnUUoeyy7v
Supplier#000009869
ucLqxzrpBTRMewGSM29t0rNTM30g1Tu3Xgg3mKag
Supplier#000009899  7XdpaHrzr1t,UQFZE
Supplier#000009974  7wJ,J5DKcxSU4Kp1cQLpbcAvB5AsvKT

```

(204 rows affected)

Qualification Query 21

-- using default substitutions

/* tpch 21.sql */

```

SELECT TOP 100
S_NAME
,COUNT(*) AS NUMWAIT
FROM
SUPPLIER
,LINEITEM L1
,ORDERS
,NATION
WHERE
S_SUPPKEY = L1.L_SUPPKEY
AND O_ORDERKEY = L1.L_ORDERKEY
AND O_ORDERSTATUS = 'F'
AND L1.L_RECEIPTDATE > L1.L_COMMITDATE
AND EXISTS
(
SELECT
*
FROM
LINEITEM L2
WHERE
L2.L_ORDERKEY = L1.L_ORDERKEY
AND L2.L_SUPPKEY <> L1.L_SUPPKEY

```

```

)
AND NOT EXISTS
(
SELECT
*
FROM
LINEITEM L3
WHERE
L3.L_ORDERKEY = L1.L_ORDERKEY
AND L3.L_SUPPKEY <> L1.L_SUPPKEY
AND L3.L_RECEIPTDATE > L3.L_COMMITDATE
)
AND S_NATIONKEY = N_NATIONKEY
AND N_NAME = 'SAUDI ARABIA'
GROUP BY
S_NAME
ORDER BY
NUMWAIT DESC
,S_NAME
S_NAME          NUMWAIT
-----
Supplier#000002829      20
Supplier#000005808      18
Supplier#000000262      17
Supplier#000000496      17
Supplier#000002160      17
Supplier#000002301      17
Supplier#000002540      17
Supplier#000003063      17
Supplier#000005178      17
Supplier#000008331      17
Supplier#000002005      16
Supplier#000002095      16
Supplier#000005799      16
Supplier#000005842      16
Supplier#000006450      16
Supplier#000006939      16
Supplier#000009200      16
Supplier#000009727      16
Supplier#000000486      15
Supplier#000000565      15
Supplier#000001046      15
Supplier#000001047      15
Supplier#000001161      15

```

... Additional rows deleted ...

```

Supplier#000001336      15
Supplier#000001435      15
Supplier#000003075      15
Supplier#000003335      15
Supplier#000005649      15
Supplier#000006027      15
Supplier#000006795      15
Supplier#000006800      15
Supplier#000006824      15
Supplier#000007131      15
Supplier#000000821      12
Supplier#000001337      12
Supplier#000001916      12
Supplier#000001925      12
Supplier#000002039      12
Supplier#000002357      12
Supplier#000002483      12

```

(100 rows affected)

Qualification Query 22

-- using default substitutions

/* tpch 22.sql */

```
SELECT
CENTRYCODE
,COUNT(*) AS NUMCUST
,SUM(C_ACCTBAL) AS TOTACCTBAL
FROM
(
SELECT
SUBSTRING(C_PHONE,1,2) AS CENTRYCODE
,C_ACCTBAL
FROM
CUSTOMER
WHERE
SUBSTRING(C_PHONE,1,2) IN
('13', '31', '23', '29', '30', '18', '17')
AND C_ACCTBAL > (
SELECT
AVG(C_ACCTBAL)
FROM
CUSTOMER
WHERE
C_ACCTBAL > 0.00
AND SUBSTRING(C_PHONE,1,2) IN
('13', '31', '23', '29', '30', '18', '17')
)
AND NOT EXISTS (
SELECT
*
FROM
ORDERS
WHERE
O_CUSTKEY = C_CUSTKEY
)
) AS CUSTSALE
GROUP BY
CENTRYCODE
ORDER BY
CENTRYCODE
CENTRYCODE NUMCUST  TOTACCTBAL
```

```
-----
13      888      6737713.9900
17      861      6460573.7200
18      964      7236687.4000
23      892      6701457.9500
29      948      7158866.6300
30      909      6808436.1300
31      922      6806670.1800
```

(7 rows affected)

Appendix D: Seeds and Query Substitution Parameters

Stream0 Seed : 222024240

14	1997-07-01					
2	21	COPPER	MIDDLE EAST			
9	sky					
20	cornflower	1995-01-01	JAPAN			
6	1993-01-01	0.08	24			
17	Brand#53	WRAP DRUM				
18	313					
8	FRANCE	EUROPE	PROMO ANODIZED STEEL			
21	JAPAN					
13	unusual	deposits				
3	MACHINERY	1995-03-31				
22	13	16	29	19	34	18
	14					
16	Brand#55	MEDIUM POLISHED		16	8	
	33	5	31	17	19	49
4	1997-11-01					
11	FRANCE	0.0000010000				
15	1997-03-01					
1	87					
10	1993-09-01					
19	Brand#51	Brand#33	Brand#44	4	20	26
5	MIDDLE EAST	1993-01-01				
7	SAUDI ARABIA	FRANCE				
12	TRUCK	SHIP	1997-01-01			

Stream1 Seed : 222024241

21	ETHIOPIA					
3	FURNITURE	1995-03-16				
18	315					
5	AFRICA	1994-01-01				
11	ROMANIA	0.0000010000				
7	JAPAN	RUSSIA				
6	1994-01-01	0.06	25			
20	navajo	1994-01-01	BRAZIL			
17	Brand#55	SM BAG				
12	AIR	MAIL	1997-01-01			
16	Brand#35	PROMO ANODIZED3		19	7	
	22	28	49	46	5	
15	1994-12-01					
13	unusual	deposits				
10	1994-06-01					
2	8	STEEL	ASIA			
8	RUSSIA	EUROPE	ECONOMY POLISHED STEEL			
14	1997-10-01					
19	Brand#14	Brand#21	Brand#34	10	10	23
9	royal					
22	18	13	25	32	23	16
	19					
1	95					
4	1995-07-01					

Stream2 Seed : 222024242

6	1994-01-01	0.03	25			
17	Brand#52	SM PACK				
14	1998-01-01					
16	Brand#25	SMALL BURNISHED		30	2	
	3	21	4	5	22	9
19	Brand#11	Brand#54	Brand#33	5	11	30
10	1993-03-01					
9	powder					
2	46	BRASS	AFRICA			
15	1997-06-01					
8	KENYA	AFRICA	ECONOMY BURNISHED STEEL			
5	AMERICA	1994-01-01				
22	18	15	11	20	14	16
	23					
12	REG AIR	MAIL	1997-01-01			
7	EGYPT	KENYA				
13	unusual	deposits				
18	312					
1	103					
4	1993-04-01					
20	aquamarine	1997-01-01	PERU			
3	MACHINERY	1995-03-02				
11	GERMANY	0.0000010000				
21	RUSSIA					

Stream3 Seed : 222024243

8	FRANCE	EUROPE	LARGE BRUSHED STEEL			
5	ASIA	1994-01-01				
4	1995-11-01					
6	1994-01-01	0.08	24			
17	Brand#54	SM DRUM				
7	VIETNAM	FRANCE				
1	111					
18	314					
22	16	20	17	31	10	22
	11					
14	1993-05-01					
9	pale					
10	1993-12-01					
15	1995-03-01					
11	SAUDI ARABIA	0.0000010000				
20	lace	1995-01-01	FRANCE			
2	34	NICKEL	ASIA			
21	KENYA					
19	Brand#13	Brand#32	Brand#32	10	12	26
13	unusual	packages				
16	Brand#55	LARGE POLISHED		32	46	29
	36	21	35	50	13	
12	SHIP	MAIL	1993-01-01			
3	BUILDING	1995-03-19				

Stream4 Seed : 222024244

5	MIDDLE EAST	1994-01-01				
21	FRANCE					
14	1993-08-01					
19	Brand#25 Brand#25 Brand#21	5	13	22		
15	1997-10-01					
17	Brand#55 LG BAG					
12	FOB MAIL	1993-01-01				
6	1994-01-01	0.06	25			
4	1993-08-01					
9	moccasin					
8	UNITED KINGDOM EUROPE	LARGE PLATED COPPER				
16	Brand#45 PROMO BRUSHED	33	47	14		
	44	50	9	25	38	
11	INDIA	0.0000010000				
2	22 TIN	AFRICA				
10	1994-09-01					
18	315					
1	119					
13	unusual packages					
7	JORDAN UNITED KINGDOM					
22	19	18	14	28	15	20
	27					
3	MACHINERY	1995-03-04				
20	slate	1994-01-01	VIETNAM			

Stream5 Seed : 222024245

21	UNITED KINGDOM					
15	1995-07-01					
4	1996-03-01					
6	1994-01-01	0.03	25			
7	ETHIOPIA	MOROCCO				
16	Brand#25 MEDIUM BURNISHED		46	50		
	19	8	41	26	10	22
19	Brand#22 Brand#53 Brand#21	1	14	29		
18	313					
14	1993-11-01					
22	13	28	17	11	20	23
	12					
11	VIETNAM	0.0000010000				
13	unusual packages					
3	BUILDING	1995-03-21				
1	66					
2	9 STEEL	EUROPE				
5	AFRICA	1994-01-01				
8	MOROCCO	AFRICA	LARGE ANODIZED COPPER			
20	drab	1997-01-01	IRAQ			
12	MAIL FOB	1993-01-01				
17	Brand#52 LG PACK					
10	1993-07-01					
9	maroon					

Appendix E: Refresh Function Source Code

E.1 CreateRF1Proc.sql

```
-- CreateRF1Proc.sql

if exists (select name from sysobjects where name = 'RF1')
    drop procedure RF1
GO

--
-- Create a stored RefreshInsert procedure which will catch the deadlock
-- victim abort and restart the insert transaction.
--
CREATE PROCEDURE RF1
@flatfiledir CHAR(40), @updateset INTEGER, @segment INTEGER,
@scalefactor INTEGER
AS
BEGIN

DECLARE @min_orderkey INTEGER
DECLARE @max_orderkey INTEGER
DECLARE @range INTEGER
DECLARE @max_set INTEGER
DECLARE @SQLstring NVARCHAR(255)
DECLARE @insert_sets INTEGER

set @insert_sets= @scalefactor

--
-- Create the insert tables
--
create table #NEWORDERS (
    O_ORDERKEY int not null,
    O_CUSTKEY int not null,
    O_ORDERSTATUS char(1) not null,
    O_TOTALPRICE money not null,
    O_ORDERDATE datetime not null,
    O_ORDERPRIORITY char(15) not null,
    O_CLERK char(15) not null,
    O_SHIPPRIORITY int not null,
    O_COMMENT varchar(79) not null
)
create table #NEWLINEITEM(
    L_ORDERKEY int not null,
    L_PARTKEY int not null,
    L_SUPPKEY int not null,
    L_LINENUMBER int not null,
    L_QUANTITY money not null,
    L_EXTENDEDPRICE money not null,
    L_DISCOUNT money not null,
    L_TAX money not null,
    L_RETURNFLAG char(1) not null,
    L_LINESTATUS char(1) not null,
    L_SHIPDATE datetime not null,
    L_COMMITDATE datetime not null,
    L_RECEIPTDATE datetime not null,
    L_SHIPINSTRUCT char(25) not null,
    L_SHIPMODE char(10) not null,
    L_COMMENT varchar(44) not null
)

create unique clustered index NEWORDERS on #NEWORDERS
(O_ORDERKEY)

create clustered index NEWLINEITEM on #NEWLINEITEM
(L_ORDERKEY)

--
-- Generate an SQL statement inserting the current updateset value into
-- the command. Next execute the statement to bulk load the new lineitem
-- insert values.
--
SET @SQLstring="bulk insert #NEWLINEITEM from "
+ RTRIM(convert(CHAR,@flatfiledir)) + "\Lineitem.tbl.u"
+ RTRIM(Convert(char,@updateset)) + "."
+ RTRIM(convert(char,@segment))
+ " with
(FieldTerminator='|',RowTerminator='\n',order(L_ORDERKEY),codepage='
RAW',TABLOCK)"
EXEC sp_executesql @SQLstring

--
-- Generate an SQL statement inserting the current updateset value into
-- the command. Next execute the statement to bulk load the new order
-- insert values.
--
SET @SQLstring="bulk insert #NEWORDERS from "
+ RTRIM(convert(CHAR,@flatfiledir)) + "\Orders.tbl.u"
+ RTRIM(Convert(char,@updateset)) + "."
+ RTRIM(convert(char,@segment))
+ " with
(FieldTerminator='|',RowTerminator='\n',order(O_ORDERKEY),CODEPA
GE='RAW',TABLOCK)"

EXEC sp_executesql @SQLstring

--
-- Obtain minimum and maximum order key and compute the range of each
-- set to be inserted into the ORDERS and LINEITEM tables.
--
SELECT
@min_orderkey=MIN(O_ORDERKEY),@max_orderkey=MAX(O_ORDE
RKEY) FROM #NEWORDERS
SET @range = (@max_orderkey - @min_orderkey) / @insert_sets

--
-- This handles the case when the max-min/insert_sets is less than 1
--
IF @range = 0
-- BEGIN
    SET @range = (@max_orderkey - @min_orderkey) / 1
-- END

--
-- Loop through the order keys only inserting a sets into the
-- ORDERS and LINTeITEM tables
--
SET @max_set = @min_orderkey - 1
WHILE @max_set < @max_orderkey
BEGIN
--
-- Set the range from min_orderkey to max_set
--
SET @max_set = @min_orderkey + @range
if @max_set > @max_orderkey
    SET @max_set = @max_orderkey + 1

--
-- Insert into ORDERS and LINEITEM tables
--
```

```

INSERT_TRANS:
begin transaction
insert into ORDERS SELECT * FROM #NEWORDERS
WHERE O_ORDERKEY >= @min_orderkey AND
O_ORDERKEY < @max_set
insert into LINEITEM SELECT * FROM #NEWLINITEM
WHERE L_ORDERKEY >= @min_orderkey AND L_ORDERKEY
< @max_set
commit transaction

--
-- If deadlock victim abort then restart the transaction
--
if (@@error = 1205)
BEGIN
print 'Insert deadlock - restarting RF1 transaction'
rollback transaction
GOTO INSERT_TRANS
END

--
-- Move min_orderkey to start of next insert set
--
SET @min_orderkey = @max_set
END

END

GO

```

E.2 CreateRF2Proc.sql

```

-- CreateRF2Proc.sql

if exists (select name from sysobjects where name = 'RF2')
drop procedure RF2
GO

--
-- Create a stored Refresh Delete procedure which will catch the deadlock
-- victim abort and restart the delete transaction.
--
CREATE PROCEDURE RF2
@flatfiledir CHAR(40), @updateset INTEGER, @segment INTEGER,
@scalefactor INTEGER
AS
BEGIN

DECLARE @min_orderkey INTEGER
DECLARE @max_orderkey INTEGER
DECLARE @range INTEGER
DECLARE @max_set INTEGER
DECLARE @SQLstring NVARCHAR(255)
DECLARE @delete_sets INTEGER

set @delete_sets=@scalefactor

create table #OLDORDERS (O_ORDERKEY int)
create unique clustered index OLDORDERS
on #OLDORDERS (O_ORDERKEY)
with sorted_data

--
-- Generate an SQL statement inserting the current updateset value into
-- the command. Next execute the statement to bulk load the old order
-- delete values
--
SET @SQLstring="bulk insert #OLDORDERS from ""

```

```

+ RTRIM(convert(CHAR,@flatfiledir)) + "\Delete.u"
+ RTRIM(Convert(char,@updateset)) + ","
+ RTRIM(convert(char,@segment))
+ "" with (order(O_ORDERKEY),codepage='RAW',TABLOCK)"
EXEC sp_executesql @SQLstring

--
-- Obtain minimum and maximum order key and compute the
-- range of each delete set
--
SELECT
@min_orderkey=MIN(O_ORDERKEY),@max_orderkey=MAX(O_ORDE
RKEY) FROM #OLDORDERS
SET @range = (@max_orderkey - @min_orderkey) / @delete_sets

--
-- This handles the case when the max-min/delete_sets is less than 1
--
IF @range = 0
-- BEGIN
SET @range = (@max_orderkey - @min_orderkey) / 1
-- END

--
-- Loop through the order keys only deleting sets from orders
-- and lineitem tables
--
SET @max_set = @min_orderkey - 1
WHILE @max_set < @max_orderkey
BEGIN
--
-- Set the range from min_orderkey to max_set
--
SET @max_set = @min_orderkey + @range
if @max_set > @max_orderkey
SET @max_set = @max_orderkey + 1

--
-- Delete from ORDERS and LINEITEM table
--
DELETE_TRANS:
begin transaction
delete from ORDERS where O_ORDERKEY in
(select * from #OLDORDERS WHERE O_ORDERKEY >=
@min_orderkey AND O_ORDERKEY < @max_set)
delete from LINEITEM where L_ORDERKEY in
(select * from #OLDORDERS WHERE O_ORDERKEY >=
@min_orderkey AND O_ORDERKEY < @max_set)

commit transaction

--
-- If deadlock victim abort then restart the transaction
--
if (@@error = 1205)
BEGIN
print 'Delete deadlock - restarting RF2 transaction'
rollback transaction
GOTO DELETE_TRANS
END

--
-- Move min_orderkey to start of next delete set
--
SET @min_orderkey = @max_set

END
END

GO

```


Appendix F: Implementation Specific Layer and Source Code

F.1 Setup.cmd

```
echo off

rem
rem Modify the following parameters for your configuration
rem

set DB=tpch100g
rem
rem set sql's 'sa' user password here
rem
set PW=

set HOMEDRIVE=C:
set HOMEDIR=(HP_TPCH_KIT)Setup
set OUTPUTDRIVE=c:
set OUTPUTDIR=(HP_TPCH_KIT)Output
set SCALEFACTOR=100
set DBGEN_SEGMENTS=32
set DBGEN_PARALLELISM=16
set FLATFILEDRIVE=z:
set FLATFILEDIR=Flatfiles\
set FLATFILESUBDIR=\
set RF1_PARALLELISM=64
set RF2_PARALLELISM=64
set UPDATEDRIVE=z:
set UPDATEDIR=(UF_Flatfiles
set UPDATE_SETS=18

set DoDBGEN=FALSE
set DoDBCREATE=TRUE
set DoBULKINSERT=TRUE
set DoCLEANUP=TRUE
set DoBACKUP=TRUE
set DoENDSTATS=TRUE

%HOMEDRIVE%
cd %HOMEDIR%

if '%1' == 'DBGEN' goto :DBGEN
if '%1' == 'BULKINSERTn' goto :BULKINSERTn

echo Checking for existence of HOMEDIR and OUTPUTDIR
if NOT EXIST %HOMEDRIVE%%HOMEDIR% goto :ERROR_EXIT
if NOT EXIST %OUTPUTDRIVE%%OUTPUTDIR% goto :ERROR_EXIT
if NOT EXIST %UPDATEDRIVE%%UPDATEDIR% goto :ERROR_EXIT

echo Finding next output directory in
%OUTPUTDRIVE%%OUTPUTDIR%
set OUTPUTNUMBER=1
:OUTPUTLOOP
if NOT EXIST
%HOMEDRIVE%%HOMEDIR%\%OUTPUTNUMBER% goto
:OUTPUTLOOPEND
set /a OUTPUTNUMBER=%OUTPUTNUMBER%+1
goto :OUTPUTLOOP
:OUTPUTLOOPEND
```

```
set
OUTPUTPATH=%OUTPUTDRIVE%%OUTPUTDIR%\OUTPUTNUMBER%
echo Output will be found at %OUTPUTPATH%
mkdir %OUTPUTPATH%

if NOT '%DoDBGEN%' == 'TRUE' goto :DBCREATE

rem
rem DBGEN invokes dbgen.exe in parallel
rem

echo Starting DBGEN of FlatFiles
for /1 %i in (1,1,%DBGEN_SEGMENTS%) do copy dists.dss
%FLATFILEDRIVE%\%FLATFILEDIR%\%i%\FLATFILESUBDIR%
Copy dists.dss %UPDATEDRIVE%%UPDATEDIR%
for /1 %i in (1,%DBGEN_PARALLELISM%,%DBGEN_SEGMENTS%)
do call :DBGEN_ITERATE %i

echo Starting DBGEN of Update Files
%UPDATEDRIVE%
cd %UPDATEDIR%
%HOMEDRIVE%\%HOMEDIR%\dbgen -U %UPDATE_SETS% -s
%SCALEFACTOR% -qf -C %UPDATE_SETS% -i
%RF1_PARALLELISM% -d %RF2_PARALLELISM%
2>%OUTPUTPATH%\dbgen_Update.out
%HOMEDRIVE%
cd %HOMEDIR%
goto :DBCREATE

:DBGEN_ITERATE
set FIRST=%1
set /a LAST=%FIRST%+%DBGEN_PARALLELISM%-1
echo DBGening sets %FIRST% through %LAST%
for /1 %i in (%FIRST%,1,%LAST%) do start cmd /C Setup DBGEN %i
semaphore -wait DBGEN -count %DBGEN_PARALLELISM%
goto :EOF

:DBGEN
%FLATFILEDRIVE%
cd \%FLATFILEDIR%\%FLATFILESUBDIR%
%HOMEDRIVE%\%HOMEDIR%\dbgen -qf -s%SCALEFACTOR% -
C%DBGEN_SEGMENTS% -S%2 2>%OUTPUTPATH%\dbgen_%2%.out
%HOMEDRIVE%
cd %HOMEDIR%
semaphore -release DBGEN
goto :EOF

:DBCREATE
if NOT '%DoDBCREATE%' == 'TRUE' goto :BULKINSERT
rem
rem DBCREATE invokes the file %DBNAME%\CreateDatabase.sql
rem
echo Starting database creation

osql -Usa -P%PW% -Q"if exists (select * from sysdatabases where
name='%DB%')drop database %DB%" -o
%OUTPUTPATH%\DropDatabase.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -i %DB%\CreateDatabase.sql -o
%OUTPUTPATH%\CreateDatabase.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
```

```

rem osql -Usa -P%PW% -Q"sp_dboption %DB%,trunc',TRUE" -b
rem if ERRORLEVEL 1 goto :ERROR_EXIT
rem osql -Usa -P%PW% -Q"sp_dboption %DB%,'select into',TRUE" -b
rem if ERRORLEVEL 1 goto :ERROR_EXIT
rem osql -Usa -P%PW% -Q"sp_dboption %DB%,'torn',FALSE" -b
rem if ERRORLEVEL 1 goto :ERROR_EXIT

```

```

:BULKINSERT
if NOT '%DoBULKINSERT%' == 'TRUE' goto :CLEANUP
rem
rem BULKINSERT starts a process per %DBGEN_PARALLELISM%
rem Each process inserts one or more segments
rem

```

```

osql -Usa -P%PW% -Q"sp_dboption %DB%,trunc',TRUE" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -Q"sp_dboption %DB%,'select into',TRUE" -b
if ERRORLEVEL 1 goto :ERROR_EXIT

```

```

echo Dropping and Re-Creating Tables
osql -Usa -P%PW% -d%DB% -Q"if exists (select * from sysobjects where
name = 'LOADTIMES') drop table LOADTIMES" -b -o
%OUTPUTPATH%\Drop_Loadtimes.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"create table LOADTIMES(STEP
char(35),TIMESTAMP datetime)" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('LOAD
begin',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Create
Tables begin',getdate())" -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
for %%i in (REGION NATION SUPPLIER PARTSUPP PART
CUSTOMER ORDERS LINEITEM) do osql -Usa -P%PW% -d%DB% -
Q"drop table %%i" -o %OUTPUTPATH%\Drop_Table_%%i.out
osql -Usa -P%PW% -d%DB% -i%DB%\CreateTables.sql -o
%OUTPUTPATH%\CreateTables.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Create
Tables end',getdate())" -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT

```

```

echo Starting bulk inserts
for %%i in (LINEITEM ORDERS CUSTOMER PART PARTSUPP
SUPPLIER) do call :BULKINSERTi %%i
echo for NATION and REGION
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values
('Nation/Region insert begin',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"bulk insert NATION from
'%FLATFILEDRIVE%\%FLATFILEDIR%\%FLATFILESUBDIR%\Natio
n.tbl' with (FieldTerminator = '|', RowTerminator = '\n',tablock)" -o
%OUTPUTPATH%\BulkInsert_Nation.out -b -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i%DB%\CreateNATIONIndexes.sql -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"bulk insert REGION from
'%FLATFILEDRIVE%\%FLATFILEDIR%\%FLATFILESUBDIR%\Regio
n.tbl' with (FieldTerminator = '|', RowTerminator = '\n',tablock)" -o
%OUTPUTPATH%\BulkInsert_Region.out -b -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i%DB%\CreateREGIONIndexes.sql -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values
('Nation/Region insert end',getdate())" -b -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
goto :CLEANUP

```

```

:BULKINSERTi

```

```

echo Starting bulk inserts for %%i
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('%1 bulk
insert begin',getdate())" -1 300
for /1 %%j in (1,1,%DBGEN_PARALLELISM%) do start cmd /C Setup
BULKINSERTn %1 %%j
semaphore -wait %1 -count %DBGEN_PARALLELISM%
echo Starting create indexes for %%1
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('%1
create index begin',getdate())" -b -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i %DB%\Create%1Indexes.sql -o
%OUTPUTPATH%\Create%1Indexes.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('%1
end',getdate())" -b -1 300
if ERRORLEVEL 1 goto :ERROR_EXIT
goto :EOF

```

```

:BULKINSERTn
for /1 %%k in
(%3,%DBGEN_PARALLELISM%,%DBGEN_SEGMENTS%) do call
:BULKINSERTn2 BULKINSERTn2 %2 %%k
semaphore -release %2
goto :EOF

```

```

:BULKINSERTn2
osql -Usa -P%PW% -d%DB% -Q"bulk insert %2 from
'%FLATFILEDRIVE%\%FLATFILEDIR%\%3%FLATFILESUBDIR%\%2.
tbl.%3' with (FieldTerminator = '|', RowTerminator = '\n',tablock)" -o
%OUTPUTPATH%\BulkInsert_%2_%3.out -b -1 300
goto :EOF

```

```

:CLEANUP
if NOT '%DoCLEANUP%' == 'TRUE' goto :BACKUP
rem
rem CLEANUP sets statistics and lock options
rem

```

```

echo Setting Cleanup Options

```

```

osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Cleanup
start',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_createstats @fullscan='fullscan'" -o
%OUTPUTPATH%\CreateStats.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_dboption '%DB%',auto create
statistics,'OFF'" -o %OUTPUTPATH%\AutoCreateStats.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_dboption '%DB%',auto update
statistics,'OFF'" -o %OUTPUTPATH%\AutoUpdateStats.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_indexoption 'LINEITEM',
'disallowpagelocks', 'FALSE'" -o
%OUTPUTPATH%\DisallowPageLocksLINEITEM.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_indexoption 'ORDERS',
'disallowpagelocks', 'FALSE'" -o
%OUTPUTPATH%\DisallowPageLocksOrders.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_indexoption 'LINEITEM',
'disallowrowlocks', 'FALSE'" -o
%OUTPUTPATH%\DisallowrowLocksLINEITEM.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"sp_indexoption 'ORDERS',
'disallowrowlocks', 'FALSE'" -o
%OUTPUTPATH%\DisallowrowLocksOrders.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT

```

```

osql -Usa -P%PW% -d%DB% -Q"sp_dboption 'tpch100g',torn page
detection',FALSE" -o %OUTPUTPATH%\TornPage.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i CreateRF1Proc.sql -o
%OUTPUTPATH%\CreateRF1Proc.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i CreateRF2Proc.sql -o
%OUTPUTPATH%\CreateRF2Proc.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"exec sp_tableoption
'NATION','pintable',1" -o %OUTPUTPATH%\pinNATION.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"exec sp_tableoption
'REGION','pintable',1" -o %OUTPUTPATH%\pinREGION.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
rem
rem osql -Usa -P%PW% -d%DB% -Q"exec sp_tableoption
'SUPPLIER','pintable',1" -o %OUTPUTPATH%\pinSUPPLIER.out -b
rem if ERRORLEVEL 1 goto :ERROR_EXIT

osql -Usa -P%PW% -Q"sp_dboption %DB%, 'trunc',FALSE" -b
>%OUTPUTPATH%\dboptionTrunOFF.out
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -Q"sp_dboption %DB%, 'select',FALSE" -b
>%OUTPUTPATH%\dboptionSelOFF.out
if ERRORLEVEL 1 goto :ERROR_EXIT

osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Cleanup
end',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT

:BACKUP
rem
rem BACKUP is the final step, using a script
rem

if NOT '%DoBACKUP%' == 'TRUE' goto :ENDSTATS

echo Starting Backup
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Backup
start',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT
echo Deleting LoadFg filegroup
osql -Usa -P%PW% -d%DB% -i %DB%\DelLoadFG.sql -o
%OUTPUTPATH%\DelLoadFG.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -i %DB%\Backup.sql -o
%OUTPUTPATH%\Backup.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('Backup
end',getdate())" -b
if ERRORLEVEL 1 goto :ERROR_EXIT

:ENDSTATS

if NOT '%DoENDSTATS%' == 'TRUE' goto :EOF

osql -Usa -P%PW% -d%DB% -Q"insert into LOADTIMES values ('LOAD
end',getdate())"
osql -Usa -P%PW% -d%DB% -Q"select TIMESTAMP from LOADTIMES
where STEP='LOAD end'" -o %OUTPUTPATH%\LoadEND.out
bcp %DB%\LOADTIMES out %OUTPUTPATH%\LOADTIMES.bcp -Usa
-P%PW% -n
echo Last step is to run Francois' dbtables-ms.sql script
osql -Usa -P%PW% -d%DB% -i dbtables-ms.sql -o
%OUTPUTPATH%\dbtables-ms.out
osql -Usa -P%PW% -d%DB% -i SetupReport.sql -o
%OUTPUTPATH%\SetupReport.out
rem echo Optional step to check database validity

```

```

rem osql -Usa -P%PW% -dtpch300g -Q"dbcc checkdb('tpch300g') with
PHYSICAL_ONLY" -o %OUTPUTPATH%\CheckDb.out
rem echo Optional, and very expensive, step to check LINEITEM and
ORDERS validity
rem osql -Usa -P%PW% -dtpch300g -Q"dbcc checktable('LINEITEM')" -o
%OUTPUTPATH%\CheckLINEITEM.out
rem osql -Usa -P%PW% -dtpch300g -Q"dbcc checktable('ORDERS')" -o
%OUTPUTPATH%\CheckORDERS.out
echo Done! Check for output in %OUTPUTPATH%
goto :EOF

```

```

:ERROR_EXIT
echo Setup aborted due to errors
echo Check output in %OUTPUTPATH%
exit /B

```

F.2 Run.cmd

```

echo off

rem
rem Modify the following parameters for your configuration
rem
rem This version pulls the Update Files from
rem %UPDRIVE%<segment>%UPDRIVE%
rem

set DB=tpch100g
set HOMEDRIVE=C:
set HOMEDIR=\HP_TPCH_KIT\Run
set OUTPUTDRIVE=C:
set OUTPUTDIR=HP_TPCH_KIT\Output
set UPDRIVE=Z:
set UPDRIVE=\UF_Flatfiles
set UPDATESET=7
set UPDATESEGMENTS=64
set SEED=222024240
set SCALEFACTOR=100
set STREAMS=5

set DoRESTORE=FALSE
set DoSETUP=TRUE
set DoPOWER=TRUE
set DoPOWERRefresh=TRUE
set DoPOWERStream0=TRUE
set DoTHROUGHPUT=TRUE

%HOMEDRIVE%
cd %HOMEDIR%

if '%1' == 'RF1' goto RF1
if '%1' == 'RF2' goto RF2
if '%1' == 'THROUGHPUT_STREAM' goto :THROUGHPUT_STREAM

echo Checking for existence of HOMEDIR and OUTPUTDIR
if NOT EXIST %HOMEDRIVE%\%HOMEDIR% goto :ERROR_EXIT
if NOT EXIST %OUTPUTDRIVE%\%OUTPUTDIR% goto :ERROR_EXIT

set OUTPUTNUMBER=1
:OUTPUTLOOP
if NOT EXIST
%HOMEDRIVE%\%OUTPUTDIR%\%OUTPUTNUMBER% goto
:OUTPUTLOOPEND
set /a OUTPUTNUMBER=%OUTPUTNUMBER%+1
goto :OUTPUTLOOP
:OUTPUTLOOPEND

```

```

set
OUTPUTPATH=%OUTPUTDRIVE%%OUTPUTDIR%\%OUTPUTNUM
BER%
echo Output will be found at %OUTPUTPATH%
mkdir %OUTPUTPATH%
rem
rem Create the TIMES table
rem
osql -E -d%DB% -Q"if exists (select * from sysindexes where name =
'TIMES') drop table TIMES"
osql -E -d%DB% -Q"create table TIMES(QUERY char(5),STREAM
int,START datetime)"

if NOT '%DoRESTORE%' == 'TRUE' goto :SETUP

rem
rem Use the Restore.sql script in SETUP
rem

echo Starting Restore
osql -E -i ..\Setup\%DB%\Restore.sql -b
osql -E -d%DB% -i ..\Setup\CreateRF1Proc.sql
osql -E -d%DB% -i ..\Setup\CreateRF2Proc.sql
if ERRORLEVEL 1 goto :ERROR_EXIT

:SETUP
if NOT '%DoSETUP%' == 'TRUE' goto :POWER

rem
rem Create the Power and five Throughput Streams
rem

echo QGening the Power and Throughput Streams
pushd templates
for /1 %%i in (0,1,%STREAMS%) do call :SETUP1 %%i
for /1 %%i in (1,1,%STREAMS%) do echo insert into TIMES values
('QXX',%%i,getdate())>> %HOMEDIR%\Stream%%i.sql
for /1 %%i in (1,1,%STREAMS%) do echo go>>
%HOMEDIR%\Stream%%i.sql
for /1 %%i in (0,1,%STREAMS%) do copy %HOMEDIR%\Stream%%i.sql
%OUTPUTPATH%
popd
goto :SETUP2

:SETUP1
echo Qgening using seed %SEED%
%HOMEDIR%\qgen -s %SCALEFACTOR% -r %SEED% -p%1 >
%HOMEDIR%\Stream%1.sql
set /a SEED=%SEED% + 1
goto :EOF

:SETUP2

rem
rem Begin POWER run
rem

rem
rem Execute the RF1 Transaction set in parallel
rem

:POWER
if NOT '%DoPOWER%' == 'TRUE' goto :THROUGHPUT
osql -E -d%DB% -Q"truncate table TIMES"
echo Beginning Power Run
if NOT '%DoPOWERRefresh%' == 'TRUE' goto :STREAM0

echo Running the RF1s

```

```

set /a UPDATE_SEGMENT=%1+%UPDATESET%
osql -E -d%DB% -Q"insert into TIMES values ('RF1',0,getdate())"
for /1 %%i in (1,1,%UPDATESEGMENTS%) do start /HIGH cmd /C Run
RF1 %UPDATE_SEGMENT% %%i
semaphore -wait RF1 -count %UPDATESEGMENTS%

rem
rem Execute the PowerRun Queries
rem

:STREAM0
if NOT '%DoPOWERStream0%' == 'TRUE' goto :STREAM0_DONE
echo Running Stream0
osql -E -d%DB% -iStream0.sql -o %OUTPUTPATH%\Stream0.out -b
if ERRORLEVEL 1 goto :ERROR_EXIT
:STREAM0_DONE

rem
rem Execute the RF2 Transaction set in Parallel
rem

if NOT '%DoPOWERRefresh%' == 'TRUE' goto :POWERDONE
echo Running the RF2s
osql -E -d%DB% -Q"insert into TIMES values ('RF2',0,getdate())"
for /1 %%i in (1,1,%UPDATESEGMENTS%) do start /abovenormal cmd /C
Run RF2 %UPDATE_SEGMENT% %%i
semaphore -wait RF2 -count %UPDATESEGMENTS%

:POWERDONE
osql -E -d%DB% -Q"insert into TIMES values ('QXX',0,getdate())" -I300

rem
rem Execute the THROUGHPUT Run
rem

:THROUGHPUT
if NOT '%DoTHROUGHPUT%' == 'TRUE' goto :DONE
echo Running the Throughput Streams

for /1 %%i in (1,1,%STREAMS%) do start /abovenormal cmd /C Run
THROUGHPUT_STREAM %%i
osql -E -d%DB% -Q"insert into TIMES values ('RF1',1,getdate())"
semaphore -wait THROUGHPUT_QUERIES -count %STREAMS%

for /1 %%j in (1,1,%STREAMS%) do call :THROUGHPUT_REFRESH
%%j
goto :DONE

:THROUGHPUT_STREAM
osql -E -d%DB% -iStream%2.sql -o %OUTPUTPATH%\Stream%2.out
semaphore -release THROUGHPUT_QUERIES
goto :EOF

:THROUGHPUT_REFRESH
if %1 neq 1 osql -E -d%DB% -Q"insert into TIMES values
('RF1',%1,getdate())"
set /a UPDATE_SEGMENT=%1+%UPDATESET%
for /1 %%i in (1,1,%UPDATESEGMENTS%) do start /abovenormal cmd /C
Run RF1 %UPDATE_SEGMENT% %%i
semaphore -wait RF1 -count %UPDATESEGMENTS%
osql -E -d%DB% -Q"insert into TIMES values ('RF2',%1,getdate())"
for /1 %%i in (1,1,%UPDATESEGMENTS%) do start /abovenormal cmd /C
Run RF2 %UPDATE_SEGMENT% %%i
semaphore -wait RF2 -count %UPDATESEGMENTS%
osql -E -d%DB% -Q"insert into TIMES values ('RFX',%1,getdate())"
goto :EOF

rem
rem Final Step -- Write out completion to Log
rem

```

```

:DONE
osql -E -d%DB% -iReport.sql -o%OUTPUTPATH%\Report.out -w120
bcp %DB%..TIMES out %OUTPUTPATH%\TIMES.bcp -Usa -P -n
rem ----- Get SQL Configuration
osql -E -Q"sp_configure 'show advanced',1"
osql -E -Q"reconfigure with override"
osql -E -n -s, -w300 -Q"sp_configure" -o%OUTPUTPATH%\configure.out
rem ----- Get SQL Version
osql -E -n -w300 -e -Q"select @@version" -
o%OUTPUTPATH%\sqlversion.out
osql -E -n -w300 -e -Q"sp_helpdb %DB%" -o%OUTPUTPATH%\db.out
osql -E -n -w300 -e -Q"sp_dboption %DB%" -
o%OUTPUTPATH%\dboption.out
osql -E -n -w300 -e -Q"sp_helpsort" -o%OUTPUTPATH%\sort.out
osql -E -n -w300 -e -d%DB% -ilocking.sql -
o%OUTPUTPATH%\locking.out
rem ----- Get query plans
@echo set showplan_all on >%OUTPUTPATH%\stream.sql
@echo go >>%OUTPUTPATH%\stream.sql
type stream0.sql >>%OUTPUTPATH%\stream.sql
osql -E -d%DB% -n -w3000 -i%OUTPUTPATH%\stream.sql -
o%OUTPUTPATH%\plans.out

```

```

rem ----- Get Boot.ini
TYPE c:\boot.ini >%OUTPUTPATH%\boot.ini
reg query "HKLM\SYSTEM\CurrentControlSet\Control\Session
Manager\IO System" /s >%OUTPUTPATH%\session.reg
reg query
"HKLM\SYSTEM\CurrentControlSet\Services\hpqcissb\Parameters" /s
>%OUTPUTPATH%\array.reg
reg query "HKLM\SYSTEM\CurrentControlSet\Control\PriorityControl" /s
>%OUTPUTPATH%\priority.reg

```

```

echo Done! Output can be found at %OUTPUTPATH%
goto :EOF

```

```

rem
rem Subroutine for Executing RF1s
rem called from RF1 and THROUGHPUT_RF1
rem

:RF1
rem osql -E -l 120 -d%DB% -Q"exec RF1
'%UPDATEDRIVE%% UPDATEDIR%',%2,%3,%SCALEFACTOR%" -o
%OUTPUTPATH%\RF1_%2_%3.out
osql -E -l 120 -d%DB% -Q"exec RF1
'%UPDATEDRIVE%% UPDATEDIR%',%2,%3,100" -o
%OUTPUTPATH%\RF1_%2_%3.out
semaphore -release RF1
goto :EOF

```

```

rem
rem Subroutine for Executing RF2s
rem called from RF2 and THROUGHPUT_RF2
rem

:RF2
rem osql -E -l 120 -d%DB% -Q"exec RF2
'%UPDATEDRIVE%% UPDATEDIR%',%2,%3,%SCALEFACTOR%" -o
%OUTPUTPATH%\RF2_%2_%3.out
osql -E -l 120 -d%DB% -Q"exec RF2
'%UPDATEDRIVE%% UPDATEDIR%',%2,%3,100" -o
%OUTPUTPATH%\RF2_%2_%3.out
semaphore -release RF2
goto :EOF

```

```

:ERROR_EXIT
echo Run aborted due to error
echo Check output in %OUTPUTPATH%
exit /B

```

F.3 Semaphore.cpp

```

#define _WIN32_WINNT 0x0400
#include <windows.h>
#include <string.h>
#include <iostream.h>
#include <stdlib.h>
#include <stdio.h>
#include <assert.h>
void main(int argc, char **argv)
{
typedef enum { eUnknown, eWait, eSignal, eRelease, eWaitList,
eWaitGroup } OPERATION;
OPERATION eOP = eUnknown;
int iCount;
int i;
HANDLE hSemaphore;
HANDLE *pHandles;
SYSTEMTIME Time;
if (argc < 3)
goto usage;
if (_stricmp(argv[1], "-wait") == 0)
eOP = eWait;
else if (_stricmp(argv[1], "-signal") == 0)
eOP = eSignal;
else if (_stricmp(argv[1], "-release") == 0)
eOP = eRelease;
else if (_stricmp(argv[1], "-waitlist") == 0)
eOP = eWaitList;
else if (_stricmp(argv[1], "-waitgroup") == 0)
eOP = eWaitGroup;
else goto usage;
if ((eOP == eWait) || (eOP == eRelease))
{
// argv[2] is the semaphore name
// if -count option specified, then there must be exactly 5 args
if ((argc == 5) && (_stricmp(argv[3], "-count") == 0))
{
iCount = atoi(argv[4]);
if (iCount < 1)
goto usage;
}
// check that
else if (argc != 3)
goto usage;
else
iCount = 1;
}
else if (eOP == eWaitGroup)
{
if ((argc != 5) || (_stricmp(argv[3], "-count") != 0))
goto usage;
iCount = atoi(argv[4]);
if (iCount < 1)
goto usage;
}
else
// eWaitList or eSignal
iCount = argc - 2;
if (eOP == eWait)
{
printf("semaphore name = %s\n", argv[2]);

```

```

printf( "semaphore count = %d\n", iCount );
hSemaphore = CreateSemaphore( NULL, 0, 200000000,
argv[2] );
if (hSemaphore == NULL)
{
DWORD dwError = GetLastError();
cout << ""ERROR" CreateSemaphore returned "
<< dwError << endl;
exit(EXIT_FAILURE);
}
for (i=0; i<iCount; i++)
{
WaitForSingleObject( hSemaphore, INFINITE );
GetLocalTime( &Time );
printf( "%4.4d-%2.2d-%2.2d %2.2d:%2.2d:%2.2d
- released\n",
Time.wYear, Time.wMonth,
Time.wDay, Time.wHour, Time.wMinute, Time.wSecond );
}
CloseHandle( hSemaphore );
}
else if ((eOP == eWaitGroup) || (eOP == eWaitList))
{
char **szEventNames;
szEventNames = new char*[iCount];
char szTmp[128];
printf( "event-list = " );
for (i=0; i<iCount; i++)
{
if (eOP == eWaitGroup)
{
wsprintf( szTmp, "%s.%d", argv[2],
i+1 );
szEventNames[i] = new
char[strlen(szTmp)+1];
strcpy( szEventNames[i], szTmp );
}
else
{
szEventNames[i] = new
char[strlen(argv[i+2])+1];
strcpy( szEventNames[i], argv[i+2] );
}
printf( " %s", szEventNames[i] );
}
printf( "\n" );
pHandles = new HANDLE[iCount-1];
for (i=0; i<iCount; i++)
{
pHandles[i] = CreateEvent( NULL, TRUE /*
manual reset */, FALSE /* initially non-sigaled */, szEventNames[i] );
if (pHandles[i] == NULL)
{
DWORD dwError = GetLastError();
cout << ""ERROR" CreateEvent
returned " << dwError << endl;
exit(EXIT_FAILURE);
}
}
for (i=iCount; i>0;i--)
{
int idx = WaitForMultipleObjects( i, pHandles,
FALSE /* wait for all */, INFINITE ) - WAIT_OBJECT_0;
GetLocalTime( &Time );
printf( "%4.4d-%2.2d-%2.2d %2.2d:%2.2d:%2.2d
- sigaled: %s\n",
Time.wYear, Time.wMonth,
Time.wDay, Time.wHour, Time.wMinute, Time.wSecond, szEventNames[idx] );
HANDLE hTmp = pHandles[idx];
pHandles[idx] = pHandles[i-1];

```

```

pHandles[i-1] = hTmp;
char szTmp = szEventNames[idx];
szEventNames[idx] = szEventNames[i-1];
szEventNames[i-1] = szTmp;
}
for (i=0; i<iCount; i++)
CloseHandle( pHandles[i] );
}
else if (eOP == eRelease)
{
hSemaphore = OpenSemaphore(
SEMAPHORE_MODIFY_STATE, FALSE, argv[2] );
if (hSemaphore == NULL)
{
DWORD dwError = GetLastError();
cout << ""ERROR" OpenSemaphore returned "
<< dwError << endl;
exit(EXIT_FAILURE);
}
if (!ReleaseSemaphore( hSemaphore, iCount, NULL ))
{
DWORD dwError = GetLastError();
cout << ""ERROR" ReleaseSemaphore returned
" << dwError << endl;
exit(EXIT_FAILURE);
}
CloseHandle( hSemaphore );
}
else if (eOP == eSignal)
{
for (i=0; i<iCount; i++)
{
HANDLE hHandle = OpenEvent(
EVENT_MODIFY_STATE, FALSE, argv[i+2] );
if (hHandle == NULL)
{
DWORD dwError = GetLastError();
cout << ""ERROR" OpenEvent
returned " << dwError << endl;
exit(EXIT_FAILURE);
}
SetEvent( hHandle );
CloseHandle( hHandle );
}
}
exit(EXIT_SUCCESS);
// syntax was bad; show usage and quit
usage:
printf(
"Semaphore Utility - Ver. 1.2 - 26-Jul-99\n"
"Copyright (C) Microsoft Corp 1999. All rights reserved.\n\n"
"usage: \n"
" semaphore { -wait | -release } <semaphore-name> [ -count
<count> ] \n"
" semaphore { -waitlist | -signal } <event-list> \n"
" semaphore -waitgroup <event-prefix> -count <count>\n"
"\n"
"<semaphore-name> == alpha-numeric identifier \n"
"<count> == integer > 0; default value = 1 \n"
"<event-list> == { <event-name> ... } \n"
"<event-name> == alpha-numeric identifier \n"
"<event-prefix> == alpha-numeric identifier \n"
"\n"
"There are two modes to choose from: a semaphore or a list
of events. \n"
"\n"
"Semaphore mode: \n"
"A semaphore is a single identifier with an associated count.
Each time \n"
"the semaphore is released, the count is decremented by one

```

(or the amount \n"
"specified). When the count reaches zero, the waiter
completes. If there \n"
"are multiple waiters on the same semaphore, each release
releases only \n"
"the number of waiters specified in count.\n"
"\n"
"List of Events: \n"
"A list of events (alpha-numeric tags) is specified for the
waiter. The \n"
"waiter doesn't complete until all of the events have been
signaled. A \n"
"given event may be signaled more than once. There are two
}

ways to define \n"
"the list of events, either explicitly (-waitlist) by naming all of
them or \n"
"implicitly (-waitgroup) with a prefix and a count. Using the -waitgroup
\n"
"option, you provide an alpha-numeric tag which is used as
the prefix for a \n"
"group of events. The event names are generated by
concatenating the prefix \n"
"with \"<n>\", where <n> is 1 to the specified count. \n"
);
exit(EXIT_FAILURE);
}

Appendix G: Price Quotations

February 24, 2003

Hewlett-Packard
Company
Daniel Pol
20555 SH 249
Houston, TX 77070

Mr. Pol:

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-H benchmark testing.

All pricing shown is in US Dollars (\$).

Part Number	Description	Unit Price	Quantity	Price
810-00652	SQL Server 2000 Enterprise Edition <i>Server license only - No CALs</i> <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 26% discount from the</i> <i>retail unit price of \$7,499.</i>	\$5,549	1	\$5,549
359-00532	SQL Server 2000 Client License <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 18% discount from the</i> <i>retail unit price of \$179.</i>	\$146	50	\$7,300
N/A	Windows Server 2003, Enterprise Server <i>Server license only - No CALs</i> <i>Discount Schedule: Open Program - No Level</i> <i>Unit Price reflects a 18% discount from the</i> <i>retail unit price of \$3,299.</i>	\$2,699	1	\$2,699
659-00844	Visual Studio Professional <i>No discounts applied</i>	\$1,079	1	\$1,079
PRO-PRORS-16U-01	Database Server Support Package <i>1 Year Term</i>	\$1,950	3	\$5,850

Some products may not be currently orderable but will be available through Microsoft's normal distribution channels by February 28, 2003.

Prices for the Microsoft Windows .Net products are considered Not to Exceed pricing. Actual prices will be announced when the Microsoft .Net products are available.

This quote is valid for the next 90 days.

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 936 7329
<http://www.microsoft.com/>

Microsoft

February 28, 2003

Hewlett-Packard
Company
Daniel Pol
20555 SH 249
Houston, TX 77070

Mr. Pol:

Here is the information you requested regarding pricing for several Microsoft products to be used in conjunction with your TPC-H benchmark testing.

All pricing shown is in US Dollars (\$).

Part Number	Description	Unit Price	Quantity	Price
254-00170	Visual C++ Standard <i>No discounts applied</i>	\$109	1	\$109

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: PCjare0328026807

Please include this Reference ID in any correspondence regarding this price quote.