



HP ProLiant DL585 G2

TPC-H Rev. 2.6.0

Report Date:
Apr 25, 2007

Total System Cost

Composite Query per Hour Metric

Price / Performance

\$143,736 USD

14,772.9
QphH@1000GB

\$9.73 USD
\$/ QphH@1000GB

Database Size

Database Manager

Operating System

Other Software

Availability Date

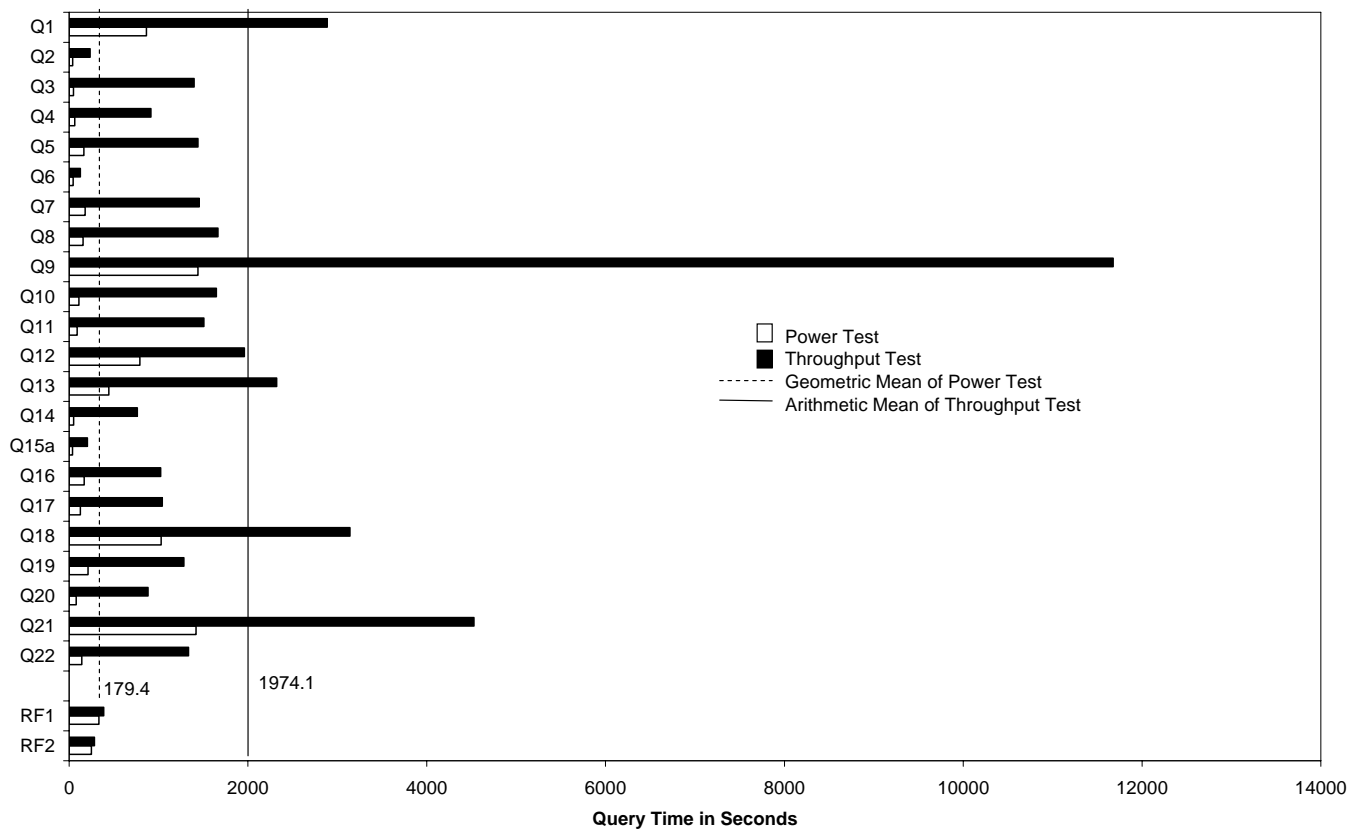
1000GB

**Microsoft SQL Server
2005 Enterprise x64
Edition**

**Windows Server
2003, Enterprise
x64 Edition**

**Visual C++
Visual Basic**

Apr 25, 2007



Database Load Time = 10:40:41

Load Included Backup: Y

Total Data Storage / Database Size = 7.85

RAID (Base tables only): N

RAID (Base tables and auxiliary data structures): N

RAID (All): N

System Configuration:

Processors/Cores/Threads: 4/8/8 2.8 GHz DC AMD 8220SE

Memory : 32 GB memory

Disk Controllers : 6x Smart Array P800, 1x Smart Array P600, 1x Smart Array E500

Disks : 200x 36 GB 15K rpm SFF SAS drives (external)

4x 146 GB 10k rpm SFF SAS drives + 2x 36 GB 15k rpm SFF SAS drives

Total Disk Storage: 7856 GB

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

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Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
Server Hardware						
Brand Pricing						
HP DL585R02 CTO Chassis	418633-B21	1	3,914	1	3,914	
HP O8220 PC5300 DL585 G2 2P FIO Kit	413934-L21	1	5,053	1	5,053	
HP O8220 PC5300 DL585G2 2P Kit	413934-B21	1	5,349	1	5,349	
HP 4GB Reg PC2-5300 2x2GB Kit	408853-B21	1	1,099	8	8,792	
HP s7540 17in CRT Monitor	PF997AA#ABA	1	139	1	139	
HP 3y 4h 24x7 ProLiant DL58x HW Support	U4608E	1	1,575	1		1,575
Subtotal					23,247	1,575
Storage						
HP Smart Array P600 Controller	337972-B21	1	729	1	729	
HP Smart Array E500 Controller	435129-B21	1	649	1	649	
HP Smart Array P800 Controller	381513-B21	1	1,099	6	6,594	
HP StgWks 70 Modular Smart Arry ALL	418800-B21	1	3,199	8	25,592	
HP 36GB 15K SAS Single Port SFF Hard Drive (internal)	431933-B21	1	369	2	738	
HP 36GB 15K SAS Single Port SFF Hard Drive (external)	431933-B21	1	369	200	73,800	
146GB 10K SAS 2.5 HP HDD (internal)	431958-B21	1	439	4	1,756	
HP 5642 Unassembled Rack	358254-B21	1	865	1	865	
HP StgWks 70 Modular Smart Arry ALL (10%)	418800-B21	1	3,199	2		6,398
HP 36GB 15K SAS Single Port SFF Hard Drive (10%)	431933-B21	1	369	20		7,380
Subtotal					110,723	13,778
Hardware and Maintenance Discount						
Large Purchase and Net 30 discount	16.0%	1			(\$21,435)	(\$2,456)
Hardware Subtotal					112,535	12,897
Software						
SQL Server 2005 Enterprise x64 Edition with 25 CALs	810-04779	Microsoft	2	8,487	1	8,487
SQL Server 2005 Client License	359-01911	Microsoft	2	156	45	7,020
Windows Server 2003 Enterprise x64 Edition	P72-00274	Microsoft	2	2,334	1	2,334
Microsoft Problem Resolution Services		Microsoft	2	245	1	245
Microsoft Visual C++ .NET Standard 2003	254-00170	Microsoft	2	109	1	109
Microsoft Visual Basic .Net Standard 2003	046-00856	Microsoft	2	109	1	109
Subtotal					18,059	245
Total					\$130,594	\$13,142

Three-Year Cost of Ownership: \$143,736 USD**QpH @ 1000GB: 14772.9****\$/ QpH @ 1000GB: \$9.73 USD**

Pricing: 1=HP Direct: 800-203-6748; 2=Microsoft

Note 1 = Discount based on HP Direct guidance with large purchase and Net 30 discount. Applies to all lines with 1 in pricing column.

* = These components are not immediately orderable. See the FDR for more information.

Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc. (www.perfmetrics.com).

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.



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Numerical Quantities

Measurement Results:

Database Scale Factor	= 1000
Total Data Storage / Database Size	= 7.85
Start of Database Load	= 2007-04-04 00:21:15.890
End of Database Load	= 2007-04-04 11:01:57.357
Database Load Time	= 10:40:41
Query Streams for Throughput Test	= 7
TPC-H Power	= 20,065.6
TPC-H Throughput	= 10,876.3
TPC-H Composite Query-per-Hour Metric (QphH@1000GB)	= 14,772.9
Total System Price Over 3 Years	= \$143,736 USD
TPC-H Price/ Performance Metric (\$/QphH@1000GB)	= \$9.73 USD

Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 50,973 seconds
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Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	404110157	4/4/2007	11:37:02	4/4/2007	13:45:19	2:08:18
Stream01	404110158	4/4/2007	13:49:29	4/5/2007	2:40:55	12:51:26
Stream02	404110159	4/4/2007	13:49:29	4/5/2007	1:45:27	11:55:58
Stream03	404110160	4/4/2007	13:49:29	4/5/2007	0:30:25	10:40:56
Stream04	404110161	4/4/2007	13:49:29	4/5/2007	2:17:02	12:27:32
Stream05	404110162	4/4/2007	13:49:30	4/5/2007	2:29:39	12:40:09
Stream06	404110163	4/4/2007	13:49:30	4/5/2007	1:18:02	11:28:32
Stream07	404110164	4/4/2007	13:49:30	4/5/2007	2:11:55	12:22:25
Refresh00		4/4/2007	11:31:28	4/4/2007	13:49:29	2:18:01
Refresh01		4/5/2007	2:40:55	4/5/2007	2:50:47	0:09:52
Refresh02		4/5/2007	2:50:48	4/5/2007	3:01:45	0:10:57
Refresh03		4/5/2007	3:01:46	4/5/2007	3:13:51	0:12:06
Refresh04		4/5/2007	3:13:52	4/5/2007	3:25:29	0:11:36
Refresh05		4/5/2007	3:25:29	4/5/2007	3:36:08	0:10:39
Refresh06		4/5/2007	3:36:09	4/5/2007	3:47:39	0:11:29
Refresh07		4/5/2007	3:47:40	4/5/2007	3:59:02	0:11:23



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TPC-H Timing Intervals (in seconds)

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream 00	863.1	39.3	48.7	64.1	164.7	44.6	180.3	156.9
Stream 01	882.6	131.2	817.6	67.7	1029.0	80.9	1318.2	1278.8
Stream 02	2790.1	279.2	238.6	2019.5	662.5	164.2	1834.4	2286.3
Stream 03	3796.7	181.8	1654.1	851.0	3842.8	151.9	2285.2	458.8
Stream 04	2270.6	119.9	48.9	567.4	679.3	73.5	279.7	3080.4
Stream 05	2086.1	293.1	1682.8	536.5	1336.6	148.8	1700.4	1380.8
Stream 06	4552.1	159.0	3607.2	579.2	992.1	140.0	2376.5	1979.7
Stream 07	3832.5	479.0	1738.0	1776.5	1532.2	110.1	394.7	1183.9
Min Qi	882.6	119.9	48.9	67.7	662.5	73.5	279.7	458.8
Max Qi	4552.1	479.0	3607.2	2019.5	3842.8	164.2	2376.5	3080.4
Avg Qi	2887.2	234.7	1398.2	914.0	1439.2	124.2	1455.6	1664.1
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	1440.3	110.7	88.8	791.7	444.0	49.7	37.9	168.7
Stream 01	17136.7	2228.5	3755.7	4064.4	1208.3	214.2	133.9	549.9
Stream 02	10785.9	1644.0	427.6	1357.7	2685.0	2759.6	362.4	916.8
Stream 03	8408.3	659.8	1278.1	1835.3	2484.5	194.0	134.6	733.7
Stream 04	11979.1	1712.7	673.2	2183.4	3019.4	397.3	276.9	1751.6
Stream 05	12299.2	2086.8	397.2	1971.1	3207.0	1172.8	228.8	760.9
Stream 06	9797.4	958.0	3080.8	1517.4	1786.2	175.4	209.6	754.3
Stream 07	11339.3	2241.9	941.4	781.2	1852.5	422.5	94.2	1709.0
Min Qi	8408.3	659.8	397.2	781.2	1208.3	175.4	94.2	549.9
Max Qi	17136.7	2241.9	3755.7	4064.4	3207.0	2759.6	362.4	1751.6
Avg Qi	11678.0	1647.4	1507.7	1958.6	2320.4	762.3	205.8	1025.2
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	125.1	1029.4	211.4	78.4	1419.0	140.9	334.2	249.2
Stream 01	388.7	3642.7	1648.7	1425.3	4133.7	149.3	311.6	280.3
Stream 02	984.3	3053.5	841.2	237.5	3648.9	2978.3	373.2	283.9
Stream 03	588.2	2417.8	757.8	1169.5	3143.8	1428.5	480.2	245.0
Stream 04	3022.5	2744.1	1388.1	104.6	7686.1	793.4	386.6	309.6
Stream 05	1585.6	4082.6	1393.2	1314.1	4412.1	1532.7	380.3	258.4
Stream 06	325.9	2248.9	1998.0	997.8	2323.4	753.1	376.5	312.3
Stream 07	387.8	3788.8	964.2	927.3	6347.3	1700.5	391.6	290.6
Min Qi	325.9	2248.9	757.8	104.6	2323.4	149.3	311.6	245.0
Max Qi	3022.5	4082.6	1998.0	1425.3	7686.1	2978.3	480.2	312.3
Avg Qi	1040.4	3139.8	1284.5	882.3	4527.9	1333.7	385.7	282.9