



# HP ProLiant DL585G1 4P

TPC-H Rev. 2.3.0

Report Date: Nov 4, 2005

Revision Date: Mar 29, 2006

Total System Cost

**\$96,638 USD**

Composite Query per Hour Metric

**12,600.3**  
QphH@100GB

Price / Performance

**\$7.67 USD**  
\$ / QphH@100GB

Database Size

**100GB**

Database Manager

**Microsoft SQL Server 2005 Enterprise Edition**

Operating System

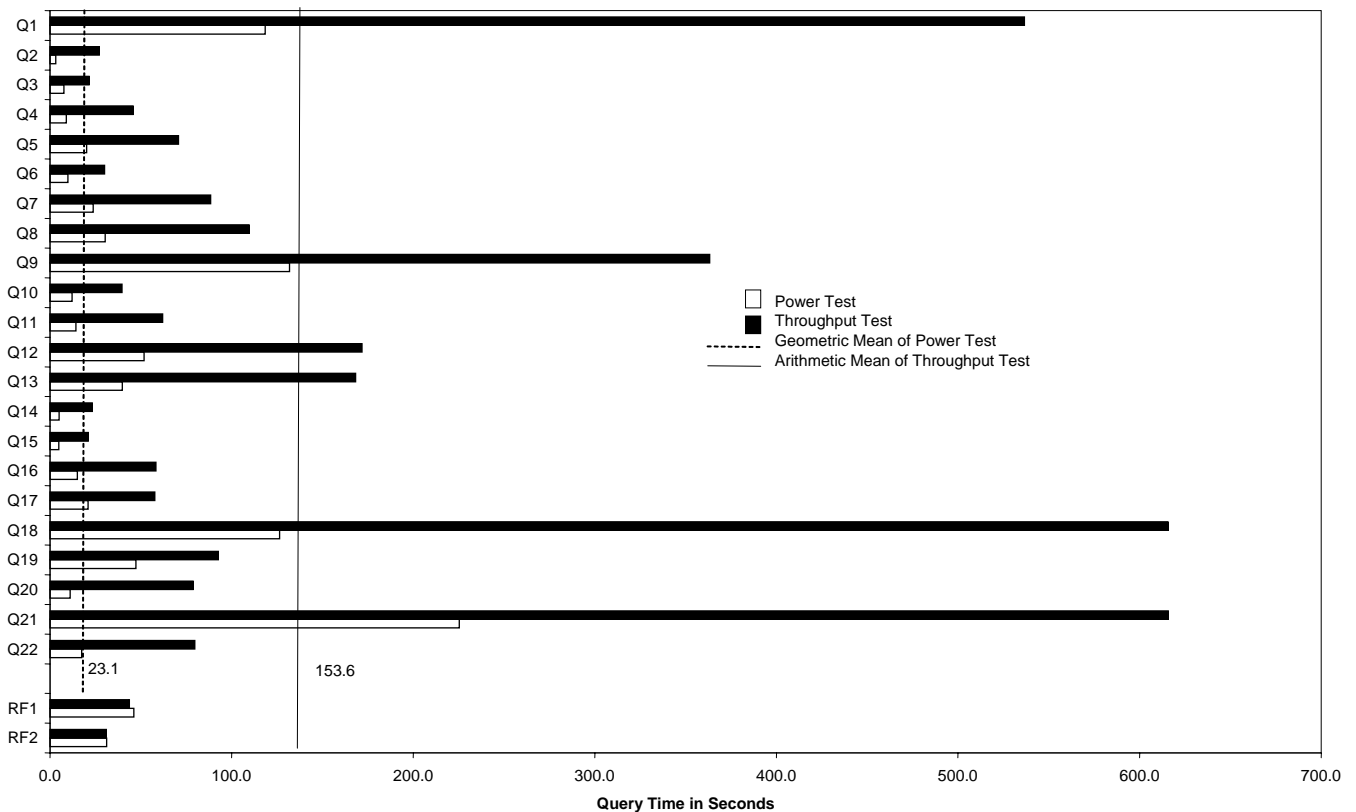
**Windows Server 2003, Enterprise Edition**

Other Software

**Visual C++ Visual Basic**

Availability Date

**Nov 7, 2005**



Database Load Time = 1:18:12

Load Included Backup: N

Total Data Storage / Database Size = 30.24

RAID (Base tables only): N

RAID (Base tables and auxiliary data structures): N

RAID (All): N

### System Configuration:

**Processors/Cores/Threads :** 4/8/8 2.4 GHz DC AMD Opteron w/ 1M Cache

**Memory :** 64 GB memory

**Disk Controllers :** 8x Smart Array P600

**Disks :** 80x 36 GB 10K rpm SAS drives (external)

4x 36 GB 15k rpm SCSI drives (internal)

**Total Disk Storage:** 3024 GB

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



**HP ProLiant DL585**  
**2.4GHz 4P DC**

TPC-H Rev. 2.3.0

Report Date: 4-Nov-05

Revision Date: 29-Mar-06

Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
ProLiant DL585 R01 O2.4GHz (1 MB) x 2	397841-001	1	10,399	1	10,399	
- 2 GB PC2700 DDR, Integrated Smart Array Controller 5i,						
- Embedded NC7782 Dual Port PCI-X 10/100/1000T Gigabit NIC						
HP DC 2.4/1000 PC2700 DL585 Opt Kit	397843-B21	1	3,699	2	7,398	
HP 4GB Reg PC2700 2x2GB Memory	371049-B21	1	1,499	16	23,984	
HP s7540 17in CRT Monitor	PF997AA#ABA	1	139	1	139	
HP PS/2 Scroll Mouse Carbonite	DG169AV	1	5	1	5	
PS/2 Standard Keyboard	DG170AV#ABA	1	10	1	10	
HP 5642 Unassembled Rack	358254-B21	1	689	1	689	
3YR 24X7 4HR 500 SERIES SVR	U4608E	1	1,575	1		1,575
<b>Subtotal</b>					<b>42,624</b>	<b>1,575</b>
<b>Storage</b>						
HP SMART Array P600 3G SAS/SATA RAID Controller	337972-B21	1	799	8	6,392	
HP StorageWorks MSA50 Disk Enclosure	364430-B21	1	1,899	8	15,192	
HP 36GB 15K U320 Pluggable Hard Drive (internal)	286776-B22	1	269	4	1,076	
HP 36GB 10K SAS Single Port SFF Hard Drive	375859-B21	1	299	80	23,920	
HP 36GB 10K SAS Single Port SFF Hard Drive (10% spare)	375859-B21	1	299	8	2,392	
HP StorageWorks MSA50 Disk Enclosure (10% spare)	364430-B21	1	1,899	2		3,798
<b>Subtotal</b>					<b>48,972</b>	<b>3,798</b>
<b>Hardware and Maintenance Discount</b>						
Large Purchase and Net 30 discount	16.0%	1			(\$14,655)	(\$860)
<b>Hardware Subtotal</b>					<b>76,941</b>	<b>4,513</b>
<b>Software</b>						
SQL Server 2005 Enterprise x64 Edition with 25 CALs	810-04793	Microsoft	2	8,487	1	8,487
SQL Server 2005 Client License	359-01911	Microsoft	2	156	25	3,900
Windows Server 2003 Enterprise x64 Edition	P72-00274	Microsoft	2	2,334	1	2,334
Microsoft Problem Resolution Services		Microsoft	2	245	1	245
Visual C++ Standard Edition	254-00170	Microsoft	2	109	1	109
Visual Basic 2003 .Net Professional	046-00856	Microsoft	2	109	1	109
<b>Subtotal</b>					<b>14,939</b>	<b>245</b>
<b>Total</b>					<b>\$91,880</b>	<b>\$4,758</b>

<b>Three-Year Cost of Ownership:</b>	<b>\$96,638</b>
<b>QpH @ 100GB:</b>	<b>12600.3</b>
<b>\$/ QpH @ 100GB:</b>	<b>\$7.67 USD</b>

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.

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.



## HP ProLiant DL585G1 4P

TPC-H Rev. 2.3.0

Report Date: **Nov 4, 2005**

Revision Date: **Mar 29, 2006**

### Numerical Quantities

#### Measurement Results:

Database Scale Factor	= 100
Total Data Storage / Database Size	= 30.24
Start of Database Load	= 2005-11-01 10:46:01.217
End of Database Load	= 2005-11-01 11:55:12.763
Database Load Time	= 1:18:12
Query Streams for Throughput Test	= 5
TPC-H Power	= 15,610.1
TPC-H Throughput	= 10,170.8
TPC-H Composite Query-per-Hour Metric (QphH@100GB)	= 12,600.3
Total System Price Over 3 Years	= \$96,638 USD
TPC-H Price/ Performance Metric (\$/QphH@100GB)	= \$7.67 USD

#### Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 3,893.5 seconds
--	-------------------

#### Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	1101115512	11/1/2005	14:12:05	11/1/2005	14:27:52	0:15:47
Stream01	1101115513	11/1/2005	14:28:24	11/1/2005	15:21:02	0:52:38
Stream02	1101115514	11/1/2005	14:28:24	11/1/2005	15:26:57	0:58:33
Stream03	1101115515	11/1/2005	14:28:24	11/1/2005	15:25:17	0:56:53
Stream04	1101115516	11/1/2005	14:28:24	11/1/2005	15:25:20	0:56:56
Stream05	1101115517	11/1/2005	14:28:24	11/1/2005	15:24:57	0:56:33
Refresh00		11/1/2005	14:11:19	11/1/2005	14:28:23	0:17:04
Refresh01		11/1/2005	15:26:57	11/1/2005	15:28:23	0:01:26
Refresh02		11/1/2005	15:28:23	11/1/2005	15:29:45	0:01:22
Refresh03		11/1/2005	15:29:45	11/1/2005	15:31:03	0:01:17
Refresh04		11/1/2005	15:31:03	11/1/2005	15:32:10	0:01:08
Refresh05		11/1/2005	15:32:10	11/1/2005	15:33:17	0:01:07



# HP ProLiant DL585G1 4P

TPC-H Rev. 2.3.0

Report Date: Nov 4, 2005

Revision Date: Mar 29, 2006

## TPC-H Timing Intervals (in seconds)

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream 00	118.5	3.2	7.7	9.0	20.2	9.8	23.8	30.4
Stream 01	433.6	22.7	23.9	40.0	74.0	27.1	94.4	85.1
Stream 02	582.7	41.9	18.0	25.8	70.2	61.3	97.7	154.8
Stream 03	527.2	28.8	11.1	80.6	62.8	23.1	110.4	106.7
Stream 04	523.8	23.8	28.8	36.5	85.5	20.5	74.5	90.1
Stream 05	615.9	18.5	25.6	46.0	61.7	18.2	65.3	111.7
Min Qi	433.6	18.5	11.1	25.8	61.7	18.2	65.3	85.1
Max Qi	615.9	41.9	28.8	80.6	85.5	61.3	110.4	154.8
Avg Qi	536.6	27.1	21.5	45.8	70.8	30.0	88.5	109.7
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	131.9	12.2	14.2	51.8	39.9	5.0	4.8	15.0
Stream 01	324.3	38.2	53.5	165.0	187.4	19.3	16.8	59.8
Stream 02	336.2	41.3	116.8	151.3	174.1	17.6	16.8	80.5
Stream 03	347.8	35.8	40.2	176.0	165.1	16.5	34.6	52.8
Stream 04	476.0	43.7	58.8	193.0	153.5	20.5	12.6	50.5
Stream 05	332.0	39.2	40.7	173.9	161.5	42.3	24.5	48.2
Min Qi	324.3	35.8	40.2	151.3	153.5	16.5	12.6	48.2
Max Qi	476.0	43.7	116.8	193.0	187.4	42.3	34.6	80.5
Avg Qi	363.3	39.6	62.0	171.8	168.3	23.2	21.1	58.4
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	21.0	126.4	47.3	11.1	225.4	17.5	46.2	31.2
Stream 01	36.9	519.4	85.7	64.0	695.6	91.1	55.8	30.2
Stream 02	116.3	652.9	109.9	110.5	454.6	81.4	48.0	32.7
Stream 03	71.1	664.8	91.4	77.7	614.0	74.3	44.5	31.4
Stream 04	28.9	617.8	99.0	86.3	618.0	73.6	36.3	29.6
Stream 05	35.6	623.4	77.3	55.6	696.7	78.3	33.8	31.5
Min Qi	28.9	519.4	77.3	55.6	454.6	73.6	33.8	29.6
Max Qi	116.3	664.8	109.9	110.5	696.7	91.1	55.8	32.7
Avg Qi	57.8	615.7	92.7	78.8	615.8	79.7	43.7	31.1