



# HP ProLiant DL580G2 4P

TPC-H Rev. 2.0.1

Report Date:  
May 28, 2003

Total System Cost

**\$99,545**

Composite Query per Hour Metric

**2106.3**

QphH@100GB

Price / Performance

**\$48**

\$ / QphH@100GB

Database Size

**100GB**

Database Manager

**Microsoft SQL  
Server 2000  
Enterprise Edition**

Operating System

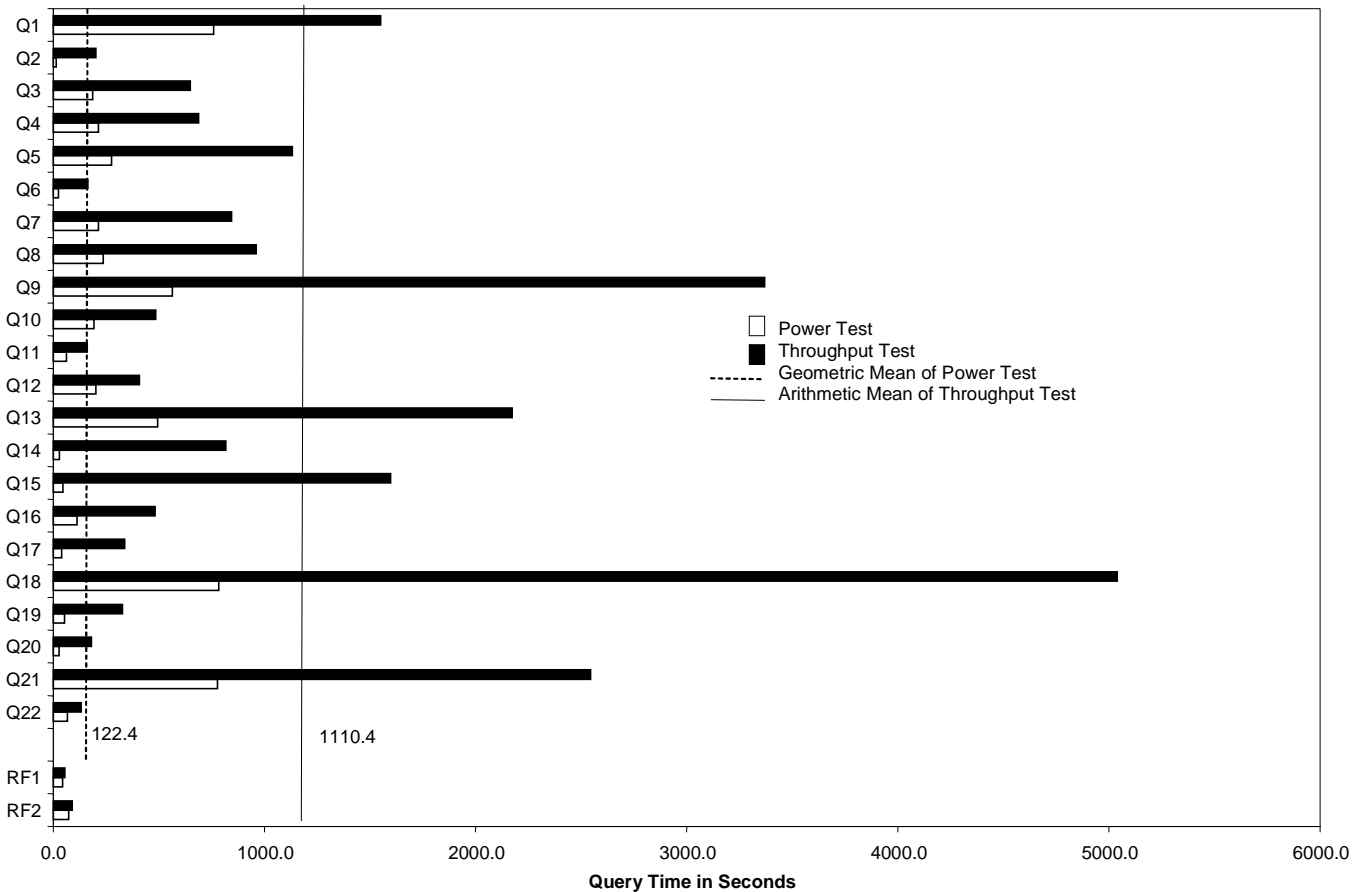
**Windows Server  
2003, Enterprise  
Server**

Other Software

**Visual C++  
.Net Standard**

Availability Date

**May 28, 2003**



Database Load Time = 3:19:19

Load Included Backup: Y

Total Data Storage / Database Size = 12.52

RAID (Base tables only): N

RAID (Base tables and auxiliary data structures): N

RAID (All): N

### System Configuration:

**Processors :** 4 x Intel Xeon MP 2.0 GHz with 2MB L2 cache  
**Memory :** 4 GB memory  
**Disk Controllers :** 5x Smart Array 5312  
**Disks :** 74 x 18.2 GB 15K RPM drives  
**Total Disk Storage:** 1252.1 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
<b>Server Hardware</b>						
		<b>Brand Pricing</b>				
ProLiant DL580 G2 2P 2.0GHz/2M/2GB	202176-001	1	17,999	1	17,999	
2.0GHz/2MB processor (ML580 G2)	307276-B21	1	6,199	2	12,398	
2GB (4x512MB) DDR ECC 200MHz Memory	202171-B21	1	1,299	1	1,299	
S5500 15" Monitor	261602-001	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	
UPS T1500 XR	204155-002	1	621	1	621	
Servers 500 Series CarePaq, 3yr 7x24, 4hr resp.	401782-002	1	1,795	1		1,795
				<b>Subtotal</b>	<b>34,001</b>	<b>1,795</b>
<b>Storage</b>						
Smart Array 5312 Controller	238633-B21	1	1,349	5	6,745	
StorageWorks Enclosure Model 4354R - Rack-mountable	190211-001	1	3,523	5	17,615	
18.2GB 15Krpm U320 UNI HDD - internal	286775-B22	1	399	4	1,596	
18.2GB 15Krpm U320 UNI HDD - external	286775-B22	1	399	70	27,930	
18.2GB 15Krpm U320 UNI HDD - 10% spares	286775-B22	1	399	7	2,793	
CarePaq 43xx Enclosure, 3yr, 7x24, 4hr resp.	171242-002	1	157	5		785
				<b>Subtotal</b>	<b>56,679</b>	<b>785</b>
<b>Hardware and Maintenance Discount</b>						
Large Purchase and Net 30 discount	16.0%	1			(\$14,509)	(\$413)
				<b>Hardware Subtotal</b>	<b>76,171</b>	<b>2,167</b>
<b>Software</b>						
Microsoft SQL Server 2000 Enterprise Edition	810-00652	Microsoft	2	5,549	1	5,549
Database Server Support Package	RO-PRORS-16U-01	Microsoft	2	1,950	3	5,850
Microsoft SQL Server 2000 Client Licenses	359-00532	Microsoft	2	146	50	7,300 included
Microsoft Windows Server 2003 - Enterprise Edition	P72-00264	Microsoft	2	2,399	1	2,399 included
Microsoft Visual C++ .NET Standard	254-00170	Microsoft	2	109	1	109 included
				<b>Subtotal</b>	<b>15,357</b>	<b>5,850</b>
				<b>Total</b>	<b>\$91,528</b>	<b>\$8,017</b>

3-Year Cost of Ownership: \$99,545

QphH Rating: 2106.3

\$ / QphH@100GB: \$48

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.



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## Numerical Quantities

### Measurement Results:

Database Scale Factor	= 100
Total Data Storage / Database Size	= 12.52
Start of Database Load	= 2003-05-08 21:05:32
End of Database Load	= 2003-05-09 00:24:51
Database Load Time	= 3:19:19
Query Streams for Throughput Test	= 5
TPC-H Power	= 2940.1
TPC-H Throughput	= 1509.0
TPC-H Composite Query-per-Hour Metric (QpH@100GB)	= 2106.3
Total System Price Over 3 Years	= \$99,545
TPC-H Price/ Performance Metric (\$/QpH@100GB)	= \$48

### Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 26241.6 seconds
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### Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	509002451	5/9/2003	10:10:51	5/9/2003	11:42:32	1:31:42
Stream01	509002452	5/9/2003	11:42:33	5/9/2003	18:11:58	6:29:25
Stream02	509002453	5/9/2003	11:42:33	5/9/2003	18:47:55	7:05:22
Stream03	509002454	5/9/2003	11:42:33	5/9/2003	18:31:15	6:48:42
Stream04	509002455	5/9/2003	11:42:33	5/9/2003	18:20:32	6:37:59
Stream05	509002456	5/9/2003	11:42:33	5/9/2003	18:22:20	6:39:47
Refresh00		5/9/2003	10:10:51	5/9/2003	11:42:32	1:31:42
Refresh01		5/9/2003	18:47:55	5/9/2003	18:50:09	0:02:14
Refresh02		5/9/2003	18:50:09	5/9/2003	18:52:36	0:02:27
Refresh03		5/9/2003	18:52:36	5/9/2003	18:55:01	0:02:25
Refresh04		5/9/2003	18:55:01	5/9/2003	18:57:29	0:02:27
Refresh05		5/9/2003	18:57:29	5/9/2003	18:59:54	0:02:25



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## TPC-H Timing Intervals (in seconds)

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream 00	759.4	14.1	187.8	213.0	276.2	25.3	214.2	237.6
Stream 01	1904.3	156.8	1145.5	807.3	798.6	177.1	556.3	533.5
Stream 02	1703.4	386.7	275.2	516.6	1088.1	45.4	881.9	1123.7
Stream 03	1228.3	218.4	313.7	990.0	1313.3	194.0	656.0	1491.8
Stream 04	1391.2	81.0	1059.0	451.5	1083.9	205.6	1423.9	465.8
Stream 05	1521.5	169.1	450.3	677.7	1439.9	202.0	705.0	1195.5
Min Qi	1228.3	81.0	275.2	451.5	798.6	45.4	556.3	465.8
Max Qi	1904.3	386.7	1145.5	990.0	1439.9	205.6	1423.9	1491.8
Avg Qi	1549.7	202.4	648.7	688.6	1144.8	164.8	844.6	962.1
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	563.6	192.8	63.7	202.1	493.6	29.3	46.0	113.5
Stream 01	3461.2	485.1	195.5	447.8	1846.0	594.6	1179.5	658.8
Stream 02	4787.1	569.9	63.9	413.9	1497.8	2089.7	1514.5	512.5
Stream 03	2834.5	429.3	186.9	325.7	3068.9	429.1	2043.9	248.8
Stream 04	2332.0	497.1	166.2	405.0	2427.8	456.0	1760.9	686.7
Stream 05	3432.9	448.1	196.3	447.3	2030.4	516.3	1492.9	310.6
Min Qi	2332.0	429.3	63.9	325.7	1497.8	429.1	1179.5	248.8
Max Qi	4787.1	569.9	196.3	447.8	3068.9	2089.7	2043.9	686.7
Avg Qi	3369.5	485.9	161.8	407.9	2174.2	817.1	1598.3	483.5
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	39.3	783.8	53.4	27.9	778.7	67.3	44.8	74.4
Stream 01	98.1	4734.9	338.1	150.9	2935.3	160.7	44.0	89.5
Stream 02	640.0	6223.3	211.9	86.5	780.8	109.6	56.6	90.4
Stream 03	95.8	4605.3	274.8	307.9	3176.1	89.9	56.0	89.0
Stream 04	410.3	4698.2	612.9	248.4	2856.2	160.0	57.1	90.2
Stream 05	452.0	4934.6	197.3	109.4	2976.3	142.9	56.5	89.6
Min Qi	95.8	4605.3	197.3	86.5	780.8	89.9	44.0	89.0
Max Qi	640.0	6223.3	612.9	307.9	3176.1	160.7	57.1	90.4
Avg Qi	339.2	5039.3	327.0	180.6	2544.9	132.6	54.0	89.7