

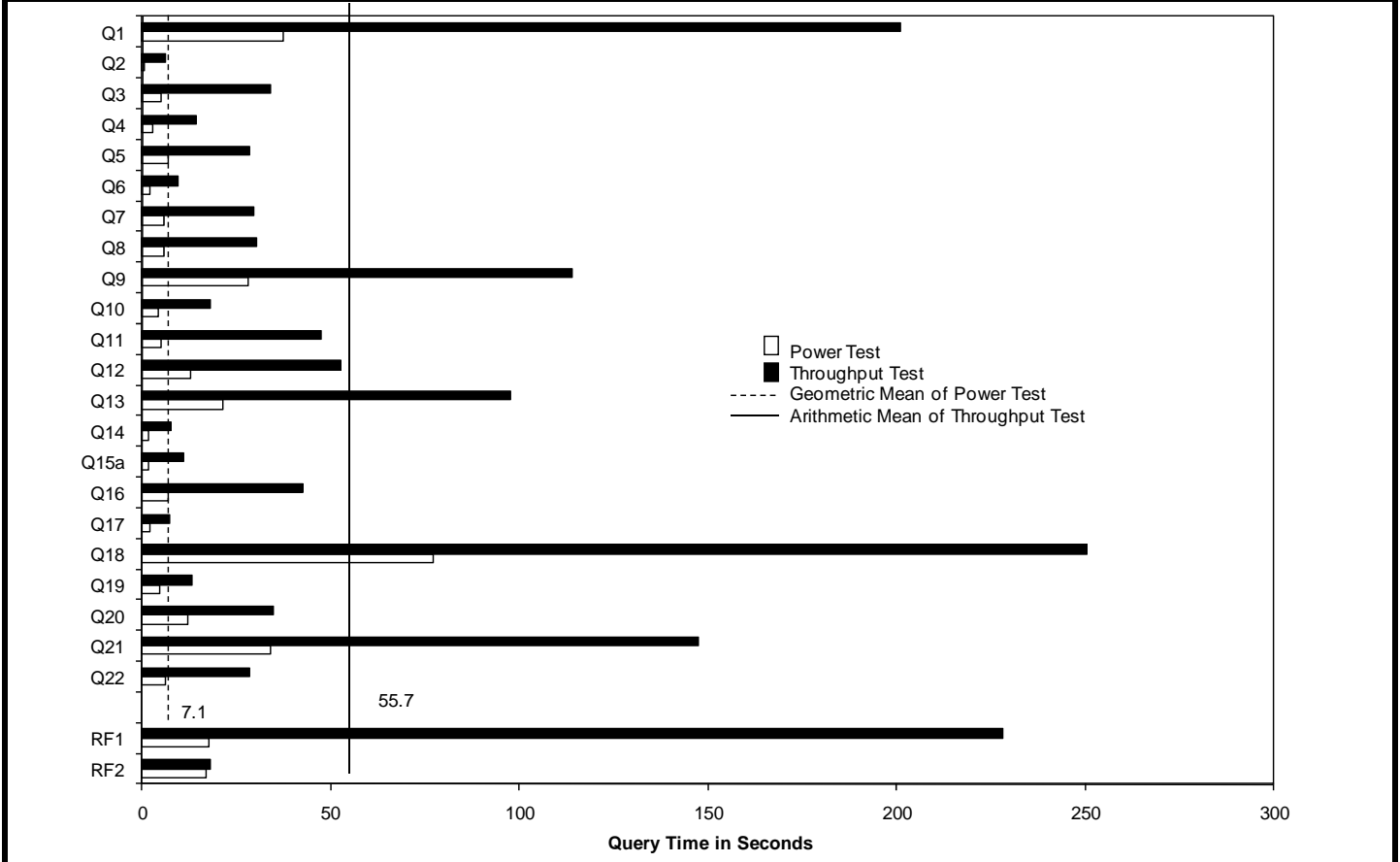


# HP ProLiant DL580 G7

TPC-H Rev. 2.11.0  
 TPC-Energy Rev. 1.2.0

Report Date:  
**Sep 14, 2010**

Total System Cost		Composite Query per Hour Metric		Price / Performance		TPC-Energy Metric	
<b>\$78,687 USD</b>		<b>121,345.6</b> QphH@300GB		<b>\$0.65 USD</b> \$/QphH@300GB		<b>10.33</b> Watts/KQphH@300GB	
Database Size	Database Manager	Operating System	Other Software		Availability Date		
<b>300GB</b>	<b>Microsoft SQL Server 2008 R2 Enterprise Edition</b>	<b>Windows Server 2008 R2 Enterprise Edition</b>			<b>Sep 14, 2010</b>		



Database Load Time = 7:51:44	Storage Redundancy Levels			
Load Included Backup: Y	Base Tables	0	DBMS Temporary Space	0
Total Storage / Database Size = 6.97	Auxiliary Data Structures	1	OS and DBMS Software	1
Memory/Database size = 213 %				

### System Configuration:

**Processors :** 4x 2.27 GHz 8 Core Intel X7560  
**Cores :** 32  
**Threads :** 64  
**Memory :** 640 GB  
**Network :** 4x on-board GigE  
**Disk Controllers :** 1x Smart Array P410i  
**Disks :** 2x HP 146 GB SFF SAS, 6x HP 300 GB SFF SAS  
**Total Disk Storage:** 2092 GB

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



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Report Date: 14-Sep-10

Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
		<b>Brand Pricing</b>				
HP DL580R07 CTO Chassis	588857-B21	HP	1	4,697	1	4,697
HP DL580G7 X7560 FIO 2P Kit	588143-L21	HP	1	10,000	1	10,000
HP DL580 G7 Intel Xeon X7560 Processor Kit	588143-B21	HP	1	4,999	2	9,998
HP 16GB 1x16GB PC3-8500 Registered Memory Kit	500666-B21	HP	1	1,199	16	19,184
HP 8GB 1x8GB PC3-10600 Registered Memory Kit	500662-B21	HP	1	469	48	22,512
HP DL580G7 Memory Board	588141-B21	HP	1	200	6	1,200
HP 1GB Flash Backed Cache	534562-B21	HP	1	529	1	529
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port	512547-B21	HP	1	439	2	878
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port	507127-B21	HP	1	499	6	2,994
HP 1200W 12V Hot Plug AC Power Supply	500172-B21	HP	1	349	2	698
HP LE1851w 18.5-Inch wide Monitor	NK033AA#ABA	HP	1	159	1	159
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA	HP	1	39	1	39
HP 3y 4h 24x7 ProLiant DL58x HW Support	U4608E	HP	1	1,309	1	1,309
<b>Subtotal</b>					<b>72,888</b>	<b>1,309</b>
<b>Hardware and Maintenance Discount</b>						
Large Purchase and Net 30 discount	14.0%	HP	1			
					(\$10,204)	(\$183)
<b>Hardware Subtotal</b>					<b>62,684</b>	<b>1,126</b>
<b>Software</b>						
SQL Server 2008 R2 Enterprise Edition with 25 CALs	810-08553	Microsoft	2	8,318	1	8,318
Windows Server 2008 R2 Enterprise Edition	P72-04217	Microsoft	2	2,310	1	2,310
SQL Server 2008 R2 Client Access License	359-05354	Microsoft	2	114	35	3,990
Microsoft Problem Resolution Services		Microsoft	2	259	1	259
<b>Subtotal</b>					<b>14,618</b>	<b>259</b>
<b>Total</b>					<b>\$77,302</b>	<b>\$1,385</b>

Three-Year Cost of Ownership: \$78,687 USD

QpH @ 300GB: 121345.6

\$ / QpH @ 300GB: \$0.65 USD

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

Note 1 = Discount based on HP Direct guidance with large purchase and Net30 discount.Applies to all lines with 1 in pricing column.

Audited by: Francois Raab of InfoSizing, Inc. (www.sizing.com)

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 DL580 G7

TPC-H Rev. 2.11.0

Report Date:  
Sep 14, 2010

### Numerical Quantities

#### Measurement Results:

Database Scale Factor	= 300
Total Data Storage / Database Size	= 6.97
Start of Database Load	= 2010-08-31 15:00:23
End of Database Load	= 2010-08-31 22:52:07
Database Load Time	= 07:51:44
Query Streams for Throughput Test	= 6
TPC-H Power	= 152,453.1
TPC-H Throughput	= 96,585.4
TPC-H Composite Query-per-Hour Metric (QphH@300GB)	= 121,345.6
Total System Price Over 3 Years	= \$78,687
TPC-H Price/ Performance Metric (\$/QphH@300GB)	= \$0.65 USD

#### Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 1476.0 seconds
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#### Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	831225207	9/1/2010	0:23:56	9/1/2010	0:29:13	0:05:17
Stream01	831225208	9/1/2010	0:29:14	9/1/2010	0:48:32	0:19:17
Stream02	831225209	9/1/2010	0:29:14	9/1/2010	0:50:00	0:20:46
Stream03	831225210	9/1/2010	0:29:14	9/1/2010	0:49:30	0:20:16
Stream04	831225211	9/1/2010	0:29:14	9/1/2010	0:50:00	0:20:46
Stream05	831225212	9/1/2010	0:29:14	9/1/2010	0:49:42	0:20:28
Stream06	831225213	9/1/2010	0:29:14	9/1/2010	0:50:11	0:20:57
Refresh00		9/1/2010	0:23:56	9/1/2010	0:29:14	0:05:18
Refresh01		9/1/2010	0:29:14	9/1/2010	0:50:48	0:21:34
Refresh02		9/1/2010	0:50:48	9/1/2010	0:51:23	0:00:35
Refresh03		9/1/2010	0:51:24	9/1/2010	0:52:00	0:00:36
Refresh04		9/1/2010	0:52:00	9/1/2010	0:52:37	0:00:37
Refresh05		9/1/2010	0:52:37	9/1/2010	0:53:13	0:00:36
Refresh06		9/1/2010	0:53:13	9/1/2010	0:53:50	0:00:37



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Report Date:  
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## TPC-H Timing Intervals (in seconds)

Query	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08
Stream 00	37.2	0.6	5.1	2.7	6.7	2.0	5.6	5.7
Stream 01	158.7	6.5	40.9	13.2	30.6	6.9	28.6	24.2
Stream 02	208.3	6.4	34.7	11.6	30.1	9.1	29.7	33.9
Stream 03	200.8	6.6	30.8	13.2	30.4	10.1	31.6	31.8
Stream 04	217.7	4.4	34.1	15.8	26.9	11.3	25.1	27.0
Stream 05	209.3	6.2	25.0	14.5	26.4	9.3	28.5	35.1
Stream 06	211.7	6.2	39.6	17.0	26.1	10.0	34.0	29.9
Min Qi	158.7	4.4	25.0	11.6	26.1	6.9	25.1	24.2
Max Qi	217.7	6.6	40.9	17.0	30.6	11.3	34.0	35.1
Avg Qi	201.1	6.1	34.2	14.2	28.4	9.5	29.6	30.3
Query	Q09	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	28.0	4.1	5.1	12.8	21.2	1.7	1.8	6.8
Stream 01	108.6	16.4	24.3	50.2	94.9	7.3	12.8	44.0
Stream 02	118.2	20.7	55.0	64.5	87.5	8.5	11.5	44.1
Stream 03	112.3	21.0	59.8	57.2	88.3	7.3	10.9	35.4
Stream 04	121.9	18.5	21.6	65.3	93.3	9.4	10.3	42.7
Stream 05	100.2	12.1	59.9	29.0	104.5	6.7	11.2	39.8
Stream 06	123.4	19.0	64.5	49.3	116.2	6.9	9.8	50.4
Min Qi	100.2	12.1	21.6	29.0	87.5	6.7	9.8	35.4
Max Qi	123.4	21.0	64.5	65.3	116.2	9.4	12.8	50.4
Avg Qi	114.1	18.0	47.5	52.6	97.5	7.7	11.1	42.7
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	2.2	77.3	4.6	12.1	34.0	6.1	17.7	16.9
Stream 01	6.5	250.6	12.5	13.7	177.3	28.9	20.7	17.8
Stream 02	9.1	252.3	14.5	43.5	119.1	34.1	17.9	17.3
Stream 03	8.9	236.0	11.9	26.6	160.9	24.8	18.3	17.6
Stream 04	4.9	260.1	13.6	36.6	160.2	25.6	19.2	18.1
Stream 05	4.8	254.3	14.9	28.1	183.7	24.9	18.2	18.2
Stream 06	8.3	249.0	12.4	59.5	82.6	31.4	18.6	18.4
Min Qi	4.8	236.0	11.9	13.7	82.6	24.8	17.9	17.3
Max Qi	9.1	260.1	14.9	59.5	183.7	34.1	20.7	18.4
Avg Qi	7.1	250.4	13.3	34.7	147.3	28.3	18.8	17.9

<b>HP ProLiant DL580 G7</b>		<b>Energy Summary</b>		TPC-H Rev. 2.11.0 TPC-Energy Rev. 1.2.0
				Report Date: <b>Sep 14, 2010</b>
Total System Cost		Composite Query per Hour Metric		Price / Performance
<b>\$78,687 USD</b>		<b>121,345.6</b> QphH@300GB		<b>\$0.65 USD</b> \$/QphH@300GB
Database Size		Database Manager		TPC-Energy Metric
<b>300GB</b>		<b>Microsoft SQL Server 2008 R2 Enterprise Edition</b>		<b>10.33</b> Watts/KQphH@300GB
		Operating System		Availability Date
		<b>Windows Server 2008 R2 Enterprise Edition</b>		<b>Sep 14, 2010</b>

Numerical Quantities For Reported Energy Configuration:

REC Idle Power: **941.0 Watts**  
Average Power of REC: **1,253.5 Watts**

Subsystem Reporting:

Secondary (subsystem) Metrics are not reported. Comparisons to other TPC-Energy Results must not reference subsystem energy information.

Lowest ambient temperature at air inlet: **21.31 Degrees Celsius**

Items in Priced Configuration not in the Reported Energy Configuration

Items in the Reported Energy Configuration not in the Measured Energy Configuration

HP LE1851w 18.5-inch wide Monitor

- P/N NK033AA#ABA
- vendor max wattage specification (name plate) – 28.0 Watts