

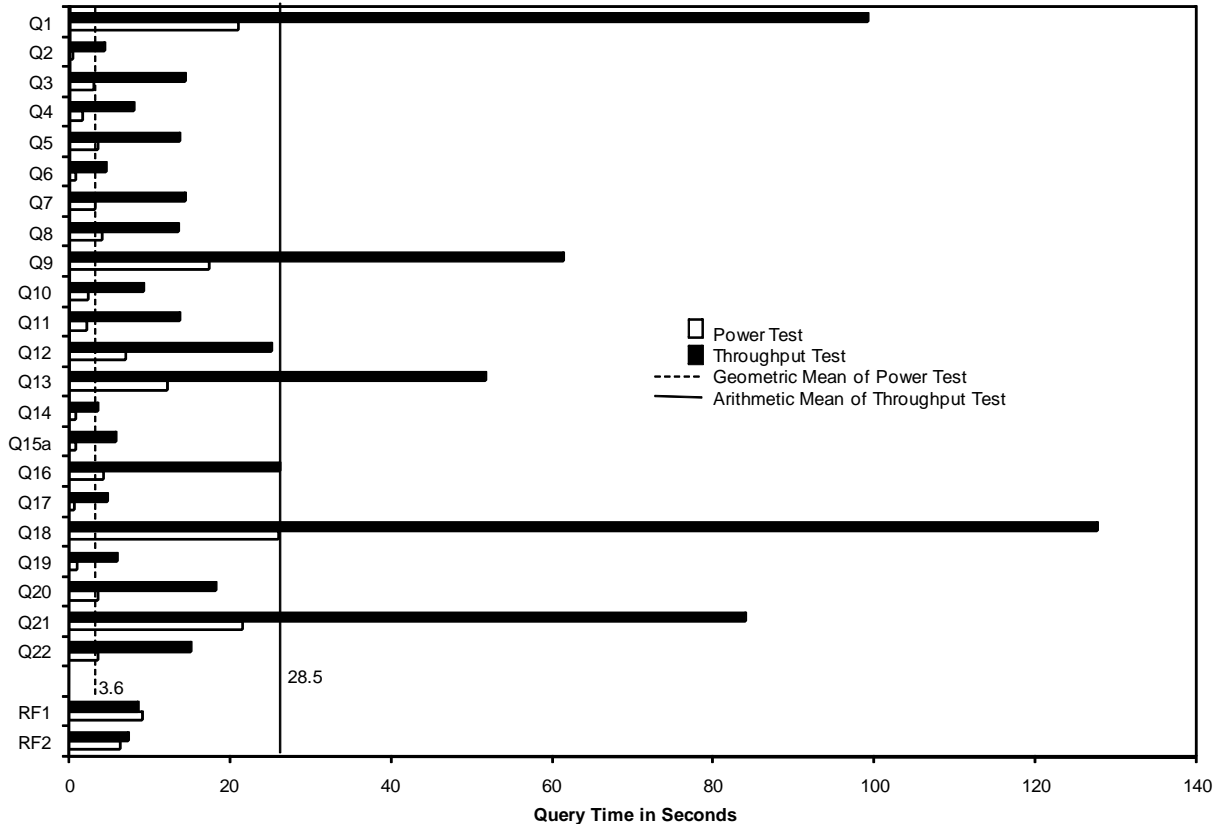


# HP ProLiant DL380 G7

TPC-H Rev. 2.11.0  
 TPC-Energy Rev. 1.1.1

Report Date:  
**Jul 2, 2010**

Total System Cost		Composite Query per Hour Metric		Price / Performance		TPC-Energy Metric	
<b>\$42,680 USD</b>		<b>73,974.6</b> QphH@100GB		<b>\$0.58 USD</b> \$/QphH@100GB		<b>5.93</b> Watts/KQphH@100GB	
Database Size	Database Manager	Operating System	Other Software		Availability Date		
<b>100GB</b>	<b>Microsoft SQL Server 2008 R2 Enterprise Edition</b>	<b>Windows Server 2008 R2 Enterprise Edition</b>			<b>Jul 2, 2010</b>		



Database Load Time = 2:34:14	Storage Redundancy Levels			
Load Included Backup: Y	Base Tables	0	DBMS Temporary Space	0
Total Storage / Database Size = 6.84	Auxiliary Data Structures	1	OS and DBMS Software	1
Memory/Database size = 192 %				

**System Configuration:**

**Processors :** 2x 3.3 GHz 6 Core Intel X5680  
**Cores :** 12  
**Threads :** 24  
**Memory :** 192 GB  
**OS Disk Drives :** 2x 72 GB 6G 15K rpm SFF SAS  
**Network :** 4x on-board GigE  
**Disk Controllers :** 1x Smart Array P410i  
**Disks :** 4x HP 60 GB SSD SFF SATA, 1x 300GB 6G 10K rpm SFF SAS  
**Total Disk Storage:** 684 GB

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



HP ProLiant DL380 G7

TPC-H Rev. 2.11.0

Report Date: 2-Jul-10

Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
<b>Server Hardware</b>							
<b>Brand Pricing</b>							
HP DL380G7 SFF CTO Chassis	583914-B21	1	1,591	1	1,591		
HP X5680 DL380G7 FIO Kit	587498-L21	1	2,299	2	4,598		
HP 16GB 1x16GB PC3-8500	500666-B21	1	1,549	12	18,588		
HP 512MB Flash Backed Write Cache	534916-B21	1	429	1	429		
HP 72GB 15K rpm Hot Plug SAS 2.5 Hard Drive	418371-B21	1	349	2	698		
HP 300GB 6G SAS 10K rpm SFF Hard Drive	507127-B21	1	519	1	519		
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 DL38x HW Support	U4545E	1	837	1		837	
<b>Subtotal</b>					<b>26,621</b>	<b>837</b>	
<b>Storage</b>							
HP 60GB 3G SATA 2.5in MDL	572071-B21	1	1,549	4	6,196		
<b>Subtotal</b>					<b>6,196</b>	<b>0</b>	
<b>Hardware and Maintenance Discount</b>							
Large Purchase and Net 30 discount	14.0%	1			(\$4,594)	(\$117)	
<b>Hardware Subtotal</b>					<b>28,223</b>	<b>720</b>	
<b>Software</b>							
SQL Server 2008 R2 Enterprise Edition with 25 CALs	810-08553	Microsoft	2	8,318	1	8,318	incl. bellow
Windows Server 2008 R2 Enterprise Edition	P72-04217	Microsoft	2	2,310	1	2,310	incl. bellow
SQL Server 2008 R2 Client Access License	359-05354	Microsoft	2	114	25	2,850	incl. bellow
Microsoft Problem Resolution Services		Microsoft	2	259	1	259	
<b>Subtotal</b>					<b>13,478</b>	<b>259</b>	
<b>Total</b>					<b>\$41,701</b>	<b>\$979</b>	

Three-Year Cost of Ownership: \$42,680 USD

QphH @ 100GB: 73974.6

\$ / QphH @ 100GB: \$0.58 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.

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 DL380 G7

TPC-H Rev. 2.11.0

Report Date:  
Jul 2, 2010

### Numerical Quantities

#### Measurement Results:

Database Scale Factor	= 100
Total Data Storage / Database Size	= 6.84
Start of Database Load	= 2010-07-01 09:38:58
End of Database Load	= 2010-07-01 12:13:12
Database Load Time	= 2 :34:14
Query Streams for Throughput Test	= 5
TPC-H Power	= 99426.3
TPC-H Throughput	= 55038.2
TPC-H Composite Query-per-Hour Metric (QphH@100GB)	= 73974.6
Total System Price Over 3 Years	= \$42,680
TPC-H Price/ Performance Metric (\$/QphH@100GB)	= \$0.58 USD

#### Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 719.5 seconds
--	-----------------

#### Duration of Stream Execution:

Stream ID	Seed	Start Date	Start time	Stop Date	Stop Time	Duration
Stream00	701121312	7/1/2010	14:20:20	7/1/2010	14:22:57	0:02:38
Stream01	701121313	7/1/2010	14:22:58	7/1/2010	14:33:04	0:10:05
Stream02	701121314	7/1/2010	14:22:58	7/1/2010	14:33:24	0:10:26
Stream03	701121315	7/1/2010	14:22:58	7/1/2010	14:33:36	0:10:37
Stream04	701121316	7/1/2010	14:22:58	7/1/2010	14:33:24	0:10:26
Stream05	701121317	7/1/2010	14:22:58	7/1/2010	14:33:36	0:10:38
Refresh00		7/1/2010	14:20:20	7/1/2010	14:22:58	0:02:38
Refresh01		7/1/2010	14:33:36	7/1/2010	14:33:52	0:00:16
Refresh02		7/1/2010	14:33:52	7/1/2010	14:34:08	0:00:16
Refresh03		7/1/2010	14:34:08	7/1/2010	14:34:23	0:00:14
Refresh04		7/1/2010	14:34:23	7/1/2010	14:34:41	0:00:19
Refresh05		7/1/2010	14:34:41	7/1/2010	14:34:58	0:00:16



# HP ProLiant DL380 G7

TPC-H Rev. 2.11.0

Report Date:  
Jul 2, 2010

## TPC-H Timing Intervals (in seconds)

Query	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08
Stream 00	21.0	0.6	3.1	1.7	3.7	0.9	3.2	4.1
Stream 01	90.3	4.3	14.6	7.9	15.3	3.6	12.7	10.2
Stream 02	101.1	5.2	14.3	7.7	13.1	4.8	15.3	14.9
Stream 03	96.7	5.4	11.1	8.7	15.6	5.2	15.2	17.1
Stream 04	104.4	2.9	13.7	7.9	12.2	4.2	13.2	14.3
Stream 05	103.5	5.0	18.6	8.0	12.9	5.4	15.8	11.8
Min Qi	90.3	2.9	11.1	7.7	12.2	3.6	12.7	10.2
Max Qi	104.4	5.4	18.6	8.7	15.6	5.4	15.8	17.1
Avg Qi	99.2	4.6	14.5	8.0	13.8	4.6	14.4	13.7
Query	Q09	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream 00	17.4	2.4	2.3	7.0	12.3	0.8	0.9	4.4
Stream 01	58.6	8.2	15.8	11.4	62.0	4.2	6.4	24.9
Stream 02	62.2	10.2	15.3	34.1	41.9	4.0	5.5	31.2
Stream 03	70.2	10.1	15.6	26.0	49.3	2.7	4.9	24.7
Stream 04	68.7	8.8	11.8	24.4	45.3	4.6	6.6	27.4
Stream 05	48.0	9.6	10.3	30.4	60.5	2.4	5.8	22.9
Min Qi	48.0	8.2	10.3	11.4	41.9	2.4	4.9	22.9
Max Qi	70.2	10.2	15.8	34.1	62.0	4.6	6.6	31.2
Avg Qi	61.5	9.4	13.8	25.3	51.8	3.6	5.8	26.2
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	0.7	26.0	1.1	3.7	21.6	3.6	9.2	6.4
Stream 01	4.2	129.7	5.5	11.0	89.9	15.5	8.9	7.0
Stream 02	6.1	124.5	6.6	17.4	73.0	17.7	9.0	6.7
Stream 03	5.4	133.0	5.5	22.1	79.6	13.5	7.9	6.2
Stream 04	6.2	121.5	7.3	16.1	87.9	16.1	8.7	9.8
Stream 05	2.6	130.2	5.7	25.3	90.2	13.0	8.4	7.8
Min Qi	2.6	121.5	5.5	11.0	73.0	13.0	7.9	6.2
Max Qi	6.2	133.0	7.3	25.3	90.2	17.7	9.0	9.8
Avg Qi	4.9	127.8	6.1	18.4	84.1	15.2	8.6	7.5

<b>HP ProLiant DL380 G7</b>		<b>Energy Summary</b>		TPC-H Rev. 2.11.0 TPC-Energy Rev. 1.1.1
				Report Date: <b>Jul 2, 2010</b>
Total System Cost		Composite Query per Hour Metric		Price / Performance
<b>\$42,680 USD</b>		<b>73,974.6</b> QphH@100GB		<b>\$0.58 USD</b> \$/QphH@100GB
Database Size		Database Manager	Operating System	TPC-Energy Metric
<b>100GB</b>		<b>Microsoft SQL Server 2008 R2 Enterprise Edition</b>	<b>Windows Server 2008 R2 Enterprise Edition</b>	<b>5.93</b> Watts/KQphH@100GB
			Other Software	Availability Date
				<b>Jul 2, 2010</b>

Numerical Quantities For Reported Energy Configuration:

REC Idle Power: **274.1 Watts**  
Average Power of REC: **438.5 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: **20.41 Degrees Celsius**

Items in Priced Configuration not in the Reported Energy Configuration

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