
	<p align="center"><b>HP ProLiant DL580 G7</b>  <b>Intel Xeon X7560 2.27 GHz 24MB L3</b>  <b>C/S with 4 ProLiant DL 360 G5</b></p>			TPCE Rev 1.10.0
				TPC Pricing 1.5.0
				TPC Energy 1.1.1
				Report Date
				June 21, 2010
TPC-E Throughput	Price/Performance	Availability Date	Total System Cost	TPC-Energy Metric
2001.12 tpsE	\$347 USD/tpsE	June 21, 2010	\$692,874 USD	5.84 watts/tpsE
<b>Database Server Configuration</b>				
<b>Operating System</b>	<b>Database Manager</b>	<b>Processor/Cores/Thread</b>	<b>Memory</b>	
Microsoft Windows Server 2008 R2 Enterprise Edition	Microsoft SQL Server 2008 R2 Enterprise Edition	4/32/64 Intel Xeon X7560 2.27 GHz 24MB L3	1024 GB	
<p align="center"><b>Tier B: Server</b>  <b>HP ProLiant DL580G7</b></p> <p>4 x Intel Xeon Processor X7560 EX 2.27 GHZ  1024GB Memory  1 x HP NC364T PCI Express Quad Port Gigabit Server Adapter  2 x HP 72GB 3G SAS 15K SFF DP</p>  <p align="center"><b>Database Log</b></p> <p><b>Tier A: Clients</b></p> <p>4 x ProLiant DL360g5  1 x Quad-Core Intel Xeon processor E5420 2.50Ghz  16 x 72GB SAS 10K SFF DP  2 x Onboard 1Gbps Ethernet  2 x HP NC360T PCI-E Dual Port</p> <p><b>Storage</b></p> <p>10 x HP Smart Array P411/512 MB  40 x HP StorageWorks D2700 Disk Enclosure  750 x 72GB 6G SAS 15K SFF DP  240 x 146GB SAS 15K SFF DP</p>				
<b>Initial Database Size</b>	<b>Redundancy Level: 1</b>	<b>Storage</b>		
8,938.1 GB	RAID10:Log/RAID10:Data	752x72GB 15K, 240x146GB 15K , 4x300GB 10K		



**HP ProLiant DL580G7**  
Intel Xeon X7560 2.27 GHz 24MB L3

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TPC-Pricing	1.5.0
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Description	Part Number	Brand	Unit Price	Qty.	Extended Price	3 Yr Maint Price
<b>Server Hardware (Tier B)</b>						
HP DL580R07 CTO Chassis	588857-B21	1	4,597	1	4,597	
HP X7560 DL580 G7 2P FIO Kit	588143-L21	1	10,000	2	20,000	
HP 16GB 4Rx4 PC3-8500R-7 US Kit/S-Buy	500666-S21	1	1,449	64	92,736	
HP 72GB SAS 15K SFF DP ENT HDD	512545-B21	1	349	2	698	
HP Smart Array P411/512 MB with BBWC Controller	462832-B21	1	649	10	6,490	
HP NC364T PCI Express Quad Port Gigabit Server Adapter	412648-B21	1	229	1	229	
HP LE1851w 18.5-Inch wide Monitor	NK033AA#ABA	1	159	1	159	
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA	1	39	1	39	
HP 300GB SAS 10K SFF DP ENT HDD	512547-B21	1	499	4	1,996	
HP 3y 4h 24x7 ProLiant DL58x HW Support ,ProLiant Server DL58x	U4545E	1	1,397	1		\$1,397
			<b>Subtotal</b>		<b>\$126,944</b>	<b>\$1,397</b>
<b>Server Software</b>						
SQL Server 2008 R2 Enterprise Edition, Per Processor License	810-07580	2	19,188	4	76,752	
Windows Server 2008 R2 Enterprise Edition	P72-04217	2	2,280	1	2,280	
Microsoft Problem Resolution Services	N/A	2	259	1		259
			<b>Subtotal</b>		<b>\$79,032</b>	<b>259</b>
<b>Storage</b>						
HP StorageWorks D2700 Disk Enclosure	AJ941A	1	3,399	40	135,960	
HP StorageWorks D2700 Disk Enclosure (10% Spares)	AJ941A	1	3,399	4	13,596	
HP 72GB 6G SAS 15K SFF DP ENT HDD	512545-B21	1	349	760	265,240	
HP 146GB 6G SAS 15K SFF DP ENT HDD	512547-B21	1	499	240	119,760	
HP 146GB 6G SAS 15K SFF DP ENT HDD (10% Spares)	512547-B21	1	499	24	11,976	
HP 72GB 6G SAS 15K SFF DP ENT HDD (10% Spares)	512545-B21	1	349	77	26,873	
HP 5642 Pallet Unassembled Rack	358254-B21	1	865	2	1,730	
			<b>Subtotal</b>		<b>\$575,135</b>	<b>0</b>
<b>Client Hardware (Tier A)</b>						
HP ProLiant DL360 G5 E5420 2.50GHz Quad Core 2GB Rack Server	457925-001	1	2,499	4	9,996	
HP 72GB 3G SAS 10K SFF DP ENT HDD	384842-B21	1	259	16	4,144	
HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21	1	229	4	916	
HP 3y 4h 24x7 ProLiant DL36x HW Support ,ProLiant DL36x	U4497E	1	698	4		2,792
			<b>Subtotal</b>		<b>15,056</b>	<b>2,792</b>
<b>Client Software</b>						
Microsoft Windows Server 2008 Standard (x64)	P73-04165	2	711	4	2,844	
			<b>Subtotal</b>		<b>2,844</b>	<b>0</b>
<b>Infrastructure</b>						
HP ProCurve 2910al-24G Switch 24-port 10/100/1000 basic Layer 3	J9145A#ABA	1	2,609	2	5,218	
3-year, 4-hour onsite, 24x7 coverage for hardware	U4835E	1	227	2		454
HP 1.2m/4ft CAT5 RJ45 M/M Ethernet Cable	C7533A	1	4	20	74	
			<b>Subtotal</b>		<b>5,292</b>	<b>454</b>
			<b>Total Extended Price</b>		<b>\$804,303</b>	<b>\$4,902</b>
HP's Large Configuration Discount *	16.0%		<b>Total Discounts</b>		<b>\$115,588</b>	<b>\$743</b>
			<b>Grand Total</b>		<b>\$688,715</b>	<b>\$4,159</b>
Pricing: 1=HP Direct 800-203-6748 2= Microsoft. Note 1: Discount based on HP Direct guidance applies to all lines where pricing = 1. Note 2: All the hardware are available to order. Note 3: The benchmark results were audited by Lorna Livingtree of Performance Metrics.					<b>Three-year Cost of Ownership: USD</b>	<b>\$692,874</b>
					<b>tpsE</b>	<b>2,001.12</b>
					<b>\$ USD/tpsE</b>	<b>\$347</b>
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 <a href="mailto:pricing@tpc.org">pricing@tpc.org</a> . Thank you.						

<b>Hewlett-Packard</b>		<b>HP ProLiant DL580G7</b>			TPC-E Rev. 1.10.0
<b>Company</b>		<b>2.27 GHz 24MB L3</b>			TPC-Pricing 1.5.0
		<b>C/S with 4 HP ProLiant DL360 G5</b>			TPC-Energy 1.1.1
					<b>Report Date:</b>
					<b>June 21, 2010</b>
Total System Cost	TPC-E Throughput	Price/Performance	Availability Date	TPC-Energy Metric	
<b>\$692,874.00</b>	<b>2001.12 tpsE</b>	<b>\$347 USD/tpsE</b>	<b>June 21, 2010</b>	<b>5.84 watts/tpsE</b>	
Numerical Quanties For Reported Energy Configuration: REC Idle Power: 10,600 watts Average Power of REC: 11,683 watts					
	<b>Secondary Metrics</b>	<b>Additional Numerical Quanties</b>			
	watts / tpsE	<b>Full Load Avg watts</b>	<b>Full Load % of REC</b>	<b>Idle Avg. watts</b>	<b>Idle % of REC</b>
<b>Database Server</b>	<b>0.85</b>	<b>1,701.27</b>	<b>14.6%</b>	<b>1,315.87</b>	<b>12.4%</b>
<b>Storage</b>	<b>4.54</b>	<b>9,081.84</b>	<b>77.7%</b>	<b>8,431.85</b>	<b>79.5%</b>
<b>Application Server</b>	<b>0.38</b>	<b>769.64</b>	<b>6.6%</b>	<b>722.20</b>	<b>6.8%</b>
<b>Miscellaneous</b>	<b>0.06</b>	<b>129.94</b>	<b>1.1%</b>	<b>130.03</b>	<b>1.2%</b>
<b>Total REC</b>	<b>5.84</b>	<b>11,683</b>	<b>100%</b>	<b>10,600</b>	<b>100%</b>
Lowest ambient temperature at air inlet: 20.47 °C					
Items in Priced Configuration not in the Reported Energy Configuration: None					
Items in Reported Energy Configuration not in the Measured Energy Configuration: 1 HP LE1851w 18.5-Inch wide Monitor Part Number NK033AA#ABA					



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**Numerical Quantities Summary**

Reported Throughput	2001.12 tpsE	Configured Customers:	1,050,000
<b>Response Times (in seconds)</b>	Minimum Average 90 <sup>th</sup> %tile Maximum		
Broker Volume	0.00	0.06	0.10 2.72
Customer Position	0.00	0.04	0.06 4.56
Market Feed	0.00	0.03	0.05 6.94
Market Watch	0.00	0.04	0.08 4.56
Security Detail	0.00	0.02	0.04 2.64
Trade Lookup	0.00	0.41	0.61 5.08
Trade Order	0.00	0.08	0.13 19.56
Trade Result	0.00	0.10	0.16 20.41
Trade Status	0.00	0.02	0.04 4.52
Trade Update	0.01	0.46	0.63 5.03
Data Maintenance	0.00	0.07	0.54
<b>Transaction Mix</b>	<b>Transaction Count</b>	<b>Mix %</b>	
Broker Volume	7,059,217	4.900%	
Customer Position	18,729,046	13.000%	
Market Feed	1,440,830	1.000%	
Market Watch	25,932,421	18.000%	
Security Detail	20,170,447	14.000%	
Trade Lookup	11,525,319	8.000%	
Trade Order	14,551,286	10.100%	
Trade Result	14,408,134	10.001%	
Trade Status	27,373,279	19.000%	
Trade Update	2,881,222	2.000%	
Data Maintenance	120		
Ramp-up Time	1:17:00		
Measurement Interval	2:00:00		
Business Recovery Time	1:10:49		
Total Number of Transactions Completed in Measurement Interval	144,071,201		