
	<p align="center">HP ProLiant DL585 G7 AMD Opteron 2.3 GHz 12MB L3 C/S with 4 HP ProLiant DL360 G5</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
1400.14 tpsE	\$330 USD/tpsE	June 21, 2010	\$461,160 USD	6.72 watts/tpsE
Database Server Configuration				
Operating System	Database Manager	Processor/Cores/Thread	Memory	
Microsoft Windows Server 2008 R2 Enterprise Edition	Microsoft SQL Server 2008 R2 Enterprise Edition	AMD 2.3 GHz 12MB L3 4/48/48	256GB	
<p align="center">Tier B: Server HP ProLiant DL585G7</p> <p>4 x AMD Opteron Processor 6176 SE 2.30 GHz 256GB 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">Database Log</p> <p>Tier A: Clients</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>Storage</p> <p>4 x HP 300GB 6G SAS 10K SFF DP (internal) 7 x HP Smart Array P411/512 MB 28 x HP StorageWorks D2700 Disk Enclosure 700 x 72GB 6G SAS 15K SFF DP</p>				
Initial Database Size	Redundancy Level: 1	Storage		
6,210 GB	RAID10:Log/RAID10:Data	702x72GB 15K , 4x300GB 10K		



HP ProLiant DL585G7
AMD Opteron 2.3 GHz 12MB L3

TPC-E	1.10.0
TPC-Pricing	1.5.0
Report date	21-Jun-10
Availability Date	21-Jun-10

Description	Part Number	Brand	Unit Price	Qty.	Extended Price	3 Yr Maint Price
Server Hardware (Tier B)						
HP DL585R07 CTO Chassis Svr	590480-B21	1	4,036	1	4,036	
HP DL585G7 6176SE FIO 2P Kit	601351-L21	1	3,600	2	7,200	
HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21	1	990	32	31,680	
HP 72GB 3G SAS 10K SFF DP ENT HDD	384842-B21	1	259	2	518	
HP Smart Array P411/512 MB with BBWC Controller	462832-B21	1	649	7	4,543	
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
			Subtotal		\$50,400	\$1,397
Server Software						
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
			Subtotal		\$79,032	259
Storage						
HP StorageWorks D2700 Disk Enclosure	AJ941A	1	3,399	28	95,172	
HP StorageWorks D2700 Disk Enclosure (10% Spares)	AJ941A	1	3,399	3	10,197	
HP 72GB 6G SAS 15K SFF DP ENT HDD	512545-B21	1	349	700	244,300	
HP 72GB 6G SAS 15K SFF DP ENT HDD (10% Spares)	512545-B21	1	349	70	24,430	
HP 5642 Pallet Unassembled Rack	358254-B21	1	865	2	1,730	
			Subtotal		375,829	0
Client Hardware (Tier A)						
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
			Subtotal		15,056	2,792
Client Software						
Microsoft Windows Server 2008 Standard (x64)	P73-04165	2	711	4	2,844	
			Subtotal		2,844	0
Infrastructure						
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	
			Subtotal		5,292	454
			Total Extended Price		\$528,453	\$4,902
HP's Large Configuration Discount *	16.0%		Total Discounts		\$71,452	\$743
			Grand Total		\$457,001	\$4,159

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.

Three-year Cost of Ownership: USD	\$461,160
tpsE	1,400.14
\$ USD/tpsE	\$330

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.

Hewlett-Packard Company		HP ProLiant DL585G7 2.3 GHz 6MB L2 C/S with 4 HP ProLiant DL360 G5		TPC-E Rev. 1.10.0 TPC-Pricing 1.5.0 TPC-Energy 1.1.1 Report Date: June 21, 2010
Total System Cost	TPC-E Throughput	Price/Performance	Availability Date	TPC-Energy
\$461,160	1400.14 tpsE	\$330 USD/tpsE	June 21, 2010	6.72 watts/tpsE

Numerical Quantities For Reported Energy Configuration:

REC Idle Power: 8140 watts

Average Power of REC: 9403 watts

	Secondary Metrics	Additional Numerical Quantities			
	watts / tpsE	Full Load Avg watts	Full Load % of REC	Idle Avg. watts	Idle % of REC
Database Server	0.70	977.16	10.4%	790.73	9.7%
Storage	5.38	7,532.00	80.1%	6,502.56	79.9%
Application Server	0.54	763.04	8.1%	715.53	8.8%
Miscellaneous	0.09	131.23	1.4%	131.57	1.6%
Total REC	6.72	9403	100%	8140	100%

Lowest ambient temperature at air inlet: 21.44 °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



HP DL585 G7
AMD Opteron 2.3 GHz 12MB L3

TPCE Rev 1.10.0
TPC Pricing 1.5.0

Report Date
 June 21, 2010

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 June 21, 2010

Numerical Quantities Summary

Reported Throughput	1400.14 tpsE	Configured Customers:	730,000
Response Times (in seconds)	Minimum	Average	90 th %tile Maximum
Broker Volume	0.01	0.06	0.10 6.96
Customer Position	0.00	0.03	0.06 8.07
Market Feed	0.00	0.04	0.07 26.18
Market Watch	0.00	0.03	0.07 6.95
Security Detail	0.00	0.02	0.03 7.04
Trade Lookup	0.00	0.57	0.75 7.71
Trade Order	0.00	0.08	0.14 10.27
Trade Result	0.00	0.09	0.16 10.00
Trade Status	0.00	0.02	0.05 6.92
Trade Update	0.01	0.63	0.77 7.57
Data Maintenance	0.01	0.09	0.56
Transaction Mix	Transaction Count		Mix %
Broker Volume	4,939,630		4.900%
Customer Position	13,104,688		13.000%
Market Feed	1,008,115		1.000%
Market Watch	18,145,594		18.000%
Security Detail	14,112,771		14.000%
Trade Lookup	8,063,896		7.999%
Trade Order	10,181,475		10.100%
Trade Result	10,081,046		10.000%
Trade Status	19,153,307		19.000%
Trade Update	2,015,927		2.000%
Data Maintenance	120		
Ramp-up Time	01:09:00		
Measurement Interval	2:00:00		
Business Recovery Time	1:03:03		
Total Number of Transactions Completed in Measurement Interval	100,806,449		