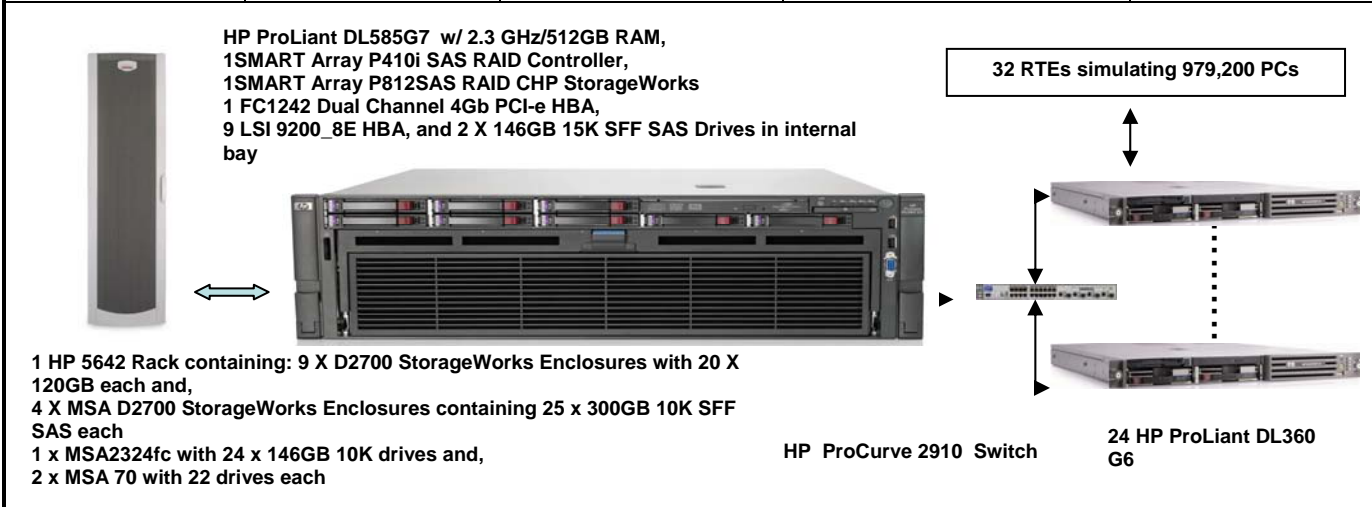


Hewlett-Packard Company	HP ProLiant DL585G7 2.3 GHz 12MB L3		TPC-C Rev. 5.11 TPC-Pricing 1.5.0 TPC-Energy 1.1.1	
	C/S with 24 HP ProLiant DL360 G6		Report Date: June 21, 2010	

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	TPC-Energy Metric
USD \$804,660	1,193,472 tpmC	USD \$0.68	Sept 1, 2010	5.93 watts/KtpmC

Database Server Processors /Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
4/48/48 AMD 2.3 GHz 12MB L3 cache	Microsoft SQL Server 2005 Enterprise x64 Edition SP3	Windows Server 2008 R2 Enterprise Edition	Microsoft Visual C++ Microsoft COM+	979,200



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processors/Cores/Threads	4/48/48	AMD 2.3GHz 12MB L3 cache	1/4/4	2.40 GHz Intel Xeon w/ 8MB L3 cache
Memory	512GB	(16x 16GB and 32x 8GB) DDR3	2GB	2048 MB
Disk Controllers	1 1 9 1	Smart P410i Controller Smart P812 Controller LSI 9200_8E HBA FC1242 Dual Channel 4Gb PCI-e HBA	1	Integrated Smart Array P410i Controller
Disk Drives	100 180 2 66	300GB 15K SFF SAS 6G 120 GB SSD 146 GB 15K SFF SAS 146 GB 15K SFF SAS	2	72 GB 15K SFF SAS
Total Storage		66,769.36 GB		72 GB

Hewlett-Packard		HP ProLiant DL585G7 2.3 GHz 12GB L3		TPC-C Rev. 5.11 TPC-Pricing 1.5.0 TPC-Energy 1.1.1	
Company		C/S with 24 HP ProLiant DL360 G6		Report Date: June 21, 2010	
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	TPC-Energy Metric	
USD \$804,660	1,193,472 KtpmC	USD \$0.68	September 1, 2010	5.93 watts/ KtpmC	

Numerical Quantities For Reported Energy Configuration:

REC Idle Power: 6694 watts

Average Power of REC: 7077 watts

	Secondary Metrics	Additional Numerical Quantities				Idle % of REC
	Watts / KtpmC	Full Load Avg Watts	Full Load % of REC	Full Load Watt Mins.	Idle Avg. Watts	
Database Server	0.80	950.80	13.4%	114,095	692.46	10.3%
Storage	1.75	2,084.47	29.5%	250,137	2,026.01	30.3%
Application Server	2.74	3,269.44	46.2%	392,333	3,203.36	47.9%
Miscellaneous	0.65	772.41	10.9%	92,689	772.59	11.5%
Total REC	5.93	7077	100%	849255	6694	100%

Lowest ambient temperature at air inlet: 20.56C

Items in Priced Configuration not in the Reported Energy Configuration:

None

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

25 HP LE1851w 18.5-Inch wide Monitor Part Number NK033AA#ABA

22 HP ProLiant DL360 G6 Rack Part Number 484184-B21

Hewlett-Packard Company	HP ProLiant DL585G7			TPC-C Rev. 5.11		
				Report Date	21-Jun-10	
Description	Part Number	Brand	Unit Price	Qty	Extended Price	3 yr. Maint. Price
Server Hardware						
HP DL585R07 CTO Chassis Svr,HP NC382i nic,Smart Array P410i Controller	590480-B21	1	4,036	1	4,036	
HP DL585G7 6176SE FIO 2P Kit	601351-L21	1	3,600	1	3,600	
HP DL585G7 6176SE 2P Kit	601351-B21	1	3,599	1	3,599	
HP 16GB 4Rx4 PC3-8500R-7 Kit	593915-B21	1	1,549	16	24,784	
HP 8GB 2Rx4 PC3-10600R-9 Kit	593913-B21	1	509	32	16,288	
HP Smart Array P812/1G Flash Backed Cache Controller	462832-B21	1	649	1	649	
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 5642 Pallet Unassembled Rack	358254-B21	1	865	1	865	
HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA	AE312A	1	1,780	1	1,780	
2 m LC-LC Multi-Mode Fibre Channel Cable	221692-B21	1	75	2	150	
2 m LC-LC Multi-Mode Fibre Channel Cable (spares)	221692-B21	1	75	2		150
HP StorageWorks 2324fc G2 Dual Controller Modular Smart Array (SFF)	AJ797A	1	8,900	1	8,900	
HP 3y 4h 24x7 MSA2000 Array HW Supp ,MSA2000 Dual Controller	UJ675E	1	1,513	1		1,513
HP 300GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty	507127-B21	1	519	100	51,900	
HP 120GB 3G SATA 2.5in MDL	572073-B21	1	2,659	180	478,620	
HP 146GB 6G SAS 15K SFF (2.5-inch)	512547-B21	1	499	66	32,934	
HP 146GB 6G SAS 15K SFF (2.5-inch)	512547-B21	1	499	2	998	
HP StorageWorks D2700 Disk Enclosure	AJ941A	1*	3,399	13	44,187	
HP 3y SupportPlus24 D2000 Enclosures,4h 24x7 onsite response	UQ105E	1	2,147	13		27,911
HP StorageWorks MSA 70 Disk Enclosure	418800-B21	1	3,199	2	6,398	
HP 3y 4h 24x7 MSA60/70 HW Support	UF303E	1	1,906	2		3,812
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years , DL585	U4497E	1	698	1		698
LSI 9200_8e	LSI00188	4	328	9	2,952	
LSI 9200_8e (10% spares)	LSI00188	4	328	2		656
				Subtotal	682,838	34,740
Server Software						
Microsoft SQL Server 2005 Enterprise X64 Edition(per processor)	810-03134	2	23,432	4	93,728	Incl Below
Microsoft Visual C++ Standard Edition	254-00170	2	109	1	109	Incl Below
Microsoft Windows Server 2008 R2 Enterprise Edition	P72-04217	2	2,280	1	2,280	Incl Below
Microsoft Problem Resolution Services		2	259	1		259
				Subtotal	96,117	259
Client Hardware						
HP ProLiant DL360 G6 Rack CTO Chassis,NC382i Dual Port nic	484184-B21	1S	1,301	24	31,224	
HP E5530 DL360 G6 FIO Kit	505882-L21	1S	799	24	19,176	
HP 460W CS HE Power Supply Kit	503296-B21	1S	249	24	5,976	
HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21	1S	120	24	2,880	
HP 72GB 15k 2.5 dual Port HP SAS Drive	418371-B21	1	379	48	18,192	
HP LE1851w 18.5-Inch wide Monitor	NK033AA#ABA	1	159	24	3,816	
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA	1	39	24	936	
HP CP 3Y 4H 24x7 HW Entry300 4-Hour 24 Hour x 7 Day Coverage 3 Years	U4497E	1	698	24		16,752
				Subtotal	82,200	16,752
Client Software						
Windows Server 2008 R2 Standard Edition	P73-04165	2	711	24	17,064	Incl. Above
				Subtotal	17,064	0
User Connectivity						
HP ProCurve 2910al-48G Switch	J9147A#ABA	1	4,569	1	4,569	
HP ProCurve3 Yr 4 hr/24x7 Onsite	H2893E	1	1,307	1		1,307
CAT 6 7 Foot Pink Patch Cable	CB242-7PK	3	2	50	80	
CAT 6 7 Foot Pink Patch Cable (spares)	CB242-7PK	3	2	5		8
				Subtotal	4,649	1,307
Large Purchase and Net 30 discount (See Note 1)	16.0%	1			(\$122,665)	(\$8,343)
				Total	\$760,203	\$44,456
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 pricing specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.						
					Three-Year Cost of Ownership: USD	\$804,660
					tpmC Rating:	1,193,472
					\$/ tpmC: USD	\$0.68
Pricing: 1=HP Direct 800-203-6748 2= Microsoft 3= deepsurplus.com 4= Microland Electronics						
Note 1 = Discount based on HP Direct guidance applies to all lines where pricing = 1 * SSD drive support in this enclosure will be available Sept 1 2010 see appendix F						
Note 2= (S) One or more componenet of the measured configuration have been substituted in the priced configuration. See FDR for details.						
Note 3 = The benchmark results were audited by Lorna Livingtree of Performance Metrics						
One or more components of the measured configuration have been substituted in the Priced Configuration. See the FDR for details.						

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

1,193,472 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.70	1.69	37.83
Payment	0.73	1.82	38.28
Order-Status	0.69	1.66	36.75
Delivery (interactive portion)	0.33	0.64	25.31
Delivery (deferred portion)	0.12	0.22	5.07
Stock-Level	0.76	1.73	26.59
Menu	0.35	0.69	40.40

Transaction Mix, in percent of total transaction

New-Order	44.94%
Payment	43.03%
Order-Status	4.01%
Delivery	4.01%
Stock-Level	4.01%

Emulation Delay (in seconds)

Resp.Time

Menu

New-Order	0.10	0.10
Payment	0.10	0.10
Order-Status	0.10	0.10
Delivery (interactive)	0.10	0.10
Stock-Level	0.10	0.10

Keying/Think Times (in seconds)

Min.

Average

Max.

New-Order	18.02/0.00	18.03/12.06	18.20/120.53
Payment	3.02/0.00	3.03/12.06	3.20/120.53
Order-Status	2.02/0.00	2.03/10.06	2.20/100.53
Delivery (interactive)	2.02/0.00	2.03/5.07	2.14/50.53
Stock-Level	2.02/0.00	2.03/5.06	2.18/50.53

Test Duration

Ramp-up time	33 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	318,657,481
Ramp down time	3.49 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes