HP ProLiant BL685c G7

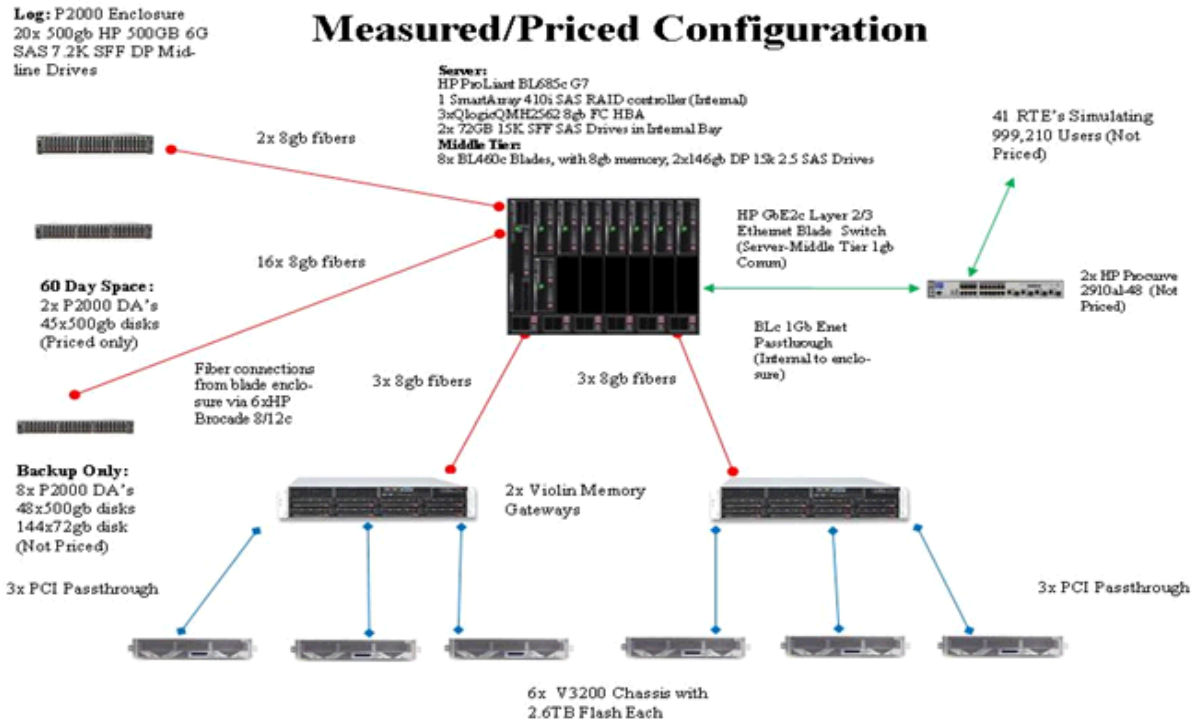
TPC-C Rev 5.11

Pricing Rev 1.6

Total System Cost	TPC Throughput	Price/Performance	Report Date	Availability Date
$642,516 USD	1,263,599 tpmC	$0.51 USD per tpmC	May 23, 2011	May 23, 2011

Procs/Cores/Threads	DataBase Manager	Operating System	Other Software	Number of Users
Srvr - 4/48/48 AMD Opteron 6174 @ 2.2GHz Client - 8 x 2/8/8 Intel Xeon E5520 @ 2.26 GHz	Microsoft SQL Server 2005 Enterprise X64 Edition SP3	Microsoft Windows Server 2008 R2 Enterprise Edition for X64-Based Systems	Microsoft Visual C++ Microsoft COM+ Transaction Monitor	999,210

Measured/Priced Configuration



System Components	Server		Each Client	
	Qty	Type	Qty	Type
Procs/Cores/Thrds Cache Memory	4/48/48	AMD Opteron 6174 CPUs @ 2.2GHz 6 MB L3 cache	2/8/8	2.26 GHz Intel Xeon E5520 8 Mbyte L3 Cache
Memory	32	16 Gbyte	1	8196 MB
Disk Controllers	3 1	QLogic QMH2562 8Gb DP FC Mezzanine Ca Smart Array P410i	1	SA 410i
Disk Drives	6 20 45 2	Violin Memory Appliance HP 500GB 6G SAS 7.2K SFF Dual Port Hard HP 500GB 6G SAS 7.2K SFF Dual Port Hard Dr (60 Day) HP 72GB 15K SAS drives (OS)	2	146 Gbyte disk
Total Storage		39709.11		146 Gbyte
Terminals	1	Console Terminal	1	Console Terminal

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TPC-C	5.11
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Description	Part Number	Brand	Unit	Qty.	Extended	3 Yr Maint
Server Hardware (Tier B)						
HP BL685c G7 CTO Blade (support included under client hardware)	518878-B21	1	6,251	1	6,251	
HP BL685c G7 O6174 12C 2P Kit	518871-B21	1	2,679	1	2,679	
HP BL685c G7 O6174 12C 2P FIO Kit	518871-L21	1	2,679	1	2,679	
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	593915-B21	1	899	32	28,768	
HP 72GB SAS 15K SFF DP ENT HDD	512545-B21	1	279	2	558	
QLogic QMH2562 8Gb FC HBA for HP BladeSystem c-Class	451871-B21	1	849	3	2,547	
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	
			Subtotal		**$43,680**	**$0**
Server Software						
Microsoft SQL Server 2005 Enterprise X64 Edition	810-03134	2	23,432	4	93,728	Incl Below
Windows Server 2008 R2 Enterprise Edition	P72-04217	2	2,280	1	2,280	Incl Below
Microsoft Problem Resolution Services	N/A	2	259	1		259
			Subtotal		**$96,008**	**259**
Storage						
V-3200 Chassis with PCIe 20 Gbit/s Interface 2.6TB Flash (21 x VIMM-128GSLC)	V-3202	3	50,250	4	201,000	
V-3200 Chassis with PCIe 20 Gbit/s Interface 2.6TB Flash (42 x VIMM-64GSLC)	V-3202A	3	50,250	2	100,500	
Violin Memory Gateway: 4 Port 4/8 Gbit/s Fiber Channel Interfaces	VMG-8GFCx4	3	8,040	2	16,080	
Violin Premium Maintenance - 1 year 4h 24 x7 support	VS-PM1Y	3	18,960	3		56,880
HP StorageWorks P2000 G3 FC MSA Dual Controller SFF Modular Smart Array	AP846A	1	10,350	1	10,350	
HP 3 years 4 hours 24x7 MSA 2000 G3 HW Support	UV394E	1	3,265	1		3,265
HP 500GB 6G SAS 7.2K SFF (2.5-inch) Dual Port Midline Hard Dr (Log)	507610-B21	1	349	20	6,980	
HP StorageWorks P2000 G3 FC MSA Dual Controller SFF Modular Smart Array	AP846A	1	10,350	2	20,700	
HP 3 years 4 hours 24x7 MSA 2000 G3 HW Support	UV394E	1	3,265	2		6,530
HP 500GB 6G SAS 7.2K SFF (2.5-inch) Dual Port Midline Hard Dr	507610-B21	1	349	45	15,705	
			Subtotal		**371,315**	**66,675**
Client Hardware (Tier A)						
HP BLc7000 Blade Enclosure 3 Inch LCD display	507019-B21	1	4,837	1	4,837	
Single Phase Power option for Blade Enclosure	413379-B21	1	175	1	175	
HP BLc 6x Active Cool 200 FIO Fan Option	517520-B21	1	894	1	894	
HP 2400W High Efficiency Power Supply	499243-B21	1	349	6	2,094	
HP BLc 1Gb Enet Pass Thru Mod Opt Kit	406740-B21	1	999	1	999	
HP GbE2c Layer 2/3 Ethernet Blade Switch	438030-B21	1	1,799	1	1,799	
HP Proliant BL460C G6 E5520 2.26Ghz Quad Core Blade Server	507782-B21	1	2,489	8	19,912	
HP E5520 BL460c G6 FIO Kit	507799-B21	1	599	8	4,792	
HP 4GB 2Rx4 PC3-10600R-9 Memory Kit	500658-B21	1	189	16	3,024	
HP 146GB 15k 2.5 dual Port HP SAS Drive	512547-B21	1	369	16	5,904	
HP 1year 4h 24x7 B Series Blades HW Support 16 Blades	UB329E	1	612	3		1,836
			Subtotal		**44,430**	**1,836**
Client Software						
Microsoft Windows Server 2008 Standard (x64) R2	P73-04980	2	711	8	5,688	
			Subtotal		**5,688**	**0**
Infrastructure						
HP 10642 G2 Pallet Universal Rack	AF001A	1	1,249	2	2,498	
HP Brocade 8/12c SAN Switch for BladeSystem c-Class	AJ820A	1	6,374	6	38,244	
HP 8Gb Shortwave B-series Fibre Channel 1 Pack SFP+ Transceiver	AJ716A	1	199	12	2,388	
2 m LC-LC Multi-Mode Fibre Channel Cable	221692-B21	1	75	12	900	
2 m LC-LC Multi-Mode Fibre Channel Cable (spares)	221692-B21	1	75	3	225	
2.1m/7ft CAT5 RJ45 M/M Ethernet Cable	C7535A	1	2	2	3	
2.1m/7ft CAT5 RJ45 M/M Ethernet Cable (spares)	C7535A	1	2	2	3	
			Subtotal		**44,261**	**0**
		Total Extended Price			**$605,382**	**$68,770**
Large Purchase and Net 30 discount (See Note 1)	16.0%	**Total Discounts**			**$29,776**	**$1,861**
		Grand Total			**$575,606**	**$66,909**

Pricing: 1=HP Direct 800-203-6748 2= Microsoft. 3=Violin Memory Systems Note 1: Discount based on HP Direct guidence 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	**$642,516**
TPM-C	**1,263,599**
$ USD/TPM-C	**$0.51**

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.

Numerical Quantities Summary for HP ProLiant BL685c G7

MQTH, Computed Maximum Qualified Throughput 1,263,599 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.26s	5.32s	0.15s
Payment	0.25s	5.39s	0.14s
Order-Status	0.26s	5.01s	0.15s
Delivery (interactive portion)	0.18s	2.12s	0.13s
Delivery (deferred portion)	0.07s	2.43s	0.03s
Stock-Level	0.33s	2.16s	0.20s
Menu	0.18s	2.91s	0.13s

Response time delay added for emulated components 0.1 seconds

Transaction Mix, in percent of total transactions

New-Order	44.97%
Payment	43.01%
Delivery	4.01%
Stock-Level	4.01%
Order-Status	4.01%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.00s	18.02s	18.41s	0.00s	12.06s	120.53s
Payment	3.00s	3.02s	3.41s	0.00s	12.06s	120.53s
Order-Status	2.00s	2.02s	2.4s	0.00s	10.05s	100.52s
Delivery (interactive)	2.00s	2.02s	2.4s	0.00s	5.07s	50.52s
Stock-Level	2.00s	2.02s	2.41s	0.00s	5.07s	50.52s

Test Duration

Ramp up time	57	minutes
Measurement interval	120	minutes
Transactions during measurement interval	350711596	
Ramp down time	46	minutes

Checkpointing

Number of checkpoints in measurement interval	4	
Checkpoint Interval	29.17	minutes