


<b>Hewlett-Packard</b>  <b>Company</b>	HP ProLiant BL25p 2.6 GHz Dual Core	TPC-C Rev. 5.6
	C/S with 4 HP ProLiant BL35p	<b>Report Date: May 4, 2006</b>

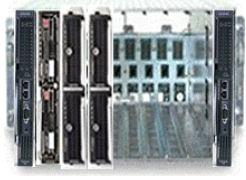
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>USD \$379,314</b>	<b>110,615</b>	<b>USD \$3.43</b>	<b>May 4, 2006</b>

Database Server Processors /Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
2/4/4 AMD Opteron 2.6 GHz DC	Microsoft SQL Server 2005 Enterprise x86 Edition SP1	Windows Server 2003, Enterprise x86 Edition SP1	Microsoft Visual C++ Microsoft COM+	<b>89520</b>



4 HP Racks 5642 containing: 20X MSA 30 StorageWorks Enclosure with 14X 36 GB 15K Drives each, 10X MSA 1000 StorageWorks Enclosure with 14X 36GB 15K Drives and 1X MSA 1000 Storage works Enclosure with 14X 72 GB 15K Drives

**1X HP BLp Enhanced Enclosure containing:**  
**1X HP ProLiant BL25p**  
**4X HP ProLiant BL35p**  
**1X HP BLp-Class C-GbE2 Interconnect Switch**



4 RTEs simulating 89520 PCs

	<b>Server</b>		<b>Each Client</b>	
<b>System Components</b>	Quantity	Description	Quantity	Description
Processors/Cores/Threads	2/4/4	2.6 GHz DC AMD Opteron w/ 1M Cache	2/2/2	2.4 GHz AMD Opteron w/ 1MB cache
Memory	4	8 GB DDR (2 X 4 GB)	2	1024 MB
Disk Controllers	1	Integrated Smart 6i Controller	1	Integrated IDE Controller
	1	HP BL25/45p Dual Port Fiber Channel Adapter		
Disk Drives	14	72 GB SCSI Drive	2	60 GB SCSI Drive
	422	36 GB SCSI Drive		
Total Storage		16,200 GB		120 GB

Hewlett-Packard	HP ProLiant BL25p/32GB/2.6GHz			TPC-C Rev. 5.6		
Company	Client/Server			Report Date:	4-May-06	
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
HP ProLiant BL25p 2.6GHz-1M DC 2G 2P	406425-B21					
- 2 embedded single port NC7781 Gigabit NICs						
- embedded dual port NC7782 Gigabit NIC						
- embedded Smart 6i array controller						
HP 8GB Reg PC2700 2x4GB Memory	395409-B21		7,299	4	29,196	
HP StoraGeworks MSA 30 SB Storage	302969-B21		2,829	20	56,580	
HP BLp Enhanced Enclosure w/8 RDP Licenses	281404-B22		2,039	1	2,039	
HP BLp-Class C-GbE2 Interconnect Switch	283192-B21		4,399	1	4,399	
Modular SAN Array 1000 (incl. 2 Gb SFP SW Transceiver Kit)	201723-B22		6,995	11	76,945	
HP StorageWorks 4/32 Full SAN Switch	A7393A		32,490	1	32,490	
HP BL25/45p Dual Port Fiber Channel Adapter	381881-B21		599	1	599	
HP 5642 Unassembled Rack	358254-B21		689	4	2,756	
UPS R1500 XR Low Voltage US	204404-001		866	2	1,732	
36GB 15Krpm U320 UNI HDD	286776-B22		269	420	112,980	
36GB 15Krpm U320 UNI HDD (10% spares)	286776-B22		269	42		11,298
36GB 15Krpm U320 UNI HDD (OS)	286776-B22		269	2	538	
72GB 15Krpm U320 UNI HDD	286778-B22		419	14	5,866	
72GB 15Krpm U320 UNI HDD	286778-B22		419	2	838	838
Blade Server Care Pack 3yr 4hr 24x7	UD188E		295	1		295
Blade Enclosure Care Pack 3yr 4hr 24x7	HC032E		737	1		737
Modular SAN Array 1000 (2 Gb SFP SW Transceiver Kit) (10% spare)	201723-B22		6,995	2		13,990
HP StoraGeworks MSA 30 SB Storage (10% spares)	302969-B21		2,829	2		5,658
HP 3y 4h 24x7 HW B Series 32 Ports SVC	UA260E		3,681	1		3,681
Storage Works LC/LC 15m Fibre Cable	221692-B23		103	13	1,339	
Storage Works LC/LC 15m Fibre Cable (10% spares)	221692-B23		103	2		206
HP s7540 17in. CRT Monitor	PF997AA#ABA		139	1	139	
HP PS/2 Scroll Mouse carbonite	DG169AV		5	1	5	
HP Enhanced Keyboard	DG170AV#ABA		10	1	10	
<b>Subtotal</b>					<b>333,250</b>	<b>36,703</b>
<b>Server Software</b>						
SQL Server 2005 Enterprise (x86) Edition	810-03150	Microsoft	23,911	2	47,822	
Visual C++ .Net Standard	254-00170	Microsoft	109	1	109	Incl below
Microsoft Windows Server 2003, Enterprise x86 Edition	P72-00264	Microsoft	2,334	1	2,334	Incl below
Microsoft Problem Resolution Services (1 incident)		Microsoft	245	1	245	
<b>Subtotal</b>					<b>50,265</b>	<b>245</b>
<b>Client Hardware</b>						
HP BL35p O2.4GHz 1M 2P Blade	374212-B21		3,499	4	13,996	
- 2 GB PC3200 DDR SDRAM, 2 embedded NC7781 Gigabit NIC						
HP BL35p Blade Sleeve Server	354101-B21		199	2	398	
HP BL35p 60GB ATA Hard Drive	354052-B21		299	8	2,392	
Blade Server Care Pack 3yr 4hr 24x7	UD188E		295	4		1,180
<b>Subtotal</b>					<b>16,786</b>	<b>1,180</b>
<b>Client Software</b>						
Microsoft Windows 2000 Server	C11-00821	Microsoft	738	4	2,952	Incl. Above
<b>Subtotal</b>					<b>2,952</b>	<b>0</b>
Large Purchase and Net 30 discount (See Note 1)	16.0%				(\$56,006)	(\$6,061)
<b>Total</b>					<b>\$347,247</b>	<b>\$32,067</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 pricing specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at <a href="mailto:pricing@tpc.org">pricing@tpc.org</a> . Thank you.				<b>Three-Year Cost of Ownership: \$379,314 USD</b>		
				<b>tpmC Rating: 110,615</b>		
				<b>\$ / tpmC: \$3.43 USD</b>		
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.						
Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc.						

## Numerical Quantities Summary

**MQTH, Computed Maximum Qualified Throughput**

**110,615 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90 %</b>	<b>Maximum</b>
New-Order	0.65	1.00	12.89
Payment	0.62	0.97	12.56
Order-Status	0.63	0.98	8.73
Delivery (interactive portion)	0.10	0.11	0.42
Delivery (deferred portion)	0.14	0.18	4.28
Stock-Level	0.64	0.99	9.68
Menu	0.10	0.11	0.44

### **Transaction Mix, in percent of total transaction**

New-Order	44.89%
Payment	43.06%
Order-Status	4.03%
Delivery	4.01%
Stock-Level	4.01%

### **Emulation Delay (in seconds)**

	<b>Resp.Time</b>	<b>Menu</b>
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)**

	<b>Min.</b>	<b>Average</b>	<b>Max.</b>
New-Order	18.02/0.00	18.03/12.07	18.36/120.64
Payment	3.02/0.00	3.03/12.08	3.36/120.64
Order-Status	2.02/0.00	2.03/10.07	2.36/100.63
Delivery (interactive)	2.02/0.00	2.03/5.08	2.36/50.63
Stock-Level	2.02/0.00	2.03/5.08	2.36/50.63

### **Test Duration**

Ramp-up time	53 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	30,624,939
Ramp down time	24 minutes

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval	30 minutes