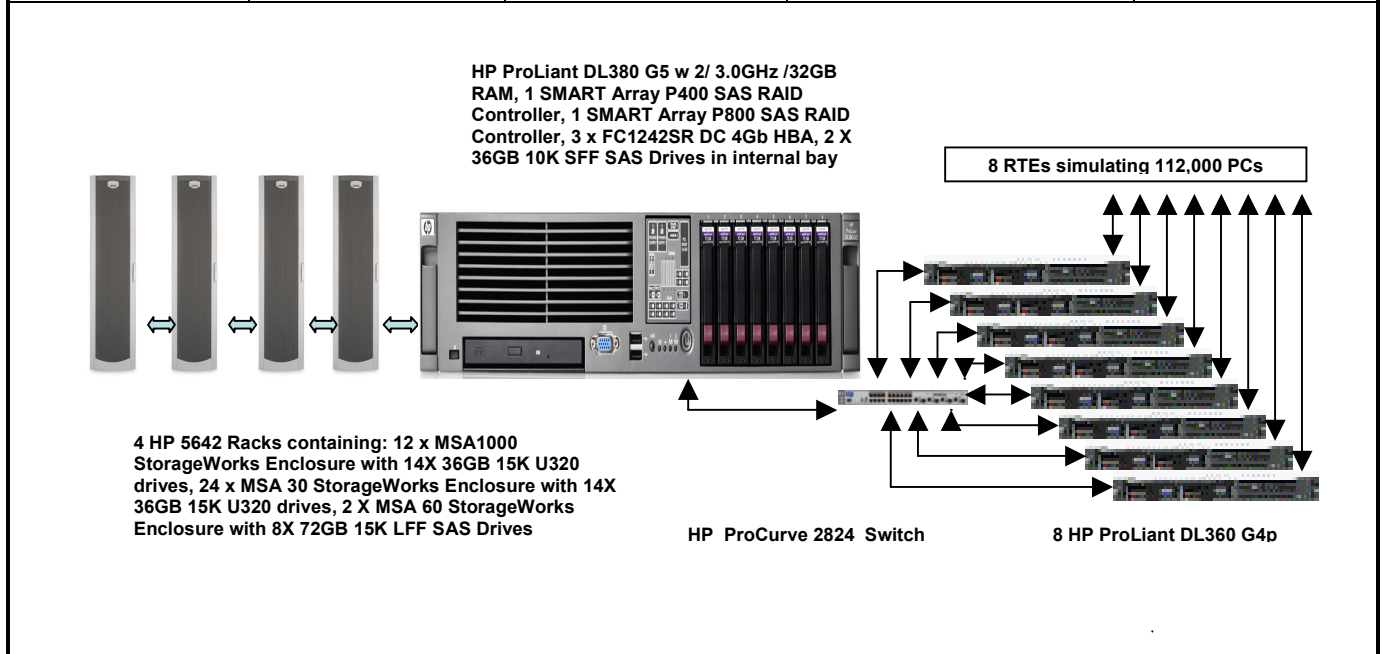


<b>Hewlett-Packard</b>  <b>Company</b>	HP ProLiant DL380 G5 5160 3.0 GHz/4MB Dual Core	TPC-C Rev. 5.7
	C/S with 8 HP ProLiant DL360 G4p	<b>Report Date: June 26, 2006</b>

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>USD \$499,207</b>	<b>140,264</b>	<b>USD \$3.56</b>	<b>Nov. 22, 2006</b>

Database Server Processors /Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
2/4/4 Intel 5160 3.0 GHz DC	Microsoft SQL Server 2005 Enterprise x64 Edition SP1	Windows Server 2003 Enterprise x64 Edition SP1	Microsoft Visual C++ Microsoft COM+	<b>112,000</b>



	<b>Server</b>		<b>Each Client</b>	
<b>System Components</b>	Quantity	Description	Quantity	Description
Processors/Cores/Threads	2/4/4	3.0 GHz DC Intel 5160 w/ 4M Cache	2/2/4	3.6 GHz Intel Xeon w/ 2MB cache
Memory	4	8 GB DDR (2 X 4 GB)	1	1024 MB
Disk Controllers	1 1 3	Smart P400 Controller Smart P800 Controller FC1242SR DC 4Gb HBA	1	Integrated Smart Array 6i Controller
Disk Drives	16	72GB 15K LFF SAS Drives (log)	2	36 GB SCSI Drive
	504	36 GB 15K U320 Drives (data)		
	2	36 GB 10K SFF SAS Drives (internal, OS)		
<b>Total Storage</b>		<b>18,184.40 GB</b>		<b>72 GB</b>

Hewlett-Packard Company	HP ProLiant DL380 G5 5160 3.0GHz/4MB DC Client/Server		TPC-C Rev. 5.7			
			Report Date	26-Jun-06		
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
		<b>Brand Pricing</b>				
HP DL380G5 5160 2G Svr (p400/Dual Integrated Gigabit NIC)	417458-001	1	4,149	1	4,149	
HP X5160 DL380G5 Kit (3.0GHz/4MB dual-core processor option kit)	418324-B21	1	1,499	1	1,499	
8GB FBD PC2-5300 2 x 4GB Kit	397415-B21	1	10,499	4	41,996	
HP Smart Array P800/512MB SAS Controller	381513-B21	1*	1,299	1	1,299	
HP StorageWorks MSA-60 Storage	418408-B21	1*	3,250	2	6,500	
HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-E HBA	AE312A	1	2,200	3	6,600	
HP StorageWorks4gbSW SFP Transceiver	A7446B	1	199	18	3,582	
HP StorageWorks SAN Switch 4/32	A7393A	1	32,490	1	32,490	
Modular SAN Array 1000 (incl. 2 Gb SFP SW Transceiver Kit)	201723-B22	1	6,995	12	83,940	
HP StorageWorks MSA 30 SB Storage	302969-B21	1	2,829	24	67,896	
HP s7540 17in. CRT Monitor	PF997AA#ABA	1	139	1	139	
HP PS/2 Scroll Mouse carbonite	DG169AV	1	5	1	5	
HP Enhanced Keyboard	DG170AV#ABA	1	10	1	10	
HP 5642 Pallet Unassembled Rack	358254-B21	1	689	4	2,756	
UPS R1500 XR Low Voltage US	204404-001	1	866	1	866	
36GB 15Krpm U320 UNI HDD	286776-B22	1	269	504	135,576	
36GB 15Krpm U320 UNI HDD (10% spares)	286776-B22	1	269	51		13,719
HP 72GB 15K SAS 3.5 Hot Plug Hard Drive	375870-B21	1	399	16	6,384	
HP 72GB 15K SAS 3.5 Hot Plug Hard Drive (10% Spares)	375870-B21	1	399	2		798
HP 36GB 10K SAS 2.5 Hot Plug Hard Drive	375859-B21	1	299	2	598	
HP StorageWorks MSA 30 SB Storage (10% spares)	302969-B21	1	2,829	3		8,487
HP StorageWorks MSA-60 Storage (10% Spares)	418408-B21	1*	3,250	2		6,500
Modular SAN Array 1000 (incl. 2 Gb SFP SW Transceiver Kit) (10% spares)	201723-B22	1	6,995	2		13,990
HP StorageWorks4gbSW SFP Transceiver (10% spares)	A7446B	1	199	2		398
Storage Works LC/LC 15m Fibre Cable	221692-B23	1	103	18	1,854	
Storage Works LC/LC 15m Fibre Cable (10% spares)	221692-B23	1	103	2		206
HP 3y 4h 24x7 ProLiant DL38x HW Support ,ProLiant Server DL38x	U4545E	1	949	1		949
HP CP 3y 4h 24x7 HW B series 32 ports	UA260E	1	5,760	1		5,760
				<b>Subtotal</b>	<b>398,139</b>	<b>50,807</b>
<b>Server Software</b>						
Microsoft SQL Server 2005 Enterprise X64 Edition(per processor)	810-03150	Microsoft	23,911	2	47,822	Incl Below
Microsoft Visual C++ Standard	254-00170	Microsoft	109	1	109	Incl Below
Microsoft Windows 2003 Server, Enterprise Edition X64	P72-00274	Microsoft	2,334	1	2,334	Incl Below
Microsoft Problem Resolution Services		Microsoft	245	1		245
				<b>Subtotal</b>	<b>50,265</b>	<b>245</b>
<b>Client Hardware</b>						
HP DL360G4p X3.6GHz/2MB/1GB SCSI US Srvr	376236-001	1	2,799	8	22,392	
Dual Integrated Gigabit NIC, Integrated Smart Array Controller 6i						
Intel Xeon 3.6GHz 2MB DL360G4 Processor	376242-B21	1	999	8	7,992	
36GB 15K U320 Pluggable Hard Drive	286776-B22	1	269	16	4,304	
HP CP 3Y 4H 24x7 HW Entry300 4-Hour 24 Hour x 7 Day Coverage 3 Years	162675-002	1	599	8		4,792
				<b>Subtotal</b>	<b>34,688</b>	<b>4,792</b>
<b>Client Software</b>						
Windows Server 2000, Standard Edition	C11-00821	Microsoft	738	8	5,904	Incl. Above
				<b>Subtotal</b>	<b>5,904</b>	<b>0</b>
<b>User Connectivity</b>						
HP ProCurve Switch 2824	J4903A#ABA	1	2499	1	2,499	
HP CP for HP ProCurve Networking products 3 Yr 4 hr/24x7	U2856E	1	1000	1		1,000
10 foot Cat5E Non Booted Network Patch Cables (plus 10% spares)	cb1c5ENB10	3	3	20	60	
				<b>Subtotal</b>	<b>2,559</b>	<b>1,000</b>
Large Purchase and Net 30 discount (See Note 1)	10.0%	1			<b>(\$43,533)</b>	<b>(\$5,660)</b>
				<b>Total</b>	<b>\$448,022</b>	<b>\$51,184</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 pricing@tpc.org. Thank you.				<b>Three-Year Cost of Ownership: USD \$499,207</b>		
				<b>tpmC Rating: 140,264</b>		
				<b>\$ / tpmC: USD \$3.56</b>		
Pricing: 1=HP Direct 800-203-6748 2= Microsoft 3= LanAdapters.com						
Note 1 = Discount based on HP Direct guidance applies to all lines where pricing = 1						
* = These components are not immediately orderable. See the FDR for more information.						
Note 2 = The benchmark results were audited by Lorna Livingtree of Performance Metrics						

## Numerical Quantities Summary

**MQTH, Computed Maximum Qualified Throughput**

**140,264 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
New-Order	0.32	0.53	9.08
Payment	0.29	0.50	9.77
Order-Status	0.30	0.52	8.48
Delivery (interactive portion)	0.10	0.11	0.24
Delivery (deferred portion)	0.18	0.30	4.98
Stock-Level	0.30	0.52	7.32
Menu	0.10	0.11	0.41

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

New-Order	44.93%
Payment	43.03%
Order-Status	4.01%
Delivery	4.01%
Stock-Level	4.02%

### **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	18.03/12.12	18.40/121.13
Payment	3.02/0.00	3.03/12.12	3.41/121.13
Order-Status	2.02/0.00	2.03/10.12	2.39/101.03
Delivery (interactive)	2.02/0.00	2.03/5.09	2.23/50.72
Stock-Level	2.02/0.00	2.03/5.09	2.41/50.72

### **Test Duration**

Ramp-up time	20 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	38,964,451
Ramp down time	29 minutes

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval	30 minutes