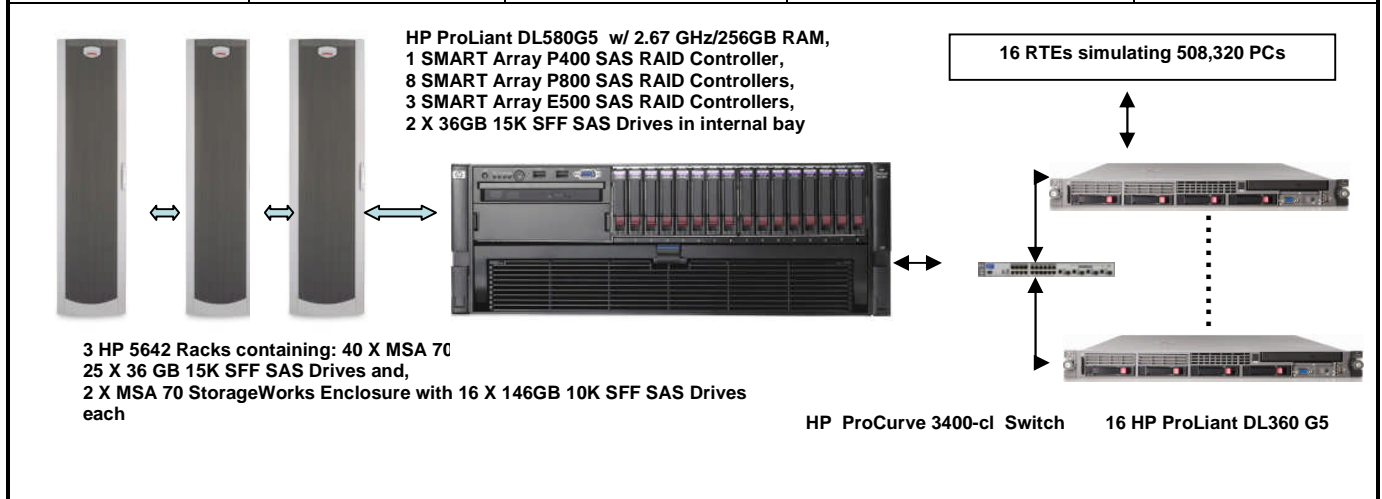


<b>Hewlett-Packard</b>  <b>Company</b>	HP ProLiant DL580 G5 2.67GHz 16MB L2	TPC-C Rev. 5.9
	C/S with 16 HP ProLiant DL360 G5	Report Date: Aug 19, 2008

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>USD \$694,002</b>	<b>634,825</b>	<b>USD \$1.10</b>	<b>Sept 15, 2008</b>

Database Server Processors /Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
4/24/24 Intel Xeon 2.67GHz 16MB L2 cache	Microsoft SQL Server 2005 Enterprise x64 Edition SP2	Windows Server 2003 R2 Enterprise x64 Edition	Microsoft Visual C++ Microsoft COM+	<b>508,320</b>



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processors/Cores/Threads	4/24/24	Intel Xeon 2.67GHz 16MB L2 cache	1/4/4	2.83 GHz Intel Xeon w/ 12MB L2 cache
Memory	256GB	(32x 8GB) GB FBD	1GB	1024 MB
Disk Controllers	1 8 3	Smart P400i Controller Smart P800 Controller Smart E500 Controller	1	Integrated Smart Array 400i Controller
Disk Drives	32 1000 2	146GB 10K SFF SAS 36 GB 15K SFF SAS 36 GB 15K SFF SAS	2	36 GB 15K SFF SAS
Total Storage		38,208.20 GB		36 GB

Hewlett-Packard Company	HP ProLiant DL580G5			TPC-C Rev. 5.9			
				Report Date	19-Aug-08		
Description	Part Number	Brand	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
<b>Server Hardware</b>							
DL580R05 CTO Chassis	487381-B21 *	1	4,755	1	4,755		
HP DL580G5 X7460 2.67 16M 6 core Kit	487373-L21 *	1	3,599	1	3,599		
HP DL580G5 X7460 2.67 16M 6 core Kit	487373-B21 *	1	3,599	3	10,797		
HP Slim 12.7mm SATA DVD Optical Kit	481041-B21	1	90	1	90		
512MB BBWC upgrade P400/256	405148-B21	1	319	1	319		
1200W 12V Hotplug AC Power Supply	437572-B21	1	349	2	698		
DL580G5 Memory Board	452179-B21	1	299	1	299		
HP DL580G5 PCI-E IO Option Kit	452181-B21	1	199	1	199		
HP 16GB Reg PC2-5300 2x8GB Kit	408855-B21	1	2,629	16	42,064		
HP Smart Array P800/512MB SAS Controller	381513-B21	1	949	8	7,592		
HP Smart Array E500/256 SAS Controller	435129-B21	1	499	3	1,497		
HP SA Cache Battery Kit	383280-B21	1	109	3	327		
HP w17e 17-inch Widescreen LCD Monitor	GV537AA#ABA	1	219	1	219		
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA	1	39	1	39		
HP 5642 Pallet Unassembled Rack	358254-B21	1	865	3	2,595		
HP R1.5 kVA 1U NA UPS	AF419A	1	739	1	739		
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21	1	349	1000	349,000		
HP 36GB 15k 2.5 Single Port HP SAS Drive (10% Spares)	431933-B21	1	349	100		34,900	
HP 146GB 10k 2.5 SAS HP SP HDD	431958-B21	1	329	32	10,528		
HP 146GB 10k 2.5 SAS HP SP HDD (10% Spares)	431958-B21	1	329	4		1,316	
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21	1	349	2	698		
HP StorageWorks MSA-70 Storage	418800-B21	1	3,199	42	134,358		
HP StorageWorks MSA-70 Storage (10% Spares)	418408-B21	1	3,199	5		15,995	
HP 3y 4h 24x7 ProLiant D58x HW Support ,ProLiant Server DL58x	U4608E	1	1,575	1		1,575	
					<b>Subtotal</b>	<b>570,412</b>	<b>53,786</b>
<b>Server Software</b>							
Microsoft SQL Server 2005 Enterprise X64 Edition(per processor)	810-03134	2	23,432	4	93,728	Incl Below	
Microsoft Visual Studio Standard 2005	127-00012	2	250	1	250	Incl Below	
Microsoft Windows 2003 R2 Server, Enterprise Edition X64	P72-01684	2	2,334	1	2,334	Incl Below	
Microsoft Problem Resolution Services		2	245	1		245	
					<b>Subtotal</b>	<b>96,312</b>	<b>245</b>
<b>Client Hardware</b>							
HP DL360R05 E5440 2G US Svr	457923-001	1	2,799	16	44,784		
Dual Integrated Gigabit NIC, HP Smart Array P400i/256MB Controller							
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21	1	349	32	11,168		
HP w17e 17-inch Widescreen LCD Monitor	GV537AA#ABA	1	219	1	219		
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA	1	39	1	39		
HP CAT5 0x2x16 KVM Server Console Switch	336045-B21	1	1,099	1	1,099		
HP IP Console 8 pack Interface Adapter	262587-B21	1	709	2	1,418		
HP CP 3Y 4H 24x7 HW Entry300 4-Hour 24 Hour x 7 Day Coverage 3 Years	U4497E	1	550	12		6,600	
					<b>Subtotal</b>	<b>58,727</b>	<b>6,600</b>
<b>Client Software</b>							
Windows Server 2003 R2 Standard Edition	P73-01972	2	719	16	11,504	Incl. Above	
					<b>Subtotal</b>	<b>11,504</b>	<b>0</b>
<b>User Connectivity</b>							
HP ProCurve Switch 3400cl-48G	J4903A#ABA	1	6,899	1	6,899		
HP CP for HP ProCurve Networking products 3 Yr 4 hr/24x7	U2856E	1	1,000	1		1,000	
CAT 6 7 Foot Gray Patch Cable	416-3007	3	3	34	94		
CAT 6 7 Foot Gray Patch Cable	416-3007	3	3	4		11	
					<b>Subtotal</b>	<b>6,993</b>	<b>1,011</b>
Large Purchase and Net 30 discount (See Note 1)	16.0%	1			<b>(\$101,766)</b>	<b>(\$9,822)</b>	
					<b>Total</b>	<b>\$642,181</b>	<b>\$51,820</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 \$694,002</b>	
Pricing: 1=HP Direct 800-203-6748 2= Microsoft 3= graycables.com						<b>tpmC Rating: 634,825</b>	
Note 1 = Discount based on HP Direct guidance applies to all lines where pricing = 1						<b>\$/ tpmC: USD \$1.10</b>	
* = 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**

**634,825 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
New-Order	0.42	1.13	7.42
Payment	0.39	1.10	5.62
Order-Status	0.42	1.13	8.70
Delivery (interactive portion)	0.12	0.11	2.72
Delivery (deferred portion)	0.13	0.18	4.97
Stock-Level	0.45	1.17	4.00
Menu	0.12	0.11	2.74

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

New-Order	44.93%
Payment	43.04%
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	18.03/12.07	18.64/120.57
Payment	3.02/0.00	3.03/12.06	3.62/120.53
Order-Status	2.02/0.00	2.03/10.06	2.62/100.53
Delivery (interactive)	2.02/0.00	2.03/5.07	2.62/50.53
Stock-Level	2.02/0.00	2.03/5.06	2.59/50.53

### **Test Duration**

Ramp-up time	59 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	176,342,530
Ramp down time	32 minutes

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval	30 minutes