

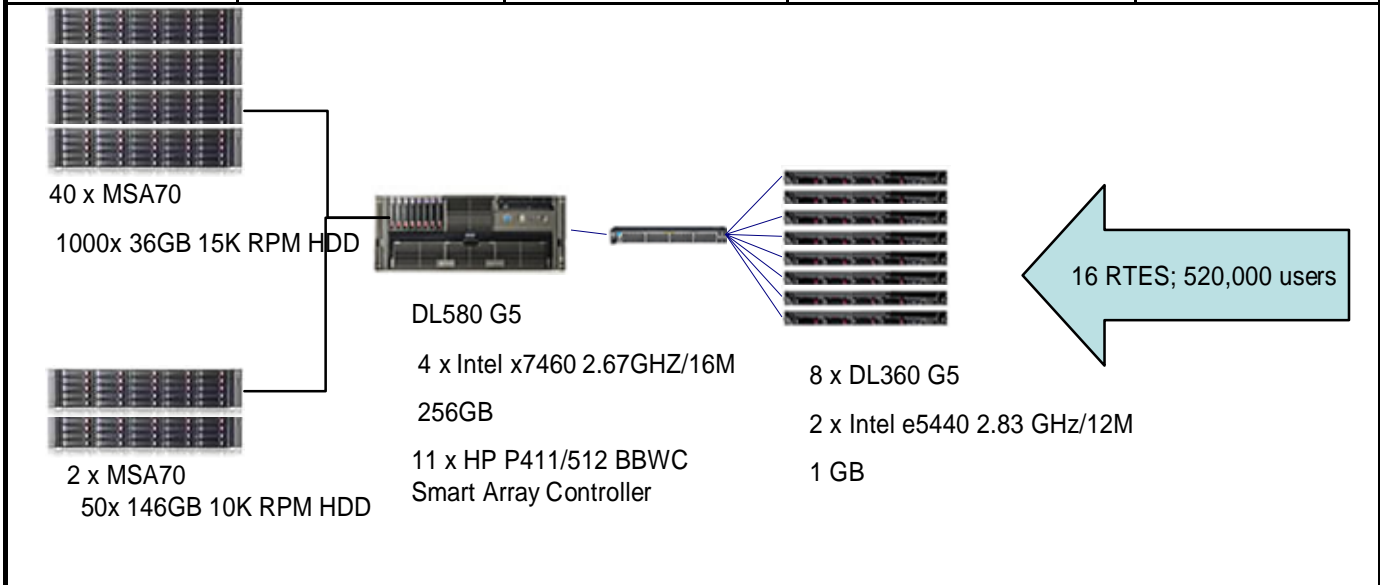


**HP ProLiant DL580 G5**  
**2.67 GHz 16MB L2**  
**C/S with 8 ProLiant DL360G5**

**TPC-C Version 5.9**

Report Date  
**January 16, 2009**

Total System Cost		TPC-C Throughput	Price/Performance	Availability Date
<b>\$615,914 USD</b>		<b>639,253 tpmC</b>	<b>\$0.97 USD/ tpmC</b>	<b>January 26, 2009</b>
Processors	Database Manager	Operating System	Other Software	Number of Users
4/24/24 Intel Xeon 2.67 GHz 16MB L2 cache	Oracle Database 11g Standard Edition	Oracle Enterprise Linux	Microsoft COM+	<b>520,000</b>



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	4/24/24	4/24/24 Intel Xeon 2.67 GHz 16MB L2 cache	1/4/4	2.83 GHz Intel Xeon w/ 12MB L2 Cache
Memory	256 GB	32x8GB	2.0	2x1024 MB
Disk Controllers	11	HP P411 BBWC Smart Array Controller	1	Integrated Smart Array 400i Controller
Disk Drives	50	146 GB 10K SFF SAS drives (log)	1	36 GB 15K SAS
	1000	36 GB 15K SFF SAS drives (data)		
	2	36 GB 10K SFF SAS drives (OS)		
Total Storage	43372 GB			

Hewlett-Packard Company		HP ProLiant DL580G5			TPC-C Rev. 5.9		
					Report Date	16-Jan-09	
Description	Part Number	Brand	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
<b>Server Hardware</b>							
DL580R05 CTO Chassis	487381-B21		4,755	1	4,755		
HP DL580G5 X7460 2.67 16M 6 core Kit	487373-B21		3,749	1	3,749		
HP DL580G5 X7460 2.67 16M 6 core Kit	487373-B21		3,749	3	11,247		
HP Slim 12.7mm SATA DVD Optical Kit	481041-B21		90	1	90		
512MB BBWC upgrade P400/256	405148-B21		319	1	319		
1200W 12V Hotplug AC Power Supply	437572-B21		349	2	698		
DL580G5 Memory Board	452179-B21		299	1	299		
HP DL580G5 PCI-E IO Option Kit	452181-B21		199	1	199		
HP 16GB Reg PC2-5300 2x8GB Kit	408855-B21		2,399	16	38,384		
HP P411/512 BBWC Smart Array Controller	462832-B21		949	11	10,439		
HP w17e 17-inch Widescreen LCD Monitor	GV537AA#ABA		219	1	219		
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA		39	1	39		
HP 5642 Pallet Unassembled Rack	358254-B21		865	3	2,595		
HP R1.5 kVA 1U NA UPS	AF419A		739	1	739		
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21		349	1000	349,000		
HP 36GB 15k 2.5 Single Port HP SAS Drive (10% Spares)	431933-B21		349	100		34,900	
HP 146GB 10k 2.5 SAS HP SP HDD	431958-B21		339	50	16,950		
HP 146GB 10k 2.5 SAS HP SP HDD (10% Spares)	431958-B21		339	5		1,695	
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21		349	2	698		
HP StorageWorks MSA-70 Storage	418800-B21		3,199	42	134,358		
HP StorageWorks MSA-70 Storage (10% Spares)	418800-B21		3,199	5		15,995	
HP 3y 4h 24x7 ProLiant D58x HW Support ,ProLiant Server DL58x	U4608E		1,575	1		1,575	
					<b>Subtotal</b>	<b>574,777</b>	<b>54,165</b>
<b>Server Software</b>							
Oracle Database 11g Standard Edition, Unlimited Users , 3 years		4	8,750	4	35,000		
Oracle Premium support for 3 years		4	2,300	3		6,900	
Oracle Enterprise Linux Basic Limited - System 3 Year		4	3,597	1		3,597	
					<b>Subtotal</b>	<b>35,000</b>	<b>10,497</b>
<b>Client Hardware</b>							
HP DL360R05 E5440 2G US Svr	457923-001		2,889	8	23,112		
Dual Integrated Gigabit NIC, HP Smart Array P400i/256MB Controller							
HP 36GB 15k 2.5 Single Port HP SAS Drive	431933-B21		349	8	2,792		
HP w17e 17-inch Widescreen LCD Monitor	GV537AA#ABA		219	1	219		
HP PS/2 Keyboard And Mouse Bundle	RC464AA#ABA		39	1	39		
HP CAT5 0x2x16 KVM Server Console Switch	336045-B21		1,099	1	1,099		
HP CAT5 0x2x16 KVM Server Console Switch (spares)	336045-B21		1,099	2		2,198	
HP IP Console 8 pack Interface Adapter	262587-B21		709	1	709		
HP IP Console 1 pack Interface Adapter ( spares)	262588-B21		99	2		198	
HP CP 3Y 4H 24x7 HW Entry300 4-Hour 24 Hour x 7 Day Coverage 3 Years	U4497E		550	8		4,400	
					<b>Subtotal</b>	<b>27,970</b>	<b>6,796</b>
<b>Client Software</b>							
Windows Server 2003 R2 Standard Edition	P73-02509	2	999	8	7,992	Incl. Below	
Microsoft Problem Resolution Services		2	245	1		245	
Microsoft Visual Studio Standard 2005	127-00012	2	250	1	250	Incl. Above	
					<b>Subtotal</b>	<b>8,242</b>	<b>245</b>
<b>User Connectivity</b>							
HP ProCurve Switch 3400cl-48G	J4903A#ABA		6,899	1	6,899		
HP CP for HP ProCurve Networking products 3 Yr 4 hr/24x7	U2856E		1,000	1		1,000	
CAT 6 7 Foot Gray Patch Cable	416-3007	3	3	18	50		
CAT 6 7 Foot Gray Patch Cable (Spares)	416-3007	3	3	2		6	
					<b>Subtotal</b>	<b>6,949</b>	<b>1,006</b>
<b>Discounts</b>							
Large Purchase and Net 30 discount (See Note 1)	16.0%	1			<b>(\$97,543)</b>	<b>(\$9,914)</b>	
Oracle E-Business Discount		4				<b>(\$2,275)</b>	
					<b>Total</b>	<b>\$555,394</b>	<b>\$60,520</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</b>		<b>\$615,914</b>
					<b>tpmC Rating:</b>		<b>639,253</b>
					<b>\$ / tpmC: USD</b>		<b>\$0.97</b>
Pricing: 1=HP Direct 800-203-6748 2= Microsoft 3= graycables.com 4=Oracle							
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**

**639,253 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
New-Order	0.392	1.250	33.251
Payment	0.378	1.236	28.028
Order-Status	0.391	1.248	3.224
Delivery (interactive portion)	0.345	1.146	2.997
Delivery (deferred portion)	0.023	0.046	6.079
Stock-Level	0.432	1.313	3.431
Menu	0.346	1.149	2.999

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

New-Order	44.995
Payment	43.002%
Order-Status	4.001%
Delivery	4.001%
Stock-Level	4.001%

<b>Emulation Delay (in seconds)</b>	<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

<b>Keying/Think Times (in seconds)</b>	<b>Min.</b>	<b>Average</b>	<b>Max.</b>
New-Order	18.005/0.00	18.005/12.501	18.013/124.970
Payment	3.010/0.00	3.010/12.010	3.017/120.095
Order-Status	2.010/0.00	2.010/10.011	2.016/100.088
Delivery (interactive)	2.010/0.00	2.010/5.020	2.016/50.125
Stock-Level	2.010/0.00	2.010/5.010	2.016/50.086

### **Test Duration**

Ramp-up time	1:14:00
Measurement interval	2:00:00
Transactions (all types) completed during measurement interval	170,485,806
Ramp down time	0:49:00

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval (average)	28:47