

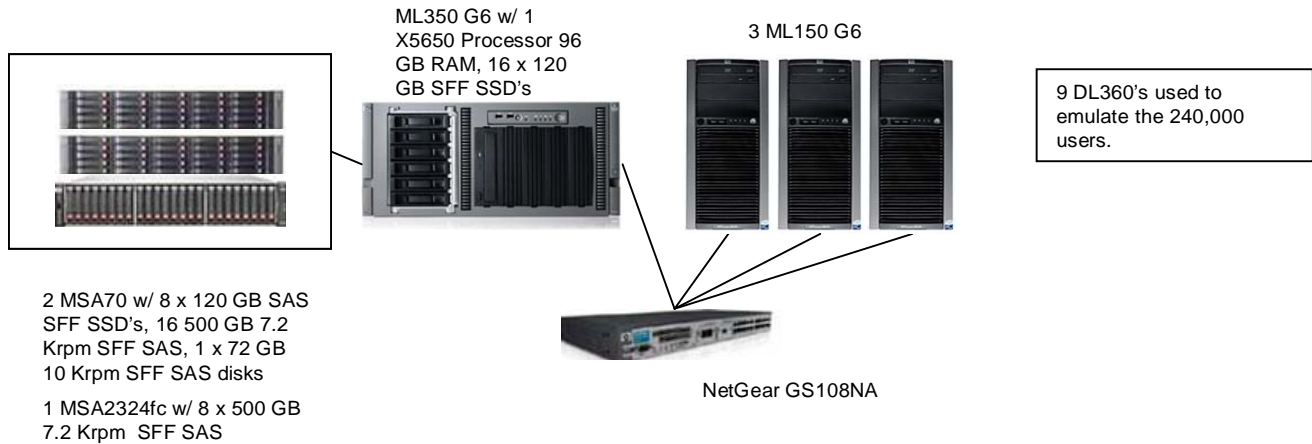


**HP ProLiant ML350 G6**  
**2.67 GHz 12MB L2**  
**C/S with 3 ProLiant ML150 G6**

**TPC-C Version 5.11**  
**TPC-Pricing 1.5.0**  
**TPC-Energy 1.1.1**

**Report Date: August 16, 2010**

Total System Cost	TPC-CThroughput	Price/Performance	Availability Date	TPC-Energy Metric
<b>\$113,012 USD</b>	<b>290,040 tpmC</b>	<b>\$0.39 USD/tpmC</b>	<b>August 16, 2010</b>	<b>4.22 Watts/KtpmC</b>
Processors	Database Manager	Operating System	Other Software	Number of Users
1/6/12 Intel Xeon 2.67 GHz 12MB L2 cache	Oracle Database 11g Release 2 Standard Edition One	Oracle Enterprise Linux	Microsoft COM+	<b>240,000</b>



System Components	Server		Each Client	
	Quantity	Description	Quantity	Description
Processor	1/6/12	1/6/12 Intel Xeon 2.67 GHz 12MB L2 cache	1/4/4	2.13 GHz Intel Xeon w/ 4MB L2 Cache
Memory	96 GB	6x16GB	2.0	2x1024 MB
Disk Controllers	1	HP P410i FBWC	1	Smart Array B110i SATA
Disk Drives	3	HP P410 FBWC	1	250 GB NHP SATA
	2	HP P411 FBWC		
	24	120 GB SSD's		
Total Storage	24	500 GB 7.2 Krpm SFF SAS drives (data)		
	1	72 GB 10K SFF SAS drives (OS)		
	13,928.3			

<b>Hewlett-Packard</b>		<b>HP ProLiant ML350 G6 2.67 GHz w/ 12 MB L3</b>		TPC-C Rev. 5.11 TPC-Pricing 1.5.0 TPC-Energy 1.1.1	
<b>Company</b>		<b>C/S with 3 ProLiant ML150 G6</b>		<b>Report Date: August 16, 2010</b>	
Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	TPC-Energy Metric	
<b>USD \$113,012</b>	<b>290 KtpmC</b>	<b>USD \$0.39</b>	<b>August 6, 2010</b>	<b>4.22 watts/ KtpmC</b>	

Numerical Quantities For Reported Energy Configuration:

REC Idle Power: 1,141.5 watts

Average Power of REC: 1,223.94 watts

Lowest ambient temperature at air inlet: 20.88°C

Items in Priced Configuration not in the Reported Energy Configuration:

None

Items in Reported Energy Configuration not in the Measured Energy Configuration:

4 HP LE1851w 18.5-Inch wide Monitor Part Number NK033AA#ABA

Hewlett-Packard Company		HP ProLiant ML350G6		TPC-C Rev. 5.11		
				Report Date	16-Aug-10	
Description	Part Number	Pricing	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
HP ProLiant ML350G6 SFF SAS/SATA Tower CTO Chassis	483447-B21	1	607	1	607	
HP X5650 ML350 G6 Kit	601240-B21	1	1,399	1	1,399	
HP 16GB 1x16GB PC3-8500 Registered CAS 7 Quad Rank x4 DRAM Memory Kit	500666-B21	1	1,549	6	9,294	
HP 512MB Flash Backed Write Cache	534916-B21	1	429	1	429	
HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21	1	100	1	100	
HP Half-Height SATA DVD-ROM Optical Drive	447326-B21	1	69	1	69	
HP P411 with 512MB Flash Backed Cache Controller	578229-B21	1	699	2	1,398	
HP P410 with 512MB Flash Backed Cache Controller	578230-B21	1	699	3	2,097	
HP LE1851w 18.5-Inch wide Monitor	NK033AA#ABA	1	159	1	159	
HP 5642 Pallet Unassembled Rack	358254-B21	1	865	1	865	
HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21	1	200	1	200	
HP 72GB 3G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	418371-B21	1	379	1	379	
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21	1	419	24	10,056	
HP 120GB 3G SATA SFF (2.5-inch) Midline Solid State Drive	572073-B21	1	2,709	24	65,016	
D2700 Disk Enclosure	AJ941A	1	3,399	2	6,798	
MSA2324fc	AJ797A	1	8,900	1	8,900	
HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter	A8002A	1	1,140	1	1,140	
HP 3y 4h 24x7 MSA2000 Array HW Supp	UJ675E	1	1,513	1		1,513
HP 3y SupportPlus24 w/DMR D2000 Encl SVC,D2000 Enclosures,4h 24x7 onsite response	UQ105E	1	2,147	2		4,294
HP 3y 4h 24x7 ProLiant ML350 HW Support	U4513E	1	595	1		595
				<b>Subtotal</b>	<b>108,906</b>	<b>6,402</b>
<b>Server Software</b>						
Oracle Enterprise Linux		6	0	1	0	
Oracle Unbreakable Linux Support: Enterprise Linux Basic Limited for 3 years		2	1,497	1		1,497
Oracle Database 11g Release 2 Standard Edition One, Unlimited Users , 3 years		2	2,900	1	2,900	
Oracle Premium Support for 3 years		2	1,276	3		3,828
				<b>Subtotal</b>	<b>2,900</b>	<b>5,325</b>
<b>Client Hardware</b>						
HP ProLiant ML150 G6 Smart Buy Intel Xeon E5506 Non-hot Plug SATA Tower Server	518175-005	1	839	3	2,517	
HP NC110T PCI-E Gigabit Server Adapter	434905-B21	1	79	2	158	
HP NC364T Dual Port PCI-E Gigabit Server Adapter	412648-B21	1	229	1	229	
HP LE1851w 18.5-Inch wide Monitor	NK033AA#ABA	1	159	3	477	
HP 3y 4h 24x7 ProLiant ML150 HW Support ,Proliant Server ML150,3 years of hardware.	U8193E	1	500	3		1,500
				<b>Subtotal</b>	<b>3,381</b>	<b>1,500</b>
<b>Client Software</b>						
Microsoft Problem Resolution Services	N/A	3	245	1		245
Windows Server 2008 R2 Standard Edition	P73-03883	3	1,029	3	3,087	Incl.
Visual Studio Standard 2005	127-00012	3	250	1	250	
				<b>Subtotal</b>	<b>3,337</b>	<b>245</b>
<b>User Connectivity</b>						
Netgear 8-Port Gigabit Switch, incl. spares	GS108NA	5	76	3	228	
7ft Green Cat 6 Patch Cable, Molded, incl. spares	CB242-7GN	4	2	10	18	
				<b>Subtotal</b>	<b>246</b>	<b>0</b>
Large Purchase and Net 30 discount (See Note 1)	16.0%	1			(\$17,966)	(\$1,264)
				<b>Total</b>	<b>\$100,804</b>	<b>\$12,208</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>\$113,012</b>
					<b>tpmC Rating:</b>	<b>290,040</b>
					<b>\$ / tpmC: USD</b>	<b>\$0.39</b>
Pricing: 1=HP Direct 800-203-6748 2=Oracle 3= Microsoft 4= www.deepsurplus.com 5= www.serversdirect.com						
Note 1 = Discount based on HP Direct guidance applies to all lines where pricing = 1						
Note 6=Oracle Enterprise Linux is a free download						
The benchmark results were audited by Lorna Livingtree of Performance Metrics						

## Numerical Quantities Summary

**MQTH, Computed Maximum Qualified Throughput**

**290,040 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
Menu	0.62	1.02	4.94
New-Order	0.70	1.12	5.30
Payment	0.66	1.06	5.25
Order-Status	0.68	1.09	3.91
Delivery (interactive portion)	0.61	1.02	3.33
Delivery (deferred portion)	0.05	0.11	0.80
Stock-Level	1.01	1.50	4.76

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

New-Order	44.996%
Payment	43.002%
Order-Status	4.001%
Delivery	4.001%
Stock-Level	4.001%

### **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	18.01/0.00	18.01/12.05	18.01/120.49
Payment	3.01/0.00	3.01/12.01	3.02/120.10
Order-Status	2.01/0.00	2.01/10.01	2.01/100.08
Delivery (interactive)	2.01/0.00	2.01/5.02	2.02/50.19
Stock-Level	2.01/0.00	2.01/5.01	2.02/50.09

### **Test Duration**

Ramp-up time	73.6 minutes
Measurement interval	120.0 minutes
Transactions (all types) completed during measurement interval	77,351,351
Ramp down time	253.9 minutes

### **Checkpointing**

Number of checkpoints in measurement interval	4
Checkpoint interval (average)	26:18