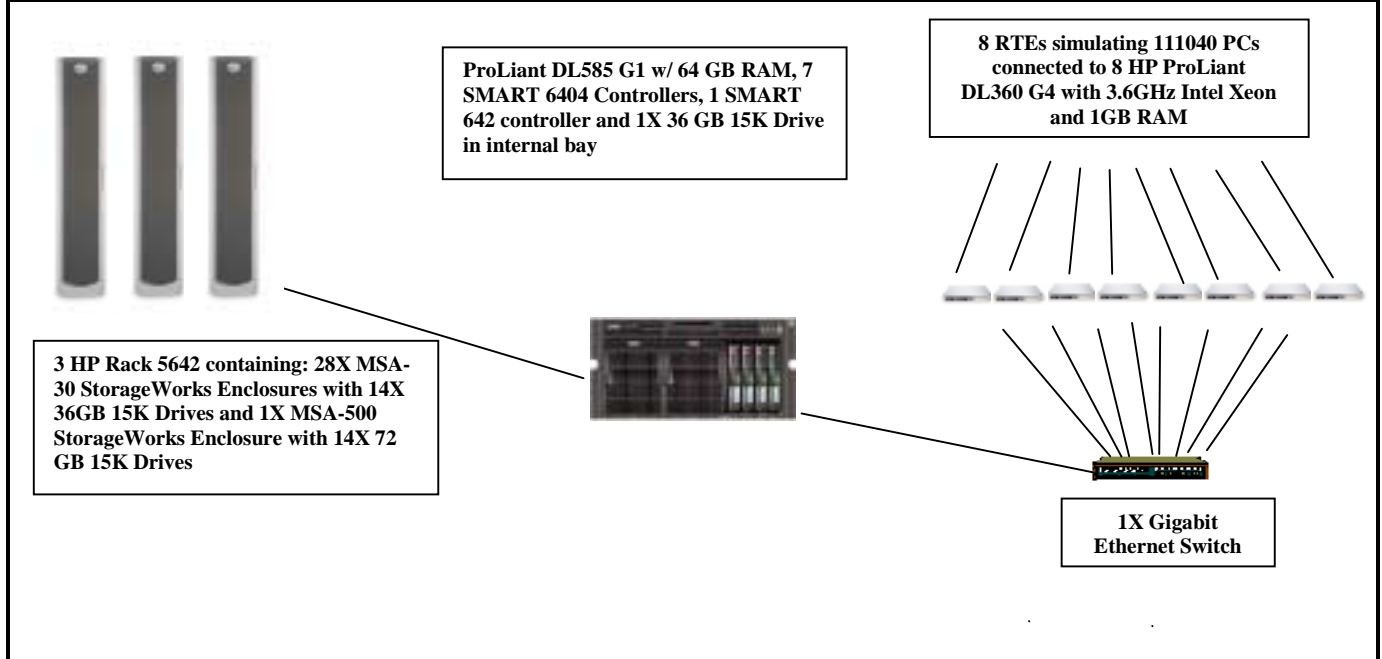


<b>Hewlett-Packard Company</b>	ProLiant DL585-G1/2.8GHz	TPC-C Rev. 5.4
	C/S with 8 ProLiant DL360R G4	Report Date: Sept 30, 2005

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>\$422,068 USD</b>	<b>138,845</b>	<b>\$3.04 USD</b>	<b>Nov 8, 2005</b>

Processors	Database Manager	Operating System	Other Software	Number of Users
4 AMD Opteron 2.8 GHz – Server  10 Intel Xeon 3.6GHz – Clients	Microsoft SQL Server 2005 Enterprise Edition	Windows Server 2003, Enterprise Edition SP1	Microsoft Visual C++ Microsoft COM+	<b>111,040</b>



	<b>Server</b>		<b>Each Client</b>	
<b>System Components</b>	Quantity	Description	Quantity	Description
Processor	4	2.8GHz AMD Opteron w/ 1MB Cache	6@1 2@2	3.6GHz Intel Xeon w/ 1MB cache
Memory	16	4 GB DDR	4	256MB
Disk Controllers	1	HP Integrated 5i Smart Controller	1	Integrated SMART 5i Array Controller
	7	HP SMART 6404 Array Controller		
	1	HP SMART 642 Array Controller		
Disk Drives	14 393	72GB SCSI Drive 36GB SCSI Drive	1	36 GB SCSI Drives
Total Storage		14,277.96 GB		36 GB

Hewlett-Packard		HP ProLiant DL585 2.8GHz/4P			TPC-C Rev. 5.4		
Company		Client/Server			Report Date:	30-Sep-05	
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
		Brand	Pricing				
<b>Server Hardware</b>							
ProLiant DL585 O850 2.8GHz (1 MB) x 2	397296-001		1	12,699	1	12,699	
- 2 GB PC2100 DDR, Integrated Smart Array Controller 5i,							
- Dual Port NC7782 embedded NIC							
2.8GHz/SC (PC2700)	397820-B21		1	4,049	2	8,098	
HP 8GB Reg PC2700 2x4GB Memory	395409-B21		1	7,499	8	59,992	
MSA30 SB storage enclosure	302969-B21		1	2,829	28	79,212	
HP Modular Smart Array 500 G2 Storage	335880-B21		1	4,499	1	4,499	
- 1 MSA500 G2 controller w/ 256 MB cache, 2 SA642 controllers							
HP Modular Smart Array 500 G2 Controller	335881-B21		1	2,499	1	2,499	
HP T500 Uninterruptible Power System	361475-001		1	99	1	99	
HP Smart Array 6404/256MB Controller	273914-B21		1	1,899	7	13,293	
HP s7540 17in. CRT Monitor	PF997AA#ABA		1	149	1	149	
HP PS/2 Scroll Mouse carbonite	DG169AV		1	5	1	5	
HP Enhanced Keyboard	DG170AV#ABA		1	10	1	10	
HP 5642 Unassembled Rack	358254-B21		1	689	3	2,067	
36GB 15K U320 Pluggable Hard Drive	286776-B22		1	299	392	117,208	
36GB 15K U320 Pluggable Hard Drive (OS)	286776-B22		1	299	1	299	
72GB 15K U320 Pluggable Hard Drive	286778-B22		1	529	14	7,406	
FM-MI724-36 3YR 24X7 4HR 500 SERIES SVR	401782-002		1	1,795	1		1,795
MSA30 Carepaq 3yr 4hr 24x7	U8130E		1	1,827	28		51,156
MSA500 Carepaq 3yr 4hr 24x7	U6456E		1	1,950	1		1,950
					<b>Subtotal</b>	<b>307,535</b>	<b>54,901</b>
<b>Server Software</b>							
Microsoft SQL Server 2005 Enterprise Edition(per processor)	810-00846	Microsoft	2	19,909	4	79,636	Incl Below
Microsoft Visual C++ Standard	254-00170	Microsoft	2	109	1	109	Incl Below
Microsoft Windows 2003 Server, Enterprise Edition SP1	P73-00295	Microsoft	2	2,334	1	2,334	Incl Below
Microsoft Professional Support - 1 incident		Microsoft	2	245	1	245	
					<b>Subtotal</b>	<b>82,079</b>	<b>245</b>
<b>Client Hardware</b>							
HP DL360G4 X3.6GHz/1GB+A11 SCSI US Rack Server	360528-001		1	2,799	8	22,392	
HP s7540 17in. CRT Monitor	PF997AA#ABA		1	149	8	1,192	
HP PS/2 Scroll Mouse carbonite	DG169AV		1	5	8	40	
HP Enhanced Keyboard	DG170AV#ABA		1	10	8	80	
Intel Xeon 3.6GHz 1MB DL360G4 Processor	354583-B21		1	999	2	1,998	
36GB 15K U320 Pluggable Hard Drive	286776-B22		1	299	8	2,392	
HP 3y 4h 24x7 ProLiant DL360 HW Support	U4497E		1	550	8		4,400
					<b>Subtotal</b>	<b>28,094</b>	<b>4,400</b>
<b>Client Software</b>							
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	8	5,904	Incl. Above
					<b>Subtotal</b>	<b>5,904</b>	<b>0</b>
<b>User Connectivity</b>							
HP Procurve 2824 switch	J4903A		1	2499	1	2,499	
HP CP for HP ProCurve Networking products 3 Yr 4 hr/24x7	U2856E		1	1000	1		1,000
					<b>Subtotal</b>	<b>2,499</b>	<b>0</b>
Large Purchase and Cash discount (all listed HP products where brand = 1)							
			16.0%	1		<b>(\$54,100)</b>	<b>(\$9,488)</b>
					<b>Total</b>	<b>\$372,011</b>	<b>\$50,058</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 422,068</b>  <b>tpmC Rating: 138,845</b>  <b>\$ / tpmC: USD 3.04</b>		
Pricing: 1=HP Direct 2= Microsoft							
Note 1 = Discount based on HP Direct guidance and large cash purchase level.							
Note:The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc.							

## Numerical Quantities Summary

**MQTH, Computed Maximum Qualified Throughput**

**138,845 tpmC**

<b>Response Times (in seconds)</b>	<b>Average</b>	<b>90%</b>	<b>Maximum</b>
New-Order	0.39	0.65	16.12
Payment	0.37	0.64	15.90
Order-Status	0.39	0.65	13.23
Delivery (interactive portion)	0.11	0.11	1.65
Delivery (deferred portion)	0.13	0.16	4.45
Stock-Level	0.38	0.65	14.25
Menu	0.11	0.11	1.66

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

New-Order	44.92%
Payment	43.03%
Order-Status	4.00%
Delivery	4.01%
Stock-Level	4.03%

### **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	18.03/12.06	18.18/120.53
Payment	3.02/0.00	3.03/12.07	3.18/120.53
Order-Status	2.02/0.00	2.03/10.07	2.17/100.53
Delivery (interactive)	2.02/0.00	2.03/5.07	2.16/50.52
Stock-Level	2.02/0.00	2.03/5.06	2.15/50.53

### **Test Duration**

Ramp-up time	53 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	38,577,909
Ramp down time	5 minutes

### **Checkpointing**

Number of checkpoints	4
Checkpoint interval	30 minutes