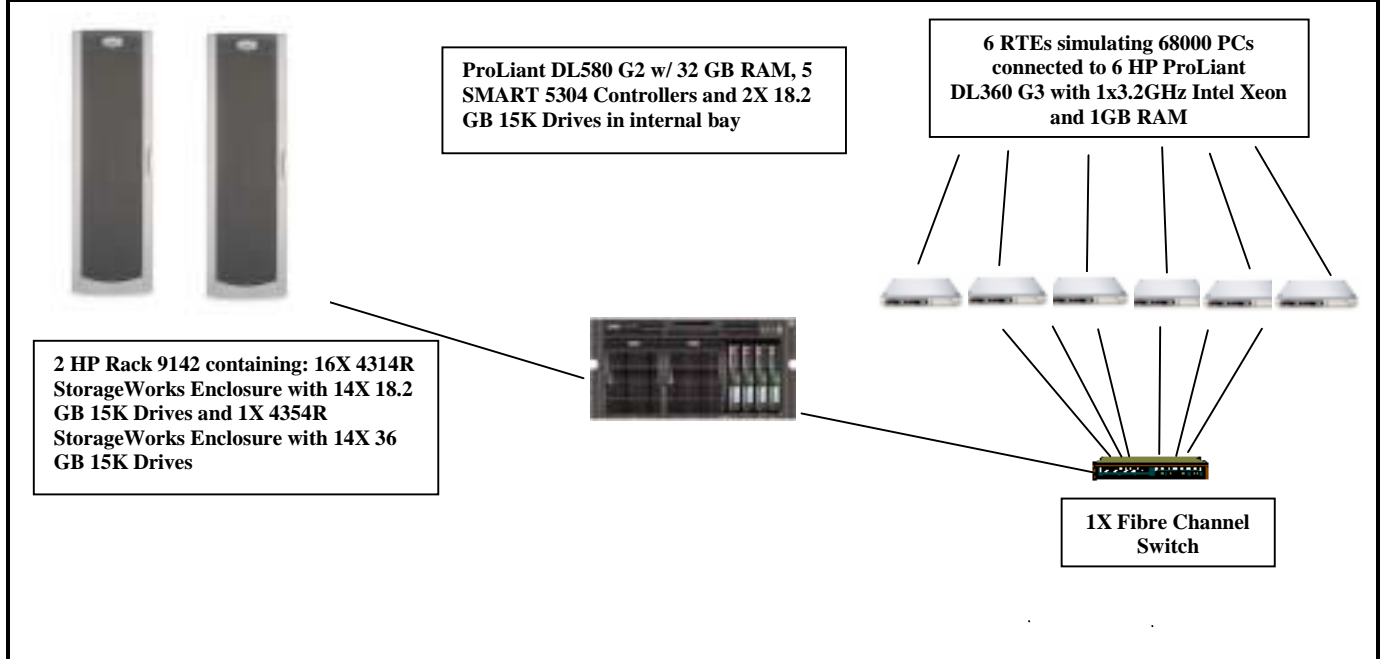


Hewlett-Packard Company	ProLiant DL580 G2/2.7GHz	TPC-C Rev. 5.3
	C/S with 6 ProLiant DL360R G3	Report Date: July 20, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$305,635 USD	85,554	\$3.58 USD	July 30, 2004

Processors	Database Manager	Operating System	Other Software	Number of Users
4 Intel Xeon MP 2.7 GHz – Server 6 Intel Xeon 3.2GHz – Clients	Microsoft SQL Server 2000 Enterprise Edition SP3	Windows Server 2003, Enterprise Edition	Microsoft Visual C++ Microsoft COM+	68000



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	4	2.7GHz Intel Xeon MP w/ 2MB Cache	1	3.2GHz Intel Xeon w/ 1MB cache
Memory	16	2 GB DDR	4	256MB
Disk Controllers	1	HP Integrated 5i Smart Controller	1	Integrated SMART 5i Array Controller
	5	HP SMART 5304 Array Controller		
Disk Drives	14	36 GB SCSI Drive	1	36 GB SCSI Drive
	226	18.2 GB SCSI Drive		
Total Storage		4305.44 GB		36 GB

Hewlett-Packard		HP ProLiant DL580 G2/2.7GHz-4P			TPC-C Rev. 5.3		
Company		Client/Server			Report Date:	19-Jul-04	
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware		Brand Pricing					
ProLiant DL580 X2700 2P X2GB, Integrated Smart Array Controller	347904-001		11,299	1	11,299		
X2.7 GHz 2M processor	345322-B21		2,899	2	5,798		
8GB (4x2GB) DDR ECC 200MHz Memory	202173-B21		7,399	4	29,596		
StorageWorks Enclosure Model MSA-30 Single Bus	302969-B21		2,978	16	47,648		
StorageWorks Enclosure Model MSA-30 Dual Bus	302970-B21		3,209	1	3,209		
Smart Array 5304/256 Controller	283551-B21		2,247	5	11,235		
15" S5500 CRT Monitor 13.8" via Dot pitch 0.28mm	P9006A#ABA		119	1	119		
PS/2 scroll mse HP carbonite	DK725AV		10	1	10		
HP Enhanced Keyboard	DG170AV#ABA		10	1	10		
HP Rack 10642 (42U) Standard Pallet WW	245161-B21		1,359	2	2,718		
UPS R1500 XR Low Voltage US	204404-001		866	1	866		
18GB 15K U320 Pluggable Hard Drive	286775-B22		269	226	60,794		
18GB 15K U320 Pluggable Hard Drive (10% Spares external drives)	286775-B22		269	23			6,187
36GB 15K U320 Pluggable Hard Drive	286776-B22		349	14	4,886		
36GB 15K U320 Pluggable Hard Drive (2 spares)	286776-B22		349	2			698
FM-MI724-36 3YR 24X7 4HR 500 SERIES SVR	401782-002		1,795	1			1,795
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002		157	17			2,669
Qlogic QLA-2350 Fibre-Channel VI Adapter	A390975		1,450	1	1,450		
Subtotal					179,638	11,349	
Server Software							
Microsoft SQL Server 2000 Enterprise Edition(per processor)	810-00846	Microsoft	16,541	4	66,164		Incl Below
Microsoft Visual C++ Standard	254-00170	Microsoft	109	1	109		Incl Below
Microsoft Windows 2003 Server, Enterprise Edition	P72-00264	Microsoft	2,399	1	2,399		Incl Below
Database Server Support Package 1-year term	PRO-PRORS-16U-01	Microsoft	1,950	3			5,850
Subtotal					68,672	5,850	
Client Hardware							
ProLiant DL360G3 X3.2GHz/533 1M 1GB 1P Rck	345101-001		2,999	6	17,994		
Dual Integrated Gigabit NIC, Integrated Smart Array Controller 5i							
36GB 15K U320 Pluggable Hard Drive	286776-B22		349	6	2,094		
FM-EL724-36 3YR 24X7 4HR ENTRY 300 SVR	162675-002		599	6			3,594
2GB Small Form Pluggable Adapter Kit	221470-B21		369	8	2,952		
5M LC to LC Cable Kit	221692-B22		82	8	656		
Qlogic QLA-2350 Fibre-Channel VI Adapter + 2 Spares	A390975		1,450	8	11,600		
Subtotal					35,296	3,594	
Client Software							
Microsoft Windows 2000 Server	C11-00821	Microsoft	738	6	4,428		Incl. Above
Subtotal					4,428	0	
User Connectivity							
HP StorageWorks SAN switch 2/16V	AA978A		12500	3	37,500		
Subtotal					37,500	0	
Large Purchase and Cash discount (See Note 1)	16.0%						
					(\$38,301)	(\$2,391)	
Total					\$287,233	\$18,402	
<p>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.</p>					Three-Year Cost of Ownership: USD 305,635 tpmC Rating: 85554 \$ / tpmC: USD 3.58		
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 Tom Sawyer of Performance Metrics, Inc.							

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

85,554 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.30	0.49	5.63
Payment	0.24	0.43	5.21
Order-Status	0.26	0.45	5.07
Delivery (interactive portion)	0.10	0.11	0.24
Delivery (deferred portion)	0.16	0.22	0.92
Stock-Level	0.80	1.15	5.76
Menu	0.10	0.11	0.33

Transaction Mix, in percent of total transaction

New-Order	44.95%
Payment	43.00%
Order-Status	4.01%
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	18.00/0.00	18.02/12.06	18.04/120.51
Payment	3.00/0.00	3.02/12.05	3.04/120.50
Order-Status	2.00/0.00	2.02/10.04	2.04/100.50
Delivery (interactive)	2.00/0.00	2.02/5.04	2.03/50.50
Stock-Level	2.00/0.00	2.02/5.04	2.04/50.50

Test Duration

Ramp-up time	69 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	23,654,361
Ramp down time	33 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes