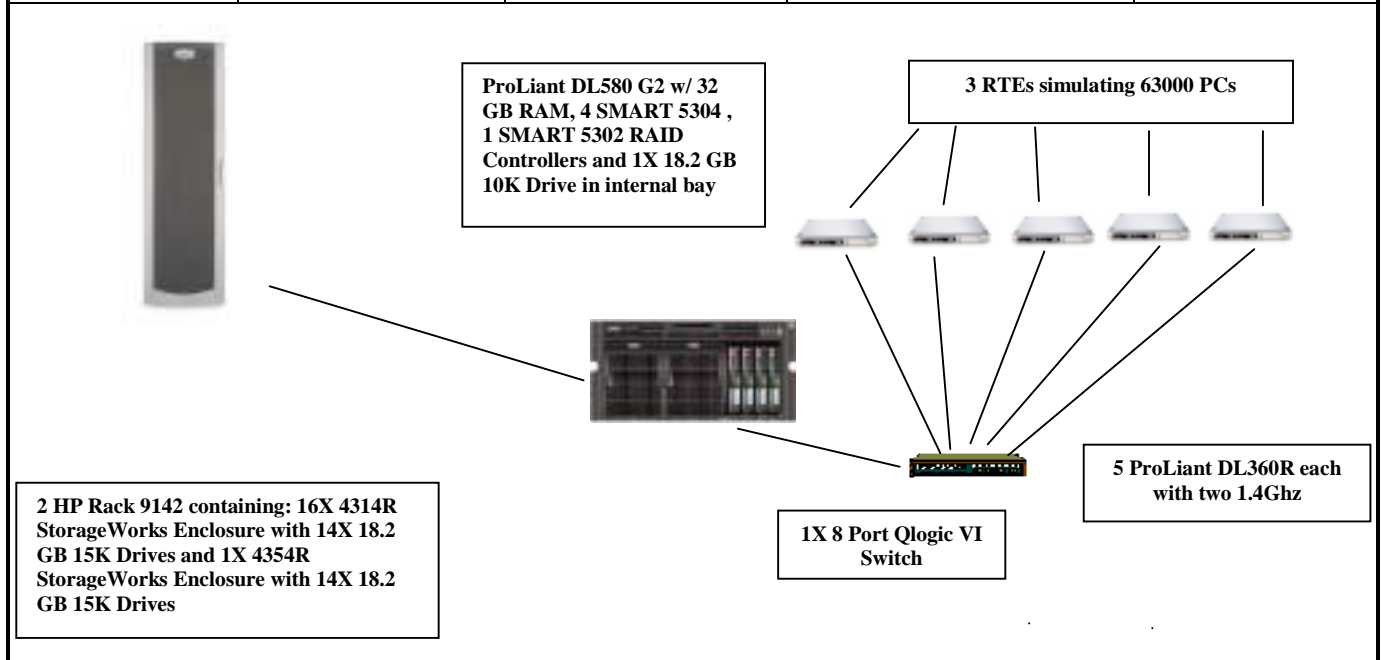


Hewlett-Packard Company	ProLiant DL580 G2/2GHz 4P	TPC-C Rev. 5.0
	C/S with 5 ProLiant DL360R	Report Date: Nov 19, 2002

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$413,764	77,905.18	\$5.32	Dec 31, 2002

Processors	Database Manager	Operating System	Other Software	Number of Users
4 Intel Xeon 2.0 GHz – Server 10 Pentium III 1.4 GHz – Clients	Microsoft SQL Server 2000 Enterprise Edition SP3	Windows .NET Enterprise Server 2003	Microsoft Visual C++ Microsoft COM+	62000



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	4	2.0 GHz Intel Xeon w/ 2M Cache	2	1.4GHz Pentium III w/ 512K cache
Memory	16	2 GB DDR	4	128MB
Disk Controllers	1 4,1	HP Integrated 5i Smart Controller HP SMART 5304,5302 Array Controller	1	Integrated SMART 5i Array Controller
Disk Drives	14 225	36 GB SCSI Drive 18.2 GB SCSI Drive	1	18.2 GB SCSI Drive
Total Storage		4286.26 GB		18.2 GB
Tape Drives	1	12/24 GB DAT		

Hewlett-Packard Company	HP ProLiant DL580 G2/2GHz-4P		TPC-C Rev. 5.0					
	Client/Server		Report Date:	19-Nov-02				
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price		
Server Hardware			Brand Pricing					
ProLiant DL580 X1600 2P X2GB, Integrated Smart Array Controller 5	202176-001		19,499	1	19,499			
2.0 GHz 1M processor	226776-B21		6,199	2	12,398			
8GB (4x2GB) DDR ECC 200MHz Memory	202173-B21		25,909	4	103,636			
StorageWorks Enclosure Model 4314R	190209-001		2,955	16	47,280			
StorageWorks Enclosure Model 4354	190211-001		3,523	1	3,523			
Smart Array 5304/128 Controller	158939-B21		2,099	4	8,396			
Smart Array 5302/64 Controller	124992-B21		1,399	1	1,399			
V570 Color Monitor - 15 inch CRT - Opal	228113-001		169	1	169			
HP Mouse	170299-B21		23	1	23			
HP Enhanced Keyboard	122660-006		44	1	44			
12/24-Gigabyte DAT Drive (Internal)	295513-B22		682	1	682			
HP Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21		1,352	2	2,704			
HP Rack Sidewall Kit	120670-B21		212	1	212			
UPS R3000 XR	192186-001		1,703	1	1,703			
18.2-GB Pluggable 1" Universal WideUltra3 10K HDD	142673-B22		319	1	319			
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD	188122-B22		399	224	89,376			
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD (10% spares)	188122-B22		399	23		9,177		
36.4-GB Pluggable 1" Universal WideUltra3 15K HDD	232916-B22		619	14	8,666			
36.4-GB Pluggable 1" Universal WideUltra3 15K HDD (2 spares)	232916-B22		619	2		1,238		
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	QLA2350-BK		2,095	3	2,095			
Subtotal					302,124	14,879		
Server Software								
Microsoft SQL Server 2000 Enterprise Edition(per processor)	810-00845	Microsoft	2	16,541	4	66,164	5,850	
Microsoft Visual C++ 6.0	048-00317	Microsoft	2	549	1	549	Incl Above	
Microsoft Windows .NET Enterprise Server 2003	NA	Microsoft	2	2,699	1	2,699	Incl Above	
Subtotal					69,412	5,850		
Client Hardware								
ProLiant DL360R01 P1.4GHz 512KB 128MB	233271-001		2,679	5	13,395			
Dual Integrated Gigabit NIC, Integrated Smart Array Controller 5i								
1.40GHz PIII Processor Option Kit (DL360 G2)	201099-B21		1,099	5	5,495			
128 MB 133 DIMM	128277-B21		149	15	2,235			
V570 Color Monitor - 15 inch CRT - Opal	228113-001		169	5	845			
HP Mouse	170299-B21		23	5	115			
HP Enhanced Keyboard	122660-006		44	5	220			
18.2-GB Pluggable 1" Universal WideUltra3 10K HDD	142673-B22		319	5	1,595			
FM-EL724-36 3YR 24X7 4HR ENTRY 300 SVR	162675-002		750	5		3,750		
Qlogic QLA-2350 Fibre-Channel VI Adapter	QLA2350-BK		2,095	7	14,665			
Subtotal					38,565	3,750		
Client Software								
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	5	3,690	Incl. Above	
Subtotal					3,690	0		
User Connectivity								
Qlogic SANBox-1 8-Port Switch	SANBOX2-8P		3	8,750	3	26,250		
Subtotal					26,250	0		
Large Purchase and Cash discount (See Note 1)					16.0%	1		
							(\$48,375)	(\$2,381)
Total					\$391,666	\$22,098		
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.					Three-Year Cost of Ownership: \$413,764			
					tpmC Rating: 77905.18			
					\$ / tpmC: \$5.32			
Pricing: 1=HP Direct 2=Microsoft 3=Qlogic								
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

77905.18 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.38	0.63	7.60
Payment	0.30	0.54	8.08
Order-Status	0.32	0.56	5.87
Delivery (interactive portion)	0.10	0.11	0.43
Delivery (deferred portion)	0.16	0.22	0.63
Stock-Level	0.86	1.23	9.25
Menu	0.10	0.11	1.09

Transaction Mix, in percent of total transaction

New-Order	44.96%
Payment	43.01%
Order-Status	4.01%
Delivery	4.02%
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	18.00/0.00	18.02/12.02	18.05/120.21
Payment	3.00/0.00	3.02/12.01	3.05/120.21
Order-Status	2.00/0.00	2.01/10.00	2.04/100.21
Delivery (interactive)	2.00/0.00	2.01/5.02	2.05/50.21
Stock-Level	2.00/0.00	2.01/5.02	2.04/50.21

Test Duration

Ramp-up time	30 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	20,792,598
Ramp down time	5 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes