



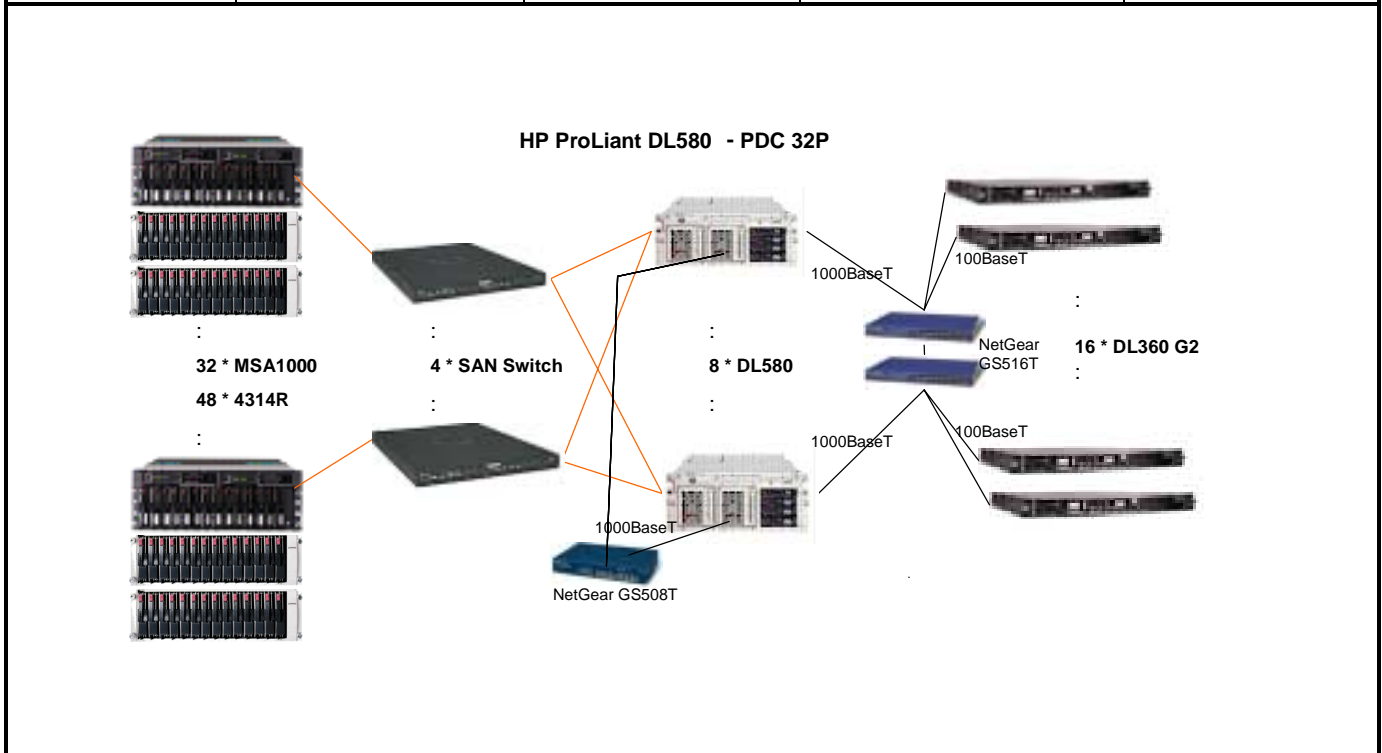
HP ProLiant DL580 - PDC 32P C/S

TPC-C Rev. 5.0


Report Date: October 2, 2002

Total System Cost	TPC-C Throughput	Price Performance	Availability Date
\$2,404,503	138,362.025 tpmC	\$17.38	March 5, 2003* Hardware available now

Processors	Database Manager	Operating System	Other Software	Number of Users
32 PIII Xeon 900/ MHz/2MB-Servers 16 PIII 1400 MHz/ 133/256K - Clients	Oracle 9i Enterprise Edi. Rel. 2 with Real Application Clusters and Partitioning Options	Red Hat Linux Advanced Server	BEA Tuxedo 8.0	115200



System Components	Server		Clients	
	Quantity	Description	Quantity	Description
Processor	32	Pentium III Xeon 900MHz/2MB	32	Pentium III 1400 MHz/133/ 256K
Memory	32	4 GB	64	1 GB
Disk Controllers	32	FCA 2214 - Fibre Channel HBA		
	32	Modular SAN Array 1000		
	48	StorageWorks Enclosure Model 4314R		
	4	StorageWorks SAN Switch 2/16 EL		
Disk Drives	976	18.2-GB 15K	16	18.2-GB 10K
	16	18.2-GB 10K		
Total Storage		18054 GB		
Tape Drives	1	12/24-Gigabyte DAT		

		HP ProLiant DL580 - PDC 32P with 16 ProLiant DL360R			TPC-C Rev. 5.0		
					Report Date:		2-Oct-02
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware							
		Brand	Pricing				
ProLiant DL580R X900 2MB 1024	155618-003		1	16,129	8	129,032	
PIII X900-2MB Processor Option Kit for ML570/DL580	222627-B21		1	6,199	16	99,184	
4G SDRAM (4x1GB)	189083-B21		1	3,999	32	127,968	
NC7770 PCI-X Gigabit Server Adapter	244948-B21		1	227	16	3,632	
Modular SAN Array 1000	201723-B21		1	9,995	32	319,840	
StorageWorks Enclosure Model 4314R - Rack-mountable	190209-001		1	2,955	48	141,840	
StorageWorks SAN Switch 2/16 EL	283056-B21		1	14,775	4	59,100	
5m LC-LC cable kit	221692-B22		1	82	64	5,248	
2GB Small Form Pluggable Adapter Kit	221470-B21		1	369	64	23,616	
FCA 2214 - Fibre Channel HBA	281541-B21		1	1,590	32	50,880	
V570 Color Monitor - 15 inch CRT - Opal	228113-001		1	169	8	1,352	
12/24-Gigabyte DAT Drive (Internal)	295513-B22		1	682	1	682	
R1500	242704-001		1	880	4	3,520	
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD	188122-B22		1	447	976	436,272	
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD (10% spares)	188122-B22		1	447	98		43,806
18.2GB Pluggable Ultra3 SCSI 10K 1" Universal HDD	142673-B22		1	319	16	5,104	
HP Rack Model 9142 (42U - Opal) - Flat Pallet	120663-B21		1	1,352	8	10,816	
HP Rack Sidewall Kit	120670-B21		1	212	1	212	
HP Rack Coupling Kit	120669-B21		1	85	7	595	
HP Enhanced Keyboard	122660-006		1	44	8	352	
HP Mouse	170299-B21		1	23	8	184	
FM-M1724-36YR 24x7 4HR 500 Srs Svr/EC	401782-002		1	1,795	8		14,360
FM-FC724-36 3YR 24X7 4HR RA4x/MSA1x/SA	402164-002		1	1,950	32		62,400
FM-4E724-36 3YR 24X7 4HR EMPTY DISK ENCL	171242-002		1	157	48		7,536
FM-FS724-36 3YR 24x7 4HR, FC/SAN SWITCH 16P	161308-002		1	4,538	4		18,152
NetGear GS508T 10/100/1000 Copper Gigabit Switch	GS508TNA	NetGear	5	719	3	2,157	
Subtotal					1,421,586	146,254	
Server Software							
Oracle9i DB Ent. Edi. Rel. 2, per processor for 3 years	Run time	Oracle	3	20,000	32	640,000	
Real Application Clusters, per processor for 3 Years	Run time	Oracle	3	10,000	32	320,000	
Partitioning, per processor for 3Years	Run time	Oracle	3	5,000	32	160,000	
Oracle Database Server Support Package for 3 years	Run time	Oracle	3	48,000	1		48,000
Red Hat Linux Advanced Server 2.1 (Basic)	RHF0090US	Red Hat	2	800	8	6,400	
Red Hat Two additional year maintenance and support	RHF0090US	Red Hat	2	800	16		12,800
Subtotal					1,126,400	60,800	
Client Hardware							
ProLiant DL360R02 P1.40/133-256K 128MB	233271-001		1	2,229	16	35,664	
1G Reg 133MHz SDRAM DIMM	128280-B21		1	880	64	56,320	
1.40GHz PIII Processor Option Kit (DL360 G2)	233273-B21		1	804	16	12,864	
NC3134 64 PCI Dual 10/100 All option kit	138603-B21		1	285	16	4,560	
V570 Color Monitor - 15 inch CRT - Opal	228113-001		1	169	1	169	
HP Enhanced Keyboard	122660-006		1	44	1	44	
HP Mouse	170299-B21		1	23	1	23	
18.2GB Pluggable Ultra3 SCSI 10K 1" Universal HDD	142673-B22		1	319	16	5,104	
FM-L0724-363YR 24x7 4HR 300 SERIES SVR	162657-002		1	1,450	16		23,200
Subtotal					114,748	23,200	
Client Software							
BEA Tuxedo 8.0 Teir 1		BEA	4	3,000	16	48,000	30,240
Red Hat Linux Personal (unlimited copies)	RHF099US	Red Hat	2	60	1	60	
Red Hat Linux Personal 8 systems x 3 years m& s Bundle	MCT0172US	Red Hat	2	4,800	2		9,600
Subtotal					48,060	39,840	
User Connectivity							
NetGear GS516T 10/100/1000 Copper Gigabit Switch	GS516TNA	NetGear	5	1,400	4	5,598	
Subtotal					5,598	0	
Oracle Mandatory E-Business Discount (License and Support)						(\$292,000)	(\$367)
Large Purchase and Cash discount (See Note 1)					17.0%	(\$261,177)	(\$28,807)
Total					\$2,163,216	\$241,287	
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: \$2,404,503		
					tpmC Rating: 138,362.03		
					\$ / tpmC: \$17.38		
Pricing: 1=HP Direct 2= Red Hat 3=Oracle (contact MaryBeth Pierantoni @ 650-506-2118, See Appendix G of FDR) 4=BEA 5=CDW							
Note 1 = Discount based on HP Direct guidance and large cash purchase level.							
Note: The benchmark results and test methodology were audited by Loma Livingtree of Performance Metrics, Inc.							

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

138,362.025 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.893	1.992	85.290
Payment	0.574	1.146	84.770
Order-Status	0.643	1.339	45.256
Delivery (interactive portion)	0.260	0.349	81.913
Delivery (deferred portion)	0.419	0.793	82.654
Stock-Level	0.581	0.831	81.376
Menu	0.102	0.102	0.328

Transaction Mix, in percent of total transaction

New-Order	44.916%
Payment	43.019%
Order-Status	4.020%
Delivery	4.025%
Stock-Level	4.020%

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	18.005/0.000	18.008/13.406	18.022/134.006
Payment	3.010/0.000	3.018/12.016	3.032/120.045
Order-Status	2.010/0.000	2.018/10.015	2.031/100.077
Delivery (interactive)	2.010/0.000	2.018/5.025	2.031/50.179
Stock-Level	2.010/0.000	2.018/5.014	2.030/50.096

Test Duration

Ramp-up time	102 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	38,453,521
Ramp down time	56 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes

NOTE: The result was found to have an "Insignificant Deviation" due to the original FDR missing some documentation. These files are now included in the appendix of the FDR.