

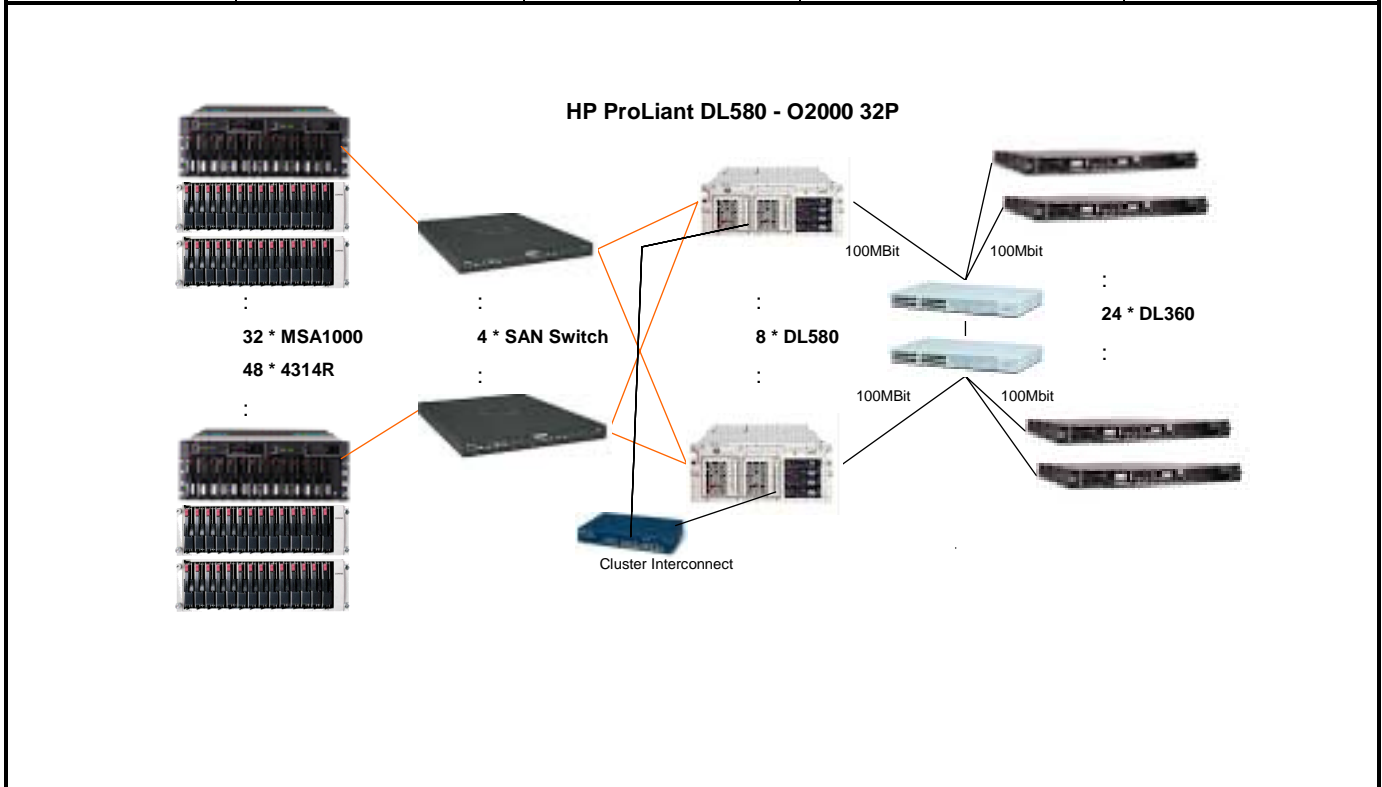


**HP ProLiant DL580 - O2000  
32P C/S**

TPC-C Rev. 5.0

Report Date: September 6,  
2002

Total System Cost	TPC-C Throughput	Price Performance	Availability Date	
<b>\$2,533,095</b>	<b>137,260.89 tpmC</b>	<b>\$18.46</b>	<b>September 6, 2002</b>	
Processors	Database Manager	Operating System	Other Software	Number of Users
32 PIII X900/ MHz/2MB-Servers 48 PIII 1000 MHz/ 133/256K - Clients	Oracle 9i Enterprise Edi. Rel. 2 with Real Application Clusters and Partitioning Options	Windows 2000 Advanced Server	BEA Tuxedo 6.5 CTS  Microsoft Visual C++	<b>120240</b>



System Components	Server		Clients	
	Quantity	Description	Quantity	Description
Processor	32	Pentium III X900MHz/2MB	48	Pentium III 1000 MHz/133/ 256K
Memory	8	8 GB	24	512 MB
Disk Controllers	32	Fibre Channel Host Bus Adapter for WNT/W2K		
	32	Modular SAN Array 1000		
	48	StorageWorks Enclosure Model 4314R		
	4	SAN Switch 2/16		
Disk Drives	1120	18.2-GB 15K	24	18.2-GB 10K
	16	18.2-GB 10K		
Total Storage		20675 GB		
Tape Drives	1	12/24-Gigabyte DAT		



**HP ProLiant DL580 - O2000 32P wih 24 ProLiant DL360R**

**TPC-C Rev. 5.0**

**Report Date: 6-Sep-02**

Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>Server Hardware</b>						
			<b>Brand Pricing</b>			
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	16	63,984
NC3134 64 PCI Dual 10/100 All option kit	138603-B21		1	285	8	2,280
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
SAN Switch 2/16	287055-B21		1	30,499	4	121,996
Fibre Channel Host Bus Adapter for WNT/W2K	245299-B21		1	1,792	32	57,344
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	477	1120	534,240
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD (10% spares)	188122-B22		1	477	112	53,424
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
LINKSYS EZXS88R ETHERFAST 8port 10/100 RACKMOUNT	101532	Linksys	5	120	3	360
<b>Subtotal</b>					<b>1,492,917</b>	<b>155,872</b>
<b>Server Software</b>						
Oracle9i DB Ent. Edi. Rel. 2 for Windows, 3Year 32P Unlimited Users	Run time	Oracle	3	640,000	1	640,000
Real Application Cluster, 3 Year 32P, Unlimited Users	Run time	Oracle	3	320,000	1	320,000
Partitioning, 3Year 32P, Unlimited Users	Run time	Oracle	3	160,000	1	160,000
Oracle Database Server Support Package for 3 years	Run time	Oracle	3	48,000	1	48,000
Microsoft Windows 2000 Advanced Server	C10-00475	Microsoft	2	2,399	8	19,192
Microsoft Visual C++ 6.0	048-00317	Microsoft	2	549	1	549
<b>Subtotal</b>					<b>1,139,741</b>	<b>53,850</b>
<b>Client Hardware</b>						
ProLiant DL360R01 P1000-256K, 128MB 3-PACK	227214-001		1	6,237	8	49,896
128 Reg 133MHz SDRAM DIMM	128277-B21		1	149	72	10,728
Pentium III 1000MHz Processor (DL360)	210642-B21		1	799	24	19,176
V570 Color Monitor - 15 inch CRT - Opal	228113-001		1	169	24	4,056
HP Enhanced Keyboard	122660-006		1	44	24	1,056
HP Mouse	170299-B21		1	23	24	552
18.2GB Pluggable Ultra3 SCSI 10K 1" Universal HDD	142673-B22		1	319	24	7,656
FM-L0724-363YR 24x7 4HR 300 SERIES SVR	162657-002		1	1,450	24	34,800
<b>Subtotal</b>					<b>93,120</b>	<b>34,800</b>
<b>Client Software</b>						
BEA Tuxedo 6.5 Teir 1		BEA	4	3,000	24	72,000
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	24	17,712
<b>Subtotal</b>					<b>89,712</b>	<b>45,360</b>
<b>User Connectivity</b>						
3Com® SuperStack® 3 Switch 3300 24-Port	3C16980A	3Com	6	999	4	3,996
<b>Subtotal</b>					<b>3,996</b>	<b>0</b>
					<b>(\$292,000)</b>	<b>0</b>
Oracle Mandatory E-Business Discount (License & Support)						
Large Purchase and Cash discount (See Note 1)					<b>16.0%</b>	<b>1</b>
<b>Total</b>					<b>\$2,273,720</b>	<b>\$259,374</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](mailto:pricing@tpc.org). Thank you.

**Three-Year Cost of Ownership: \$2,533,095**  
**tpmC Rating: 137,260.89**  
**\$ / tpmC: \$18.46**

Pricing: 1=HP Direct 2=Microsoft 3=Oracle (contact: MaryBeth Pierantoni @ 650-506-2118. See Appendix G of FDR) 4=BEA 5=ecost.com 6=ecost.com  
 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**

**137260.892 tpmC**

### Response Times (in seconds)

	Average	90%	Maximum
New-Order	1.273	1.888	40.511
Payment	1.195	1.781	5.919
Order-Status	1.192	1.769	5.255
Delivery (interactive portion)	0.226	0.538	3.827
Delivery (deferred portion)	2.866	6.720	30.563
Stock-Level	1.602	2.306	6.498
Menu	0.231	0.555	3.867

### Transaction Mix, in percent of total transaction

New-Order	44.914%
Payment	43.020%
Order-Status	4.020%
Delivery	4.026%
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	18.009/14.607	18.028/145.963
Payment	3.010/0.000	3.016/12.016	3.033/120.108
Order-Status	2.010/0.000	2.016/10.018	2.030/100.097
Delivery (interactive)	2.010/0.000	2.016/5.0024	2.031/50.165
Stock-Level	2.010/0.000	2.016/5.0015	2.032/49.839

### Test Duration

Ramp-up time	55 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	36,672,642
Ramp down time	30 minutes

### Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes