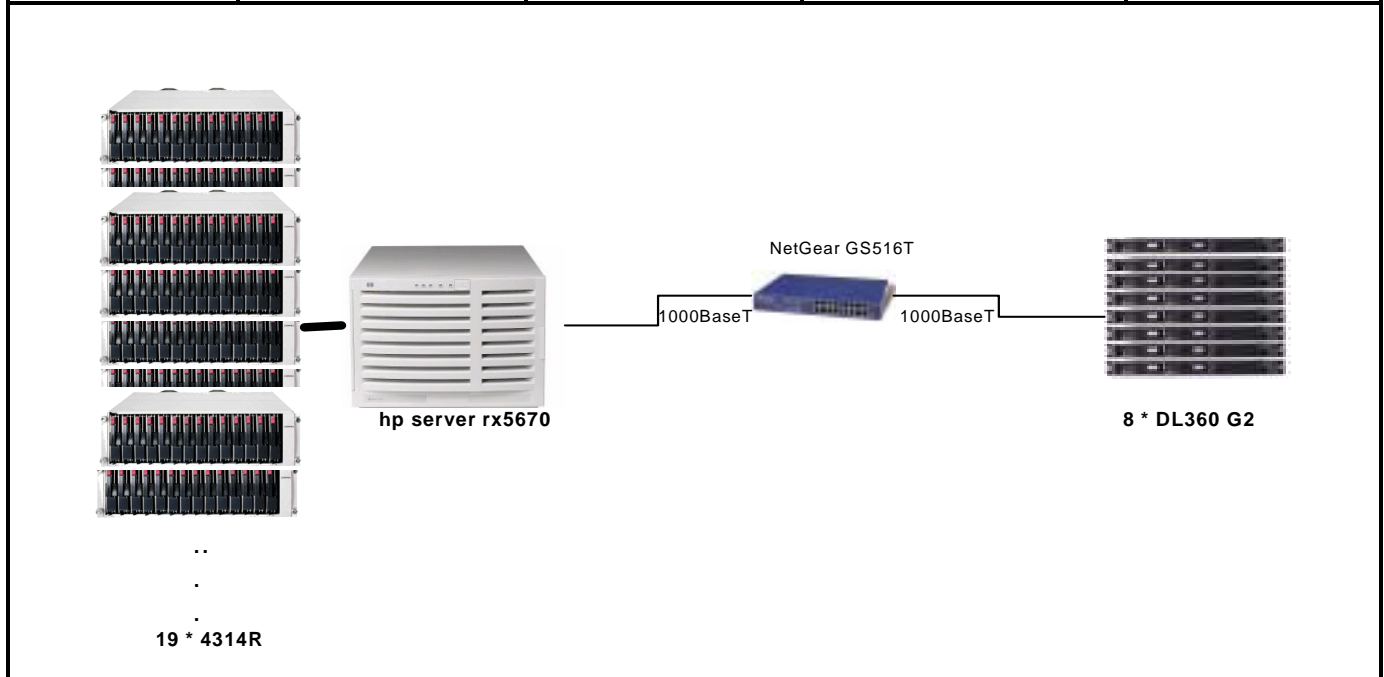


	HP server rx5670 C/S with 8 – ProLiant DL360G2	TPC-C Rev. 5.0
		Report Date: Nov. 12, 2002

Total System Cost	TPC-C Throughput	Price Performance	Availability Date
\$426,393	80,494.98 tpmC	\$5.30	May 11, 2003* Hardware available now

Processors	Database Manager	Operating System	Other Software	Number of Users
Server : 4 - 1GHz Intel Itanium 2 w/3MB iL3 cache Clients : 16 - PIII 1400 MHz/ 133/256K	Oracle10i Database Standard Edition	Red Hat Linux Advanced Server IA64	BEA Tuxedo 8.0	64000



System Components	Server		Clients	
	Quantity	Description	Quantity	Description
Processor	4	1GHz Itanium 2 w/3MB iL3 cache	8 x 2 = 16	Pentium III 1400 MHz/133/256K
Memory	48	1 GB	16	1 GB
Disk Controllers	7	Smart Array 5304/128 controller		
Disk Drives	252 14	18.2-GB 15K 36.4-GB 15K	8	18.2-GB 10K
Total Storage		5096 -GB		



HP rx5670 - 4P

TPC-C Rev. 5.0

Report Date: 11-Nov-02

Description	Part Number	Third Party Brand	Unit Price	Qty	Extended Price	3 yr. Maint. Price
Server Hardware						
HP rx5670 - 1 - 1GHz Itanium 2 w/ 3MB iL3 cache, 4 GB RAM, 1-36GB disk- 1-Memory Carrier, Linux OS and Linux Enablement Kit.	A6994A		37,532	1	37,532	
CPU upgrade Itanium 2, 1GHz w/3MB iL3 cache	A6836A		8,250	3	24,750	
4GB PC2100 DDR-SDRAM (4x1GB DIMMs)	A6834A		8,000	11	88,000	
Memory Carrier Board	A6747A		1,981	1	1,981	
Field Rack Kit/Static rails	A5575A		134	1	134	
Graphics USB Card	A6869A		349	1	349	
HP USB keyboard and mouse	A7861A		32	1	32	
HP Hardware Support 3 yr, 24x7, 4 hr rx5670	H4405Y#6BO		7,052	1		7,052
HP Hardware Support 3 yr, 24x7, 4 hr addtl CPU	H4405Y#6BP		1,153	3		3,459
Smart Array 5304/128 Controller	158939-B21		2,099	7	14,693	
StorageWorks Enclosure Model 4314R	190209-001		2,955	18	53,190	
StorageWorks Enclosure Model 4354R	190211-001		3,523	1	3,523	
NC7131 Gigabit Server Adapter, Pci 64/66, 10/100/1000-T	158575-B21		227	1	227	
S5500 15 carbon / silver monitor	261602-001		139	1	139	
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 T1000 XR	204155-001		500	1	500	
18.2-GB Pluggable 1" Universal WideUltra3 15K HDD	188122-B22		399	252	100,548	
spares)	188122-B22		399	26		10,374
36.4GB Pluggable 1" Ultra3 SCSI 15K Hard Drive	232916-B22		619	14	8,666	
36.4GB Pluggable 1" Ultra3 SCSI 15K Hard Drive (10% Spares)	232916-B22		619	2		1,238
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002		157	19		2,983
Subtotal					337,862	25,106
Server Software						
Oracle10i Database Std. Edition , processor license for 3 years	Run time	Oracle	7,500	4	30,000	
Oracle Database Server Support Package for 3 years	Run time	Oracle	6,000	1		6,000
HP - Red Hat Linux Advanced Server 2.1 - IA64 -	Inc w/ Server		0	1	0	Inc. w/ Server
HP - Red Hat Linux AS - 3 x 1 year 24x7 - 2 Hr Response	T1496AA		1,250	3		3,750
Subtotal					30,000	9,750
Client Hardware						
ProLiant DL360R02 P1.40/133-256K 128MB	233271-001		2,229	8	17,832	
1G Reg 133MHz SDRAM DIMM	128280-B21		880	16	14,080	
1.40GHz PIII Processor Option Kit (DL360 G2)	233273-B21		804	8	6,432	
NC3134 64 PCI Dual 10/100 All option kit	138603-B21		285	8	2,280	
18.2GB Pluggable Ultra3 SCSI 10K 1" Universal HDD	142673-B22		319	8	2,552	
FM-L0724-363YR 24x7 4HR 300 SERIES SVR	162657-002		1,450	8		11,600
Subtotal					43,176	11,600
Client Software						
BEA Tuxedo 8.0 Tier 1		BEA	3,000	8	24,000	15,120
Red Hat Linux Personal (unlimited copies)	RHF099US	Red Hat	40	1	40	
Red Hat Linux Personal 8 systems x 3 years m& s Bundle	MCT0172US	Red Hat	4,800	1		4,800
Subtotal					24,040	19,920
User Connectivity						
NetGear GS516T 10/100/1000 Copper Gigabit Switch	GS516TNA	NetGear	1,400	3	4,200	
Subtotal					4,200	0
Oracle Mandatory E-Business Discount (License and Support)					(\$1,800)	0
Large Purchase and Cash discount (See Note 1) 22% and 16%					(\$70,133)	(\$7,329)
Total					\$367,345	\$59,047

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: \$426,393
tpmC Rating: 80,494.98
\$ / tpmC: \$5.30

Pricing: 1 & 2 = HP Direct 3=Oracle (Contact: Herve Lejeune, herve.lejeune@oracle.com, 650 506-1894), See Appendix G of FDR) 4=BEA 5=CDW 6= Red Hat

Note 1 = Discount based on HP Direct guidance and large cash purchase level. Pricing code 1 = 22%; code 2 = 16%

Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc.

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

80494.98 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.407	0.810	25.674
Payment	0.254	0.357	24.207
Order-Status	0.282	0.442	25.314
Delivery (interactive portion)	0.130	0.102	20.955
Delivery (deferred portion)	0.097	0.153	159.626
Stock-Level	0.201	0.228	17.739
Menu	0.102	0.102	2.903

Transaction Mix, in percent of total transaction

New-Order	44.915%
Payment	43.020%
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	18.008/12.025	18.022/120.201
Payment	3.010/0.000	3.018/12.015	3.025/120.056
Order-Status	2.010/0.000	2.018/10.015	2.021/99.780
Delivery (interactive)	2.010/0.000	2.018/5.025	2.024/50.188
Stock-Level	2.010/0.000	2.018/5.014	2.023/49.897

Test Duration

Ramp-up time	3270 seconds
Measurement interval	7377 seconds
Transactions (all types) completed during measurement interval	22921635
Ramp down time	8580 seconds

Checkpointing

Number of checkpoints	5
Checkpoint interval	1475 seconds