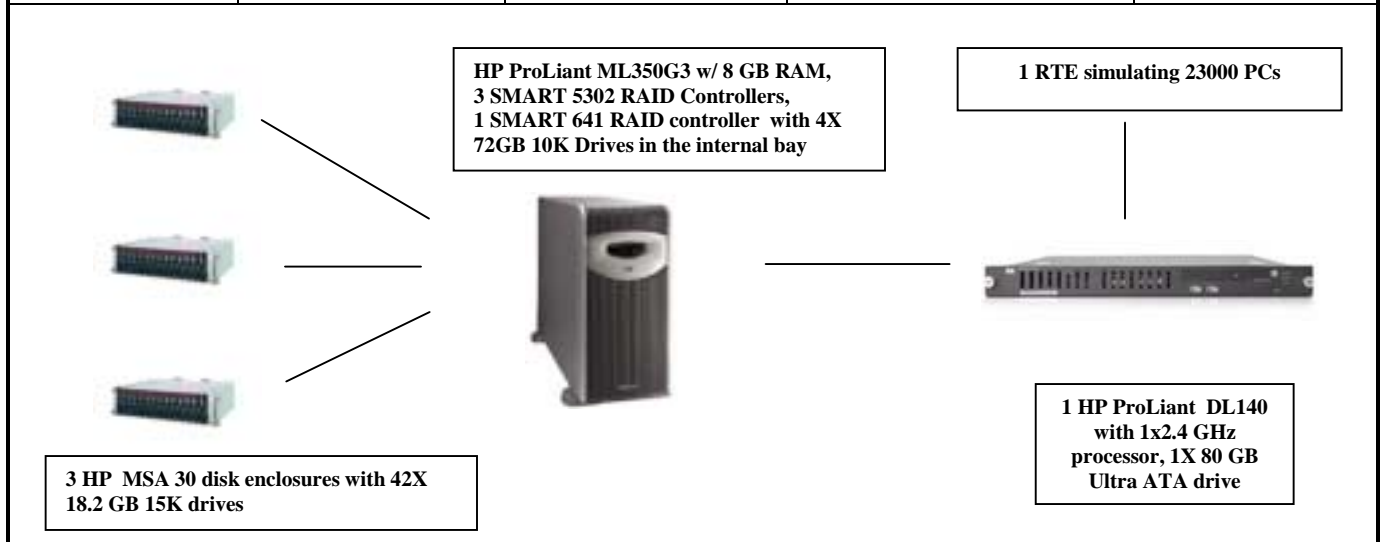


Hewlett Packard	ProLiant ML350T03 X2.8/1MB	TPC-C Rev. 5.2
Company	C/S with ProLiant DL140	Report Date: Mar. 2, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$61,399	28,711	\$2.14	March 17, 2004

Processors	Database Manager	Operating System	Other Software	Number of Users
1 Intel Xeon 2.8 GHz – 1M L3 cache – Server 1 Intel Xeon 2.4 GHz – Client	Microsoft SQL Server 2000 Enterprise Edition SP3	Microsoft Windows Server 2003, Enterprise Edition	Microsoft Visual C++ Microsoft COM+	23000



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	1	2.8 GHz Intel Xeon w/ 1M Cache	1	2.4 GHz Intel Xeon w/ 256K cache
Memory	4	2048 MB DDR	1	1 GB (2x 512 MB)
Disk Controllers	1	SMART 641 Array Controller	1	Integrated Dual Channel Ultra ATA-100 IDE Controller
	3	SMART 5302 Array Controller		
Disk Drives	4	72.8 GB SCSI Drives	1	80 GB Ultra ATA Drive
	43	18.2 GB SCSI Drives		
Total Storage		1073.8 GB		80 GB
Backup Storage	1	DVD+R/DVD+RW drive		

Hewlett-Packard		HP ProLiant ML350 G3 1P			TPC-C Rev. 5.2		
Company		Client/Server			Report Date:		2-Mar-04
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware							
Brand Pricing							
ML350T03 X2.8 1MB Cache, 512MB, Smart Array 641 integrated Gigabit NIC, integrated dual channel SCSI	359349-001	1	2,249	1	2,249		
4GB PC2100 DDR SDRAM DIMM 2x2048	300682-B21	1	3,499	2	6,998		
2-Bay Hot Plug Wide Ultra2/Ultra3 SCSI Drive Cage	244059-B21	1	370	1	370		
StorageWorks MSA30 Storage Enclosure - Rack-mountable	302969-B21	1	2,978	3	8,934		
Smart Array 5302/128 Controller	283552-B21	1	1,299	3	3,897		
S5500 15 carbon / silver monitor	261602-001	1	129	1	129		
Pro UPS 500 (500VA/300 Watts; 110-127 VAC, 60Hz)	136386-001	1	146	1	146		
18GB 15K U320 Pluggable Hard Drive	286775-B22	1	269	42	11,298		
18GB 15K U320 Pluggable Hard Drive (10% spares)	286775-B22	1	269	5		1,345	
18GB 15K U320 Pluggable Hard Drive (OS)	286775-B22	1	269	1	269		
72.8GB 10Krpm U320 UNI HDD (internal log)	286714-B22	1	429	4	1,716		
HP DVD Writer dvd420i	Q2133A#ABA	1	180	1	180		
HP CP 3 Years 4 Hours 24 Hour x 7 Days HW 300 Srs	162657-002	1	949	1		949	
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002	1	157	3		471	
Subtotal					36,186	2,765	
Server Software							
Database Server Support Package	HP-PRORS-16U-01	Microsoft	2	1,950	3	5,850	
SQL Server 2000 Enterprise Edition 32-bit	810-00961	Microsoft	2	17,279	1	17,279	Incl Above
Visual C++ .Net Standard	254-00170	Microsoft	2	109	1	109	Incl Above
Windows Server 2003 Enterprise Edition	P72-00264	Microsoft	2	2,399	1	2,399	Incl Above
Subtotal					19,787	5,850	
Client Hardware							
ProLiant DL140 2.4GHz, 512MB , Two integrated Gigabit NIC, internal 80 GB ATA drive	350534-B21	1	1,149	1	1,149		
S5500 15 carbon / silver monitor	261602-001	1	129	1	129		
PS/2 Standard Keyboard	DU734AV#ABA	1	10	1	10		
HP PS/2 scroll mouse carbonite 2-Button	DC261AV	1	5	1	5		
HP CPe 3 Years 4 Hours 24 Hour x 7 Day HW DL140	351584-001	1	478	1		478	
Subtotal					1,293	478	
Client Software							
Windows 2000 Server 32-bit	C11-00821	Microsoft	2	738	1	738	Incl. Above
Subtotal					738	0	
User Connectivity							
7 ft. CAT5e Patch cable	CBLC57	LanAdapter	3	1	3		
Subtotal					3	0	
Large Purchase and Net 30 discount (See Note 1)	14.0%		1			(\$5,247)	(\$454)
Total					\$52,760	\$8,639	
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: \$61,399		
					tpmC Rating: 28,711.00		
					\$ / tpmC: \$2.14		
Pricing: 1=HP 2=Microsoft 3=LanAdapters.com							
Note 1 = Discount based on HP Direct guidance with large purchase and Net 30 discount.							
Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc.							

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

28,711 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.38	0.56	5.28
Payment	0.23	0.36	3.30
Order-Status	0.31	0.46	5.38
Delivery (interactive portion)	0.10	0.11	0.18
Delivery (deferred portion)	0.41	0.66	2.08
Stock-Level	1.70	2.30	6.50
Menu	0.11	0.12	0.35

Transaction Mix, in percent of total transaction

New-Order	44.88%
Payment	43.04%
Order-Status	4.03%
Delivery	4.03%
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	18.01/12.11	18.03/121.12
Payment	3.00/0.00	3.01/12.11	3.03/121.12
Order-Status	2.00/0.00	2.01/10.54	2.03/105.50
Delivery (interactive)	2.00/0.00	2.01/5.10	2.03/50.82
Stock-Level	2.00/0.00	2.01/5.09	2.03/50.81

Test Duration

Ramp-up time	42 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	7,952,174
Ramp down time	50 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes