

Hewlett Packard	ProLiant ML350T03 X3.06/533 512 SA641	TPC-C Rev. 5.1
	C/S with HP TC2120	Report Date: Dec. 17, 2003

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$33,692	17,192.40	\$1.96	Dec. 17, 2003

Processors	Database Manager	Operating System	Other Software	Number of Users
1 Intel Xeon 3.06 GHz – 512 K L3 cache – Server 1 Intel Xeon 2.66 GHz – Clients	Microsoft SQL Server 2000 Standard Edition SP3	Microsoft Windows Server 2003, Standard Edition	Microsoft Visual C++ Microsoft COM+	14000

2 HP Storage Works 4414R disk enclosures with 28X 18.2 GB 15K drives

HP ProLiant ML350T03 w/ 2.5 GB RAM, 1 SMART 5302 RAID controller, 1X SA641 controller, 2X 72GB 10K Drives in the internal bays and 4X 18.2 GB 15K drives, 1X 18GB 15 K OS drive in two drive bay

1 RTE simulating 14000 PCs

1 HP TC2120 1x2.66 GHz w/768MB RAM Processor, 1X 40 GB ATA drive

	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	1	3.06 GHz Intel Xeon w/ 512 K Cache	1	2.66 GHz Pentium III Xeon w/ 256K cache
Memory	2	1GB DDR	1	256 MB DDR
	1	512K DDR	1	512MB DDR
Disk Controllers	1	SA 641 Controller	1	IDE
	1	SMART 5302 Array Controller		
	1	Internal SCSI Controller		
Disk Drives	2	72.8 GB SCSI Drives	1	40 GB ATA
	33	18.2 GB SCSI Drives		
Total Storage		693.37 GB		40GB
Backup Storage	1	HP DVD Writer dvd420i		

Hewlett-Packard		ML350T03 X3.06/533 512 SA641			TPC-C Rev. 5.1		
Company		Client/Server			Report Date:		18-Dec-03
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware							
		Brand Pricing					
ML350T03 X3.06/533 512 SA641 US	333371-001		1,149	1	2,149		
1GB PC2100 DDR SDRAM DIMM 2x512 WW	300679-B21		550	2	1,100		
S5500 15 carbon / silver monitor	261602-001		129	1	129		
Int. 2 Bay HP U2/U3 SCSI Drive Cage WW	244059-B21		370	1	370		
StorageWorks Enclosure Model 4414R - Rack-mountable	302969-B21		2,978	2	5,956		
Smart Array 5302/128 Controller WW	283552-B21		1,299	1	1,299		
HP DVD Writer dvd420i	Q2133A#ABA		180	1	180		
Pro UPS 500 127V US	136386-001		146	1	146		
18.2GB 15Krpm U320 UNI HDD	286775-B22		269	33	8,877		
18.2GB 15Krpm U320 UNI HDD (10% spares)	286775-B22		269	3	807		
72GB 10K U320 UNI HDD ALL	286714-B22		429	2	858		
CarePaq Service - 300 Series Servers 3Yr,7x24,4hr	162657-002		949	1			949
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002		157	2			314
					Subtotal	21,871	1,263
Server Software							
SQL Server 2000 Standard Edition	228-01079	Microsoft	4,999	2	4,999		
Visual C++ .Net Standard	254-00170	Microsoft	109	2	109		Incl below
Windows Server 2003, Standard Edition	P72-00264	Microsoft	738	2	738		Incl below
Database Server Support Package	PRO-PRORS-16U-01	Microsoft	1,950	2	3,900		5,850
					Subtotal	5,846	5,850
Client Hardware							
tc2120 P2.66 512KB 256MB 40GB ATA TWR US	335873-001		729	1	729		
512MB ECC PC2100 DDR SDRAM DIMM WW (LAN)	287496-B21		275	1	275		
S5500 15 carbon / silver monitor	261602-001		129	1	129		
HP CP 3Y 4H 24x7 HW TC2120 4-Hour 24 Hour x 7 Day Coverage 3 Years	321653-002		448	1			448
					Subtotal	1,133	448
Client Software							
Microsoft Windows 2000 Server	C11-00821	Microsoft	738	2	738		Incl. Above
					Subtotal	738	0
User Connectivity							
7ft CAT 5e Network Patch Cables	CBLC57	LanAdapters	4	1	3	3	
					Subtotal	3	0
Large Purchase and Net 30 discount (See Note 1)	14.0%		1			(\$3,221)	(\$240)
					Total	\$26,370	\$7,321
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: \$33,692		
					tpmC Rating: 17,192.40		
					\$/ tpmC: \$1.96		
Pricing: 1=HP 2=Microsoft 3=Cdw.com 4=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 Tom Sawyer of Performance Metrics, Inc.							

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

17,192.40tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.66	0.98	8.37
Payment	0.28	0.44	5.07
Order-Status	0.41	0.65	9.04
Delivery (interactive portion)	0.10	0.11	0.13
Delivery (deferred portion)	1.58	2.32	4.39
Stock-Level	5.92	8.06	18.77
Menu	0.10	0.11	0.32

Transaction Mix, in percent of total transaction

New-Order	44.87%
Payment	43.05%
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	18.02/12.17	18.04/121.71
Payment	3.00/0.00	3.02/12.18	3.04/121.71
Order-Status	2.00/0.00	2.02/10.14	2.02/101.50
Delivery (interactive)	2.00/0.00	2.02/5.12	2.03/51.00
Stock-Level	2.00/0.00	2.02/5.10	2.04/51.00

Test Duration

Ramp-up time	22 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	4,705,782
Ramp down time	29 minutes

Checkpointing

Number of checkpoints	4
Checkpoint interval	30 minutes