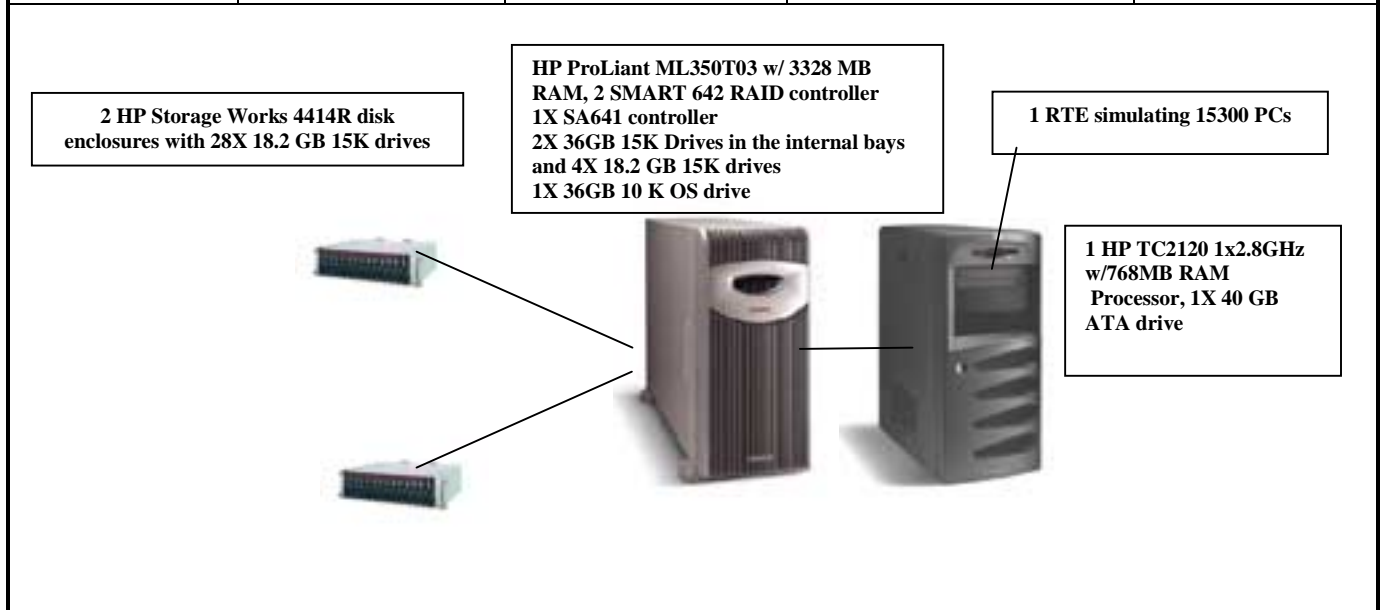


Hewlett Packard	ProLiant ML350T03 X2.8/533 512 SA641	TPC-C Rev. 5.2
Company	C/S with HP TC2120	Report Date: April 14, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$30,600	18,318.24	\$1.68	April 14, 2004

Processors	Database Manager	Operating System	Other Software	Number of Users
1 Intel Xeon 2.8 GHz – 512 K L3 cache – Server 1 Intel Xeon 2.8 GHz – Clients	IBM DB2 UDB Express Edition v8.1	Microsoft Windows Server 2003, Standard Edition	Microsoft Visual C++ Microsoft COM+	15300



	Server		Each Client	
System Components	Quantity	Description	Quantity	Description
Processor	1	2.8GHz Intel Xeon w/ 512 K Cache	1	2.8 GHz Intel Xeon w/ 512K cache
Memory	3	1GB DDR	1	256 MB DDR
	1	256MB DDR	1	512MB DDR
Disk Controllers	1	SA 641 Controller	1	IDE
	2	SMART 642 Array Controller		
	1	Internal SCSI Controller		
Disk Drives	3	36.4 GB SCSI Drives	1	40 GB ATA
	32	18.2 GB SCSI Drives		
Total Storage		691.6 GB		40GB
Backup Storage	1	DVD+R/DVD+RW		

Hewlett-Packard Company		ProLiant ML350T03 X2.8/533 512 SA641			TPC-C Rev. 5.2 Report Date: 14-Apr-04		
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware							
		Brand Pricing					
ML350T03 X2.80/533 512 SA641 US	311525-001		1,949	1	1,949		
1GB PC2100 DDR SDRAM DIMM WW	287497-B21		499	3	1,497		
256MB ECC PC2100 DDR SDRAM DIMM WW	287495-B21		149	1	149		
S5500 15" monitor	P9006A#ABA		119	1	119		
HP StorageWorks Modular Smart Array 30 Enclosure	302969-B21		2,978	2	5,956		
SmartArray642 U320 Intrl.RAID Ctrl. WW	291967-B21		649	2	1,298		
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	32	8,608		
18.2GB 15Krpm U320 UNI HDD (10% spares)	286775-B22		269	3		807	
36GB 15K U320 Pluggable Hard Drive WW	286776-B22		429	2	858		
36GB 10K Ultra320 NHP Hard Drive WW	271832-B21		259	1	259		
CarePaq Support Plus 24 HW & OS - 300 Series Servers 3Yr,7x24,4hr	239930-002		2,355	1		2,355	
FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL	171242-002		157	2		314	
Subtotal					21,019	3,476	
Server Software							
Visual C++ .Net Standard	254-00170	Microsoft	109	2	109	Incl above	
Windows Server 2003, Standard Edition	P72-00264	Microsoft	738	2	738	Incl above	
IBM DB2 UDB Express Edition v8.1 (includes first year support)	D535PLL	IBM	4,874	3	4,874		
IBM DB2 UDB Exp. Ed. Maintenance renewal (annual)	E013SLL	IBM	975	3		1,950	
Subtotal					5,721	1,950	
Client Hardware							
tc2120 P2.8GHz 512KB 256MB 40GB ATA TWR US	335876-001		729	1	729		
NC1020 PCI Gigabit NIC 10/100/1000 WOL (Wake on LAN)	353377-B21		99	1	99		
Mini Desktop KVM Switch PS/2	3891817	AirLink	29	5	29		
HP CP 3Y 4H 24x7 HW TC2120 4-Hour 24 Hour x 7 Day Coverage 3 Years	321653-002		448	1		448	
Subtotal					857	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	CBLC5C7	LanAdapters		4	3		
Subtotal					3	0	
Large Purchase and Net 30 discount (See Note 1)	14.0%			1			
Total					\$25,275	\$5,325	
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: \$30,600		
					tpmC Rating: 18,318.24		
					\$ / tpmC: \$1.68		
Pricing: 1=HP 2=Microsoft 3=IBM 4=LanAdapters.com 5=Outpost.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

18,318.24 tpmC

Response Times (in seconds)	Average	90%	Maximum
New-Order	0.99	1.64	8.51
Payment	0.72	1.31	9.18
Order-Status	0.95	1.59	7.23
Delivery (interactive portion)	0.11	0.11	1.95
Delivery (deferred portion)	1.58	2.32	4.39
Stock-Level	3.92	5.48	10.93
Menu	0.11	0.11	1.96

Transaction Mix, in percent of total transaction

New-Order	44.92%
Payment	43.02%
Order-Status	4.02%
Delivery	4.02%
Stock-Level	4.02%

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	18.01/0.00	18.01/13.01	18.12/129.78
Payment	3.01/0.00	3.02/12.02	3.14/119.79
Order-Status	2.01/0.00	2.02/10.02	2.10/99.13
Delivery (interactive)	2.01/0.00	2.02/5.02	2.14/50.00
Stock-Level	2.01/0.00	2.02/5.02	2.14/49.87

Test Duration

Ramp-up time	104 minutes
Measurement interval	120 minutes
Transactions (all types) completed during measurement interval	2,198,189
Ramp down time	71 minutes

Checkpointing

Number of checkpoints	N/A
Checkpoint interval	N/A