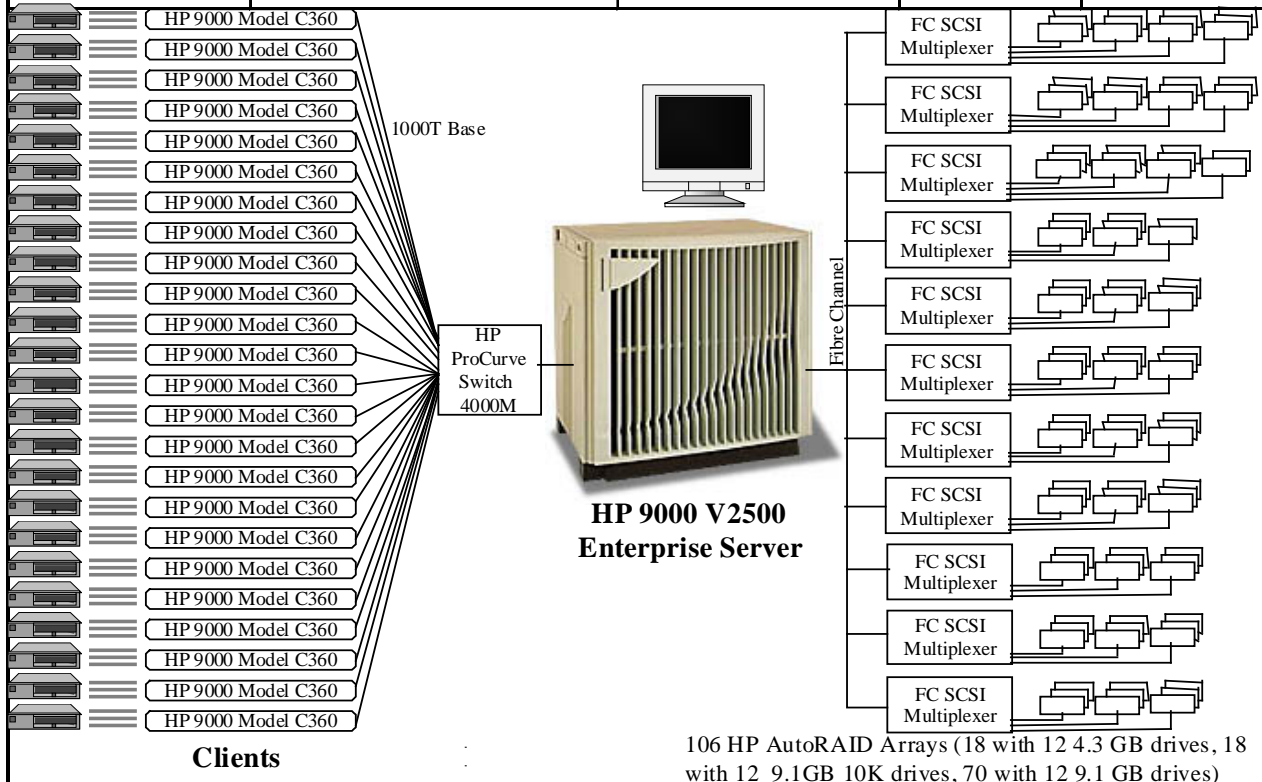
	HP 9000 V2500 Enterprise Server Client/Server with 24 C360 front-ends			TPC-C Revision 3.4
				Report Date: August 6, 1999
Total System Cost	TPC Throughput	Price/Performance		Availability Date
\$8,142,782	92,832.96 tpmC	\$87.71/tpmC		August 31, 1999
Processors	Database Manager	Operating System	Other Software	Number of Users
32 PA-RISC 8500 440MHz	Oracle8i Enterprise Database Server v8.1.5	HP-UX 11.0 64-bit Extension Pack 9903	TUXEDO 6.4	74,880



System Components	Server (HP 9000 V2500 Enterprise Server)		Each Client (24 C360)	
	Qty	Type	Qty	Type
Processors	32	440MHz PA-RISC 8500	1	367MHz PA-RISC 8500
Cache Memory	each	0.5 MB I-cache, 1 MB D-cache	each	0.5 MB I-cache/1 MB D-cache
Memory	32	GB	1	1.5 GB
Disk Controllers	11	HP-PCI Fibre Channel	1	Ultra Wide SCSI
	11	FC SCSI Multiplexer		
	36	16 Bit FW SCSI Adapter		
Disk Drives	106	HP AutoRaid Arrays with 18 12-4.3 GB drives, 18 12-9.1 GB 10k disks and 70 12-9.1 GB drives	1	4 GB disk
Total Storage	8,102	GB		
Tape Drives	1	DDS Storage System		
Terminals	1	Console Terminal	1	Console Terminal



HP 9000 V2500 Enterprise Server

TPC-C Rev 3.4

Report Date: August 6, 1999

Description	Part Number	Brand	Price Key	Unit Price	Qty	5 Year Price	Maint. Price
Server Hardware							
HP 9000 V2500 Enterprise Server	A5074A		1	138,600	1	138,600	119,532
Add'l Dual 440 MHz PA-RISC 8500 CPUs	A5492A Opt. 0D1		1	45,500	16	728,000	118,272
System Mgmt. Station	A4802B		1	8,036	1	8,036	2,117
Memory Controller Board	A5078A, Opt. 0D1		1	7,000	4	28,000	
256MB DIMM for a total of 2 GB	A5082A, Opt. 0D1		1	24,500	16	392,000	
PCI Fibre Channel Adapter	A3740A, Opt. 0D1		1	1,890	11	20,790	
PCI 1000BT LAN Adapter	A4926A Opt 0D1		1	1,467	1	1,467	
4GB DDS-2 DAT Drive	A3183A, Opt 0DZ		1	1,156	1	1,156	
PCI 64-port Mux card	J3593A Opt. 0D1		1	1,047	1	1,047	
16 port RS232 DB25 port module	J2485A		1	616	1	616	
25 ft cable	J3595A		1	105	1	105	
5.5 kVA UPS	A3589A Opt. 002		1	7,000	1	7,000	336
1.8kVA HP UPS Rackmount	A2997A Opt. 002		1	2,310	53	122,430	16,027
2.0m Field Integrated Cabinet	C2787A		1	1,400	31	43,400	
FC SCSI Multiplexer	A3511A		1	7,280	11	80,080	71,019
16 Bit FW SCSI Adapter	A3511A, Opt. 003		1	907	36	32,634	
Auto Raid Array Model 12H	A3700AZ		1	3,050	106	323,300	560,210
Two 96 MB controllers with Auto Raid	Opt. 203		1	9,200	106	975,200	
Twelve 9.1 GB disk modules, 10K rpm			1	15,120	18	272,160	
Twelve 4.3 GB disk modules	Option 112		1	10,080	18	181,440	
Twelve 9.1 GB disk modules	Option 132		1	13,860	70	970,200	
0.9m 68-pin high density male connec.	Option 801		1	84	70	5,880	
2.5m HDTS68 to HDTS68 Cable	C2924A		1	98	36	3,528	
Subtotal						4,337,069	887,513
Server Software							
Oracle8i Enterprise Database Server v8.1.5		Oracle	2		1	975,840	975,840
HP-UX 11.0 Sys Media, CD-ROM	B3920EA, Opt AAF		1	364	1	364	
Subtotal						976,204	975,840
Client Hardware							
Hewlett Packard Model C360 Workstation	A4988A		1	9,100	24	218,400	75,802
256 MB ECC memory module	A4517A		1	1432	144	206,136	
Console	C1064GX		1	377	1	377	168
4 GB ultra SCSI disk	A4569A		1	700	24	16,800	
100 Base T PCI LAN Adapter	B5509BA		1	242	72	17,424	
Subtotal						459,137	75,970
Client Software							
HP C/ANSI C Compiler	B3901BA, Option AH0		1	1,103	1	1,103	980
BEA Tuxedo 6.4		Bea Sys.	3	3,000	24	72,000	54,000
Subtotal						73,103	54,980
User Connectivity							
(8+1) port 10Mbps Ethernet Hub, 913 spares	DEH2924	SW House	4	28.95	10,296	298,069	
HP ProCurve Switch 4000M	J4121A		1	2,771	1	2,771	588
HP ProCurve Switch Gigabit-SX Module	J4113A		1	1,049	1	1,049	
HP ProCurve Switch 10/100Base-T Module	J4111A		1	489	1	489	
Subtotal						302,378	588
Other discounts*						0	\$0
Total						6,147,891	1,994,891
Notes:1=Sun Data, 2=Oracle 3=BEA Systems, 4=Software House International						Five Year Cost of Ownership:	\$8,142,782
Audited by Tom Sawyer for Performance Metrics, Inc.						tpmC Rating:	92,832.96
						\$/tpmC:	\$87.71

Prices used in TPC benchmarks reflect 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 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.

Numerical Quantities Summary for HP 9000 V2500 Enterprise Server

MQTH, Computed Maximum Qualified Throughput

92,832.96 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	1.14s	4.55s	0.67s
Payment	1.02s	4.41s	0.56s
Order-Status	1.09s	3.54s	0.62s
Delivery (interactive portion)	0.08s	0.12s	0.07s
Delivery (deferred portion)	1.19s	4.33s	0.72s
Stock-Level	1.38s	4.43s	0.79s
Menu	0.10s	0.53s	0.001s

Transaction Mix, in percent of total transactions

New-Order	44.79%
Payment	43.06%
Order-Status	4.05%
Delivery	4.05%
Stock-Level	4.05%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.02s	18.03s	18.04s	0.01s	12.13s	191.14s
Payment	3.01s	3.02s	3.03s	0.01s	12.06s	173.28s
Order-Status	2.01s	2.02s	2.03s	0.01s	10.06s	119.67s
Delivery (interactive)	2.01s	2.02s	2.03s	0.02s	5.07s	61.74s
Stock-Level	2.01s	2.02s	2.02s	0.01s	5.07s	53.89s

Test Duration

Ramp up time	46.75 minutes
Measurement interval	26 minutes
Transactions during measurement interval	5,388,722
Ramp down time	6.87 minutes

Checkpointing

Number of checkpoints in measurement interval	1
Checkpoint Interval	26 minutes

Reproducibility Run

Throughput	92,777.38 tpmC
Relative to MQTH	-0.06%