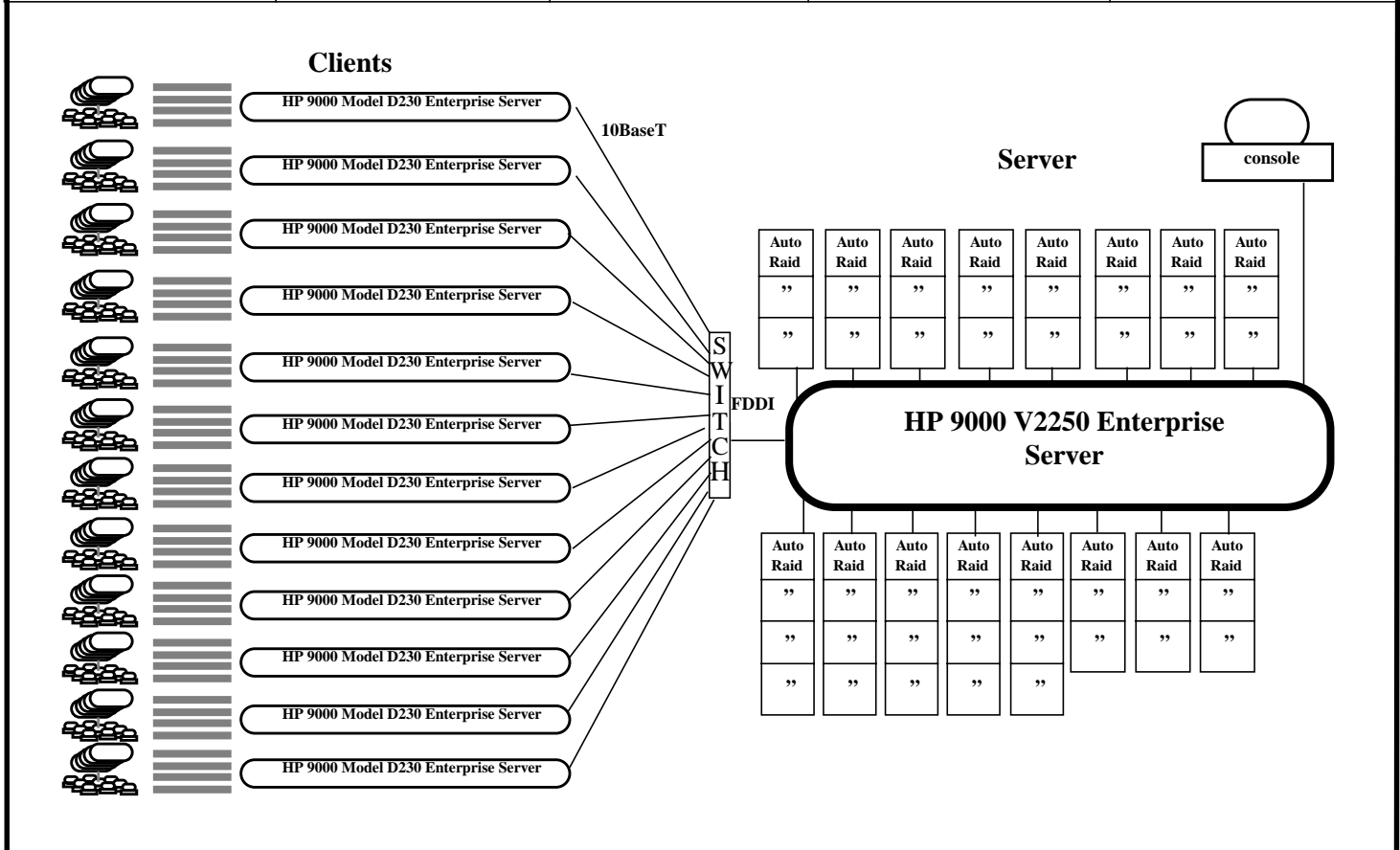


Hewlett-Packard Co.	HP 9000 V2250 Enterprise Server Client/Server with 12 D230 front-ends		TPC-C® Rev 3.3.2
			Report Date: February 13, 1998
Total System Cost	TPC-C® Throughput	Price/Performance	Availability Date
\$4,229,894	52,117.80 tpmC®	\$81.17 / tpmC®	August 13, 1998
Processors	Database Manager	Operating System	Other Software
16 PA-RISC 8200 240 MHz	Sybase Adaptive Server Enterprise 11.5 EBF 7817	HP-UX 11.00 64-bit Extension Pack 9808	TUXEDO Transaction Monitor 4.2.2
			Number of Users
			43,000



System Components	Server (V2250)		Each Client of 12 (D230)	
	Qty	Type	Qty	Type
Processors	16	240 MHz PA-RISC 8200 2 MB I-cache, 2 MB D-cache	1	160 MHz PA-RISC 7300LC 1 MB combined L2 cache
Memory	16	GB	1	768 MB
Disk Controllers	16	HP-PCI FWD SCSI-2	1	HP-HSC
Disk Drives	53	HP AutoRAID Arrays	1	4 GB Disk
Total Storage (GB)	3,232	GB		
Tape Drives	1	DDS Storage System		
Terminals	1	Console terminal	1	Console terminal

Hardware and Software Pricing

Description	Part Number	3d Party		Unit Price	Qty.	Extended Price	5 Year Maint. \$
		Brand	\$				
Server Hardware							
HP 9000 V2250 Enterprise Server	A5081A		1	89,060	1	89,060	100,944
Add'l 240 MHz PARISC 8200 CPUs	A5066A Opt. 0D1		1	24,090	16	385,440	78,566
System Mgmt. Station	A4802A		1	8,059	1	8,059	
Memory carrier	A3730A		1	6,570	4	26,280	
128MB DIMM for a total of 1 GB	Option UTC		1	11,680	16	186,880	
Six slot PCI Card Cage	A3729A, Opt. 0D1		1	4,380	3	13,140	
PCI FWD SCSI-2 Card	A4800A, Opt. 0D1		1	876	16	14,016	
PCI Dual FDDI LAN Adapter	A3739A Opt 0D1		1	2,756	1	2,756	
PCI FDDI LAN Adapter S/W & Lic.	J3626AA		1	292	1	292	
4GB DDS-2 DAT Drive	A3183A, Opt 0DZ		1	1,205	1	1,205	
HP-UX 11.0 Sys Media, CD-ROM	B3920EA, Opt AAF		1	380	1	380	
PCI 64-port Mux card	J3593A Opt. 0D1		1	1,091	1	1,091	
16 port RS232 DB25 port module	J2485A		1	642	1	642	
25 ft cable	J3595A		1	110	1	110	
5.5 kVA UPS	A3589A Opt. 002		1	7,300	1	7,300	2,700
1.3kVA HP UPS Rackmount	A2996A Opt 002		1	1,825	14	25,550	2,419
1.6m Field Integrated Cabinet	C2786A		1	1,318	14	18,452	
Auto Raid Array Model 12H	A3700AZ		1	3,504	53	185,712	254,267
Two 96 MB controllers with Auto Raid	Opt. 203		1	11,972	53	634,516	
Twelve 4.3 GB disk modules	Option 112		1	12,614	27	340,578	
Twelve 9.1 GB disk modules	Option 132		1	19,710	26	512,460	
0.9m 68-pin high density male connec.	Option 801		1	88	37	3,256	
2.5m HDTS68 to HDTS68 Cable	C2924A		1	102	16	1,632	
Subtotal						\$2,458,807	\$438,896
Server Software							
Sybase Adaptive Server	Runtime	Sybase	2	295,000	1	295,000	244,316
Sybase development		Sybase	2	9,600	1	9,600	
Sybase open client		Sybase	2	795	1	795	
Sybase discount		Sybase	2			-30,540	
Subtotal						\$274,855	\$244,316
Client Hardware							
Hewlett Packard 9000 Model D230 Client	A3574A		1	6,169	12	74,028	29,102
1 MB cache	A3586A Opt. 0D1		1	1460	12	17520	
256 MB high-density memory	A3564A Opt 0DZ		1	4234	36	152424	
Console	C1064GX		1	393	12	4,716	1,296
4 GB internal disk	A3643A Opt 0D1		1	1,132	12	13,584	7,517
Combined 10baseT/100VG adapter card	A3402A Opt 0D1		1	583	48	27,984	
Subtotal						\$290,256	\$37,915
Client Software							
HP C/ANSI C Compiler	B3901BA, Option AH0		1	1,150	1	1,150	1,757
BEA Tuxedo 4.2		Bea Sys.	3	9,000	12	108,000	81,000
Subtotal						\$109,150	\$82,757
User Connectivity							
(8+1) port 10Mbps Ethernet Hub, 538 spares	NX-H9+	Netlux	4	47	5918	278,146	
HP Advancestack 2000 10Base-T module	J3102A		1	912	3	2,736	2,334
HP Advancestack 2000 FDDI module	J3108A		1	4,014	1	4,014	2,333
Advancestack Switch 2000	J3100B		1	1,824	1	1,824	1,555
Subtotal						\$286,720	\$6,222
Total						\$3,419,788	\$810,106
Notes: 1=Sun Data Corporation, 2=Sybase, 3=BEA Systems, 4=Netlux				Five Year Cost: \$4,229,894			
				tpmC Rating: 52,117.80			
				\$/tpmC: \$81.17			

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. 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.

Note: audited by Richard Gimarc of Performance Metrics, Inc.

Numerical Quantities Summary for HP 9000 V2250 Enterprise Server

MQTH, Computed Maximum Qualified Throughput **52,117.80 tpmC®**

Response Times (in seconds)	90th %-ile	Maximum	Average
New-Order	2.31	10.36	1.13
Payment	2.23	10.07	1.05
Order-Status	2.31	10.15	1.16
Delivery (interactive portion)	0.24	4.92	0.14
Delivery (deferred portion)	2.62	10.55	1.46
Stock-Level	3.35	10.13	1.73
Menu	0.1	7.40	0.02

Transaction Mix, in percent of total transactions

New-Order	44.84%
Payment	43.02%
Order-Status	4.04%
Delivery	4.05%
Stock-Level	4.05%

Keying/Think Times (in seconds)	Keying Time			Think Time		
	Min.	Avg.	Max.	Min.	Avg.	Max.
New-Order	18.02	18.03	18.05	0.02	12.15	202.22
Payment	3.02	3.03	3.04	0.02	12.07	186.36
Order-Status	2.02	2.03	2.04	0.02	10.10	130.92
Delivery (interactive)	2.02	2.03	2.04	0.02	5.06	82.91
Stock-Level	2.02	2.03	2.04	0.02	5.06	57.26

**Numerical Quantities Summary for
HP 9000 V2250 Enterprise Server, continued**

Test Duration

Ramp-up time	30.25 minutes
Measurement interval	30 minutes
Transactions during measurement interval	3486738
Ramp down time	5 minutes

Checkpointing

Number of checkpoints in measurement interval	1
Checkpoint interval	30 minutes

Reproducibility Run

51,990.77 tpmC - 0.24%