



ORACLE

HP 9000 Superdome Enterprise Server

TPC-C Revision 5

Report Date:
June 12, 2002

Total System Cost	TPC Throughput	Price/Performance	Availability Date
\$6,388,889	389,434.40 tpmC	\$16.41/tpmC	Now
Processors	Database Manager	Operating System	Other Software
64 PA-RISC 8700 750MHz	Oracle9i Database Enterprise Edition	HP-UX 11.i 64-bit	TUXEDO 6.4
			Number of Users
			308,000

Server



Client 1

100 Base T



1000 Base T

Procurve Switch



Client 28



Fiber Channel



74 HP Surestore Virtual Array 7100
-690 36GB 15K RPM Disk Drives
-420 18GB 15K RPM Disk Drives

HP 9000 Superdome Enterprise Server

64 - 750MHz PA -RISC 8700
256GB Memory
w/.75MB I-cache/1.5MB D-cache

Clients – 28 hp workstation c3700

System Components	Server (Superdome)		each Client (28 C3700s)	
	Qty	Type	Qty	Type
Processors	64	750MHz PA-RISC 8700	1	750MHz PA-RISC 8700
Cache Memory	each	.75 MB I-cache, 1.5MB D-cache	each	.75MB I-cache/1.5 MB D-cache
Memory	256	GB	1	8 GB
Disk Controllers	25	PCI Fibre Channel 2X	1	Ultra2 SCSI LVD
Disk Drives	74	Surestore Virtual Array 7100 with 420 18GB and 690 36GB 15K RPM drives	1	18 GB disk
Total Storage	14607	GB		
Tape Drives	1	DVD ROM		
Terminals	1	Console Terminal	1	Console Terminal



ORACLE

HP 9000 Superdome Enterprise Server

TPC-C Rev 5

Report Date: June 12, 2002

Description	Part Number	Brand	Price Key	US List Price	Qty	Price	3Year Main.Price
Server Hardware							
Super Dome left chassis	A5201A, Opt. 101		1	317,429	1	317,429	147,264
Super Dome right chassis	A5202A, Opt. 101		1	235,655	1	235,655	
Memory module - 2 GB	A5198A, Opt. 0D1		1	14,000	128	1,792,000	
I/O enclosures	A4856A, Opt. 0D1		1	14,805	4	59,220	
PDCA Redundant Power Source	A5800A, Opt. 0D1		1	578	2	1,156	
Cell Board with 4 PA-8700 750MHz Processors	A6445A, Opt. 0D1		1	10,080	16	161,280	
ICOD right to use processor	A6441A Opt. 104		1	23,806	64	1,523,584	351,744
Super Dome PCI Core I/O card	A5210A, Opt. 0D1		1	1,045	1	1,045	
PCI 1000BT Lan Adapter	A4926A, Opt. 0D1		1	2,135	1	2,135	
PCI Fibre Channel 2X	A5158A, Opt 0D1		1	2,240	25	56,000	
Rack Installation Kit	A5170A, Opt. 0D1		1	410	1	410	
DVD-ROM (includes SCSI-2 card, cables, enclosures)	C4318SZ		1	3,738	1	3,738	
HP9000 A500 Support Management Station (includes memory,CPU,lan card,disk,OS, etc)	A5570B		1	11,780	1	11,780	
.5m 68pin SCSI Cable	Opt. 001		1	99	1	99	
WSE 68pin SCSI Terminator	Opt. 835		1	46	1	46	
HP-UX 11.i Sys Media, CD-ROM	B3920EA, Opt. AAF		1	520	1	520	
PowerTrust 12kVA UPS 230VUPS	A6585A		1	10,999	6	65,994	
PowerTrust 3.0VA UPS 230VUPS	A1356A		1	3,199	2	6,398	
PowerTrust 2.0kVA UPS 230VUPS (Support Option for UPS)	A1353A		1	2,199	1	2,199	
Surestore VA 7100 w/dual controllers 512MB cache	A6262A		1	44,250	74	3,274,500	271,876
18GB 15K RPM FC HDD	A6191A, Opt. 0D1		1	914	420	383,880	
36GB 15K RPM FC HDD.	A6193A, Opt 0D1		1	1,349	690	930,810	
2 meter Fibre Optic Cable	A3583A		1	175	74	12,950	
16 meter Fibre Optic Cable	A3531A		1	200	25	5,000	
10 Port Short Wave Fibre Channel Hub	A3724A		1	9,690	25	242,250	
HP9000 Std. Rack System E41	A4902A		1	1,910	7	13,370	
Modular Power Dist. 200-240 Volts	A5137AZ A5137AZ, Opt AW4		1	145	26	3,770	
			1	94	26	2,444	
				Subtotal		9,109,661	770,884
Server Software							
Oracle9i Database Enterprise Edition (9.2.0.1.0) for HPUX 11i	Runtime	Oracle	2	988.800	1	988.800	
Server Support Package: Database		Oracle	2				6,000
				Subtotal		988,800	6,000
Client Hardware							
hp workstation c3700 with 2GB Memory	A6057B		1	12,545	28	351,260	108,668
1 GB Memory Moudle	A6016A, Opt. OD1		1	1,395	168	234,360	
700/96 Console	C1064GX		1	550	1	550	
18 GB LVD 10K RPM Disk	A4998A, Opt. OD1		1	595	28	16,660	
				Subtotal		602,830	108,668
Client Software							
HP C/ANSI C Compiler	B3901BA, Option AH0		1	1600	1	1,600	170
BEA Tuxedo 6.4		Bea Sys.	3	2,850	28	79,800	57,960
				Subtotal		81,400	58,130
User Connectivity							
HP ProCurve Switch 4000M	J4121A		1	1999	1	1,999	588
HP ProCurve Switch Gigabit-SX Module	J4113A		1	1189	1	1,189	
				Subtotal		3,188	588
HP's Large configuration Discount and Support Prepayment*							
				Total		5,748,040	640,850
*All discounts are based on US list prices and for similar quantities and configurations							
1=HP 2=Oracle 3=BEA Systems				Three Year Cost of Ownership:		\$6,388,889	
Audited by Tom Sawyer for Performance Metrics, Inc.				tpmC Rating:		389,434	
				\$/tpmC:		\$16.41	

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 Superdome Enterprise Server

MQTH, Computed Maximum Qualified Throughput

389,434.40 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.46s	30.22s	0.29s
Payment	0.42s	29.69s	0.24s
Order-Status	0.41s	28.99s	0.25s
Delivery (interactive portion)	0.09s	20.60s	0.08s
Delivery (deferred portion)	0.50s	28.30s	0.29s
Stock-Level	0.39s	28.44s	0.23s
Menu	0.10s	0.57s	0.001s

Transaction Mix, in percent of total transactions

New-Order	44.81%
Payment	43.04%
Order-Status	4.05%
Delivery	4.04%
Stock-Level	4.05%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.02s	18.03s	18.2s	0.01s	12.02s	188.22s
Payment	3.01s	3.02s	3.19s	0.01s	12.02s	222.72s
Order-Status	2.01s	2.02s	2.19s	0.01s	10.03s	165.36s
Delivery (interactive)	2.01s	2.02s	2.19s	0.01s	5.03s	82.24s
Stock-Level	2.01s	2.02s	2.18s	0.01s	5.02s	75.62s

Test Duration

Ramp up time	73 minutes
Measurement interval	143 minutes
Transactions during measurement interval	124,266,353
Ramp down time	4.795 minutes

Checkpointing

Number of checkpoints in measurement interval	5
Checkpoint Interval	28.6 minutes