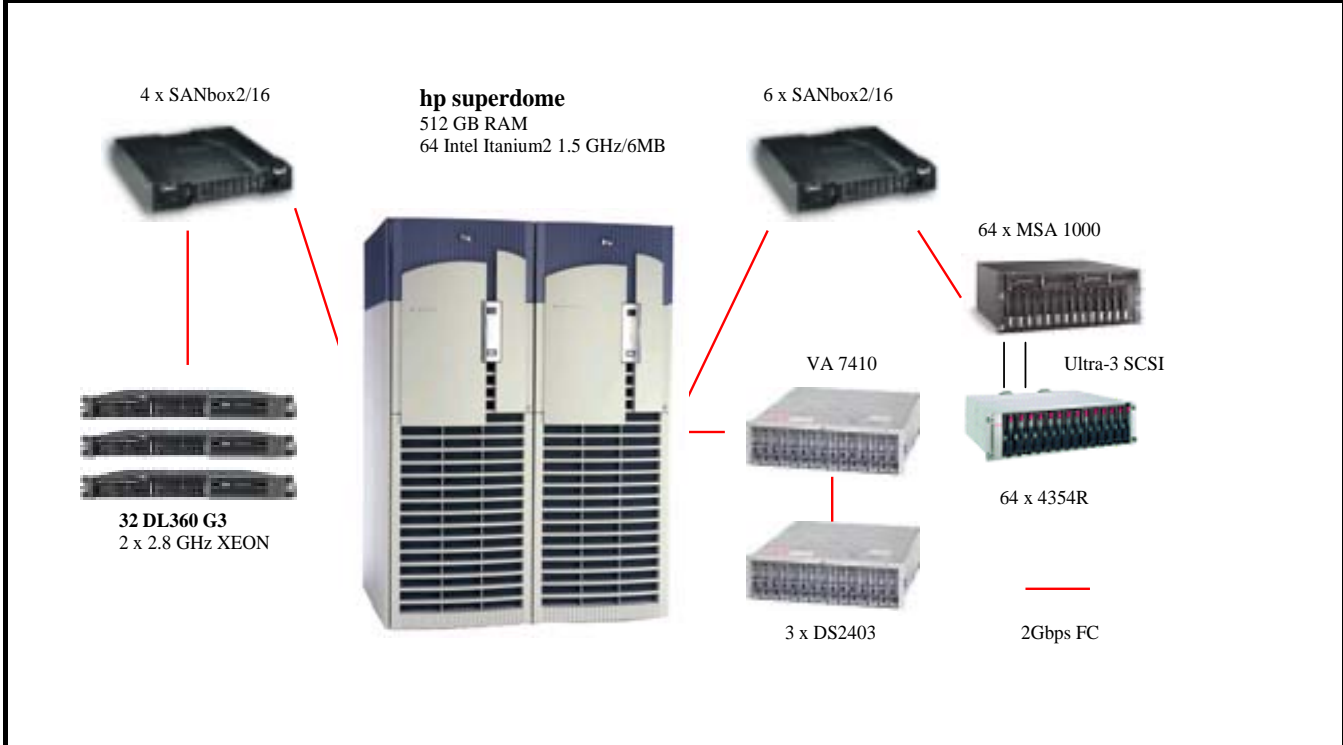





hp superdome Client/Server

TPC-C Revision
5.0

Total System Cost	TPC Throughput	Price/Performance	Report Date	Availability Date
\$6,453,433	658277.74 tpmC	\$9.80 per tpmC	April 24, 2003	October 23, 2003
Processors	Database Manager	Operating System	Other Software	Number of Users
64 Intel Itanium2 1.5GHz - Server 62 x Intel Xeon 2.8GHz - Client	Microsoft SQL Server 2000 Enterprise Edition 64-bit	Microsoft Windows Server 2003, Datacenter edition (64-bit)	Microsoft Visual C++ Microsoft COM+ Transaction Monitor	520,000



System Components	Server		Each Client	
	Qty	Type	Qty	Type
Processors	64	Intel Itanium 2 6M CPUs at 1.5GHz	2	2.8 GHz Intel Xeon
Cache Memory		6 MB iL3 cache		512kbyte L2 Cache
Memory	128	4 Gbyte	4	256 Mbyte
Disk Controllers	64	HP StorageWorks MSA 1000	1	Embedded Smart Array 5i+
Disk Drives	1792	HP 18GB 15KRPM U320	1	36 Gbyte disk
	60	HP 73GB, 10krpm FC hot-swap disk		
	2	HP 18GB 15KRPM for OS		
Total Storage		34586.4 Gbyte		36 Gbyte
Tape Drives	1	HP Surestore DAT40e		
Terminals	1	Console Terminal	1	Console Terminal

 Hewlett Packard Company	hp superdome enterprise server		TPC-C Rev. 5.0			
	Report Date: April, 2003					
Description	Price Key	Part Numbr	Unit Price	Qty	Extended Price	3 Yr Maint Price
Superdome left cabinet	1	A5201A opt429	\$205,840	1	\$205,840	\$1,008,428
Superdome right cabinet	1	A5202A opt429	\$218,435	1	\$218,435	
IPF Superdome Cell Board (sx1000)	1	A6866A	\$16,000	16	\$256,000	
Itanium 2 6M, 1.5GHz processor module (2 CPUs)	1	A6924A	\$44,000	32	\$1,408,000	
4GB SDRAM (4x1GB DIMMs)	1	A6863A	\$26,000	128	\$3,328,000	
PCI-x I/O chassis	1	A6864A	\$16,805	8	\$134,440	
Core I/O card	1	A6865A	\$1,045	1	\$1,045	
Gig E - TX Adapter	1	A7061A	\$270	1	\$270	
Graphics USB Card	1	A6869A	\$349	1	\$349	
2-port SCSI adapter	1	A7060A	\$600	1	\$600	
Emulex Fiber Channel HBA	4	9802	\$1,695	4	\$6,780	
FCA2214 FC-HBA for MSA	1	281541-B21	\$1,900	16	\$30,400	
Qlogic QLA-2350 Fibre-Channel VI Adapter	3	QLA2350-BK	\$1,765	14	\$24,710	
5m LC to LC Cable Kit	1	221692-B22	\$82	80	\$6,560	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$369	80	\$29,520	
Modular Storage Array 1000	1	201723-B22	\$9,995	64	\$639,680	\$124,800
18GB, 15krpm Ultra320 Wide disk (10% spares)	1	286775-B22	\$399	180	\$71,820	
Storageworks enclosure 4354R	1	190211-001	\$3,523	64	\$225,472	\$10,048
18.2GB, 15krpm Ultra320 Wide disk	1	286775-B22	\$399	1792	\$715,008	
HP9000 Standard Rack System E41	1	A4902A	\$1,910	14	\$26,740	
HP Power Distribution Unit 120-240V	1	A5137AZ	\$145	27	\$3,915	
VA7410 with dual 1 GB cache (for log) via Emulex	1	A6267AZ	\$77,300	1	\$77,300	\$5,618
DS2405 (add on to VA array)	1	A6250AZ	\$6,595	3	\$19,785	\$1,620
DS2100 (boot)	1	A5675AZ	\$775	1	\$775	\$965
18 GB 15krpm drive for DS2100	1	A6540A	\$800	2	\$1,600	
HP 73GB, 10krpm FC hot-swap disk	1	A6194A	\$2,019	60	\$121,140	
HP 73GB, 10krpm FC hot-swap disk (spares)	1	A6194A	\$2,019	6	\$12,114	
SCSI Cable 10m VHDS68/HDS68 M/M Multim	1	C2363B	\$335.00	2	\$670	
SCSI Terminator LVD/SE HDS68 Multimd	1	C2364A	\$100.00	1	\$100	
Fbr Optic Cable 2m LC 50/125 M/M	1	C7524A	\$215.00	6	\$1,290	
Fbr Optic Cable 16m LC 50/125 M/M	1	C7525A	\$260.00	2	\$520	
TA5300 Enclosure for DAT tape	1	C7508AZ	\$1,165	1	\$1,165	\$1,084
DVD Rom drive	1	C7499A	\$688	1	\$688	
DAT Tape	1	C7497A	\$2,155	1	\$2,155	
ProLiant ML350 G3 (SMS for Orca)	1	A9802A	\$4,700	1	\$4,700	
Server Subtotal					\$7,577,586	\$1,152,563
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372A opt064	\$191,680	1	\$191,680	
Microsoft SQL Server 2000 Enterprise Edition 64 bit	4	810-00560	\$16,541	64	\$1,058,624	
Database Server Support Package (1 year)	4	PRO-PRORS-16U-01	\$1,950	3		\$5,850
Server Software Subtotal					\$1,250,304	\$5,850
HP ProLiant DL360 G3	1	308724-001	\$3,249	32	\$103,968	\$75,360
2.80GHz Xeon Processor Option Kit (DL360 G3)	1	292892-B21	\$999	32	\$31,968	
HP Mouse	1	170299-B22	\$23	1	\$23	
HP Enhanced Keyboard	1	265977-001	\$12	1	\$12	
S5500 15 carbon / silver monitor	1	261602-001	\$149	1	\$149	
36.4-GB 15,000 rpm U320 Universal Hard Drive	1	286776-B22	\$649	32	\$20,768	
Qlogic QLA-2350 Fibre-Channel VI Adapter	3	QLA2350-BK	\$1,765	32	\$56,480	
5M LC to LC Cable Kit	1	221692-B22	\$82	40	\$3,280	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$369	40	\$14,760	
Client Subtotal					\$231,408	\$75,360
Microsoft Windows 2003 Server	2	P73-00295	\$738	32	\$23,616	
Microsoft Visual C++ Standard 6.0	2	254-00170	\$109	1	\$109	
Client Software Subtotal					\$23,725	
Qlogic SANBox-2 16-Port Switch	3	SANBOX 2/16	\$17,995	10	\$179,950	
Connectivity Subtotal					\$179,950	
HP's Large Configuration Discount *	* Discounts:				-\$3,657,089	-\$386,224
Total:					\$5,605,884	\$847,549
Price Key: 1-HP, 2-Microsoft, 3-Qlogic, 4-CDW Audited by Lorna Livingtree of Performance Metrics, Inc.	3 year cost of ownership:				\$6,453,433	
					tpmC:	658277.74
* All discounts are based on US list prices and for similar quantities and configurations					\$/tpmC:	\$9.80
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 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 superdome

MQTH, Computed Maximum Qualified Throughput

658277.74 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.20s	6.53s	0.15s
Payment	0.16s	5.05s	0.13s
Order-Status	0.18s	8.11s	0.14s
Delivery (interactive portion)	0.11s	1.07s	0.10s
Delivery (deferred portion)	0.14s	0.86s	0.10s
Stock-Level	0.41s	5.28s	0.26s
Menu	0.11s	1.29s	0.10s

Response time delay added for emulated components 0.1 seconds

Transaction Mix, in percent of total transactions

New-Order	44.91%
Payment	43.03%
Delivery	4.03%
Stock-Level	4.01%
Order-Status	4.03%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18s	18.02s	18.04s	0s	12.05s	120.51s
Payment	3s	3.02s	3.04s	0s	12.05s	120.51s
Order-Status	2s	2.02s	2.04s	0s	10.05s	100.5s
Delivery (interactive)	2s	2.02s	2.04s	0s	5.06s	50.5s
Stock-Level	2s	2.02s	2.04s	0s	5.05s	50.5s

Test Duration

Ramp up time	74 minutes
Measurement interval	120 minutes
Transactions during measurement interval	182999683
Ramp down time	9 minutes

Checkpointing

Number of checkpoints in measurement interval	8
Checkpoint Interval	15 minutes