
	HP Integrity Superdome			TPC-C Revision 5.1
				Report Date: November 4, 2003
Total System Cost	TPC Throughput	Price/Performance		Availability Date
\$8,397,262	1,008,144.49 tpmC	\$8.33/tpmC		April 14, 2004
Processors	Database Manager	Operating System	Other Software	Number of Users
64 Itanium2 1.5GHz	Oracle Database 10g Enterprise Edition	HP-UX 11.i, v2 64-bit	TUXEDO 8.0	793,000

Server



Client 1

Client 69

HP Integrity Superdome
64 - Intel Itanium2 1.5GHz
with 6MB iL3 Cache
1024GB Memory

74 HP Surestore Virtual Array 7110
- 74 Disk System 2405
- 2100 36GB 15K RPM Disk Drives
- 120 73GB 15K RPM Disk Drives

System Components	Server (HP Integrity Superdome)		each Client (69 rp2470)	
	Qty	Type	Qty	Type
Processors	64	1.5GHz Itanium2	1	750MHz PA-RISC 8700
Cache Memory	each	6MB iL3 Cache	each	.75MB I-cache/1.5 MB D-cache
Memory	1024	GB	3	GB
Disk Controllers	28	PCI Fibre Channel 2X	1	Ultra2 SCSI LVD
Disk Drives	74	Surestore Virtual Array 7110 with 2100 36GB 15K RPM with 120 73GB 15K RPM	1	36 GB
Total Storage	38,348	GB		
Tape Drives	1	DVD ROM		
Terminals	1	Console Terminal	1	Console Terminal



HP Integrity Superdome

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Description	Part Number	Brand	Price Key	US List Price	Qty	Price	3Year Main.Price
Server Hardware							
Super Dome left chassis	A5201A, Opt. 429		1	205,840	1	205,840	
Super Dome right chassis	A5202A, Opt. 429		1	218,435	1	218,435	
IPF Superdome Cell Board (sx1000)	A6866A		1	16,000	16	256,000	
3 Year Svc & Support Price (Hardware and Software)							836.072
8GB SDRAM (4x2GB DIMMS)	A6863A		1	39,050	128	4,998,400	
PCI-x I/O chassis	A6864A		1	16,805	3	50,415	
Core I/O Card	A6865A		1	1,045	1	1,045	
CPU Itanium 2, 1.5GHz w/6MB iL 3 cache (2 CPUs)	A6924A		1	40,000	32	1,280,000	
PCI 1000BT Lan Adapter	A6847A, Opt. 0D1		1	2,135	1	2,135	
PCI 2GB Fibre Channel Adapter	A6795A		1	2,240	28	62,720	
Rack Installation Kit	A5170A, Opt. 0D1		1	410	1	410	
TA5300 Enclosure for DAT tape	C7508AZ		1	1,395	1	1,395	
DDS 4 tape	C5687B		1	1,450	1	1,450	
DVD Rom drive	C7499A		1	688	1	688	
Proliant ML350 G3 (SMS for Orca)	A9802A		1	6,500	1	6,500	
Subtotal						7,085,433	836,072
Server Software							
Oracle Database 10g Enterprise Edition	Runtime						
Per Processor for 3 years, Unlimited users		Oracle	2	20,000	64	1,280,000	
Oracle Database Server Support Package for 3 years			2	6,000	1		6,000
HP-UX 11i, V2 Foundation Operating Environment	B9429AC		1	2,370	64	151,680	
Foundation Operating Environment Media Kit	B9166AA, Opt AJR		1	565	1	565	
Subtotal						1,432,245	6,000
Storage							
Rack System/E R3000 XR UPS	J4367A		1	1,948	29	56,492	
2 meter Fibre Optic Cable	A7524A		1	215	144	30,960	
16 meter Fibre Optic Cable	A7525A		1	260	28	7,280	
Surestore VA 7110 w/ dual controller, 512 memory*	A7294A		1	25,440	74	1,882,560	
*(large quantity discount)							
3 Year Support Price							323.010
Disk System 2405 with dual 2GB link cards	A6250AZ		1	6,595	74	488,030	
36GB 15K RPM FC HDD*	A6193A, Opt 0D1		1	877	2,100	1,841,385	100,800
36GB 15K RPM FC HDD. (10% spares)*	A6193A, Opt 0D1		1	877	210	184,139	
*(large quantity discount)							
73GB 15K RPM FC HDD.	A7288A, Opt 0D1		1	2,619	120	314,280	11,520
73GB 15K RPM FC HDD. (10% spares)	A7288A, Opt 0D1		1	2,619	12	31,428	
8 Port Short Wave Fibre Channel Hub	A7346A		1	6,599	24	158,376	
HP9000 Std. Rack System E41	A4902A		1	1,910	13	24,830	
Modular Power Dist.	A5137AZ		1	145	52	7,540	
200-240 Volts Power Option	4564232AZ		1	94	52	4,888	
Subtotal						5,032,188	435,330
Client Hardware							
HP server rp2470	A6890A		1	1,865	69	128,685	
750Mhz PA-RISC 8700 CPU	A6892A		1	4,500	69	310,500	
3 Year Support Price (Hardware & Software)							306.567
36GB 15K HotPlug Ultra 160 SCSI Internal Disk	A6948A		1	1,298	69	89,562	
1GB Memory Module	A5841A		1	1,900	207	393,300	
100BT Lan Adapter	A5230A		1	495	69	34,155	
HP-UX 11i Sys Media, CD-ROM	B3920EA, Opt. AAF		1	520	69	35,880	
Subtotal						992,082	306,567
Client Software							
HP C/ANSI C Compiler	B3901BA, Option AH0		1	1,600	1	1,600	170
BEA Tuxedo 8.0	Bea Sys.		3	1,140	69	78,660	52,164
Subtotal						80,260	52,334
User Connectivity							
HP ProCurve Switch 4000M	J4121A		1	2,379	1	2,379	
HP ProCurve Switch 10/100 Base-T Moduel	J4111A		1	509	3	1,527	
HP ProCurve Switch Gigabit-SX Module	J4113A		1	1,189	1	1,189	588
Subtotal						5,095	588
Oracle Mandatory E-Business Discount (license and support)				2	(321,500)	1	(321,500)
HP's Large configuration Discount and Support Prepayment*							(\$6,809,461) (\$735,971)
Total						7,496,342	900,920
*All discounts are based on US list prices and for similar quantities and configurations							
1=HP 2= Oracle (Pricing Contact: MaryBeth Pierantoni (see Appendix F) 3=BEA Systems						Three Year Cost of Ownership: \$8,397,262	
4=HP's Large Quantity Pricing						tpmC Rating: 1,008,144.49	
Audited by Lorna Livingtree for Performance Metrics, Inc.						\$/tpmC: \$8.33	

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.

***HP's Large Quantity Pricing:** In addition to any large volume discount, a discount of 50% will be given for VA7110 if quantity is greater than 70 and an additional 35% discount on 36GB disks if quantity is greater than 1000.

Description	Part Numbe	Brand	Price Key	US List Price
Surestore VA7110			4	\$50,880
HP's Large Quantity Discount (50%)				(\$25,440)
New Surestore VA7110 Large Quantity List Price				\$25,440
36GB 15K FC HDD			4	\$1,349
HP's Large Quantity Discount (33%)				(\$472)
New 36GB 15K FC HDD Large Quantity List Price				\$877

Numerical Quantities Summary for HP Integrity Superdome

MQTH, Computed Maximum Qualified Throughput

1,008,144.49 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.18s	18.13s	0.11s
Payment	0.17s	12.70s	0.11s
Order-Status	0.17s	11.69s	0.11s
Delivery (interactive portion)	0.08s	13.51s	0.08s
Delivery (deferred portion)	0.17s	14.46s	0.09s
Stock-Level	0.16s	12.38s	0.11s
Menu	0.10s	4.34s	0.07s

Transaction Mix, in percent of total transactions

New-Order	44.96%
Payment	43.01%
Order-Status	4.01%
Delivery	4.02%
Stock-Level	4.01%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.02s	18.03s	18.46s	0.01s	12.13s	217.35s
Payment	3.01s	3.02s	3.45s	0.01s	12.07s	223.46s
Order-Status	2.01s	2.02s	2.44s	0.01s	10.12s	166.84s
Delivery (interactive)	2.01s	2.02s	2.45s	0.01s	5.07s	82.9s
Stock-Level	2.01s	2.02s	2.45s	0.01s	5.07s	76.21s

Test Duration

Ramp up time	59 minutes
Measurement interval	144 minutes
Transactions during measurement interval	322,895,379
Ramp down time	7.342 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	28.34 minutes