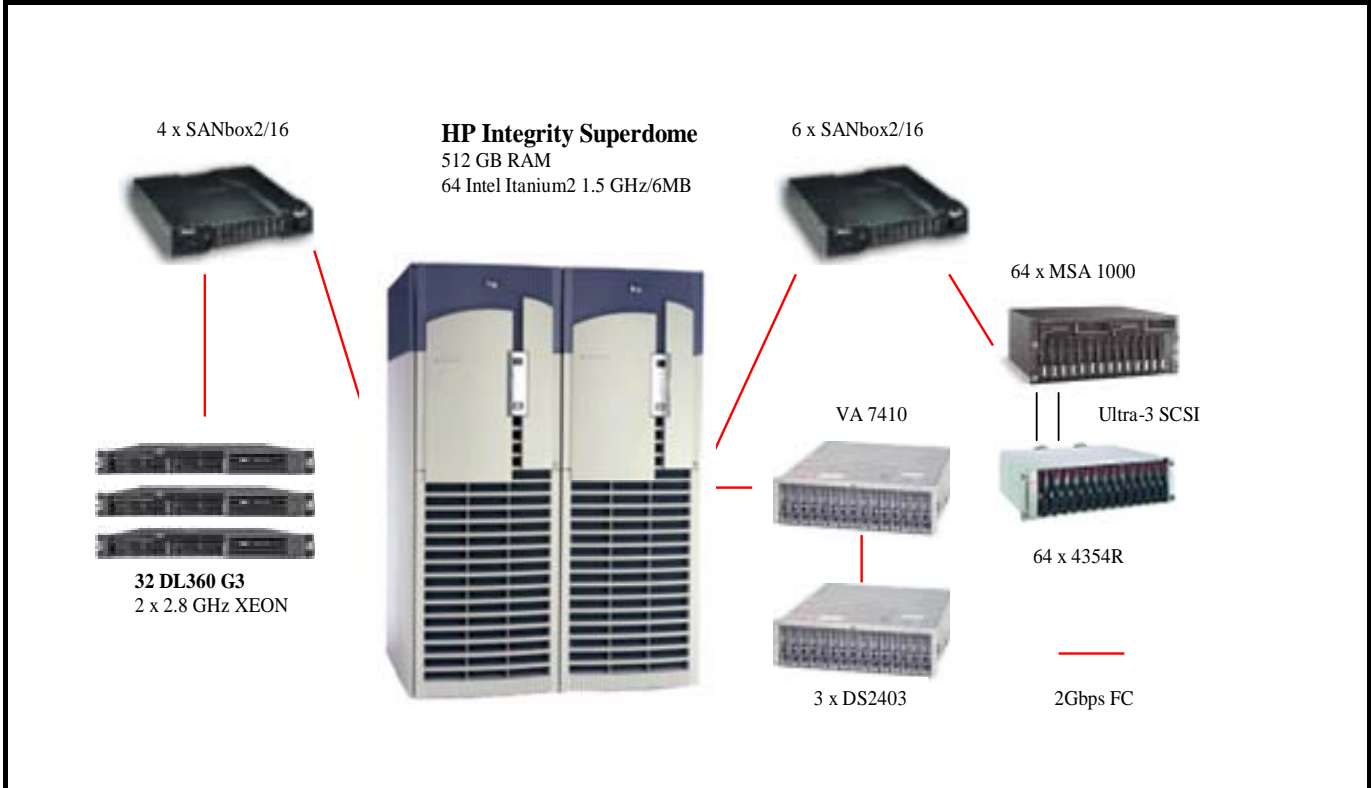





# HP Integrity Superdome

TPC-C Revision  
5.1

<b>Total System Cost</b>	<b>TPC Throughput</b>	<b>Price/Performance</b>	<b>Report Date</b>	<b>Availability Date</b>
\$5,064,831	707102.32 tpmC	\$7.16 per tpmC	July 30, 2003	October 23, 2003
<b>Processors</b>	<b>Database Manager</b>	<b>Operating System</b>	<b>Other Software</b>	<b>Number of Users</b>
64 Intel Itanium2 1.5GHz - Server 64 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	560,480



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

 Hewlett Packard Company		HP Integrity Superdome			TPC-C Rev. 5.1		
					Report Date: July 30, 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	\$869,480	
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	\$40,000	32	\$1,280,000		
4GB SDRAM (4x1GB DIMMs)	1	A6863A	\$17,750	128	\$2,272,000		
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		
FC-HBA 2GB, 1 Channel	1	LP9802-F2	\$1,695	2	\$3,390		
FCA2214 FC-HBA for MSA	1	281541-B21	\$1,590	16	\$25,440		
Qlogic QLA-2350 Fibre-Channel VI Adapter	3	QLA2350-BK	\$1,765	9	\$15,885		
5m LC to LC Cable Kit	1	221692-B22	\$82	80	\$6,560		
5m 2gbt Small Form Pluggable Adapter Kit	1	221470-B21	\$369	80	\$29,520		
Modular Storage Array 1000	1	201723-B22	\$9,995	64	\$639,680	\$226,432	
18GB, 15krpm Ultra320 Wide disk (10% spares)	1	286775-B22	\$359	180	\$64,620		
Storageworks enclosure 4354R	1	190211-001	\$3,523	64	\$225,472	\$10,048	
18.2GB, 15krpm Ultra320 Wide disk	1	286775-B22	\$359	1792	\$643,328		
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		
DS2405 (add on to VA array)	1	A6250AZ	\$6,595	3	\$19,785		
3 Year support (VA7410 and TA5300)						\$9,563	
DS2100 (boot)	1	A5675AZ	\$775	1	\$775		
18 GB 15krpm drive for DS2100	1	A6540A	\$720	2	\$1,440		
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/HDTS68 M/M Multim	1	C2363B	\$335.00	2	\$670		
SCSI Terminator LVD/SE HDTS68 Multimid	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	\$1,395	1	\$1,395		
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	\$6,500	1	\$6,500		
<b>Server Subtotal</b>					<b>\$6,299,401</b>	<b>\$1,115,523</b>	
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372A opt064	\$128,000	1	\$128,000		
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	
<b>Server Software Subtotal</b>					<b>\$1,186,624</b>	<b>\$5,850</b>	
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	\$839	32	\$26,848		
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	\$129	1	\$129		
36.4-GB 15,000 rpm U320 Universal Hard Drive	1	286776-B22	\$579	32	\$18,528		
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 2gbt Small Form Pluggable Adapter Kit	1	221470-B21	\$369	40	\$14,760		
<b>Client Subtotal</b>					<b>\$224,028</b>	<b>\$75,360</b>	
Microsoft Windows 2003 Server	2	P73-00295	\$738	32	\$23,616		
Microsoft Visual C++ Standard 6.0	2	254-00170	\$109	1	\$109	\$1,009	
<b>Client Software Subtotal</b>					<b>\$23,725</b>		
Qlogic SANBox-2 16-Port Switch	3	SANBOX 2/16	\$17,995	10	\$179,950		
<b>Connectivity Subtotal</b>					<b>\$179,950</b>		
HP's Large Configuration Discount *	<b>* Discounts:</b>				<b>-\$3,528,267</b>	<b>-\$518,372</b>	
<b>Total:</b>					<b>\$4,385,461</b>	<b>\$679,370</b>	
Price Key: 1-HP, 2-Microsoft, 3-Qlogic, 4-CDW		<b>3 year cost of ownership:</b>			<b>\$5,064,831</b>		
Audited by Lorna Livingtree of Performance Metrics, Inc.		tpmC:			707,102.32		
* All discounts are based on US list prices and for similar quantities and configurations		<b>\$/tpmC:</b>			<b>\$7.16</b>		

## Numerical Quantities Summary for HP Integrity Superdome

**MQTH, Computed Maximum Qualified Throughput**

**707102.32 tpmC**

### Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.32s	29.78s	0.24s
Payment	0.28s	21.58s	0.20s
Order-Status	0.31s	19.61s	0.22s
Delivery (interactive portion)	0.11s	6.68s	0.11s
Delivery (deferred portion)	0.16s	7.19s	0.12s
Stock-Level	0.60s	20.25s	0.38s
Menu	0.11s	28.70s	0.11s

Response time delay added for emulated components 0.1 seconds

### Transaction Mix, in percent of total transactions

New-Order	44.94%
Payment	43.03%
Delivery	4.01%
Stock-Level	4.01%
Order-Status	4.01%

### Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18s	18.02s	18.03s	0s	12.05s	120.51s
Payment	3s	3.02s	3.03s	0s	12.05s	120.51s
Order-Status	2s	2.02s	2.03s	0s	10.05s	100.5s
Delivery (interactive)	2s	2.02s	2.02s	0s	5.06s	50.5s
Stock-Level	2s	2.02s	2.03s	0s	5.05s	50.5s

### Test Duration

Ramp up time	45 minutes
Measurement interval	120 minutes
Transactions during measurement interval	196374395
Ramp down time	38 minutes

### Checkpointing

Number of checkpoints in measurement interval	8
Checkpoint Interval	15 minutes