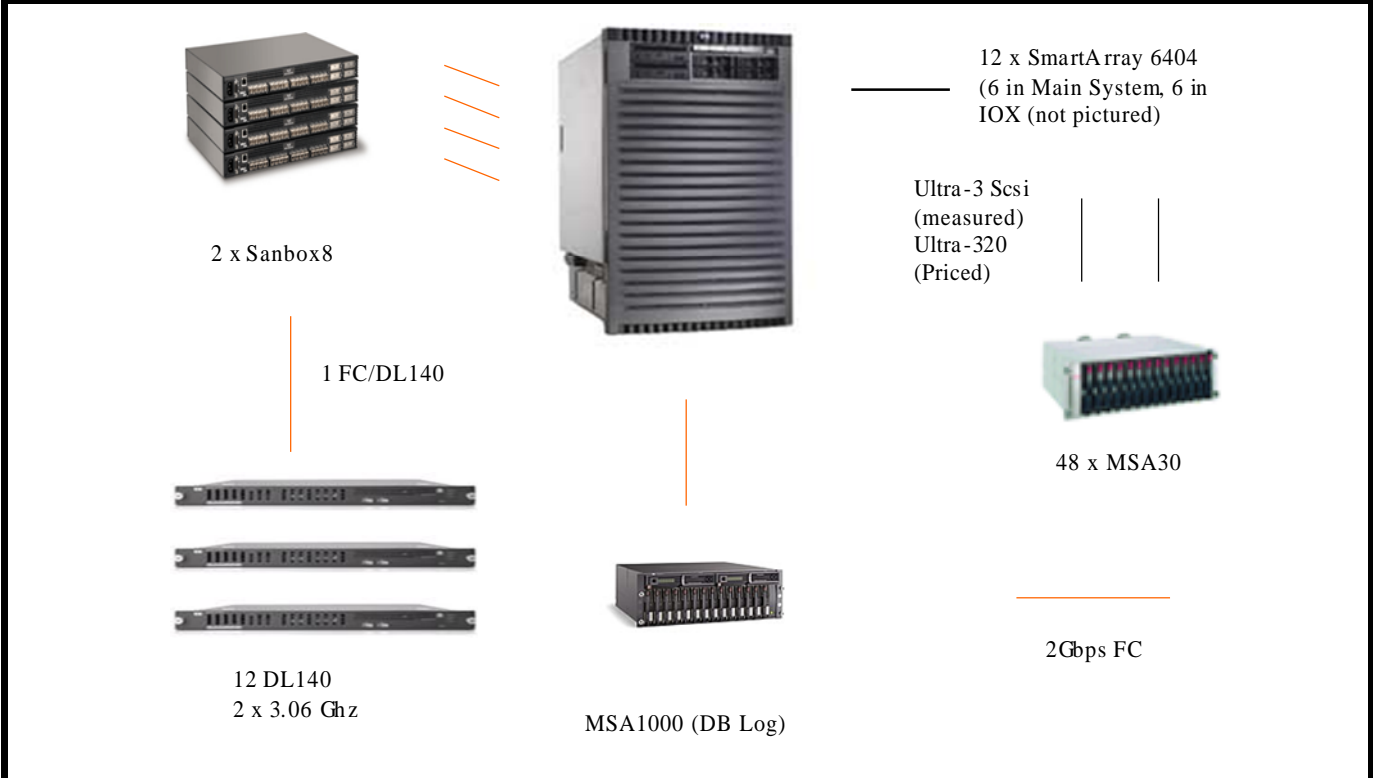




HP Server rx8620

TPC-C Revision
5.4

Total System Cost	TPC Throughput	Price/Performance	Report Date	Availability Date
\$1,489,153	332265.87 tpmC	\$4.48 per tpmC	July 15, 2005	July 15, 2005
Processors	Database Manager	Operating System	Other Software	Number of Users
16 Intel Itanium2 1.6GHz - Server 24 x Intel Xeon 3.06GHz - Client	Microsoft SQL Server 2000 Enterprise Edition 64-bit	Microsoft Windows Server 2003, Datacenter edition (64 bit) SP1	Microsoft Visual C++ Microsoft COM+ Transaction Monitor	265,920



System Components	Server		Each Client	
	Qty	Type	Qty	Type
Processors	16	Intel Itanium 2 9M CPUs at 1.6GHz	2	3.06 GHz Intel Xeon
Cache Memory		6 MB L3 cache		512kbyte L2 Cache
Memory	16	16 Gbyte	1	2048 Mbytes
Disk Controllers	12	HP Smart Array 6404	1	ATA
Disk Drives	672	HP 18GB 15KRPM	1	80 Gbyte disk
	14	HP 146GB, 10krpm U320		
	1	HP 18GB 15KRPM for OS		
Total Storage		13276.3 Gbyte		80 Gbyte
Tape Drives	1	HP Surestore DAT40e		
Terminals	1	Console Terminal	1	Console Terminal



Hewlett Packard Company

HP Server rx8620

TPC-C Rev. 5.1

Report Date:

Description	Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price
rx8620 16-way SMP Base System incl cell boards, core IO, power supplies, PCI-X backplan, 16x1.6ghz Intel Itanium 2 6M processors	1	AB240A-002	\$263,995	1	\$263,995	\$117,292
16GB SDRAM (4x4GB DIMMs)	1	AB322A	\$45,000	16	\$720,000	
PCI-x I/O chassis	1	A6434A	\$29,995	1	\$29,995	
36GB Hot Plug Ultra 320 SCSI (15K rpm)	1	A9880A	\$1,995	1	\$1,995	
Qlogic QLA-2350 Fibre-Channel VI Adapter	1	A390975	\$1,256	4	\$5,024	
2GB PCI-X FC HBA	1	AB232A	\$1,550	1	\$1,550	
HP Smart Array Controller 6404	1	A9826A	\$2,399	12	\$28,788	
Storageworks MSA30 SB	1	302969-B21	\$2,978	48	\$142,944	
Support 3yrs 24x7	1	171242-002	\$157	48		\$8,792
36GB, 15krpm Ultra3 Wide disk	1	286776-B22	\$299	672	\$200,928	
36GB, 15krpm Ultra3 Wide disk (10% spares)	1	286776-B22	\$299	68	\$20,332	
Modular Storage Array 1000	1	201723-B22	\$6,995	1	\$6,995	
MSA1000 controller	1	218231-B22	\$4,290	1	\$4,290	
Support 3yrs 24x7	1	402164-002	\$3,538	1		\$7,076
146GB, 10krpm disk	1	286716-B22	\$599	14	\$8,386	
146GB, 10krpm disk (10% spares)	1	286716-B22	\$599	2	\$1,198	
HP9000 Standard Rack System E41	1	A4902D	\$1,910	5	\$9,550	
5m LC to LC Cable Kit	1	221692-B22	\$82	1	\$82	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	1	\$199	
HP Power Distribution Unit 120-240V	1	A5137AZ	\$145	6	\$870	
TA5300 Enclosure for DAT tape	1	C7508AZ	\$1,045	1	\$1,045	\$2,125
DVD Rom drive	1	C7499B	\$515	1	\$515	
DAT Tape	1	C7497B	\$1,049	1	\$1,049	
Server Subtotal					\$1,449,730	\$135,285
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372A opt016	\$32,000	1	\$32,000 incl. line 4	
Microsoft Problem Resolution	2		\$245	1		\$245
Microsoft SQL Server 2000 Enterprise Edition 64 bit	2	810-00560	\$16,541	16	\$264,656	
Server Software Subtotal					\$296,656	\$245
DL140 Dual 3.06GHz Xeon 1GB 80GB ATA	1	356533-B21	\$1,799	12	\$21,588	
1GB PC2100 ECC DDR	1	351109-B21	\$419	12	\$5,028	
17" S7500 CRT Monitor	1	P9008A#ABA	\$149	1	\$149	
Tripp Lite 16-port KVM Switch USB	3	B022-016	\$565	1	\$565	
Qlogic QLA-2350 Fibre-Channel VI Adapter (incl. spares)	1	A390975	\$1,256	14	\$17,584	
5M LC to LC Cable Kit	1	221692-B22	\$82	16	\$1,312	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	16	\$3,184	
HP 3 Yr. 4h 24x7 ProLiant DL140 Hardware Support	1	U9510E	\$469	12		\$5,628
Client Subtotal					\$49,410	\$5,628
Microsoft Windows 2000 Server	2	C11-00821	\$738	12	\$8,856	
Microsoft Visual C++ Standard 6.0	2	254-0017D	\$109	1	\$109	
Microsoft Problem Resolution	2		\$245	1		\$245
Client Software Subtotal					\$8,965	\$245
Qlogic SANBox 5200	3	SB5200-16A	\$4,980	3	\$14,940	\$3,000
Connectivity Subtotal					\$14,940	\$3,000
HP's Large Configuration Discount *	* Discounts:				\$433,755	\$41,196
Total:					\$1,385,946	\$103,207
3 year cost of ownership:					\$1,489,153	
Price Key: 1-HP, 2-Microsoft, 3-PC Universe Audited by Lorna Livingtree of Performance Metrics, Inc.					tpmC: 332265.87	
* All discounts are based on US list prices and for similar quantities and configurations					\$/tpmC: \$4.48	
Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated						

Numerical Quantities Summary for HP Server rx8620

MQTH, Computed Maximum Qualified Throughput

332265.87 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.91s	19.49s	0.46s
Payment	0.88s	19.17s	0.44s
Order-Status	0.91s	16.15s	0.47s
Delivery (interactive portion)	0.11s	3.63s	0.10s
Delivery (deferred portion)	0.14s	3.89s	0.11s
Stock-Level	1.05s	17.32s	0.57s
Menu	0.11s	4.25s	0.10s

Response time delay added for emulated components 0.1 seconds

Transaction Mix, in percent of total transactions

New-Order	44.97%
Payment	43.00%
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	18.06s	0s	12.05s	120.53s
Payment	3s	3.02s	3.06s	0s	12.04s	120.52s
Order-Status	2s	2.02s	2.07s	0s	10.06s	100.51s
Delivery (interactive)	2s	2.02s	2.06s	0s	5.05s	50.52s
Stock-Level	2s	2.02s	2.05s	0s	5.07s	50.52s

Test Duration

Ramp up time	51 minutes
Measurement interval	120 minutes
Transactions during measurement interval	92226898
Ramp down time	5 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	30 minutes