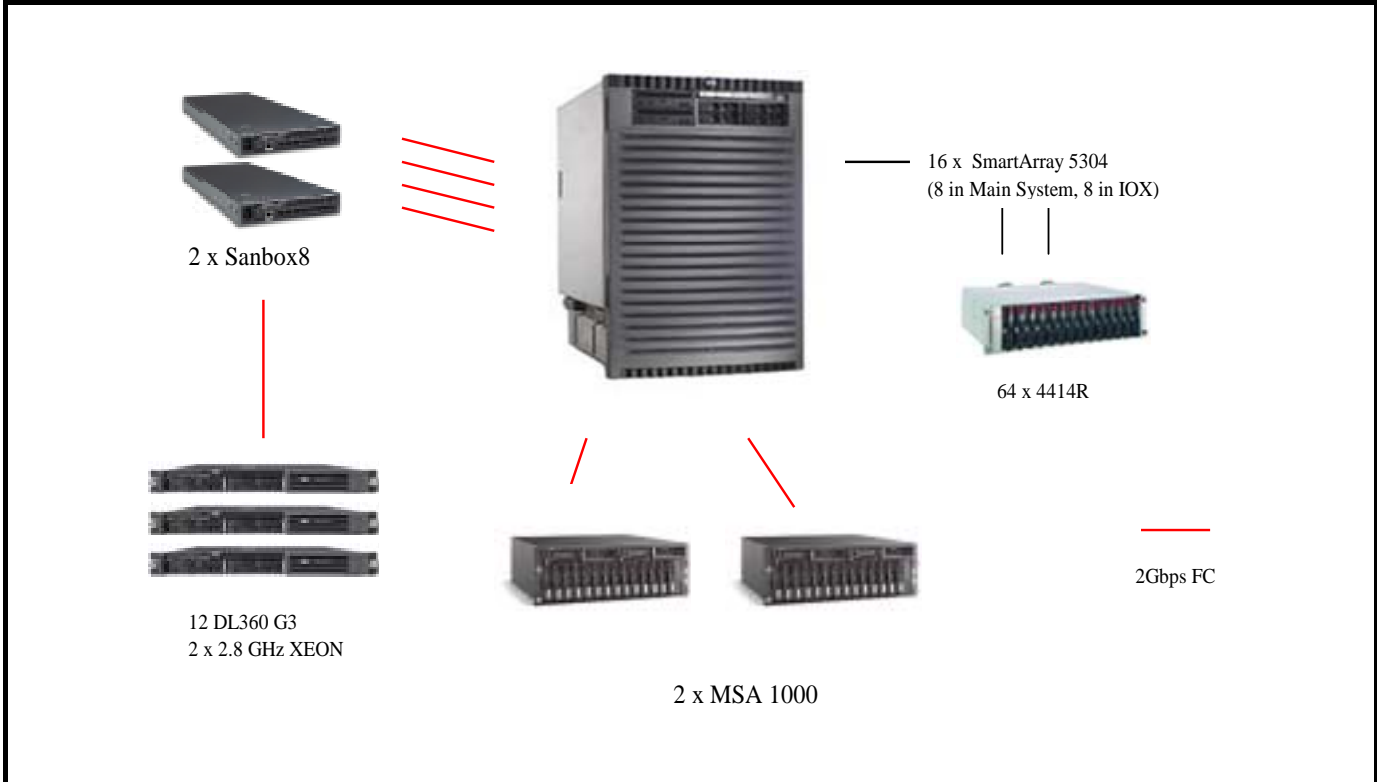




# HP Server rx8620

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>
\$1,372,435	301225.52 tpmC	\$4.56 per tpmC	April 13, 2004	April 15, 2004
<b>Processors</b>	<b>Database Manager</b>	<b>Operating System</b>	<b>Other Software</b>	<b>Number of Users</b>
16 Intel Itanium2 1.5GHz - Server 24 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	241,920



System Components	Server		Each Client	
	Qty	Type	Qty	Type
<b>Processors</b>	16	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>	16	8 Gbyte	4	256 Mbyte
<b>Disk Controllers</b>	16	HP Smart Array 5304	1	Embedded Smart Array 5i+
<b>Disk Drives</b>	896	HP 18GB 15KRPM U320	1	36 Gbyte disk
	12	HP 146GB, 10krpm U320		
	2	HP 18GB 15KRPM for OS		
<b>Total Storage</b>		16807 Gbyte		36 Gbyte
<b>Tape Drives</b>	1	HP Surestore DAT40e		
<b>Terminals</b>	1	Console Terminal	1	Console Terminal



Hewlett Packard Company

## HP Server rx8620

TPC-C Rev. 5.1

Report Date: April 13, 2004

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, 16x1.5ghz Intel Itanium 2 6M processors	1	AB240A-002	\$273,995	1	\$273,995	
Support (Hardware & Software) 3yrs 24x7					\$0	\$117,292
8GB SDRAM (4x2GB DIMMs)	1	AB309A-OD1	\$14,000	16	\$224,000	
PCI-x I/O chassis	1	A6434A	\$29,995	1	\$29,995	
18gb 15K RPM disc for system boot/storage	1	A6540A	\$800	2	\$1,600	
Gig E - TX Adapter	1	A7061A	\$270	1	\$270	
Qlogic QLA-2350 Fibre-Channel VI Adapter	1	A390975	\$1,450	6	\$8,700	
LP9802 Fiber Channel Adapter	1	AB232A	\$1,558	2	\$3,116	
HP Smart Array Controller 5304	1	A9826A	\$2,399	16	\$38,384	
Storageworks enclosure 4414R	1	302969-B21	\$3,209	64	\$205,376	
Support 3yrs 24x7	1	171242-002	\$157	64		\$10,048
18GB, 15krpm Ultra3 Wide disk	1	286775-B22	\$299	896	\$267,904	
18GB, 15krpm Ultra3 Wide disk (10% spares)	1	286775-B22	\$299	90	\$26,910	
Modular Storage Array 1000	1	201723-B22	\$9,995	2	\$19,990	
Support 3yrs 24x7	1	402164-002	\$3,538	2		\$7,076
146GB, 10krpm disk	1	286716-B22	\$1,039	12	\$12,468	
146GB, 10krpm disk (10% spares)	1	286716-B22	\$1,039	2	\$2,078	
HP9000 Standard Rack System E41	1	A4902D	\$1,910	5	\$9,550	
5m LC to LC Cable Kit	1	221692-B22	\$82	2	\$164	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	2	\$398	
HP Power Distribution Unit 120-240V	1	A5137AZ	\$145	6	\$870	
UPS R1500 XR	1	204404-001	\$866	1	\$866	
TA5300 Enclosure for DAT tape	1	C7508AZ	\$1,395	1	\$1,395	\$2,125
DVD Rom drive	1	C7499A	\$688	1	\$688	
DAT Tape	1	C7497A	\$1,532	1	\$1,532	
<b>Server Subtotal</b>					<b>\$1,130,249</b>	<b>\$136,541</b>
Microsoft Windows Server 2003, Datacenter edition (64-bit)	1	T2372A opt016	\$32,000	1	\$32,000	incl. above
Database Server Support Package	1	PRO-PRORS-16U-01	\$1,950	3	\$5,850	\$5,850
Microsoft SQL Server 2000 Enterprise Edition 64 bit	2	810-00560	\$16,541	16	\$264,656	
<b>Server Software Subtotal</b>					<b>\$302,506</b>	<b>\$5,850</b>
HP ProLiant DL360 G3	1	308724-001	\$2,849.00	12	\$34,188	
2.80GHz Xeon Processor Option Kit (DL360 G3)	1	292892-B21	\$839.00	12	\$10,068	
HP Mouse	1	170299-B22	\$23.00	1	\$23	
HP Enhanced Keyboard	1	265977-001	\$12.00	1	\$12	
\$5500 15 carbon / silver monitor	1	261602-001	\$129	1	\$129	
36.4-GB 15,000 rpm U320 Universal Hard Drive	1	286776-B22	\$519	12	\$6,228	
Qlogic QLA-2350 Fibre-Channel VI Adapter	1	A390975	\$1,450	12	\$17,400	
5M LC to LC Cable Kit	1	221692-B22	\$82	12	\$984	
5m 2gbit Small Form Pluggable Adapter Kit	1	221470-B21	\$199	12	\$2,388	
Support (Hardware & Software) 3yrs 24x7						\$34,104
<b>Client Subtotal</b>					<b>\$71,420</b>	<b>\$34,104</b>
Microsoft Windows 2000 Server	2	C11-00821	\$738	12	\$8,856	incl. above
Microsoft Visual C++ Standard 6.0	2	254-0017D	\$109	1	\$109	\$1,009
<b>Client Software Subtotal</b>					<b>8965</b>	<b>\$1,009</b>
Qlogic SANBox-2 8-Port Switch	3	SANBOX 2/8	\$4,861	4	\$19,444	
<b>Connectivity Subtotal</b>					<b>\$19,444</b>	
HP's Large Configuration Discount *	* Discounts:				-\$297,429	-\$40,224
<b>Total:</b>					<b>\$1,235,155</b>	<b>\$137,280</b>
Price Key: 1-HP, 2-Microsoft, 3-PC Universe Audited by Lorna Livingtree of Performance Metrics, Inc.	<b>3 year cost of ownership:</b>				<b>\$1,372,435</b>	
	tpmC:				301,225.52	
* All discounts are based on US list prices and for similar quantities and configurations	<b>\$/tpmC:</b>				<b>\$4.56</b>	

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](mailto:pricing@tpc.org). Thank you.

## Numerical Quantities Summary for HP Server rx8620

**MQTH, Computed Maximum Qualified Throughput**

**301225.52 tpmC**

### Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.90s	17.78s	0.54s
Payment	0.84s	56.09s	0.48s
Order-Status	0.87s	13.57s	0.52s
Delivery (interactive portion)	0.11s	1.20s	0.10s
Delivery (deferred portion)	0.19s	3.88s	0.14s
Stock-Level	1.59s	16.74s	1.08s
Menu	0.11s	6.46s	0.10s

Response time delay added for emulated components 0.1 seconds

### Transaction Mix, in percent of total transactions

New-Order	44.96%
Payment	43.01%
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	12.04s	120.51s
Order-Status	2s	2.02s	2.03s	0s	10.05s	100.5s
Delivery (interactive)	2s	2.02s	2.03s	0s	5.05s	50.51s
Stock-Level	2s	2.02s	2.03s	0s	5.06s	50.5s

### Test Duration

Ramp up time	45 minutes
Measurement interval	120 minutes
Transactions during measurement interval	83631779
Ramp down time	5 minutes

### Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	30 minutes