



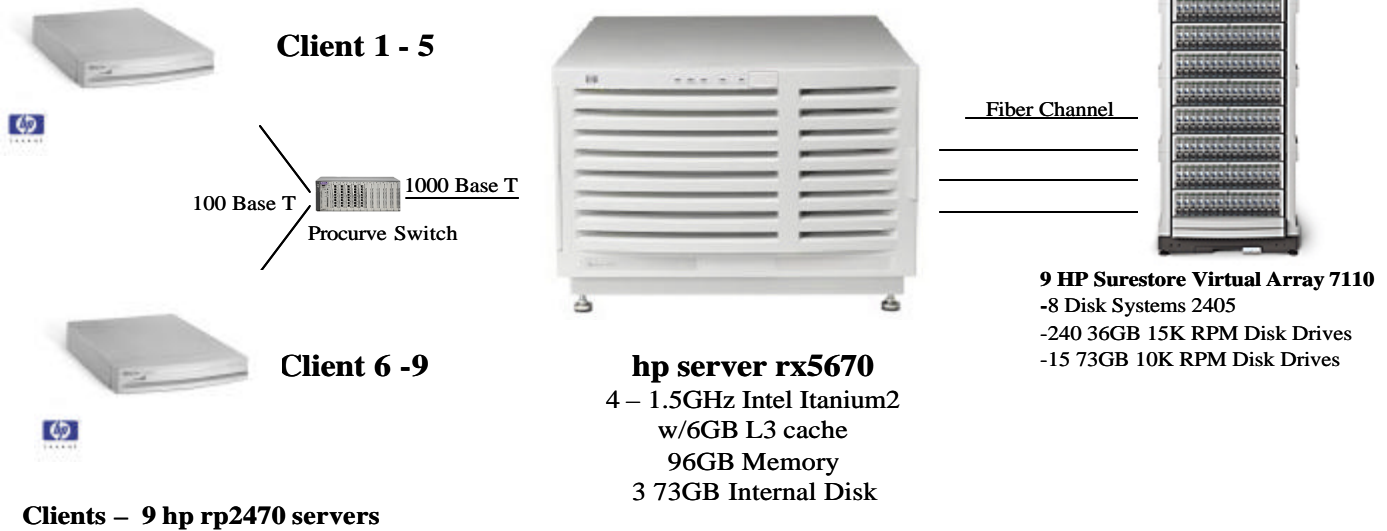
hp server rx5670

TPC-C Revision 5

Report Date:
December 31, 2003

Total System Cost	TPC Throughput	Price/Performance		Availability Date
\$954,061	131,639.80 tpmC	\$7.25/tpmC		January 30, 2004
Processors	Database Manager	Operating System	Other Software	Number of Users
4 Intel Itanium2 1.5GHz	Oracle Database 10G Standard Edition	HP-UX 11.i, v2, 64- bit Base	TUXEDO 8.0	104,400

Server



System Components	Server (hp server rx5670)		each Client (9 hp server rp2470)	
	Qty	Type	Qty	Type
Processors	4	1.5GHz Intel Itanium2	1	750MHz PA-RISC 8700
Cache Memory	each	6MB L3 cache	each	.75MB I-cache/1.5 MB D-cache
Memory	96	GB	1	3 GB
Disk Controllers	3	2GB Fibre Channel Adapter	1	Ultra2 SCSI LVD
Disk Drives	9	Surestore Virtual Array 7110, with 240 36GB 15K RPM Disks, and 15 73GB 10K RPM Disks	1	36 GB
Total Storage	4,633.65	GB		
Tape Drives	1	DVD ROM		
Terminals	1	Console Terminal	1	Console Terminal



hp server rx5670

TPC-C Rev 5

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Description	Part Number	Brand	Price Key	US List Price	Qty	Price	3Year Main.Price
Server Hardware							
hp server rx5670 with 1.5GHz processor	A6838B		1	26,494	1	26,494	
1.5GHz Processor with 6MB Cache	A9810A		1	8,250	3	24,750	
3 Year Support Price (Hardware and Software)			1				15,259
8GB PC2100 DDR-SDRAM Memory (4x2GB DIMMs)	A6835A		1	16,000	12	192,000	
Memory Carrier Board for rx5670	A6747A		1	1,981	2	3,962	
73GB 15K RPM Ultra320 SCSI Internal Drive (incl. 10% DVD ROM)	A9760A		1	1,362	5	6,810	
Syستم Console	A5557B		1	450	1	450	
2GB Fibre Channel Adapter	C1099A		1	550	1	550	
	A6795A		1	2,240	3	6,720	
Subtotal						261,736	15,259
Server Software							
Oracle Database 10G Standard Edition							
Processor for 3 year term for 4 processors, Unlimited Users		Oracle	2	7,500	4	30,000	
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	4	9,480	
Foundation Operating Environment Media Kit	B9106A, Opt OD1		1	199	1	199	
Subtotal						39,679	6,000
Storage							
Rack System/E R3000 XR UPS	J4367A		1	1,948	4	7,792	
Surestore VA 7110 w/dual controllers 512MB cache	A7294AZ		1	50,880	9	457,920	
3 Year Support Price							38,714
Disk System 2405 with dual 2GB link cards	A6250AZ		1	6,595	8	52,760	
36GB 15K RPM FC HDD.	A6193A, Opt OD1		1	1,349	240	323,760	
36GB 15K RPM FC HDD. (10% spare)	A6193A, Opt OD1		1	1,349	24	32,376	
73GB 10K RPM FC HDD.	A6194A, Opt OD1		1	2,019	15	30,285	
73GB 10K RPM FC HDD. (10% spare)	A6194A, Opt OD1		1	2,019	2	3,029	
2 meter LC Fibre Optic Cable	C7524A		1	215	24	5,160	
16 meter LC/SC Fibre Optic Cable	C7525A		1	260	3	780	
HP FC 1GB/2GB Entry Switch 8B, Field Rack	A7346A		1	6,599	2	13,198	
HP9000 Std. Rack System E41	A4902A		1	1,910	3	5,730	
Modular Power Dist.	A5137AZ		1	145	12	1,740	
200-240 Volts Power Option	A5137AZ, Opt AW4		1	94	12	1,128	
Subtotal						935,658	38,714
Client Hardware							
HP server rp2470	A6890A		1	1,865	9	16,785	
750Mhz PA-RISC 8700 CPU	A6892A		1	4,500	9	40,500	
3 Year Support Price (Hardware and Software)							39,987
36GB 15K HotPlug Ultra 160 SCSI Internal Disk	A6948A		1	1,298	9	11,682	
2GB Memory Module	A6114A		1	3,400	9	30,600	
1GB Memory Module	A5841A		1	1,900	9	17,100	
HP-UX 11.i Sys Media, CD-ROM	B3920EA, Opt. OD1		1	195	9	1,755	
Subtotal						118,422	39,987
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	9	10,260	6,804
Subtotal						11,860	6,974
User Connectivity							
HP ProCurve Switch 4000M	J4121A		1	2,379	1	2,379	588
HP ProCurve Switch 100/1000Base-T Mod.	J4115B		1	509	1	509	
Subtotal						2,888	588
Oracle Mandatory E-Business Discount (license and support)			2	(1,800)	1	(1,800)	
HP's Large configuration Discount and Support Prepayment*						(491,728)	(30,175)
Total						876,714	77,347
*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: \$954,061	
Audited by Lorna Livingtree for Performance Metrics, Inc.						tpmC Rating: 131,639.80	
						\$/tpmC: \$7.25	

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.

Numerical Quantities Summary for hp server rx5670

MQTH, Computed Maximum Qualified Throughput

131,639.80 tpmC

Response Times (in seconds)

	90th %-ile	Maximum	Average
New-Order	0.55s	12.45s	0.30s
Payment	0.54s	12.07s	0.29s
Order-Status	0.56s	9.99s	0.31s
Delivery (interactive portion)	0.21s	9.30s	0.12s
Delivery (deferred portion)	0.55s	9.93s	0.30s
Stock-Level	0.56s	10.48s	0.31s
Menu	0.1000s	0.00271s	0.000039s

Transaction Mix, in percent of total transactions

New-Order	44.97%
Payment	43.00%
Order-Status	4.01%
Delivery	4.020%
Stock-Level	4.01%

Keying/Think Times

	Keying Time			Think Time		
	Min	Avg	Max	Min	Avg	Max
New-Order	18.02s	18.03s	18.31s	0.01s	12.14s	189.93s
Payment	3.01s	3.02s	3.31s	0.01s	12.06s	205.69s
Order-Status	2.01s	2.02s	2.31s	0.01s	10.1s	144.01s
Delivery (interactive)	2.01s	2.02s	2.31s	0.01s	5.06s	82.9s
Stock-Level	2.01s	2.02s	2.31s	0.01s	5.07s	75.11s

Test Duration

Ramp up time	42.5 minutes
Measurement interval	120 minutes
Transactions during measurement interval	35,131,261
Ramp down time	18.083 minutes

Checkpointing

Number of checkpoints in measurement interval	4
Checkpoint Interval	29.7 minutes