



# IBM RS/6000 Enterprise Server H70 c/s

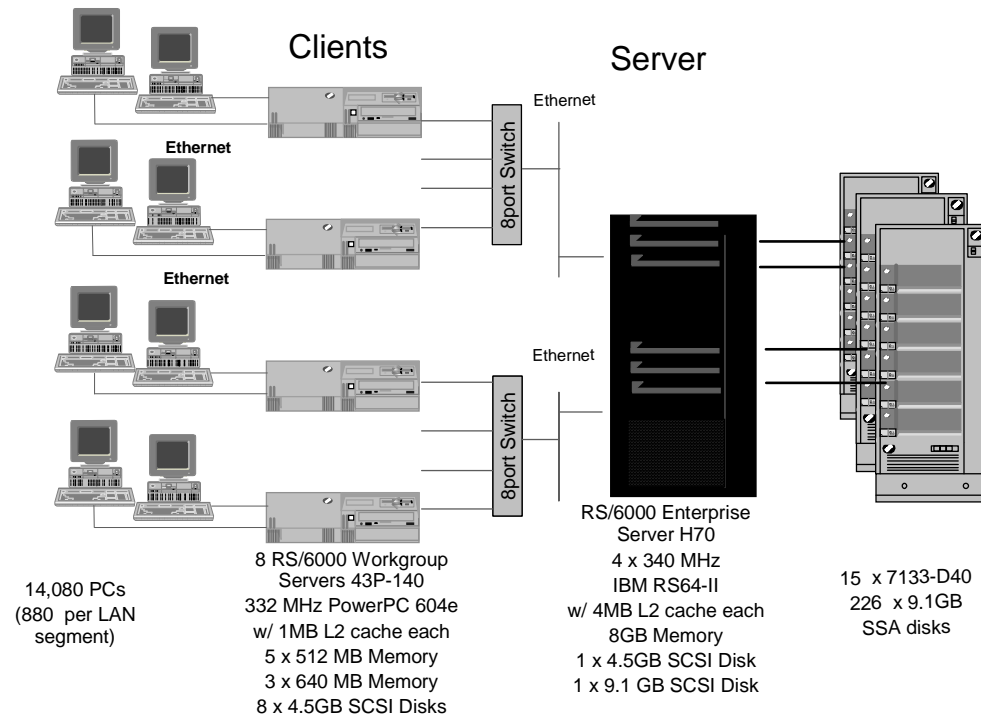
TPC-C Rev. 3.4

ORACLE

Report Date:  
May 27, 1999

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
<b>\$1,343,526</b>	<b>17,133.73 tpmC</b>	<b>\$78.50/tpmC</b>	<b>Nov 19, 1999</b>	
Processors	Database Manager	Operating System	Other Software	No. Users
4 x IBM RS64-II	Oracle Version 8.1.5	AIX 4.3.2	TXSeries 4.2 for AIX	14,080

## RS/6000 Enterprise Server H70



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	8	332 MHz PowerPC 604e w/ 1MB L2 cache each	4	340 MHz IBM RS64-II w/ 4MB L2 cache each
Memory		5 x 512, 3x640 MB		8 GB
Disk Controllers	8	SCSI-2 Adapters	2 4	SCSI-2 Adapters SSA Adapters
Disk Drives	8	4.5 GB SCSI	226 1 1	9.1 GB SSA Disks 4.5 GB SCSI Disk 9.1 GB SCSI Disk
Total Storage		4.5 GB each client		1,884.41 GB
Terminals	8	System Console	1	System Console
Term. Connect	1,936	CentreCOM 8-Port Ethernet Hubs + 10% spares		



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Description	Part Number	"Source	Unit Price	Qty	Extended Price	5 yr. Maint Price
<b>Server Hardware</b>						
RS/6000 Server Model H70	7026-H70	1	17,322	1	17,322	7,872
2 SCSI Adapters, Intg Enet, Rack, PDU, CD-ROM, SCSI Hot Swap 6-pack						
4.5 GB 1" SCSI Disk	2900	1	1,300	1	1,300	0
9.1 GB 1" Ultra SCSI Hot Swap	2913	1	1,750	1	1,750	0
Async/Terminal Cable	2934	1	45	1	45	0
10/100 Mbs Ethernet PCI Adapter	2968	1	275	2	550	0
Memory Expansion Feature	4098	1	1,038	2	2,076	0
512 MB SDRAM DIMMs	4119	1	6,400	16	102,400	0
2way RS64 II 340 Mhz Processor	4319	1	20,000	2	40,000	38,400
Advanced Serial RAID Adapter	6225	1	3,000	4	12,000	0
32 MB Fast-Write Cache Option	6235	1	575	1	575	0
Prestige EXT UPS, Rack Mount	9910-U33	1	3,822	2	7,644	0
System Rack Model S00	7015-S00	1	3,500	3	10,500	5,040
Additional Power Distribution Unit	6171	1	1,000	3	3,000	0
SSA Disk Subsystem, Black Cover	7133-D40	1	13,000	15	195,000	144,000
50/60 Hz AC, 300 VDC Power Supply	8022	1	2,000	15	30,000	0
9.1 GB Disk Drive Modules	8209	1	2,760	226	623,760	0
SSA Cables	8801	1	60	30	1,800	0
<b>Subtotal</b>					<b>1,049,722</b>	<b>195,312</b>
<b>Server Software</b>						
AIX 4.3 for H70	5765-C34	1	175	1	175	0
AIX C compiler	5765-C64	1	1,578	1	1,578	0
Performance Toolbox	5765-654	1	1,300	1	1,300	0
Oracle Version 8.1.5		2	153,520	1	153,520	153,520
<b>Subtotal</b>					<b>156,573</b>	<b>153,520</b>
<b>Client Hardware</b>						
RS/6000 Model 43P-140, 332 MHz	7043-140	1	7,295	8	58,360	26,880
4.5gb Disk, Intg SCSI-2 FW, Intg Enet, 1MB L2 cache						
128MB DIMM Memory	4102	1	448	8	3,584	0
128MB DIMM Memory Expansion	4115	1	896	27	24,192	0
Async Terminal/Printer Cable	2934	1	45	8	360	0
10/100 Mbps Ethernet Adapter, PCI	2986	1	275	16	4,400	0
IBM ASCII Terminal, Keyboard	3153-BG3	1	577	9	5,193	5,940
<b>Subtotal</b>					<b>96,089</b>	<b>32,820</b>
<b>Client Software</b>						
AIX 4.3 Unlimited Users	5756-C34	1	4,750	8	38,000	0
AIX C compiler	5765-C64	1	1,578	1	1,578	0
IBM TXSeries 4.2 for AIX	5697-D17	1	3,353	8	26,821	9,400
<b>Subtotal</b>					<b>66,399</b>	<b>9,400</b>
<b>User Connectivity</b>						
8port Ethernet Switch+ 2 Spare	Nbase	4	2,166.50	4	8,666	1,486
Ethernet Hub (8port) + 10% Spares	DEH2924	3	32.00	1936	61,952	0
<b>Subtotal</b>					<b>70,618</b>	<b>1,486</b>
<b>Discounts</b>					<b>(415,955)</b>	<b>(70,972)</b>
<b>Total</b>					<b>1,023,446</b>	<b>321,566</b>

**Notes:**

<b>Pricing Sources:</b>	<b>Five-Year Cost of Ownership:</b>	<b>1,345,012</b>
1=IBM, 2=Oracle, 3=Data Comm Warehouse, 4=NBase-Xyplex		tpmC 17,133.73
<b>Audited by: Francois Raab, Information Sizing</b>		<b>\$/tpmC 78.50</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 the IBM RS/6000 H70

MQTH, computed Maximum Qualified Throughput: 17,133.73 tpmC

Repeatability Run: 17,036.4 tpmC 0.57% difference

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	2.46	1.14	36.85
Payment	2.24	1.03	36.54
Order-Status	2.26	1.06	36.72
Delivery (interactive portion)	0.20	0.12	0.65
Delivery (deferred portion)	0.45	0.28	2.93
Stock-Level	3.10	1.69	37.43
Menu	0.01	0.00	0.40

### Transaction Mix, in percent of total transactions

	<u>Percent</u>
New Order	44.78%
Payment	43.07%
Order-Status	4.06%
Delivery	4.02%
Stock-Level	4.05%

<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.04	18.12/120.31
Payment	3.00/0.01	3.01/12.06	3.11/120.31
Order-Status	2.00/0.01	2.01/10.00	2.11/100.30
Delivery	2.00/0.01	2.01/5.01	2.09/50.30
Stock-Level	2.00/0.01	2.01/5.07	2.10/50.30

### Test Duration

Ramp-up Time	42 min 06 sec
Measurement interval	30 minutes
Transactions during measurement interval (all types)	1,147,627
Ramp-down time	10 minutes

### Checkpointing

Number of checkpoints	1
Checkpoint interval	30

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