

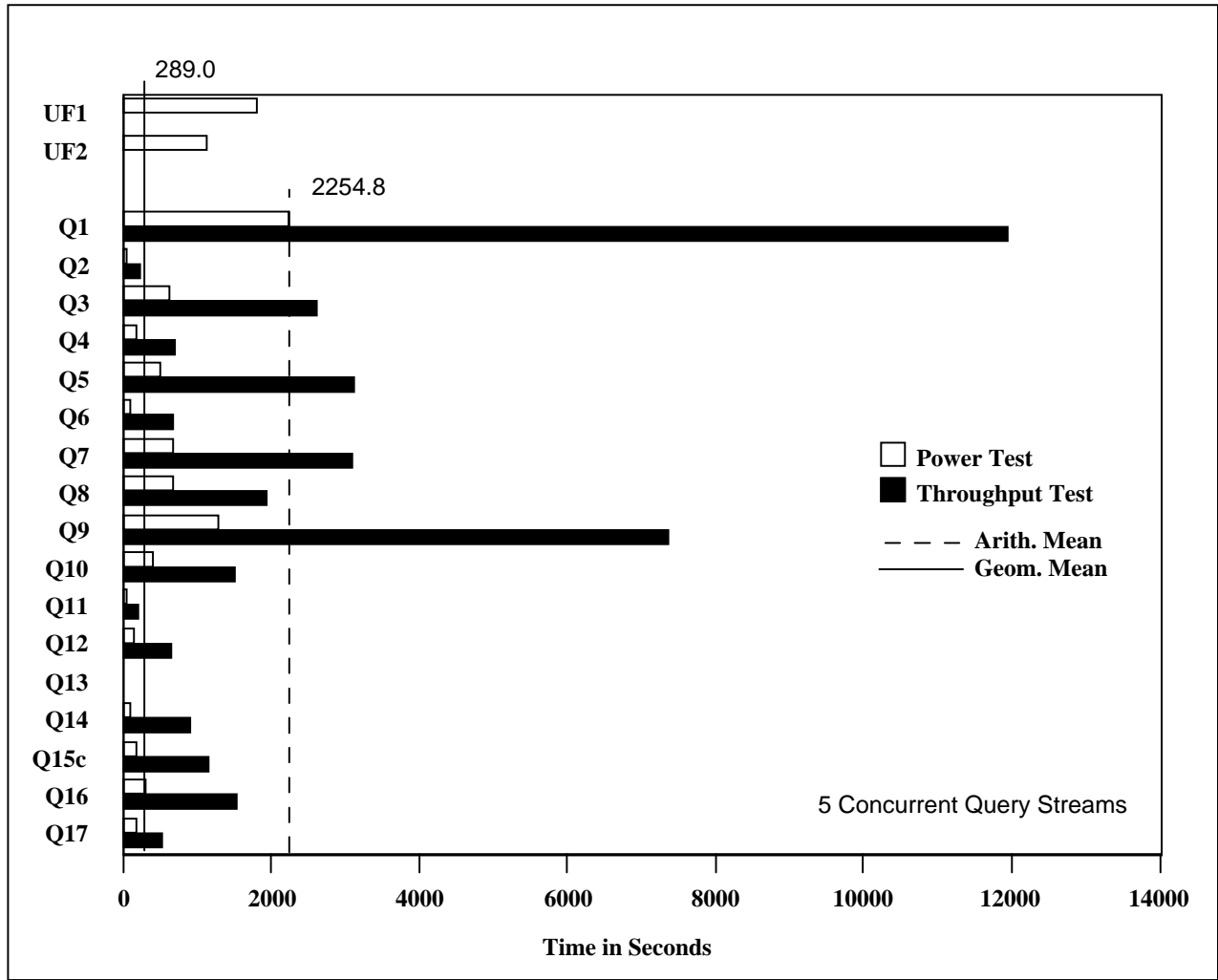


IBM RS/6000 H50 with DB2 UDB 5.2.0 - 5 Query Streams

TPC-D Rev. 1.3.1

Report Date:
May 7, 1998
Revised: April 6, 1999

Total System Cost	TPC-D Power	TPC-D Throughput	Price/Performance
\$375,349	1245.5 QppD@100GB	562.0 QthD@100GB	\$449 \$ / QphD@100GB
Database Size 100GB	Database Manager DB2 UDB 5.2.0	Operating System IBM AIX 4.2.1	Other Software None
		Availability Date Oct. 31, 1998	



Database Load Time: 28:24:52	Total Data Storage/Database Size: 4.89	Raid: N
System Components		
Processors	4 x 332MHz PowerPC 604e - 256K L2	
Memory	3GB	
Disk Controllers	3 PCI F/W SCSI 3 PCI SSA (Serial Storage Architecture)	
Disk Drives	12 x 4.5GB, 3 x 9.1GB F/W SCSI Hot Pluggable 96 x 4.5GB SSA Hot Pluggable	
Total GB Storage	489.12 GB	



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Server Model H50 4way TPC-D Pricing

Description	Part Number	Unit Price	Qty	Extended Price	5 yr. Maint Price
Server Hardware					
RS/6000 Server Model H50	7025-H50	22,000	1	22,000	10,992
128mb Memory, 4,5GB Disk,					
2 Intg SCSI2 F/W Adptr, CDROM					
332MHz 2way Proc Card Sel, 2-256kb L2	4338	3,000	1	3,000	1,920
332MHz 2way Proc Card, 2-256kb L2	4320	10,000	1	10,000	5,760
256MB DIMM Memory Select	4106	1,280	1	1,280	0
256MB DIMM Memory Modules	4110	2,560	11	28,160	0
Memory Expansion Feature 2nd Card	4093	1,038	1	1,038	0
16-bit Integrated SCSI Adapter Cable	2447	75	2	150	0
PCI SCSI-2 F/W Adapter	6208	360	2	720	0
PCI SSA 4port RAID Adapter	6215	3,000	3	9,000	0
Internal 4/8 GB 4mm Tape Drive	6142	2,695	1	2,695	0
ASCII Display Station & Cable	3153-BG3	622	1	622	660
		Subtotal		78,665	19,332
Server Software					
AIX 4.2.1 H50 + Support	5765-C34	145	1	145	0
C++ for AIX	5765-421	1,578	1	1,578	0
DB2 Enterprise Extended Edition for AIX	0795-115	34,999	1	34,999	0
DB2 EEE for AIX, up to 4 nodes	04L7-900	34,999	1	34,999	0
		Subtotal		71,721	0
Storage Devices					
4.5 GB SCSI-2 F/W Hot Swap Disk	2901	1,400	11	15,400	0
SCSI Hot Swap 6-Pack Kits	6519	375	2	750	0
Multi-Storage Tower w/ 2 x 9.1GB Disks	7131-105	8,350	1	8,350	7,200
9.1 GB SCSI-2 1" Hot-swap Disk	3038	3,000	1	3,000	0
System Rack Model R00	7015-R00	3,110	2	6,220	2,976
SSA Disk Subsystem w/ 4 - 4.5GB Disks	7133-020	19,350	6	116,100	57,600
4.5 GB Disk Drive Module	3401	1,900	72	136,800	0
SSA Cables	5006	40	12	480	0
		Subtotal		287,100	67,776
		Total		437,486.00	87,108.00
Discounts					
Midrange Service Agreement, Extended Maintenance		17%		(27,099.30)	
IBM Software Revenue Discount		17%		(11,899.66)	
Dollar Volume Discount		30%		(110,246.40)	
		Five Year Cost of Ownership:		375,348.64	
	QppD	1245.5			
	QthD	562.0			
	QphD	836.70			
	\$/QphD@100GB			448.61	

Audited by Francois Raab, Information Paradigm Inc.

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. Thank you.



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Numerical Quantities Summary

Measurement Results:

Database Scaling (SF/Size)	=	100
Total Data Storage/Database Size	=	4.89
Database Load Time	=	28:24:52
Query Streams for Throughput Test	=	5
TPC-D Power Metric (QppD@100GB)	=	1,245.5
TPC-D Throughput Metric (QthD@100GB)	=	562.0
Composite Query-per-Hour Rating (QphD@100GB)	=	836.7
Total System Price over 5 years	=	\$375,349
TPC-D Price/Performance Metric (\$/QphD@100GB)	=	\$449

Measurement Intervals

Measurement Interval in Throughput Test (Ts) = 54,445 seconds

Duration of Stream Execution

Stream ID	Seed Used	Start Date	Start Time	End Date	End Time
Stream 00	403344328	04/20/98	16:08:36	04/20/98	19:10:13
Stream 01	995887119	04/20/98	19:10:20	04/21/98	05:57:56
Stream 02	2123461643	04/20/98	19:10:20	04/21/98	06:01:44
Stream 03	1178144929	04/20/98	19:10:20	04/21/98	05:47:52
Stream 04	663084738	04/20/98	19:10:20	04/21/98	05:54:40
Stream 05	1730109680	04/20/98	19:10:20	04/21/98	05:23:59
Updates		04/20/98	19:10:21	04/21/98	10:17:45

Timing Intervals (in Seconds)

Stream ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Stream 00	2254.1	60.5	639.3	195.3	505.4	113.4	684.3	700.9	1304.6
Stream 01	12462.4	280.2	2747.6	665.5	3417.1	603.0	2167.7	2108.1	7676.9
Stream 02	11602.7	222.2	2787.9	868.7	4051.0	771.1	2526.3	1834.0	7258.1
Stream 03	11611.7	237.1	2016.8	690.8	4021.7	606.9	3419.5	1855.1	6900.0
Stream 04	12342.2	246.4	2685.4	491.9	1915.0	655.1	2781.6	2020.8	8896.7
Stream 05	11681.6	215.5	2864.4	809.4	2190.1	799.5	4623.5	1890.1	6133.3
Minimum	11602.7	215.5	2016.8	491.9	1915.0	603.3	2167.7	1834.0	6133.3
Average	11940.1	240.3	2620.4	705.3	3119.0	687.1	3103.7	1941.6	7373.0
Maximum	12462.4	280.2	2864.4	868.7	4051.0	799.5	4623.5	2108.1	8896.7

Stream ID	Q10	Q11	Q12	Q13	Q14	Q15c	Q16	Q17	UF1	UF2
Stream 00	403.5	65.7	164.3	7.6	125.2	176.4	322.0	188.8	1833.1	1152.4
Stream 01	1476.8	184.9	596.1	10.6	837.5	1073.1	1932.2	613.8	40957.5	1193.3
Stream 02	1752.9	209.7	853.8	15.8	1925.5	1312.5	517.9	573.3	1872.9	1236.6
Stream 03	1474.2	228.3	685.3	41.4	646.7	1185.1	2049.5	581.7	1842.1	1168.1
Stream 04	1463.1	253.7	639.9	27.6	656.9	1172.4	1768.8	639.1	1854.4	1198.4
Stream 05	1393.6	217.7	578.9	12.4	580.6	1111.3	1416.4	296.3	1870.0	1250.7
Minimum	1393.6	184.9	578.9	10.6	580.6	1073.1	517.9	296.3	1842.1	1168.1
Average	1512.1	218.9	670.8	21.6	929.4	1170.9	1537.0	540.8	9679.4	1209.4
Maximum	1752.9	253.7	853.8	41.4	1925.5	1312.5	2049.5	639.1	40957.5	1250.7