

**IBM Netfinity 8500R
with
Microsoft SQL Server 2000**

TPC-H Rev 1.3.0

Report Date: May 23, 2000

Total System Cost

Composite Query-per-Hour Metric

Price/Performance

\$312,368

**1454.4
QphH @ 100GB**

**\$215
per QphH@100GB**

Database Size

Database Manager

Operating System

Other

Availability Date

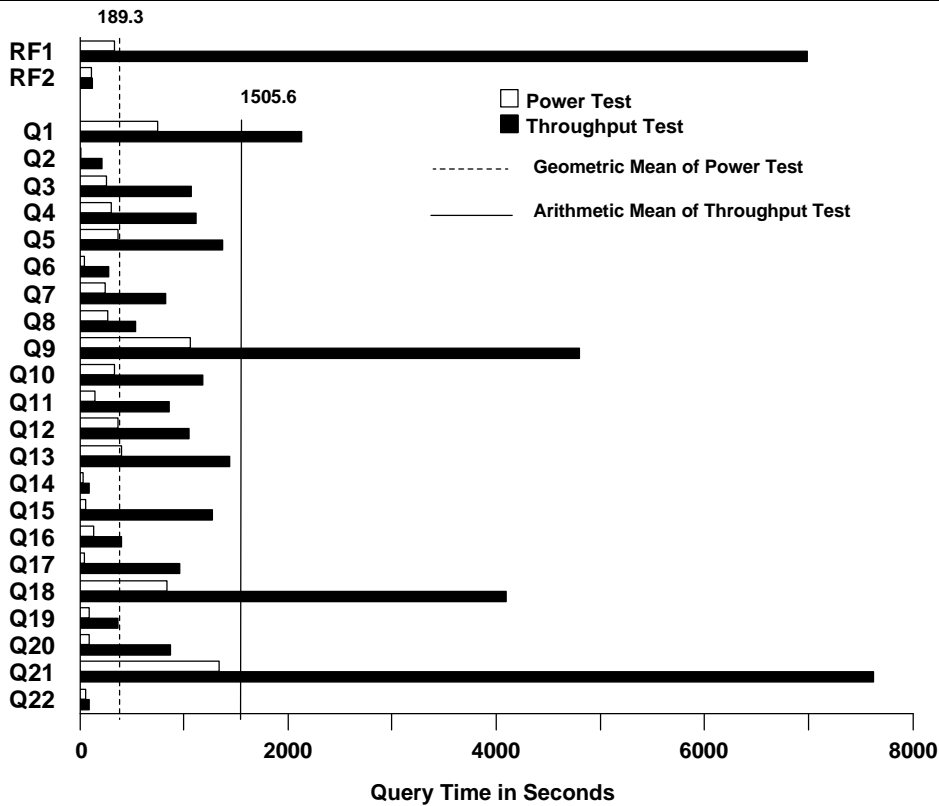
100GB

**Microsoft
SQL Server 2000
Enterprise Edition**

**Microsoft
Windows 2000
Advanced Server**

**Visual Studio
Professional
6.0**

August 1, 2000



Database Load Time: 13:15:01

Load Included Backup: Y

Total Data Storage /
Database Size: 16.09

RAID (Base Tables Only): N

RAID (Base Tables and
Auxiliary Data Structures): Y

RAID (All): N

Configuration

Processors

8

Memory

4

Disk Controllers

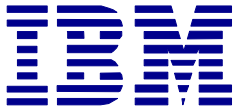
1

Disk Drives

190

Total Disk Storage

**Intel Pentium III Xeon 700MHz / 2MB L2 Cache
1GB SDRAM ECC RDIMM II
Netfinity ServeRAID-4H Ultra160 SCSI Adapter
AMI MegaRAID1500-H 4-Channel Adapter
9.1GB 10K-3 Wide Ultra SCSI Drive
1609.3GB**



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Description	Part Number	Source	Unit Price	Qty	Ext. Price	5-Yr. Maint.
Server Hardware						
IBM Netfinity 8500R / 700MHz/2MB L2 Cache Pentium III Xeon	8681-8RY	1	20,914	1	20,914	10,295
700MHz / 2MB L2 Cache Processor	01K2166	1	6,135	7	42,945	0
1GB SDRAM ECC RDIMM II	33L3056	1	6,249	4	24,996	0
8500R>4X Accelerator Kit (4X SRAM)	20L0249	1	1,249	2	2,498	0
Netfinity ServeRAID-4H Ultra160 SCSI Adapter	37L6889	1	2,439	1	2,439	0
AMI MegaRAID 1500-H 4-Channel Adapter***	4674536264A	3	1,750	6	10,500	630
Netfinity 4.2M Ultra2 SCSI Cable	03K9311	1	105	22	2,310	0
EtherJet 10/100 PCI Management Adapter	34L1201	1	75	1	75	0
IBM G42 14" (13.2" Viewable) Color Monitor	654000N	1	169	1	169	430
Netfinity Rack	9306900	1	1,725	2	3,450	2,520
Side Panel Kit	94G6669	1	195	1	195	0
Subtotal					\$110,491	\$13,875
Server Storage						
Netfinity EXP200 Rack Storage Expansion Enclosure	35301RU	1	2,595	20	49,305	33,820
Netfinity 9.1GB 10K Wide Ultra SCSI Drive	00N8207	1	399	190	75,810	0
Subtotal					\$127,710	\$33,820
Server Software						
Microsoft SQL Server 2000 Enterprise Edition		2	10,999	1	10,999	10,475
Microsoft Windows 2000 Advanced Server		2	3,919	1	3,919	Incl Above
Visual Studio Professional 6.0 Win32		2	1,079	1	1,079	Incl Above
Subtotal					\$15,997	\$10,475
Total					\$254,198	\$58,170

Pricing: 1 - IBM; 2 - Microsoft Corp.; 3. AMI

Five-Year Cost of Ownership: \$312,368

QphH @ 100GB: 1,454.4

Audited by Francois Raab and Brad Askins of InfoSizing, Inc.

\$/ QphH @ 100GB: \$215

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 specification. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.



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Measurement Results:

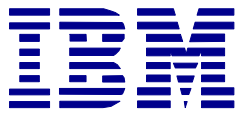
Database Scale Factor	100
Total Data Storage/Database Size	16.09
Start of Database Load	19:59:23
End of Database Load	09:14:24
Database Load Time	13:15:01
Query Streams for Throughput Test	5
TPC-H Power	1,901.2
TPC-H Throughput	1,112.6
TPC-H Composite Query-per-Hour (QphH@100GB)	1454.4
Total System Price over 5 Years	\$312,368
TPC-H Price/Performance Metric (\$/QphH@100GB)	\$215

Measurement Interval:

Measurement Interval in Throughput Test (Ts) = 35591.3 seconds

Duration of Stream Execution:

	Seed	Query Start Date/Time Query End Date/Time	RF1 Start Date/Time RF1 End Date/Time	RF2 Start Date/Time RF2 End Date/Time	Duration
Stream 00	519091424	05/19/00 09:39:42	05/19/00 09:39:42	05/19/00 11:47:50	2:10:04
		05/19/00 11:49:46	05/19/00 09:45:23	05/19/00 11:49:46	
Stream 01	519091425	05/19/00 11:49:48	05/19/00 11:49:47	05/19/00 21:24:35	8:59:17
		05/19/00 20:49:04	05/19/00 21:24:34	05/19/00 21:26:44	
Stream 02	519091426	05/19/00 11:49:48	05/19/00 21:26:45	05/19/00 21:28:38	9:24:27
		05/19/00 21:14:14	05/19/00 21:28:37	05/19/00 21:30:49	
Stream 03	519091427	05/19/00 11:49:48	05/19/00 21:30:50	05/19/00 21:32:40	9:32:59
		05/19/00 21:22:48	05/19/00 21:32:38	05/19/00 21:34:52	
Stream 04	519091428	05/19/00 11:49:48	05/19/00 21:34:53	05/19/00 21:36:42	8:50:22
		05/19/00 20:40:11	05/19/00 21:36:41	05/19/00 21:38:53	
Stream 05	519091429	05/19/00 11:49:49	05/19/00 21:38:54	05/19/00 21:40:44	9:13:15
		05/19/00 21:03:04	05/19/00 21:40:43	05/19/00 21:42:59	



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TPC-H Timing Intervals (in seconds):

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Stream 00	750.0	19.7	264.5	312.6	369.8	48.0	246.7	273.8	1068.9	338.3	153.1	372.9
Stream 01	2409.0	35.8	567.9	828.2	1697.0	238.8	857.7	382.0	5190.5	1280.0	933.5	927.9
Stream 02	2967.0	129.4	2757.3	824.2	1310.6	427.0	639.9	1235.1	3859.3	892.6	884.8	993.0
Stream 03	1986.6	572.2	279.3	1501.9	1280.1	418.8	987.0	355.5	5630.5	857.1	714.1	605.1
Stream 04	1792.1	39.8	1115.5	1055.4	1442.0	236.8	890.1	371.3	3808.0	1088.7	1032.5	1468.0
Stream 05	2939.6	305.0	659.3	1391.8	1159.7	131.7	796.7	400.8	5560.2	1844.3	784.4	1313.8
Minimum	1792.1	35.8	279.3	824.2	1159.7	131.7	639.9	355.5	3808.0	857.1	714.1	605.1
Average	2418.9	216.4	1075.9	1120.3	1377.9	290.6	834.3	548.9	4809.7	1192.5	869.9	1061.6
Maximum	2967.0	572.2	2757.3	1501.9	1697.0	427.0	987.0	1235.1	5630.5	1844.3	1032.5	1468.0

Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	406.3	36.8	57.7	138.2	47.9	847.0	94.3	96.3	1339.7	64.3	340.8	115.7
Stream 01	1540.9	67.5	648.8	519.2	899.1	4660.2	189.4	922.4	7465.2	95.9	34486.	129.7
Stream 02	1216.0	87.2	251.2	423.2	1615.8	4934.1	158.4	1841.3	6289.8	129.5	112.0	130.3
Stream 03	1050.2	118.1	2717.9	205.4	878.1	4191.9	374.7	454.3	9107.0	93.5	108.5	131.3
Stream 04	1654.5	109.2	2445.0	501.0	809.4	3066.0	1075.2	487.7	7236.2	97.8	108.1	130.4
Stream 05	1785.9	117.0	383.4	393.9	645.8	3663.1	108.2	669.0	8038.4	103.4	108.5	134.5
Minimum	1050.2	67.5	251.2	205.4	645.8	3066.0	108.2	454.3	6289.8	93.5	108.1	129.7
Average	1449.5	99.8	1289.3	408.5	969.6	4103.1	381.2	874.9	7627.3	104.0	6984.7	131.2
Maximum	1785.9	118.1	2717.9	519.2	1615.8	4934.1	1075.2	1841.3	9107.0	129.5	34486.	134.5