



**Sun Fire™ X4500 Server
with Sybase IQ 12.6 Single
Application Server**

TPC-H Rev. 2.6.1

Report Date: Oct 15, 2007

Total System Cost

Composite Query per Hour Metric

Price/Performance

\$45,439.50

5604.9
QphH@1000GB

\$8.11
per QphH@1000GB

Database Size

Database Manager

Operating System

Other Software

Availability Date

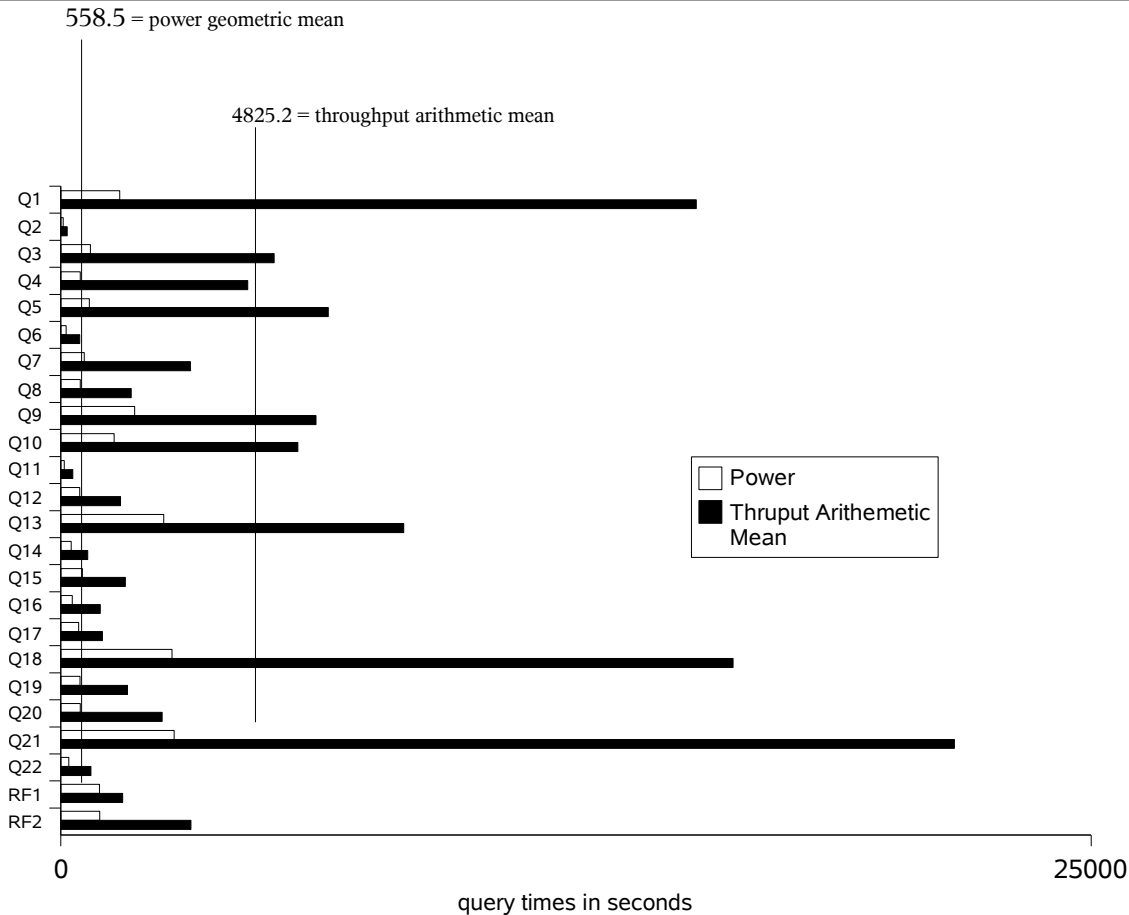
1000GB

**Sybase IQ 12.6
Single Application
Server**

Solaris 10

**Solaris Volume
Manager**

Oct 15, 2007



Database Load Time = 10:05:33

Load Includes Backup: N

Total Storage/Database Size=11.18

RAID (Base tables): RAID 1

RAID (Base tables and auxiliary data structures): RAID 1

RAID (All): N

System Configuration

Processors/Cores/Threads : 2/4/4 2.8GHz Dual Core AMD 290
 Memory : 16GB memory
 Internal Disks : 48 x 250GB 10k rpm SATA disks

Total Disk Storage

: 11175 GB
 (in this calculation 1 GB is defined as 1024 * 1024 * 1024)



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Description	Part Number	Source	Unit Price	Qty	Ext. Price	3 Yr. maint.
Server Hardware						
Sun Fire X4500 x64, 2xAMD Opteron Dual core 290 (2.8GHz/1MB) processor, 16GB PC3200 DDR1/400 (8x2GB) memory, 48 SATA 3.5 250GB 7200 RPM HDD						
	A76-PPZ2-16G-GMH		1 23,995.00	1	23,995.00	
Sun Fire X4500 Server upgrade to 3 year Gold support	W9D-A76-3G		1 7,236.00	1		7,236.00
Server discount			1	1	-2,399.50	.00
<i>Server Hardware Subtotal</i>					21,595.50	7,236.00
External Storage						
No external storage required						
Server Software						
Sybase IQ-M Single App Svr, per cpu core	12841		2 2,595.00	4	10,380.00	
Sybase IQ 3 Years Extended Support 24 x 7	98480		2 1,557.00	4		6,228.00
<i>Server Software Subtotal</i>					10,380.00	6,228.00
Total					31,975.50	13,464.00
3 Yr. Cost					45,439.50	
QphH @ 100GB					5,604.90	
\$/QphH @ 100GB					\$8.11	

Service for all Sun products is from Sun Microsystems, Inc.
Service for Sybase products is from Sybase Inc.

Notes (Source):

- Innovative Systems Design
- Sybase Inc.

PriceQuotes provided in Appendix G

Audited by: Brad Askins, InfoSizing, Inc. (www.sizing.com)

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the standard components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchase 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

Measurement Results:

Database Scale Factor	= 1000GB
Total Data Storage / Database Size	= 11.18
Start of database load time	= 2007-08-29 18:35:40
End of database load time	= 2007-08-30 04:41:13
Database Load Time	= 10:05:33
Query Streams for Throughput Test	= 7
TPC-H Power	= 6446.1
TPC-H Throughput	= 4873.5
TPC-H Composite Query-per-Hour Rating (QphH@1000GB)	= 5604.9
Total System Price Over 3 Years	= \$45,439.50
TPC-H Price/Performance Metric (\$/QphH@1000GB)	= \$8.11

Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 113,757 seconds
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Duration of Stream Execution:

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 0	830044113	2007-08-30	04:42:31	2007-08-30	10:27:16	5hrs:44mins:45secs
Stream 1	830044114	2007-08-30	10:27:18	2007-08-31	14:33:25	1day:4hrs:6mins:7secs
Stream 2	830044115	2007-08-30	10:27:18	2007-08-31	14:55:32	1day:4hrs:28mins:14secs
Stream 3	830044116	2007-08-30	10:27:18	2007-08-31	18:03:15	1day:7hrs:35mins:57secs
Stream 4	830044117	2007-08-30	10:27:18	2007-08-31	15:58:18	1day:5hrs:31mins
Stream 5	830044118	2007-08-30	10:27:18	2007-08-31	16:43:16	1day:6hrs:15mins:58secs
Stream 6	830044119	2007-08-30	10:27:18	2007-08-31	15:33:19	1day:5hrs:6mins:1min
Stream 7	830044120	2007-08-30	10:27:18	2007-08-31	15:48:52	1day:5hrs:21mins:34secs



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TPC-H Timing Intervals (in seconds)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Stream 00	1429.4	64.1	717.5	477.6	696	128.7	573.8	476.3	1795.3	1296	86.9	460.4
Stream 01	13746.8	105.7	10219.5	5266.4	2187.7	349.8	1473.7	1064.8	5843.1	3005.7	298.2	1442.1
Stream 02	14622.5	245.2	2375.8	3678.2	3825.4	598.6	2241.8	1954.8	7390.4	10417.7	276.5	1730.3
Stream 03	17590	175.6	742.7	5733.9	26126.6	562.8	5921.6	3309.2	5790.9	4025.4	258.5	525
Stream 04	17209.4	131.4	1988.3	4722.1	6172.2	489.4	1452.3	1221.3	8349.7	4794.9	358.6	2809.9
Stream 05	19721.7	144.1	6367.2	3785.8	2137.3	594.7	3448.2	1197.3	2201.6	2836.4	294.5	1323.5
Stream 06	12899.2	166.8	12732.8	3826.9	2690	446.9	3032.5	1945.1	7628.8	11412	326.3	1476.5
Stream 07	12158.1	118.4	1835.8	4770.6	2283.1	205.9	4440.1	1291	6169.5	3816.9	260.9	872.8
Minimum	12158.1	105.7	742.7	3678.2	2137.3	205.9	1452.3	1064.8	2201.6	2836.4	258.5	525.0
Average	15421.1	155.3	5180.3	4540.6	6488.9	464.0	3144.3	1711.9	6196.3	5758.4	296.2	1454.3
Maximum	19721.7	245.2	12732.8	5733.9	26126.6	598.6	5921.6	3309.2	8349.7	11412.0	358.6	2809.9

	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	2501.2	253.4	525.6	282.6	438.8	2699.8	469.2	472.8	2754.9	194.8	940	948.9
Stream 01	7060	507.3	1652.6	632.1	942.7	12614.5	1735.8	1191.3	29028.8	796.5	1986.1	13598
Stream 02	11574.7	968	1493.8	1829.8	1885.3	16516.5	2317.8	2362.7	13508.6	677.9	1435.5	1343.2
Stream 03	2551.8	661.2	1797.2	278.9	881.8	15101.9	602.7	2236.8	18058.7	823.2	1428.1	1389.9
Stream 04	10830.5	653.6	1488.6	864.7	816	12283.8	1746.8	780.6	26654.6	440.3	1320.2	1391.4
Stream 05	7332.8	812.4	1829.1	1780.9	1005.8	16634.3	1840	775.7	31993.5	899.9	1387.2	1502.8
Stream 06	11231.6	536.4	1717.4	836.2	591.9	13904.2	1632.4	973.7	14107.9	643.5	1522.8	1405.6
Stream 07	7699	449.4	988.7	511.7	949.7	27165.6	1482.2	8903.1	18459.8	860.7	1425.9	1476.3
Minimum	2551.8	449.4	988.7	278.9	591.9	12283.8	602.7	775.7	13508.6	440.3	1320.2	1343.2
Average	8325.8	655.5	1566.8	962.0	1010.5	16317.3	1622.5	2460.6	21687.4	734.6	1500.8	3158.2
Maximum	11574.7	968.0	1829.1	1829.8	1885.3	27165.6	2317.8	8903.1	31993.5	899.9	1986.1	13598.0