

**Sun Fire™ X4100 Server  
with Sybase IQ 12.6 Single  
Application Server**

TPC-H Rev. 2.3.0

Report Date: Jun 23, 2006

Total System Cost

Composite Query per Hour Metric

Price/Performance

\$19057.05

**4132.1**  
QphH@100GB

**\$4.61**  
per QphH@100GB

Database Size

Database Manager

Operating System

Other Software

Availability Date

**100GB**

**Sybase IQ 12.6  
Single Application  
Server**

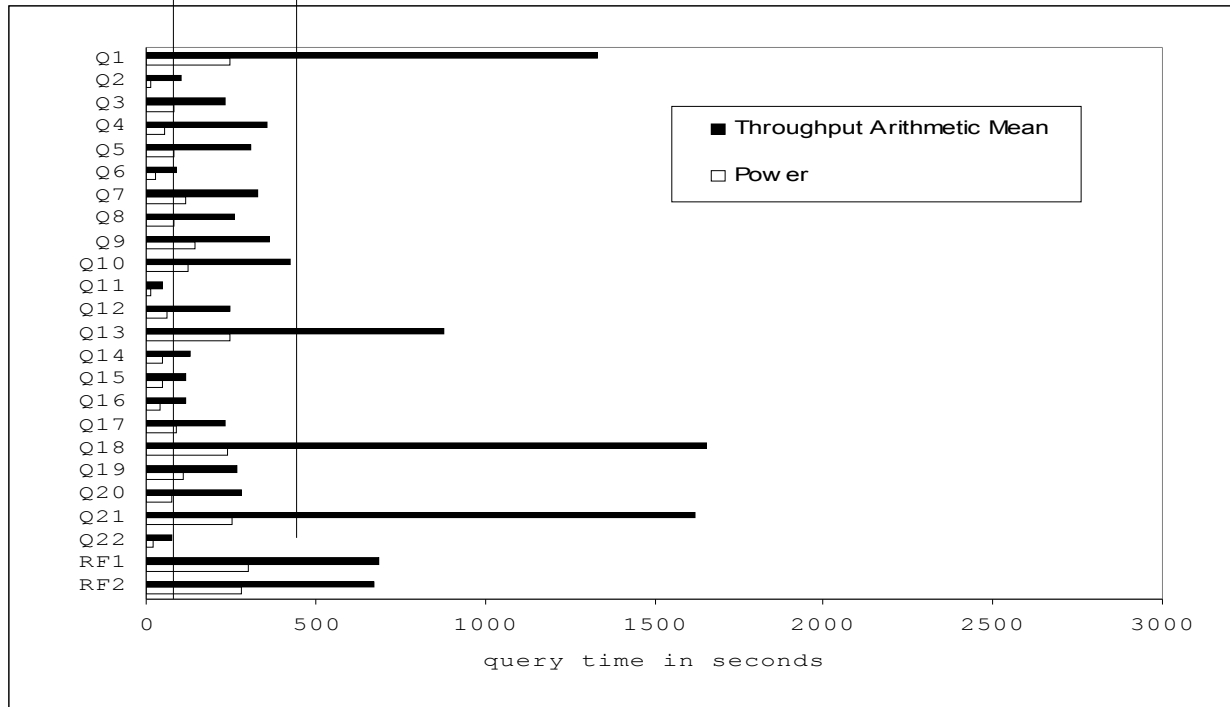
**Solaris 10**

**Solaris Volume  
Manager**

**Jun 23, 2006**

81.7 = power geometric mean

430.1 = throughput arithmetic mean



Database Load Time = 01:38:53

Load Includes Backup: N

Total Storage/Database Size=2.72

RAID (Base tables): RAID 1

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

RAID (All): N

**System Configuration:**

SunFire X4100 Server with

2 AMD Opteron 3.0GHz processors (each processor is 1 chip, 1 core, 1 thread)

16 GB memory

4 x 73 GB (10K RPM) internal SAS disks

**Total Storage:** 272 GB

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



**Sun Fire™ X4100 Server  
with Sybase IQ 12.6 Single  
Application Server**

TPC-H Rev. 2.3.0

Report Date: Jun 23, 2006

Description	Part Number	Source	Unit Price	Qty	Ext. Price	3 Yr. maint.
<b>Server Hardware</b>						
SunFire X4100 x64 Server: XATO base chassis	A64-ZD		1,495.00	1	1,495.00	
73GB 10K RPM 2.5" SAS hard disk drive	RA-SS2CD-73G10KZ		445.00	4	1,780.00	
AMD Opteron 256 (3.0 Ghz/1MB) processor	8035A-Z		995.00	2	1,990.00	
4GB Memory kit DDR1-400	8023A-Z		1,090.00	4	4,360.00	
X4100 Server upgrade to 3 year Gold Warranty Upgrade	W9D-A64-3G		2,772.00	1		2,772.00
Sun Discount				1	-673.75	-970.20
<i>Server Hardware Subtotal</i>					8,951.25	1,801.80
<b>External Storage</b>						
None						
<b>Server Software</b>						
Sybase IQ-M Single App Svr, per cpu core	12841		2,595.00	2	5,190.00	
Sybase IQ 3 Years Extended Support 24 x 7	98480		1,557.00	2		3,114.00
Sybase Discount				2	0.00	
<i>Server Software Subtotal</i>					5,190.00	3,114.00
<b>Total</b>					14,141.25	4,915.80
<b>3 Yr. Cost</b>					19,057.05	
<b>QphH@ 1000GB</b>					4,132.10	
<b>\$/QphH@ 100GB</b>					\$4.61	

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

Service for Sybase products is from Sybase Inc.

**Notes (Source):**

1. Sun Microsystems Inc.
2. 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.



**Sun Fire™ X4100 Server  
with Sybase IQ 12.6 Single  
Application Server**

TPC-H Rev. 2.3.0

Report Date: Jun 23, 2006

**Numerical Quantities**

**Measurement Results:**

Database Scale Factor	= 100GB
Total Data Storage / Database Size	=2.72
Start of database load time	= 2006-05-31 05:31:09
End of database load time	= 2006-05-31 07:10:02
Database Load Time	= 01:38:53
Query Streams for Throughput Test	= 5
TPC-H Power	= 4408.6
TPC-H Throughput	= 3872.9
TPC-H Composite Query-per-Hour Rating (QphH@100GB)	= 4132.1
Total System Price Over 3 Years	= \$19057.05
TPC-H Price/Performance Metric (\$/QphH@100GB)	= \$4.61

**Measurement Intervals:**

Measurement Interval in Throughput Test (Ts)	= 10,225 seconds
--	------------------

**Duration of Stream Execution:**

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 0	531071002	2006-05-31	10:44:31	2006-05-31	11:31:21	46mins:50secs
Stream 1	531071003	2006-05-31	11:31:22	2006-05-31	13:57:42	2hrs:26mins:20secs
Stream 2	531071004	2006-05-31	11:31:22	2006-05-31	14:18:40	2hrs:47mins:18secs
Stream 3	531071005	2006-05-31	11:31:22	2006-05-31	14:02:27	2hrs:31mins:5secs
Stream 4	531071006	2006-05-31	11:31:22	2006-05-31	14:04:58	2hrs:33mins:36secs
Stream 5	531071007	2006-05-31	11:31:22	2006-05-31	14:21:47	2hrs:50mins:25secs
Refresh		2006-05-31	11:31:22	2006-05-31	14:09:45	2hrs:38mins:23secs



**Sun Fire™ X4100 Server  
with Sybase IQ 12.6 Single  
Application Server**

TPC-H Rev. 2.3.0

Report Date: Jun 23, 2006

**TPC-H Timing Intervals (in seconds)**

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Stream 00	248.8	14.3	79.0	55.3	80.5	27.9	115.2	82.8	145.7	125.0	12.7	59.6
Stream 01	706.1	110.7	222.3	338.2	288.0	54.9	248.8	224.8	364.2	441.9	34.8	140.4
Stream 02	2263.9	59.7	230.4	445.5	209.8	137.9	250.6	201.1	508.1	554.2	24.6	436.6
Stream 03	864.1	25.4	267.8	408.9	402.8	101.0	306.2	501.4	424.9	388.7	43.7	279.8
Stream 04	1692.0	193.8	233.6	269.0	425.1	54.5	428.6	214.8	368.3	555.8	89.4	291.7
Stream 05	1123.9	129.5	210.3	320.7	207.4	84.2	421.5	162.2	164.8	189.7	37.9	74.2
Minimum	706.1	25.4	210.3	269.0	207.4	54.5	248.8	162.2	164.8	189.7	24.6	74.2
Average	1330.0	103.8	232.9	356.5	306.6	86.5	331.1	260.9	366.1	426.1	46.1	244.6
Maximum	2263.9	193.8	267.8	445.5	425.1	137.9	428.6	501.4	508.1	555.8	89.4	436.6

	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream 00	244.2	50.5	44.7	38.7	87.6	239.2	112.0	77.4	257.4	19.6	303.1	284.1
Stream 01	510.3	109.8	74.8	53.6	169.0	1510.6	218.0	121.3	2805.1	30.7	783.6	699.3
Stream 02	699.4	123.3	166.9	121.7	476.1	1532.4	356.4	399.4	757.4	80.0	910.6	743.6
Stream 03	1055.8	165.6	105.9	121.0	215.3	1734.2	256.9	450.4	820.0	120.1	510.4	586.4
Stream 04	926.8	138.9	85.6	120.4	200.1	1587.3	272.3	318.1	679.0	70.6	489.4	592.7
Stream 05	1204.7	110.5	152.2	156.7	102.2	1891.5	239.4	105.6	3054.3	78.5	736.3	734.7
Minimum	510.3	109.8	74.8	53.6	102.2	1510.6	218.0	105.6	679.0	30.7	489.4	586.4
Average	879.4	129.6	117.1	114.7	232.5	1651.2	268.6	279.0	1623.1	76.0	686.1	671.3
Maximum	1204.7	165.6	166.9	156.7	476.1	1891.5	356.4	450.4	3054.3	120.1	910.6	743.6