



# CPI Phoenix IQ-201 using EXASolution 2.0

TPC-H Rev. 2.6.0

Report Date  
**January 14, 2008**

Total System Cost

Composite Query per Hour Metric

Price / Performance

**\$ 261,623**

**209,298.9**  
QphH@100GB

**\$ 1.25**  
\$ / QphH@100GB

Database Size

Database Manager

Operating System

Other Software

Availability Date

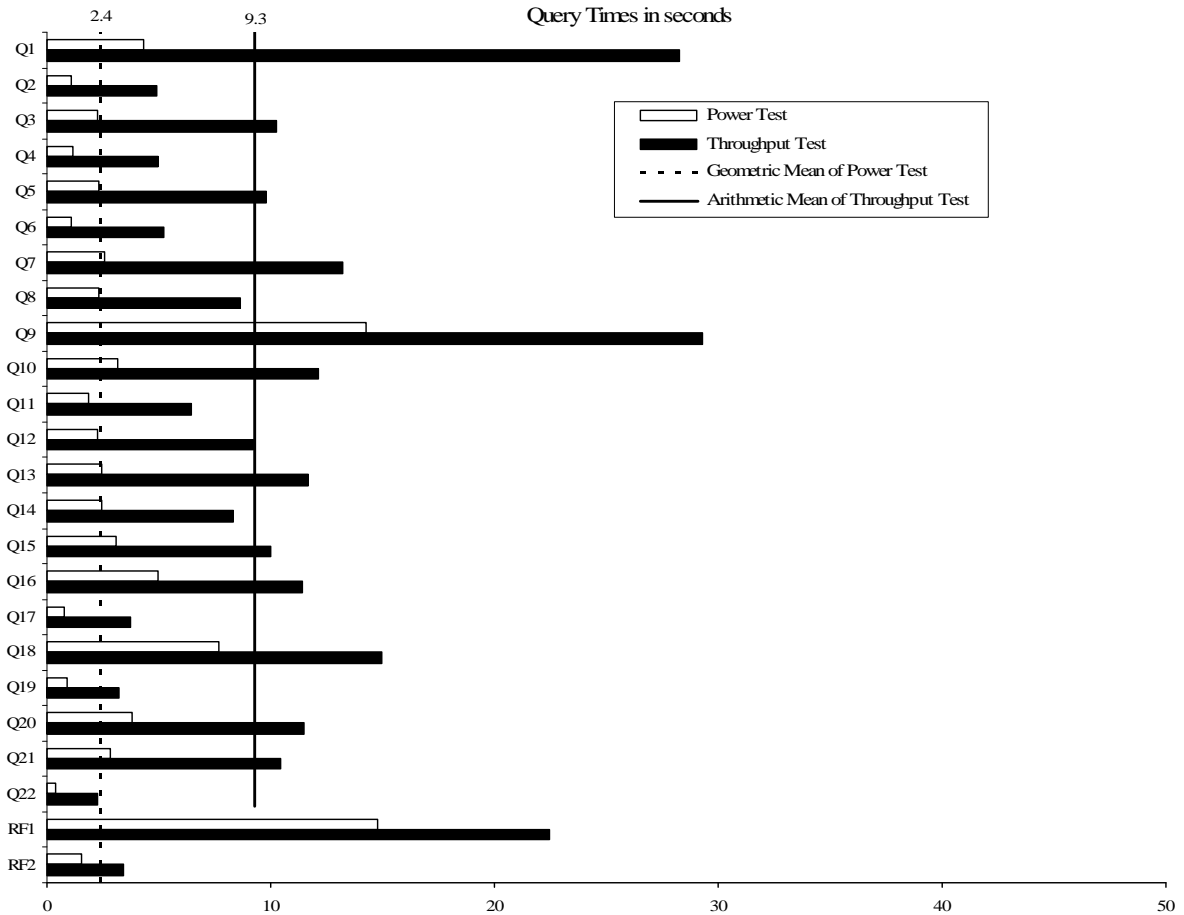
**100 GB**

**EXASolution 2.0**

**EXACluster OS 1.3**

**C++ Compiler**

**January 14, 2008**



Database Load Time = 0.70

Included Backup: N

Data Storage / Database Size = 32.63

RAID (Base tables only): Y

RAID (Base tables and auxiliary data structures): Y

RAID (All): Y

### System Configuration:

- 12 x CPI Phoenix IQ-201 server, each with:
  - 2 Intel XEON X5365 QC 3.0 GHz processors (each is 1 chip, 4 cores, 4 threads)
  - 8 GB RAM
  - 2x 146 GB (10k rpm) internal SATA disks

**Total Storage:** 3,263 GB  
(1 GB = 1024 \* 1024 \* 1024 bytes)



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Description	Part Number	Pricing	Unit Price	Qty	Extended Price	3 yr. Maint. Price
<b>System Hardware</b>						
CPI-Phoenix-Server						
2x 3.0 Ghz Quadcore CPUs (Intel® Xeon 5365)						
16 FBDIMM-Slots						
12x 3.5" SAS/S-ATA HotSwap Slots						
2x Ethernet Ports GBit						
1x IPMI 2.0 Server Management						
2GB FBDIMM-667MHz	RAM-02	1	158	48+5	8,374	(5 spares)
3Ware 4 Port SATA Controller (+BBU incl.)	CTR-04	1	613	24+3	16,551	(3 spares)
150 GB S-ATA150 10.000 rpm	HD-150	1	253	24+3	6,831	(3 spares)
Ethernet Cable (RJ45 Cat-5E) 7 feet	CBL-07	1	7	24+3	189	(3 spares)
On-site replenishment within 7 days throughout the 3-year maintenance period	SUP-01	1	Incl.	-	-	-
CPI Server Discount (18%)					-19,431	
HP ProCurve 5406zl + redundant power supply (1000Base-T Ethernet Switch, 48 ports)	HPE-048	1	6,255	1	6,255	
HP 3 year 24x7, 4 hours Chassis 6 HW Support	HPE-048-SUP	1				1,582
				<b>Subtotal</b>	<b>\$ 94,775</b>	<b>1,582</b>

## Storage

No external storage required

## Software

EXASolution 2.0 licence for 3 years	EXA-12N-8G	2		1	176,002	
EXASOL Discount (10%)		2			-17,600	
EXASOL Premium Support (3.9%)	EXA-SUP-P	2				6,864
				<b>Subtotal</b>	<b>\$ 158,402</b>	<b>\$ 6,864</b>
				<b>Total</b>	<b>\$ 253,177</b>	<b>\$ 8,446</b>

**3-Year Cost of Ownership \$ 261,623**

**QphH Rating: 209,298.9**

**\$/QphH@100GB: 1.25**

Price Key: 1-CPI, contact: Peter Markgraf, pmarkgraf@cpigmbh.de  
2-EXASOL, contact: Olga Sapozhnykova, sales@exasol.com

All discounts are based on list prices and for similar quantities and configurations.

Results independently audited by: Francois Raab of 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 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.



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**Numerical Quantities**

**Measurement Results**

Database Scale Factor	100 GB
Total Data Storage / Database Size	32.63
Start of Database Load	09:58:22
End of Database Load	10:40:07
Database Load Time	41m 45 s
Query Streams for Throughput Test	9
TPC-H Power	145,109.6
TPC-H Throughput	295,767.6
TPC-H Composite Query-per-Hour Metric (QphH@100GB)	209,298.9
Total System Price Over 3 Years	\$261,623
TPC-H Price/ Performance Metric (\$/QphH@100GB)	\$1.25

**Measurement Interval**

Measurement Interval in Throughput Test (Ts)	241 seconds
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**Duration of Stream Execution**

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 0	111104007	2008-01-11	10:45:53	2008-01-11	10:47:18	1 mins:25secs
Stream 1	111104008	2008-01-11	10:47:19	2008-01-11	10:51:04	3 mins:45secs
Stream 2	111104009	2008-01-11	10:47:20	2008-01-11	10:51:06	3 mins:46secs
Stream 3	111104010	2008-01-11	10:47:20	2008-01-11	10:51:12	3 mins:52secs
Stream 4	111104011	2008-01-11	10:47:20	2008-01-11	10:51:17	3 mins:57secs
Stream 5	111104012	2008-01-11	10:47:21	2008-01-11	10:51:00	3 mins:39secs
Stream 6	111104013	2008-01-11	10:47:22	2008-01-11	10:51:13	3 mins:51secs
Stream 7	111104014	2008-01-11	10:47:22	2008-01-11	10:51:15	3 mins:53secs
Stream 8	111104015	2008-01-11	10:47:26	2008-01-11	10:51:20	3 mins:54secs
Stream 9	111104016	2008-01-11	10:47:27	2008-01-11	10:51:20	3 mins:53secs
Refresh		2008-01-11	10:47:19	2008-01-11	10:51:18	3mins:59secs



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

Query	Power	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5	Stream 6	Stream 7	Stream 8	Stream 9	Min S <sub>i</sub>	Avg S <sub>i</sub>	Max S <sub>i</sub>
1	4.3	26.8	26.5	30.2	27.0	28.0	28.2	29.2	31.4	27.1	26.5	28.3	31.4
2	1.1	4.9	4.3	5.1	4.8	4.8	5.0	3.4	6.2	5.8	3.4	4.9	6.2
3	2.2	10.7	10.8	9.1	10.2	9.8	10.8	10.3	10.9	9.9	9.1	10.3	10.9
4	1.2	4.9	4.8	6.0	4.0	5.1	4.4	5.1	4.9	5.1	4.0	4.9	6.0
5	2.3	10.1	10.2	10.5	9.1	10.3	8.9	8.3	11.9	9.2	8.3	9.8	11.9
6	1.1	6.0	2.4	4.9	5.5	4.9	5.0	6.6	5.9	5.6	2.4	5.2	6.6
7	2.6	12.0	17.3	13.1	14.1	10.9	12.2	12.9	14.1	12.7	10.9	13.2	17.3
8	2.3	9.6	8.1	7.8	9.7	6.4	8.0	9.9	8.5	9.9	6.4	8.7	9.9
9	14.3	24.8	26.0	26.7	30.0	27.6	30.4	32.3	33.1	32.7	24.8	29.3	33.1
10	3.2	12.0	9.2	11.8	11.8	12.0	13.2	13.4	12.0	13.8	9.2	12.1	13.8
11	1.9	8.5	6.6	6.0	7.7	6.1	8.9	5.3	2.1	7.1	2.1	6.5	8.9
12	2.2	9.2	7.2	9.3	9.8	10.2	9.4	8.8	10.1	8.8	7.2	9.2	10.2
13	2.5	11.8	11.7	12.0	11.8	12.1	11.1	11.5	11.6	11.6	11.1	11.7	12.1
14	2.4	6.6	7.4	9.3	8.3	9.0	9.0	9.0	8.0	8.4	6.6	8.3	9.3
15	3.1	11.2	9.9	9.7	11.5	7.8	9.9	7.9	9.6	12.5	7.8	10.0	12.5
16	5.0	11.4	13.2	11.2	12.9	12.3	12.7	11.9	11.7	5.6	5.6	11.4	13.2
17	0.8	5.0	3.0	4.0	3.3	3.8	3.1	4.7	2.4	4.2	2.4	3.7	5.0
18	7.7	15.1	16.6	16.1	16.2	14.3	15.2	14.8	11.4	14.8	11.4	15.0	16.6
19	0.9	2.7	3.0	3.5	3.4	3.0	4.1	2.4	3.1	3.6	2.4	3.2	4.1
20	3.8	13.7	12.6	12.3	9.5	10.5	12.4	10.9	9.9	11.8	9.5	11.5	13.7
21	2.8	5.6	13.1	11.0	13.3	8.0	7.3	11.7	12.9	11.1	5.6	10.4	13.3
22	0.4	2.6	2.1	2.5	2.7	1.9	2.1	2.6	1.8	1.8	1.8	2.2	2.7
RF1	14.8	25.9	21.1	22.3	21.7	22.7	22.2	22.8	22.0	21.3	21.1	22.5	25.9
RF2	1.5	3.9	4.0	4.1	3.9	4.0	4.2	4.8	0.0	2.1	0.0	3.4	4.8