



Cisco UCS C250 M2 Extended-Memory Server

TPC-H Rev. 2.14.0
TPC-Pricing Rev. 1.6.0

Report Date:
February 13, 2012

Total System Cost

Composite Query per Hour Metric

Price / Performance

\$110,951 USD

331,658.1
QphH@300GB

\$0.34 USD
\$/ QphH@300GB

Database Size

Database Manager

Operating System

Other Software

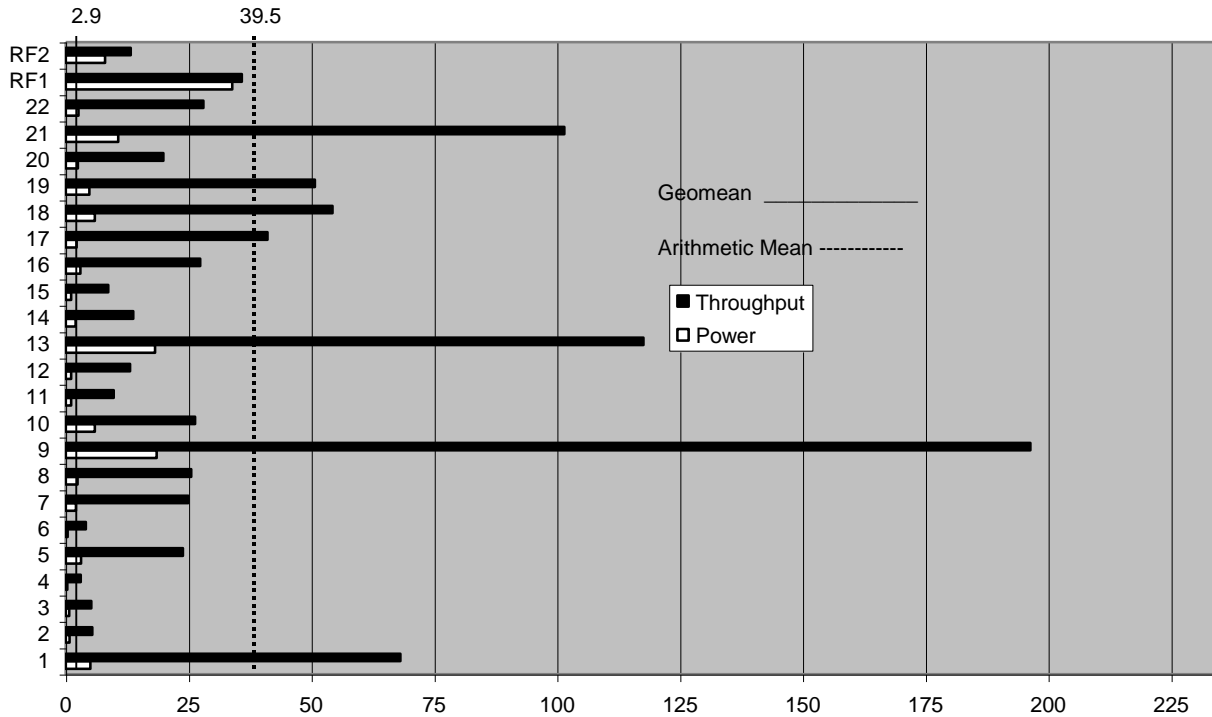
Availability Date

300GB

VectorWise 2.0.1

RedHat Enterprise Linux 6.0

February 13,
2012



Database Load Time = 3:45:58

Storage Redundancy Level

Load Includes Backup: N

Base Tables and Auxiliary Data Structures

5

Total Data Storage / Database Size = 3.89

DBMS Temporary Space

5

Percentage Memory / Database Size = 126

OS and DBMS Software

5

System Configuration:

Cisco UCS C250 M2 Extended-Memory Server

Memory: 384 GB

Disk Controller: LSI MegaRAID SAS 9261-8i

Storage: 8 x 146GB 6Gb SAS 15K RPM SFF HDD

Total Storage: 1.17 TB

LAN Controller: 4 x Integrated 1Gb Ethernet ports



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Description	Part Number	Brand	Source	Unit Price	Qty	Extended Price	3 Year Maint. Price
Server Hardware							
UCS C250 M2 Srvr w/1PSU,DVD w/o CPU, mem, HDD, or PCIe card	R250-2480805W	Cisco	1	\$4,687	1	\$4,687	
Intel Xeon X5690 3.46GHz/6c/130W/12M/DDR3 1333MHz	A01-X0115	Cisco	1	\$4,686	2	\$9,372	
16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB 2R Kit	A02-M316GB1-2-L	Cisco	1	\$870	24	\$20,880	
850W power supply for the UCS C250 M2	R250-PSU2-850W	Cisco	1	\$560	1	\$560	
LSI 6G MegaRAID 9261-8i card (RAID 0,1,5,6,10,60) - 512WC	R2XX-PL003	Cisco	1	\$1,591	1	\$1,591	
146GB 6Gb SAS 15K RPM SFF HDD	A03-D146GA2	Cisco	1	\$561	8	\$4,488	
MS Comfort Curve DT 3000 USB-EN NA Keyboard & Mouse	7ZJ-00001	Provantage	3	\$18	1	\$18	
V173DJb LCD Monitor	ET-BV3RP-D03	Provantage	3	\$90	1	\$90	
Cisco R42610 expansion rack	RACK-UCS	Cisco	1	\$2,857	1	\$2,857	
C250 24x7x4Hr Onsite Support Service	CON-UCS7-R250W	Cisco	1	\$566	3		\$1,698
						Subtotal	\$44,543 \$1,698
Large Purchase Discount ¹		57.0% Cisco	1				-\$25,390
						Hardware Subtotal	\$19,153 \$1,698
Software							
VectorWise 2.0 3-Y License	VW-3Y-GB-CISCO	Action	2	\$250	300	\$75,000	
VectorWise 2.0 1-Y Maintenance Bug Fixes	VW-3Y-GB-CISCO-SUP	Action	2	\$25	900		\$22,500
Vectorwise Discount		10.0% Action	2			-\$7,500	-\$2,250
RHEL 1-2 SKT 24x7 3 Year RHN SW		Cisco	1	\$2,349	1	\$2,349	\$2,349
						Subtotal	\$67,500 \$22,599
						Total	\$86,653 \$24,297

Pricing: 1=Cisco 800-553-6387 2=Action 3=Provantage; i-For all items source 1 except support services

Audited by Lorna Livingtree of Performance Metrics, Inc.

All discounts are based on US list prices and for similar quantities and configurations. The discounts are based on the overall specific components pricing from respective vendors in this single quotation. Discounts for similarly sized configurations will be similar to those quoted here, but may vary based on the components in the configuration.

Three-Year Cost of Ownership: \$110,951 USD

QphH: 331,658.1

\$ / QphH: \$0.34 USD

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 at pricing@tpc.org. Thank you.



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Measurement Results

Database Scaling (SF/Size)	300
Total Data Storage/Database Size	3.89
Percentage Memory/Database Size	126%
Start of Database Load Time	12/28/11 20:35:37
End of Database Load Time	12/29/11 00:21:35
Database Load Time	3:45:58
Query Streams for Throughput Test (S)	11
TPC-H Power	376,252.7
TPC-H Throughput	292,349.0
TPC-H Composite	331,658.1
Total System Price Over 3 Years	\$110,951 USD
TPC-H Price/Performance Metric (\$/QpH@300GB)	\$0.34 USD

Measurement Interval

Measurement Interval in Throughput Test (Ts)	894
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Duration of stream execution:

Power Run	Seed	Query Start Time	Duration(sec)	RF1 Start Time	RF 2 Start Time
		Query End Time		RF1 End Time	RF 2 End Time
	1229002135	12/29/2011 04:00:23	94.0	12/29/2011 03:59:49	12/29/2011 04:01:57
		12/29/2011 04:01:57		12/29/2011 04:00:23	12/29/2011 04:02:05
Throughput Streams	Seed	Query Start Time	Duration(sec)	RF1 Start Time	RF 2 Start Time
		Query End Time		RF1 End Time	RF 2 End Time
1	1229002136	12/29/2011 04:02:09	835.3	12/29/2011 04:02:09	12/29/2011 04:03:03
		12/29/2011 04:16:04		12/29/2011 04:03:03	12/29/2011 04:03:16
2	1229002137	12/29/2011 04:02:09	866.7	12/29/2011 04:03:16	12/29/2011 04:03:44
		12/29/2011 04:16:35		12/29/2011 04:03:44	12/29/2011 04:03:56
3	1229002138	12/29/2011 04:02:09	877.1	12/29/2011 04:03:56	12/29/2011 04:04:24
		12/29/2011 04:16:46		12/29/2011 04:04:24	12/29/2011 04:04:40
4	1229002139	12/29/2011 04:02:09	878.7	12/29/2011 04:04:40	12/29/2011 04:05:10
		12/29/2011 04:16:47		12/29/2011 04:05:10	12/29/2011 04:05:22
5	1229002140	12/29/2011 04:02:09	866.5	12/29/2011 04:05:22	12/29/2011 04:05:50
		12/29/2011 04:16:35		12/29/2011 04:05:50	12/29/2011 04:06:03
6	1229002141	12/29/2011 04:02:09	894.1	12/29/2011 04:06:04	12/29/2011 04:06:32
		12/29/2011 04:17:03		12/29/2011 04:06:32	12/29/2011 04:06:45
7	1229002142	12/29/2011 04:02:09	851.9	12/29/2011 04:06:45	12/29/2011 04:07:15
		12/29/2011 04:16:21		12/29/2011 04:07:15	12/29/2011 04:07:29
8	1229002143	12/29/2011 04:02:09	849.9	12/29/2011 04:07:29	12/29/2011 04:08:16
		12/29/2011 04:16:19		12/29/2011 04:08:16	12/29/2011 04:08:30
9	1229002144	12/29/2011 04:02:09	871.1	12/29/2011 04:08:30	12/29/2011 04:09:01
		12/29/2011 04:16:40		12/29/2011 04:09:01	12/29/2011 04:09:14
10	1229002145	12/29/2011 04:02:09	880.3	12/29/2011 04:09:14	12/29/2011 04:09:44
		12/29/2011 04:16:49		12/29/2011 04:09:44	12/29/2011 04:09:58
11	1229002146	12/29/2011 04:02:09	884.3	12/29/2011 04:09:58	12/29/2011 04:10:28
		12/29/2011 04:16:53		12/29/2011 04:10:28	12/29/2011 04:10:42



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Stream ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
0	5.0	0.8	0.7	0.3	3.1	0.4	2.1	2.4	18.5	5.9	1.1	1.1
1	60.4	6.7	5.8	2.7	28.1	5.1	26.1	21.8	161.0	35.7	13.6	16.0
2	64.9	6.7	3.9	2.6	25.7	0.6	21.9	27.6	217.4	35.9	6.2	11.0
3	69.3	4.0	1.3	4.3	23.7	4.9	28.2	31.8	225.0	21.4	6.2	11.0
4	58.4	4.3	3.1	2.6	34.1	6.0	22.0	21.2	229.8	22.4	6.3	15.0
5	60.9	4.0	3.5	3.2	22.6	5.6	25.3	20.4	163.4	19.6	12.5	11.0
6	61.2	4.4	16.5	3.5	19.7	4.3	28.7	27.4	224.4	36.2	12.2	11.2
7	90.5	5.7	3.3	3.1	25.1	4.1	22.8	23.1	209.8	21.3	14.4	12.1
8	75.3	4.3	7.1	3.0	27.8	3.7	32.9	23.9	220.5	21.0	5.4	14.1
9	59.9	9.1	3.3	2.6	20.2	5.5	21.7	33.6	162.5	25.0	14.3	12.5
10	74.1	5.7	4.0	2.6	5.4	2.1	25.8	17.9	159.0	20.1	5.8	16.1
11	74.1	4.3	5.6	3.7	29.9	3.4	19.0	32.5	187.1	31.2	10.7	14.2
Minimum	5.0	0.8	0.7	0.3	3.1	0.4	2.1	2.4	18.5	5.9	1.1	1.1
Maximum	90.5	9.1	16.5	4.3	34.1	6.0	32.9	33.6	229.8	36.2	14.4	16.1
Average	62.8	5.0	4.8	2.9	22.1	3.8	23.0	23.6	181.5	24.6	9.1	12.1
Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
0	18.2	2.0	1.1	3.0	2.2	5.9	4.8	2.5	10.7	2.6	33.9	8.0
1	142.6	10.0	10.0	31.7	41.2	60.8	46.7	22.4	58.9	28.1	54.4	12.6
2	89.5	14.3	9.3	35.5	52.1	49.2	55.1	19.5	85.5	32.5	28.1	11.9
3	115.6	10.7	7.6	20.9	42.2	58.2	47.9	16.6	91.6	35.1	27.9	16.1
4	104.7	19.2	10.6	23.2	41.3	49.2	51.4	13.6	119.2	21.3	30.2	11.7
5	132.8	16.6	9.5	33.6	30.2	60.2	59.8	17.2	124.8	29.7	28.3	13.0
6	126.9	10.2	9.4	24.6	41.0	49.4	47.5	19.4	86.3	29.8	27.9	13.3
7	87.6	9.0	6.1	25.2	40.7	34.0	45.2	22.2	117.5	29.3	29.8	14.2
8	104.9	15.9	9.4	24.3	44.2	47.7	23.9	21.7	94.7	24.2	47.0	14.0
9	130.4	10.2	7.4	21.3	39.8	65.6	61.9	21.4	124.7	18.1	30.7	13.6
10	140.0	9.9	11.8	23.5	40.0	64.4	74.5	20.0	126.7	31.0	29.8	13.5
11	118.8	25.2	4.4	37.4	39.1	58.9	43.8	24.7	86.8	29.5	30.0	14.1
Minimum	18.2	2.0	1.1	3.0	2.2	5.9	4.8	2.5	10.7	2.6	27.9	8.0
Maximum	142.6	25.2	11.8	37.4	52.1	65.6	74.5	24.7	126.7	35.1	54.4	16.1
Average	109.3	12.8	8.1	25.4	37.8	50.3	46.9	18.4	94.0	25.9	33.2	13.0