



# Cisco UCS C240 M3 Server

TPC-H Rev. 2.17.0  
 TPC-Pricing Rev. 2.0.0

Report Date:  
 August 20, 2014

Total System Cost

Composite Query per Hour Metric

Price / Performance

**\$221,937 USD**

**304,361.7**  
 QphH@1000GB

**\$0.73 USD**  
 \$ / QphH@1000GB

Database Size

Database Manager

Operating System

Other Software

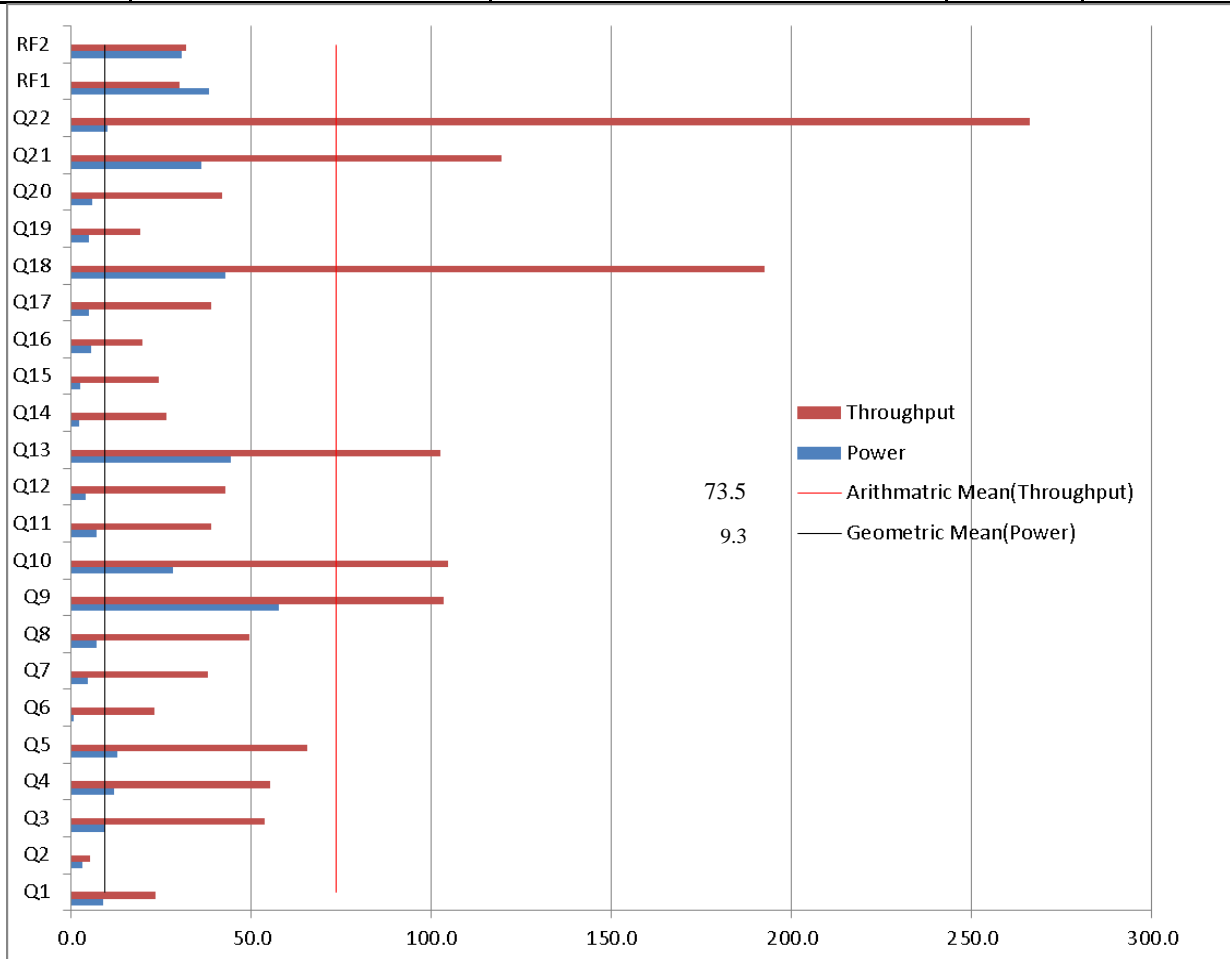
Availability Date

**1000GB**

**Microsoft SQL Server  
 2014 Enterprise Edition**

**Windows 2012 R2 Standard  
 Edition**

**August 20,  
 2014**



Database Load Time = 05h 08m 27s

### Storage Redundancy Level

Load Includes Backup: Y

Base Tables and Auxiliary Data Structures

0

Total Data Storage / Database Size = 7.2

DBMS Temporary Space

0

Percentage Memory / Database Size = 76.8%

OS and DBMS Software

1

### System Configuration:

**Cisco UCS C240 M3 Server**

Processors/Cores/Threads/Model: 2/20/40 Intel Xeon E5-2690 v2 Processor (3 GHz, 25MB cache, 130W)  
 Memory: 768 GB

Storage: 14 x 400GB 2.5 inch Enterprise Performance SAS SSD  
 2 x 800GB 2.5 inch Enterprise Performance SAS SSD

Table Storage: 7.2 TB

Cisco	Cisco UCS C240 M3 Server				TPC-H Rev. 2.17.0			
					TPC-Pricing Rev. 2.0.0			
					Report Date:		20-Aug-2014	
Description	Part Number	Brand	Source	Unit Price	Qty	Extended Price	3 Year Maint. Price	
<b>Server Hardware</b>								
UCS C240 M3 SFFw/oExpdr CPU mem HD PCIe PSUw/rail kit	UCSC-C240-M3S2	Cisco		1	3,140.00	1	\$3,140	
ONSITE 24X7X4 UCS C240 M3 SFFw/oCP	CON-OSP-C240M3S2	Cisco		1	1,704.00	1		\$1,704
3.00 GHz E5-2690 v2/130W 10C/25MB Cache/DDR3 1866MHz	UCS-CPU-E52690B	Cisco		1	6,103.00	2	\$12,206	
32GB DDR3-1866-MHz LRDIMM/PC3-14900/quad rank/x4/1.5v	UCS-ML-1X324RZ-A	Cisco		1	2,045.00	24	\$49,080	
400GB 2.5 inch Enterprise Performance SAS SSD	UCS-SD400G0KS2-EP	Cisco		1	6,802.00	14	\$95,228	
800GB 2.5 inch Enterprise Performance SAS SSD	UCS-SD800G0KS2-EP	Cisco		1	13,731.30	2	\$27,463	
MegaRAID 9271CV with 8 internal SAS/SATA ports with Supercap	UCS-RAID9271CV-8I	Cisco		1	1,686.00	2	\$3,372	
2U Rail Kit for UCS C-Series servers	UCSC-RAIL-2U	Cisco		1	0.00	1	\$0	
Heat Sink for UCS C240 M3 Rack Server	UCSC-HS-C240M3	Cisco		1	0.00	2	\$0	
Full height PCIe filler for C-Series	UCSC-PCIF-01F	Cisco		1	0.00	3	\$0	
Power Cord 200/240V 6A North America	CAB-N5K6A-NA	Cisco		1	0.00	2	\$0	
650W power supply for C-series rack servers	UCSC-PSU-650W	Cisco		1	630.00	2	\$1,260	
Cisco R42610 expansion rack no side panels	RACK-UCS	Cisco		1	\$2,857	1	\$2,857	
IOGEAR GKM502 Compact Wired Keyboard and Mouse Combo	GKM502	Provantage		3	\$11	1	\$11	
ASUS 19.5" VS207D-P Widescreen LED 1600x900 VGA	VS207D-P	Provantage		3	\$88	1	\$88	
					Subtotal		\$194,704	\$1,704
Large Purchase Discount <sup>1</sup>	57.0% Cisco			1			-\$110,925	-\$971
					Hardware Subtotal		\$83,779	\$733
<b>Software</b>								
SQL Server 2014 Enterprise Edition	7JQ-00750	Microsoft		2	\$13,473	10	\$134,725	
Windows Server 2012 R2 Standard Edition 2 Processor License	P73-06284	Microsoft		2	\$735	1	\$735	
Windows Server 2012 R2 Client Access License	R18-04280	Microsoft		2	\$24	70	\$1,705	
Microsoft Problem Resolution Services	NA	Microsoft		2	\$259	1	\$259	\$259
					Software Subtotal		\$137,165	\$259
					Total		\$220,944	\$992
Pricing: 1=Cisco 2=Microsoft;						<b>Three-Year Cost of Ownership:</b>		<b>\$221,937 USD</b>
Audited by Francois Raab from InfoSizing, Inc. (sizing.com)						<b>QphH:</b>		<b>304,361.7</b>
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.						<b>\$ / QphH:</b>		<b>\$0.73 USD</b>
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.								

<b>Cisco</b>	<b>Cisco UCS C240 M3 Server</b>	TPC-H Rev. 2.17.0 TPC-Pricing Rev. 2.0.0
		Report Date August 20, 2014

### Measurement Results

Database Scaling (SF/Size)	1,000
Total Data Storage/Database Size	7.2
Percentage Memory/Database Size	76.8
Start of Database Load Time	08/06/2014 11:31:55
End of Database Load Time	08/06/2014 16:40:22
Database Load Time	05h 08m 27s
Query Streams for Throughput Test (S)	7
TPC-H Power	386,150.70
TPC-H Throughput	239,896.10
TPC-H Composite	304,361.70
Total System Price Over 3 Years	\$221,937
TPC-H Price/Performance Metric (\$/QphH@3000GB)	\$0.73

### Measurement Interval

Measurement Interval in Throughput Test (Ts)	2,311
--	-------

### Duration of throughput stream execution:

Power Run	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
	806164022	2014-08-06 16:56:06	316	2014-08-06 16:55:28	2014-08-06 17:01:23
		2014-08-06 17:01:22		2014-08-06 16:56:06	2014-08-06 17:01:53

Stream	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
1	806164023	2014-08-06 17:01:52	1446	2014-08-06 17:33:14	2014-08-06 17:33:46
		2014-08-06 17:25:58		2014-08-06 17:33:46	2014-08-06 17:34:18
2	806164024	2014-08-06 17:01:52	1206	2014-08-06 17:34:18	2014-08-06 17:34:45
		2014-08-06 17:21:58		2014-08-06 17:34:45	2014-08-06 17:35:16
3	806164025	2014-08-06 17:01:52	1882	2014-08-06 17:35:16	2014-08-06 17:35:44
		2014-08-06 17:33:14		2014-08-06 17:35:44	2014-08-06 17:36:16
4	806164026	2014-08-06 17:01:52	1223	2014-08-06 17:36:16	2014-08-06 17:36:45
		2014-08-06 17:22:15		2014-08-06 17:36:45	2014-08-06 17:37:17
5	806164027	2014-08-06 17:01:53	1881	2014-08-06 17:37:17	2014-08-06 17:37:45
		2014-08-06 17:33:14		2014-08-06 17:37:45	2014-08-06 17:38:20
6	806164028	2014-08-06 17:01:53	1850	2014-08-06 17:38:20	2014-08-06 17:38:48
		2014-08-06 17:32:43		2014-08-06 17:38:48	2014-08-06 17:39:19
7	806164029	2014-08-06 17:01:53	1842	2014-08-06 17:39:20	2014-08-06 17:39:51
		2014-08-06 17:32:35		2014-08-06 17:39:51	2014-08-06 17:40:23

**Cisco****Cisco UCS C240 M3 Server**
 TPC-H Rev. 2.17.0  
 TPC-Pricing Rev. 2.0.0

 Report Date  
 August 20, 2014

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

Duration of stream execution:

Stream ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
0	8.8	3.1	9.3	12.0	12.7	0.8	4.8	7.0	57.7	28.4	7.1	4.2
1	42.8	2.2	80.3	65.5	100.6	12.1	51.0	55.1	61.2	59.8	119.3	55.6
2	11.3	9.3	36.6	59.9	88.0	24.8	25.9	81.2	134.9	168.8	25.3	28.0
3	46.5	3.3	49.9	52.4	117.2	41.0	72.1	60.8	118.8	126.3	39.2	58.6
4	17.3	4.9	43.1	105.9	90.1	27.3	27.3	34.5	155.8	83.2	30.5	52.6
5	28.1	4.9	61.7	56.1	43.8	21.5	71.7	36.5	49.3	89.3	32.7	54.4
6	23.0	4.9	77.8	25.3	29.2	33.4	34.6	58.3	141.3	210.2	29.1	26.4
7	9.0	10.6	72.1	64.1	42.0	24.9	16.4	63.6	108.1	72.0	27.2	61.8
Minimum	8.8	2.2	9.3	12.0	12.7	0.8	4.8	7.0	49.3	28.4	7.1	4.2
Average	23.4	5.4	53.9	55.2	65.5	23.2	38.0	49.6	103.4	104.8	38.8	42.7
Maximum	46.5	10.6	80.3	105.9	117.2	41.0	72.1	81.2	155.8	210.2	119.3	61.8

Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
0	44.2	2.2	2.5	5.5	5.0	42.9	5.1	5.8	36.2	10.1	38.3	30.8
1	103.2	17.6	20.5	14.5	61.1	231.7	7.3	59.8	183.0	40.6	32.0	31.8
2	73.2	32.2	41.6	49.1	52.9	105.6	32.9	48.0	48.0	27.4	27.0	30.8
3	50.9	28.8	29.9	8.2	59.9	297.2	7.2	32.2	83.3	496.9	27.5	31.7
4	96.8	31.9	25.3	12.0	42.2	97.4	25.5	26.3	167.9	24.2	28.9	32.1
5	159.1	35.9	31.2	35.9	50.9	263.7	31.6	36.5	186.7	498.5	28.1	34.5
6	203.3	34.3	12.2	13.5	33.6	200.2	18.8	44.1	80.4	515.6	27.8	31.5
7	88.9	28.0	31.1	19.1	5.8	302.1	25.2	83.7	169.5	516.2	31.3	31.9
Minimum	44.2	2.2	2.5	5.5	5.0	42.9	5.1	5.8	36.2	10.1	27.0	30.8
Average	102.5	26.4	24.3	19.7	38.9	192.6	19.2	42.1	119.4	266.2	30.1	31.9
Maximum	203.3	35.9	41.6	49.1	61.1	302.1	32.9	83.7	186.7	516.2	38.3	34.5