



Cisco UCS C420 M3 Server

TPC-H Rev. 2.16.0
 TPC-Pricing Rev. 1.7.0

Report Date:
 October 31, 2013

Total System Cost

Composite Query per Hour Metric

Price / Performance

\$295,599 USD

230,119.9
 QphH@3000GB

\$1.29 USD
 \$ / QphH@3000GB

Database Size

Database Manager

Operating System

Other Software

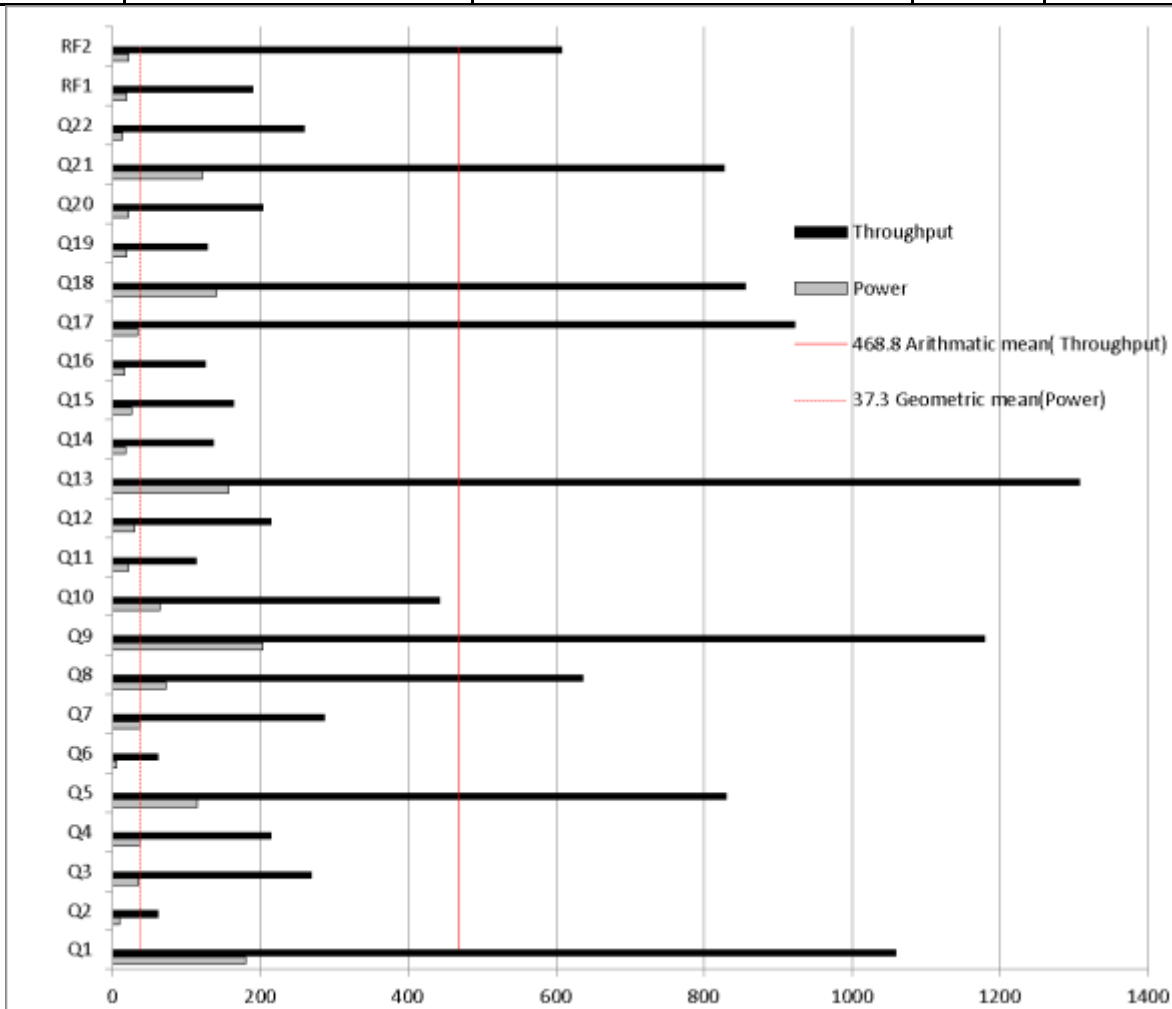
Availability Date

3000GB

**Sybase IQ Version
 16.0 SP02**

**Red Hat Enterprise Linux
 Server Release 6.4**

**December 30,
 2013**



Database Load Time = 2h 25m 34s

Storage Redundancy Level

Load Includes Backup: N

Base Tables and Auxiliary Data Structures

1

Total Data Storage / Database Size = 4.44

DBMS Temporary Space

0

Percentage Memory / Database Size = 34.1%

OS and DBMS Software

1

System Configuration:

Cisco UCS C420 M3 Server

Processors/Cores/Threads/Model:

4/32/64 Intel Xeon E5-4650 Processor (2.7 GHz, 20MB cache, 130W)

Memory:

1024 GB

Storage:

8 x 600GB 6Gb SAS 10K RPM SFF HDD
 8 x Cisco UCS 200 GB SATA 2.5" Enterprise Performance SSD

Table Storage:

6 x Cisco UCS Fusion ioDrive2 1205M Adapter
 13.6 TB

Cisco		Cisco UCS C430 M3 Server				TPC-H Rev. 2.16.0		
						TPC-Pricing Rev. 1.7.0		
				Report Date:	31-Oct-2013			
Description	Part Number	Brand	Source	Unit Price	Qty	Extended Price	3 Year Maint. Price	
Server Hardware and OS								
UCS C420 M3 w/o CPU mem HDD PCIe PSU rail kit	UCSC-C420-M3	Cisco	1	7,500.00	1	\$7,500		
SMARTNET Onsite 24X7X4 UCS C420 M3 Server, 36 Month(s)	CON-OSP-C420	Cisco	1	2,631.00	1		\$2,631	
2.70 GHz E5-4650 130W 8C/20MB Cache/DDR3 1600MHz	UCS-CPU-E5-4650	Cisco	1	10,255.00	4	\$41,020		
32GB DDR3-1600-MHz LR DIMM/PC3-12800/quad rank/x4/1.35v	UCS-ML-1X324RY-A	Cisco	1	2,639.00	32	\$84,448		
600GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted	A03-D600GA2	Cisco	1	1,086.00	8	\$8,688		
200GB 2.5 SATA Enterprise performance SSD	UCS-SD200G0KS2-EP	Cisco	1	3,598.00	8	\$28,784		
Cisco UCS 1205GB MLC Fusion ioDrive2	UCSC-F-FIO-1205M	Cisco	1	37,500.00	6	\$225,000		
1200W 2u Power Supply For UCS	UCSC-PSU2-1200	Cisco	1	652.00	2	\$1,304		
MegaRAID 9271CV with 8 internal SAS/SATA ports with Supercap	UCS-RAID9271CV-8I	Cisco	1	1,686.00	1	\$1,686		
8 Drive Backplane W/ Expander For C-Series	UCSC-DBKP-08E	Cisco	1	528.00	2	\$1,056		
SAS/SATA cable (long) for C420 M3	UCSC-CABLE-L	Cisco	1	Included	2			
Heatsink for the C420 M3	UCSC-HS-C420M3	Cisco	1	Included	4			
Full height PCIe filler for C-Series	UCSC-PCIF-01F	Cisco	1	Included	2			
Half height PCIe filler for UCS	UCSC-PCIF-01H	Cisco	1	Included	3			
2U Rail Kit for UCS C-Series servers	UCSC-RAIL-2U	Cisco	1	Included	1			
RHEL/4 Socket/1 Guest/3Yr Svcs Required	RHEL-4S-1G-3A	Cisco	1	Included	1			
AC Power Cord - 250V 10A - PRC	CAB-250V-10A-CN	Cisco	1	Included	2			
ISV 24X7 RHEL/4 Socket/1 Guest 36 Month(s)	CON-ISV1-RH4S1G3A	Cisco	1	9,588.00	1		\$9,588	
IOGEAR GKMS02 Compact Wired Keyboard and Mouse Combo	GKM502	Provantage	3	\$11	3	\$32		
Acer 17" V173 DJOB LCD Monitor 1280X1024	UM.BV3AA.D01	Provantage	3	\$112	3	\$336		
Cisco R42610 expansion rack	RACK-UCS	Cisco	1	\$2,857	1	\$2,857		
						Subtotal	\$402,711	\$12,219
Large Purchase Discount ¹ 57%							-\$229,545	-\$6,964
						Hardware Subtotal	\$173,166	\$5,255
Software								
Sybase IQ Single App Svr, per cpu core	13545	SAP	2	\$2,595	32	\$83,040		
3 yr support Single App Svr, per cpu core	98480	SAP	2	\$1,713	32		\$54,816	
Sybase IQ Discount (15% of Net)		SAP	2			-\$12,456	-\$8,222	
						Software	\$70,584	\$46,594
						Total	\$243,750	\$51,849
Pricing: 1=Cisco 2=SAP 3=Provantage;						Three-Year Cost of Ownership: \$295,599 USD		
Audited by Francois Raab from InfoSizing, Inc. (sizing.com)						QpH: 230,119.9		
¹ 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.						\$/ QpH: \$1.29 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.								

Cisco	Cisco UCS C420 M3 Server	TPC-H Rev. 2.16.0 TPC-Pricing Rev. 1.7.0
		October 31, 2013

Measurement Results

Database Scaling (SF/Size)	3,000
Total Data Storage/Database Size	4.44
Percentage Memory/Database Size	34.1
Start of Database Load Time	10/22/2013 21:02:40
End of Database Load Time	10/22/2013 23:28:14
Database Load Time	02:25:34
Query Streams for Throughput Test (S)	8
TPC-H Power	289,320.0
TPC-H Throughput	183,033.2
TPC-H Composite	230,119.9
Total System Price Over 3 Years	\$295,599
TPC-H Price/Performance Metric (\$/QpH@3000GB)	\$1.29

Measurement Interval

Measurement Interval in Throughput Test (Ts)	10,385
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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
	1022232814	10/22//2013 23:28:45	1,434	10/22/2013 23:28:15	10/22/2013 23:51:47
		10/22//2013 23:51:45		10/22/2013 23:28:36	10/22/2013 23:52:09

Stream	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
1	1022232815	10/22/2013 23:52:09	10,378	10/22/2013 23:53:10	10/22/2013 23:58:57
		10/23/2013 02:45:07		10/22/2013 23:58:56	10/23/2013 00:04:06
2	1022232816	10/22/2013 23:52:09	10,385	10/23/2013 00:04:06	10/23/2013 00:06:45
		10/23/2013 02:45:14		10/22/2013 00:06:45	10/23/2013 00:16:26
3	1022232817	10/22/2013 23:52:09	10,366	10/23/2013 00:16:27	10/23/2013 00:19:18
		10/23/2013 02:44:55		10/23/2013 00:19:18	10/23/2013 00:32:26
4	1022232818	10/22/2013 23:52:09	10,343	10/23/2013 00:32:26	10/23/2013 00:36:22
		10/23/2013 02:44:32		10/23/2013 00:36:22	10/23/2013 00:38:46
5	1022232819	10/22/2013 23:52:09	10,348	10/23/2013 00:38:46	10/23/2013 00:40:49
		10/23/2013 02:44:37		10/23/2013 00:40:48	10/23/2013 00:51:56
6	1022232820	10/22/2013 23:52:09	10,352	10/23/2013 00:51:57	10/23/2013 00:54:41
		10/23/2013 02:44:41		10/23/2013 00:54:41	10/23/2013 01:15:37
7	1022232821	10/22/2013 23:52:09	10,344	10/23/2013 01:15:37	10/23/2013 01:18:16
		10/23/2013 02:44:33		10/23/2013 01:18:16	10/23/2013 01:20:07
8	1022232822	10/22/2013 23:52:09	9,999	10/23/2013 01:20:08	10/23/2013 01:22:57
		10/23/2013 02:38:48		10/23/2013 01:22:57	10/23/2013 01:39:49

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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	179.9	9.5	35.5	37	114.4	5.3	37.5	72.7	203.6	64	21.5	29.9
1	1110.7	52.3	314.1	108.8	874.4	42.3	236.6	640.6	1067.5	422.5	104.7	217.3
2	1138.4	31.8	229.4	240.2	876.2	72.6	342.2	771	1406.7	424.2	145.7	218
3	1125.4	64.3	207.4	221.5	885.3	46.7	315.2	479.8	1116.1	335	110.5	220.2
4	1096.5	60.9	272.9	167	764.6	65.2	318.6	620.3	1239	492.8	102.4	225.7
5	989.0	80.1	304.5	233.4	758.1	52.7	307.5	534	1137.3	408.1	121.3	260.1
6	1067.4	52.4	360.1	218	805	61.1	249.6	673.2	1237.3	646.2	96.9	228.5
7	1001.4	66.2	259.9	205.6	748.6	60.6	265.4	678.1	1061.6	445.3	101.7	166.7
8	947.4	84.3	210.8	329	930.1	90.1	265.5	699.4	1176.4	368.7	123.7	188.4
Minimum	947.4	31.8	207.4	108.8	748.6	42.3	236.6	479.8	1061.6	335	96.9	166.7
Maximum	1138.4	84.3	360.1	329	930.1	90.1	342.2	771	1406.7	646.2	145.7	260.1
Average	1059.5	61.5	269.9	215.4	830.3	61.4	287.6	637.1	1180.2	442.9	113.4	215.6

Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
0	157.1	17.5	26.3	16.8	34.4	140.8	19.3	21.2	121.1	14.1	19.6	21.4
1	1268.2	128.1	123.5	116.1	994	733.6	132.3	235.4	1141.1	312.9	345.7	308.5
2	1337.5	219.3	133.8	147.2	775.7	791.6	93	219.3	497.5	272	159	581.3
3	1303.1	147.7	168.2	120.2	1038.2	1013.6	118.2	301.6	827.5	199.3	170.9	787.8
4	1329.9	138.3	206.1	104.6	965.9	837.2	145.5	140.3	701.3	347.1	235.3	143.6
5	1376.8	132	167.5	168.6	897.3	780.1	151.7	134	1060.9	291.6	122.2	667.8
6	1333.6	106.1	250.6	148.5	811.8	896.9	99.2	185.2	629.8	193.4	164.5	1255.6
7	1323.3	133.1	154.8	134	1071.2	1007.1	74.6	196.4	1005.3	182.3	158.9	111.2
8	1193.4	92.6	114.1	73.6	833.7	794.1	215.4	219.2	762	286	169.7	1011.3
Minimum	1193.4	92.6	114.1	73.6	775.7	733.6	74.6	134	497.5	182.3	122.2	111.2
Maximum	1376.8	219.3	250.6	168.6	1071.2	1013.6	215.4	301.6	1141.1	347.1	345.7	1255.6
Average	1308.2	137.2	164.8	126.6	923.5	856.8	128.7	203.9	828.2	260.6	190.8	608.4