



Cisco UCS C460 M2 Server

TPC-H Rev. 2.14.2
 TPC-Pricing Rev. 1.6.0

Report Date:
 December 7, 2011

Total System Cost

Composite Query per Hour Metric

Price / Performance

\$174,325 USD

134,117.2
 QphH@1000GB

\$1.30 USD
 \$ / QphH@1000GB

Database Size

Database Manager

Operating System

Other Software

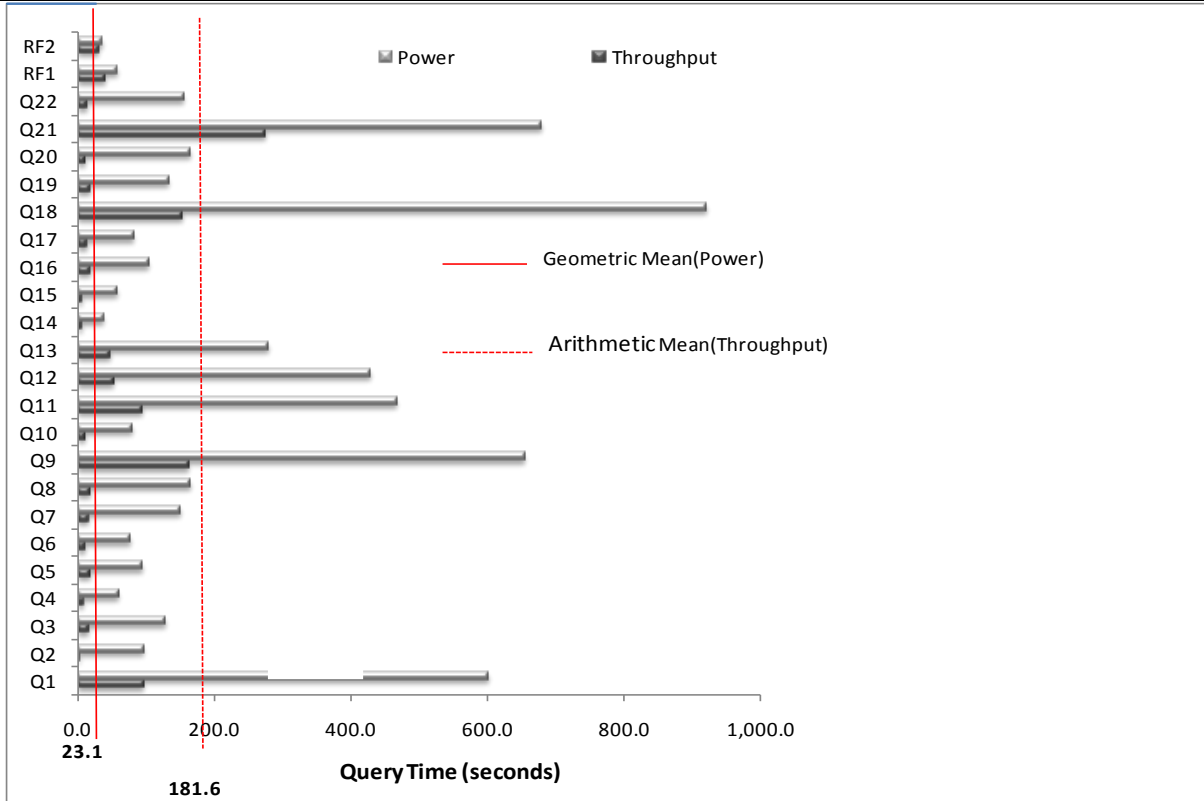
Availability Date

1000GB

**Microsoft SQL Server
 2008 R2 Enterprise
 Edition**

**Windows Server 2008 R2
 Enterprise Edition**

**December 7,
 2011**



Database Load Time = 21h 04m 19s

Storage Redundancy Level

Load Includes Backup: Y

Base Tables and Auxiliary Data Structures

0

Total Data Storage / Database Size = 8.78

DBMS Temporary Space

0

Percentage Memory / Database Size = 102 %

OS and DBMS Software

1

System Configuration:

Cisco UCS C460 M2

Processors: 4 x Intel Xeon E7-4870 Processor (2.4 GHz, 30 MB cache, 130 W)

Memory: 1024 GB

Storage: 2 x 300GB 6 Gb SAS 10K RPM SFF HDD

10 x 600GB 6Gb SAS 10K RPM SFF HDD

10 x LSI WarpDrive SLP-300 (300GB)

Table Storage: 8.78 TB

Cisco		Cisco UCS C460 M2 Server				TPC-H Rev. 2.14.2, TPC-Pricing Rev. 1.60			
						Report Date:		7-Dec-11	
Description	Part Number	Brand	Source	Unit Price	Qty	Extended Price	3 yr. Maint. Price		
Server Hardware									
UCS C460 M2 Rack SVR w/o CPU, Mem HDD, PCIe	UCSC-BASE-M2-C460	Cisco	1	\$10,119	1	\$10,119			
850W POWER SUPPLY UNIT FOR C-SERIES C460	RC460-PSU2-850W	Cisco	1	\$613	2	\$1,226			
2.4 GHz E7-4870 130W 10C CPU / 30M Cache	UCS-CPU-E74870	Cisco	1	\$10,500	4	\$42,000			
32GB DDR3-1066MHz RDIMM/PC3-8500/2x16GB 4R	A02-M332GB3-2-L	Cisco	1	\$3,371	32	\$107,872			
LSI CONTROLLER 9260-8i	RC460-PL001	Cisco	1	\$1,113	1	\$1,113			
300GB 6Gb SAS 10K RPM SFF HDD	A03-D300GA2	Cisco	1	\$564	2	\$1,128			
600GB 6Gb SAS 10K RPM SFF HDD	A03-D600GA2	Cisco	1	\$1,367	10	\$13,670			
MS Comfort Curve DT 3000 USB-EN NA Keyboard & Mouse	7ZJ-00001	Provantage	4	\$25	1	\$25			
V173Djb LCD Monitor	ET-BV3RP-D03	Provantage	4	\$90	1	\$90			
Cisco R42610 expansion rack	RACK-UCS	Cisco	1	\$2,857	1	\$2,857			
UCS C460 M2 Rack SVR 24x7 Hr	CON-UCWD3-C460M2	Cisco	1	\$683	3		\$2,049		
						Subtotal	\$180,100	\$2,049	
Storage									
LSI WarpDrive SLP-300 (10+2 spares)	LSI00263	Harwood	3	\$6,565	12	\$78,780	Inc.		
						Subtotal	\$78,780		
Hardware and Maintenance Discount *									
Large Purchase discount	57.0% Cisco		1			-\$102,591			
						Hardware Subtotal	\$156,289	\$2,049	
Software									
Microsoft SQL Server 2008 R2 Enterprise Edition w/ 25 CALs	810-08553	Microsoft	2	\$8,318	1	\$8,318			
SQL Server 2008 Client Access License	359-01912	Microsoft	2	\$114	45	\$5,130			
Microsoft Windows Server 2008 R2 Enterprise Edition	P72-03195	Microsoft	2	\$2,280	1	\$2,280			
Microsoft Problem Resolution Services		Microsoft	2	\$259	1		259		
						Subtotal	15,728	259	
						Total	\$172,017	\$2,308	
Pricing: 1=Cisco 2=Microsoft 3=Harwood 4=Provantage; *Excludes Support Services						Three-Year Cost of Ownership: \$174,325 USD			
Audited by Francois Raab of InfoSizing, Inc. www.sizing.com						QpH @ 1000GB: 134,117.2			
All discounts are based on US list prices and for similar quantities and configurations. A 57% discount was based on the overall specific components pricing from vendor 1 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 @ 1000GB: \$1.30 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 component. 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 C460 M2 Server	TPC-H Rev. 2.14.2 TPC-Pricing Rev. 1.6.0
		December 7, 2011

Measurement Results

Database Scaling (SF/Size)	1,000
Total Data Storage/Database Size	8.78
Percentage Memory/Database Size	102%
Start of Database Load Time	14/08/11 19:36:22
End of Database Load Time	15/08/11 16:40:41
Database Load Time	21:04:19
Query Streams for Throughput Test (S)	7
TPC-H Power	156,157.2
TPC-H Throughput	115,188.0
TPC-H Composite	134,117.2
Total System Price Over 3 Years	174,307
TPC-H Price/Performance Metric (\$/QpH@1000GB)	1.30

Measurement Interval

Measurement Interval in Throughput Test (Ts)	4,813
--	-------

Duration of 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
	0815164040	08/15/2011 19:43:29	1,063	08/15/2011 19:42:48	08/15/2011 20:01:13
		08/15/2011 20:01:12		08/15/2011 19:43:29	08/15/2011 20:01:42

Throughput Stream	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
1	0815164041	08/15/2011 20:01:43	3,905	08/15/2011 21:12:55	08/15/2011 21:13:51
		08/15/2011 21:06:47		08/15/2011 21:13:51	08/15/2011 21:14:22
2	0815164042	08/15/2011 20:01:43	4,119	08/15/2011 21:14:22	08/15/2011 21:15:08
		08/15/2011 21:10:21		08/15/2011 21:15:07	08/15/2011 21:15:36
3	0815164043	08/15/2011 20:01:43	3,882	08/15/2011 21:15:36	08/15/2011 21:16:18
		08/15/2011 21:06:25		08/15/2011 21:16:18	08/15/2011 21:16:47
4	0815164044	08/15/2011 20:01:43	4,135	08/15/2011 21:16:48	08/15/2011 21:17:30
		08/15/2011 21:10:38		08/15/2011 21:17:29	08/15/2011 21:18:00
5	0815164045	08/15/2011 20:01:43	3,864	08/15/2011 21:18:00	08/15/2011 21:18:40
		08/15/2011 21:06:07		08/15/2011 21:18:40	08/15/2011 21:19:12
6	0815164046	08/15/2011 20:01:43	4,271	08/15/2011 21:19:13	08/15/2011 21:20:00
		08/15/2011 21:12:54		08/15/2011 21:20:00	08/15/2011 21:20:35
7	0815164047	08/15/2011 20:01:43	3,787	08/15/2011 21:20:35	08/15/2011 21:21:22
		08/15/2011 21:04:50		08/15/2011 21:21:22	08/15/2011 21:21:55

Cisco**Cisco UCS C460 M2 Server**TPC-H Rev. 2.14.2
TPC-Pricing Rev. 1.6.0

December 7, 2011

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	97.1	1.9	15.9	8.0	18.8	10.8	14.5	18.8	162.2	11.8	93.8	51.9
1	485.2	48.2	127.0	30.9	78.6	21.3	136.9	163.5	387.9	63.5	240.9	129.1
2	601.7	27.6	113.2	45.2	94.2	23.7	56.1	90.8	404.1	66.7	194.8	427.8
3	508.9	41.6	100.4	48.2	92.9	62.8	125.2	87.9	390.8	60.9	129.5	135.0
4	551.9	9.6	46.2	37.5	86.7	77.3	63.6	121.2	654.2	78.4	39.8	103.8
5	527.9	25.9	79.0	59.1	79.6	42.7	101.2	80.3	379.7	59.6	136.7	157.0
6	597.3	20.5	103.1	36.9	80.3	26.2	150.0	103.1	490.6	52.7	466.9	178.1
7	513.9	97.1	108.2	38.4	88.7	20.7	90.0	81.9	428.4	61.0	107.8	91.5
Minimum	97.1	1.9	15.9	8.0	18.8	10.8	14.5	18.8	162.2	11.8	39.8	51.9
Maximum	601.7	97.1	127.0	59.1	94.2	77.3	150.0	163.5	654.2	78.4	466.9	427.8
Average	485.5	34.1	86.6	38.0	77.5	35.7	92.2	93.4	412.2	56.8	176.3	159.3

Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
0	46.7	5.2	5.2	18.5	12.0	151.7	18.5	11.9	274.3	13.4	41.2	29.6
1	119.5	23.4	28.8	76.1	39.0	780.9	133.7	79.2	636.0	75.2	56.1	30.6
2	193.9	37.2	35.1	95.0	82.1	774.6	133.4	102.9	363.2	155.4	45.0	28.4
3	206.0	22.3	38.6	93.4	64.6	708.0	68.6	164.1	674.6	57.1	41.6	28.7
4	198.3	22.0	43.4	79.8	58.2	919.7	124.7	74.7	678.6	65.1	41.7	29.9
5	213.1	26.4	34.0	86.5	40.8	759.5	98.7	104.2	639.3	132.7	39.4	32.3
6	279.5	21.4	42.0	91.7	74.5	872.6	81.4	112.4	320.6	68.8	46.8	34.9
7	224.9	17.7	56.9	102.7	44.0	887.6	97.7	108.1	464.2	55.5	46.4	33.0
Minimum	46.7	5.2	5.2	18.5	12.0	151.7	18.5	11.9	274.3	13.4	39.4	28.4
Maximum	279.5	37.2	56.9	102.7	82.1	919.7	133.7	164.1	678.6	155.4	56.1	34.9
Average	185.2	21.9	35.5	80.5	51.9	731.8	94.6	94.7	506.3	77.9	44.8	30.9