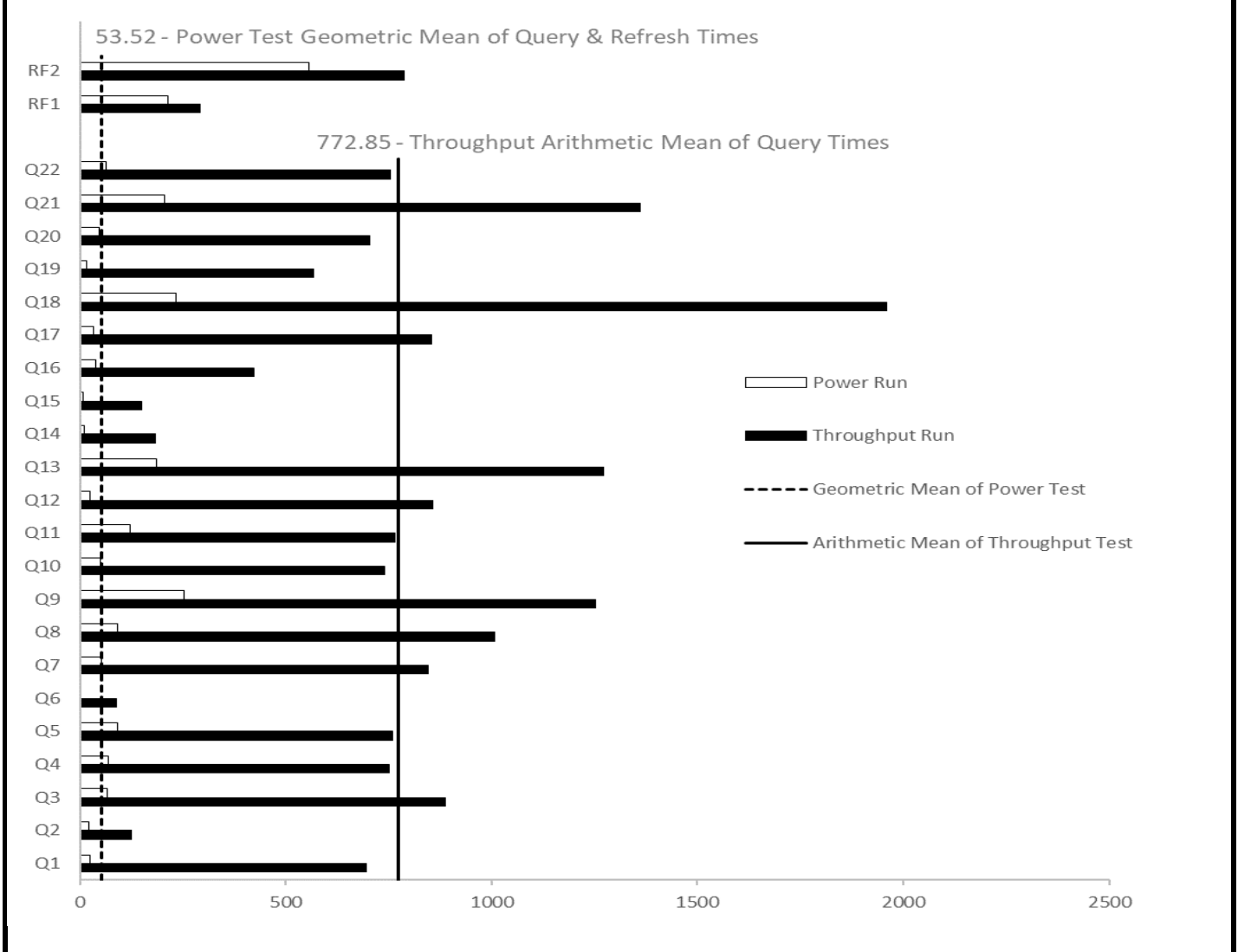
		Cisco UCS C245 M6 Server		TPC-H Rev. 3.0.0 TPC-Pricing Rev. 2.8.0	
				Report Date: 23-Mar-2022	
Total System Cost		Composite Query per Hour Metric		Price / Performance	
1,371,045 USD		1,650,802 QphH@30000GB		830.54 USD \$ / kQphH@30000GB	
Database Size	Database Manager	Operating System	Other Software	Availability Date	
30000GB	Microsoft SQL Server 2019 Enterprise Edition for Linux	Red Hat Enterprise Linux 8.4	None	1-Apr-2022	



Database Load Time = 14h 42m 16s	Storage Redundancy Level	
Load Includes Backup: Y	Base Tables and Auxiliary Data Structures	0
Total Data Storage / Database Size = 2.36	DBMS Temporary Space	0
Percentage Memory / Database Size = 27.3%	OS and DBMS Software	1

System Configuration: Cisco UCS C245 M6 Server

Processors/Cores/Threads/Model: 2/128/256 AMD EPYC 7763 (2.45GHz, 256MB L3 cache)
Memory: 8 TB (32x 256GB)
Storage: 10 x 960GB 2.5-inch Enterprise Performance 6G SATA SSDs, 4x 3.8TB 2.5-inch Enterprise Value 6G SATA SSD, 8 x 6.4TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance,
Total Storage: 70,780.52 GiB



Cisco UCS C245 M6 Server

TPC-H Rev. 3.0.0
TPC-Pricing Rev. 2.8.0

Report Date: 23-Mar-2022

Description	Part Number	Source	Qty	Unit Net Price	Extended Net Price	3-Years Maintenance
UCS M6 RACK, BLADE MLB	UCS-M6-MLB	1	1	0.00	0.00	0.00
UCS C245 M6 Rack w/o CPU, mem, drives, 2U w/24HDD backplane	UCSC-C245-M6SX	1	1	7,332.70	7,332.70	0.00
AMD 2.45GHz 7763 280W 64C/256MB Cache DDR4 3200MHz	UCS-CPU-A7763	1	2	53,003.89	106,007.78	0.00
Cisco UCS VIC 1477 dual port 40/100G QSFP28 mLOM	UCSC-M-V100-04	1	1	2,960.44	2,960.44	0.00
IMC SW (Recommended) latest release for C-Series Servers.	CIMC-LATEST	1	1	0.00	0.00	0.00
Trusted Platform Module2.0 UCS servers(FIPS 140-2 Compliant)	UCSX-TPM2-002B-C	1	1	88.72	88.72	0.00
Ball Bearing Rail Kit for C220 & C240 M6 rack servers	UCSC-RAIL-M6	1	1	360.62	360.62	0.00
UCS C-Series M5 SFF drive blanking panel	UCSC-BBLKD-S2	1	6	0.00	0.00	0.00
C240 / C245 M6 Riser2A; (x8;x16;x8);StBkt; (CPU2)	UCSC-RIS2A-240M6	1	1	0.00	0.00	0.00
M6 SuperCap	UCS-SCAP-M6	1	1	0.00	0.00	0.00
CBL C240 / C245 M6SX PB+ to Riser 1B	CBL-R1B-SD-240M6	1	1	0.00	0.00	0.00
CBL Super Cap for PB+ C240 / C245 M6	CBL-SCAPSD-C240M6	1	1	0.00	0.00	0.00
Heatsink 2U SFF PCIe SKU	UCSC-HSHP-C245M6	1	2	0.00	0.00	0.00
C245M6 2U24SFF MB CPU1(NVMe-D) to PB PLUS	CBL-SDSAS-245M6	1	1	0.00	0.00	0.00
C245M6 2U24SFF(PB PLUS) Front NVMe cable X2	CBL-SDFNVME-245M6	1	1	0.00	0.00	0.00
256 GB LRDIMM 8Rx4 3200 (16Gb) (3DS)	UCS-ML-256G8RW	1	32	27,099.00	867,168.00	0.00
C240 M6 Riser1B; 2xHDD/SSD; StBkt; (CPU1)	UCSC-RIS1B-240M6	1	1	647.30	647.30	0.00
C240 M6 Riser 3B; 2xHDD; StBkt; (CPU2)	UCSC-RIS3B-240M6	1	1	499.44	499.44	0.00
Cisco M6 12G SAS RAID Controller with 4GB FBWC (28 Drives)	UCSC-RAID-M6SD	1	1	5,505.74	5,505.74	0.00
6.4TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance	UCS-NVMEI4-I6400	1	4	20,786.31	83,145.24	0.00
960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance)	UCS-SD960G63X-EP	1	10	4,003.02	40,030.20	0.00
3.8TB 2.5 inch Enterprise Value 6G SATA SSD	UCS-SD38TB6I1X-EV	1	4	10,668.08	42,672.32	0.00
6.4TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance	UCS-NVMEI4-I6400	1	4	20,786.31	83,145.24	0.00
Cisco UCS 2300W AC Power Supply for Rack Servers	UCSC-PSU1-2300W	1	2	1,405.73	2,811.46	0.00
ECO friendly green option, no power cable will be shipped	NO-POWER-CORD	1	2	0.00	0.00	0.00
Customer using alternate systems mgt. tool: UCSM	OPTOUT-USE-UCSM	1	1	0.00	0.00	0.00
Unknown	UCS-SID-INFR-UNK	1	1	0.00	0.00	0.00
Unknown	UCS-SID-WKL-UNK	1	1	0.00	0.00	0.00
Intersight Opt Out	DC-MGT-OPTOUT	1	1	0.00	0.00	0.00
3YR SNCT 24X7X40S UCS C245 M6 Rack w/o CPU, mem, drives, 2	CON-3OSP-UCSCC244	1	1	3,622.50	0.00	3,622.50
				Subtotal	1,242,375.20	3,622.50
Large Purchase discount: 61% for hardware and 35% for service.				Discounted Price	-757,848.87	-1,267.88
IOGEAR GKM513Spill Proof Keyboard & Mouse Combo	GKM513B	3	3	24.95	74.85	
ASUS 19.5" VS207D-P Widescreen LED 1600x900 VGA	VP229HE	4	3	139.00	417.00	
				Hardware Subtotal	485,018.18	2,354.62
Software						
SQL Server2019 Enterprise Edition for Linux UX (2 cores license, 128 Cores)	NA	2	64	13,748.00	879,872.00	
Red Hat Enterprise Linux Server, 2 Sockets w/ Premium 24x7 support, with 23% discount on 4,598.46	NA	1	1	3,540.81	3,540.81	
Microsoft Problem Resolution Services	NA	2	1	259	0	259
				Software Subtotal	883,412.81	259.00
				Total	1,368,430.99	2,613.62
Source: 1-Cisco, 2-Microsf, 3-IOGEAR, 4-ASUS		Three-Year Cost of Ownership			1,371,045	USD
Audited by Doug Johnson from InfoSizing.(sizing.com)		QphH			1,650,802	
"This Price Estimate does not constitute an offer by CISCO to sell products, but is instead an invitation to issue a purchase order to CISCO until the valid date specified in this price estimate. Such a purchase order will be subject to Cisco's standard procedures, terms and conditions for the acceptance of purchase orders. This order may be subject to indirect tax (VAT, GST, sales tax or other indirect taxes), duty and freight charges even if not noted on this estimate."		\$/kQpH			830.54	
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 pricing specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you						



Cisco UCS C245 M6 Server

TPC-H Rev. 3.0.0
TPC-Pricing Rev. 2.8.0

Report Date: 23-Mar-2022

Measurement Results

Database Scaling (SF/Size)	30,000
Total Data Storage/Database Size	2.36
Percentage Memory/Database Size	27.3
Start of Database Load Time	02/05/2022 20:14:53
End of Database Load Time	02/06/2022 11:05:13
Database Load Time	00d 14h 42m 16s
Query Streams for Throughput Test (S)	10
TPC-H Power	2,017,757.1
TPC-H Throughput	1,350,582.4
TPC-H Composite	1,650,802
Total System Price Over 3 Years	\$ 1,371,045
TPC-H Price/Performance Metric (\$/kQpH@30000GB)	\$830.54

Measurement Interval

Measurement Interval in Throughput Test (Ts)

Duration of stream execution: 17,592.41

Power Run	Seed	Query Start Time	Total Time	RF1 Start Time	RF2 Start Time
		Query End Time	(hh:mm:ss)	RF1 End Time	RF2 End Time
	206110513	2022-02-06 23:45:25	00:28:21	2022-02-06 23:41:50	2022-02-07 00:13:48
		2022-02-07 00:13:46		2022-02-06 23:45:23	2022-02-07 00:23:06
Throughput Stream	Seed	Query Start Time	Total Time	RF1 Start Time	RF2 Start Time
		Query End Time	(hh:mm:ss)	RF1 End Time	RF2 End Time
1	206110514	2022-02-07 00:23:05	04:32:24	2022-02-07 00:23:05	2022-02-07 00:28:15
		2022-02-07 04:55:29		2022-02-07 00:28:15	2022-02-07 00:40:41
2	206110515	2022-02-07 00:23:05	04:46:14	2022-02-07 00:40:41	2022-02-07 00:45:03
		2022-02-07 05:09:19		2022-02-07 00:45:03	2022-02-07 00:56:34
3	206110516	2022-02-07 00:23:05	04:25:52	2022-02-07 00:56:34	2022-02-07 01:01:17
		2022-02-07 04:48:57		2022-02-07 01:01:17	2022-02-07 01:15:15
4	206110517	2022-02-07 00:23:05	04:52:59	2022-02-07 01:15:15	2022-02-07 01:19:40
		2022-02-07 05:16:04		2022-02-07 01:19:40	2022-02-07 01:31:10
5	206110518	2022-02-07 00:23:05	04:48:43	2022-02-07 01:31:10	2022-02-07 01:36:13
		2022-02-07 05:11:48		2022-02-07 01:36:13	2022-02-07 01:50:37
6	206110519	2022-02-07 00:23:05	04:38:23	2022-02-07 01:50:37	2022-02-07 01:55:19
		2022-02-07 05:01:28		2022-02-07 01:55:19	2022-02-07 02:07:44
7	206110520	2022-02-07 00:23:05	04:51:33	2022-02-07 02:07:44	2022-02-07 02:13:14
		2022-02-07 05:14:38		2022-02-07 02:13:14	2022-02-07 02:26:01
8	206110521	2022-02-07 00:23:05	04:53:13	2022-02-07 02:26:02	2022-02-07 02:30:44
		2022-02-07 05:16:18		2022-02-07 02:30:43	2022-02-07 02:45:24
9	206110522	2022-02-07 00:23:05	04:50:51	2022-02-07 02:45:24	2022-02-07 02:50:45
		2022-02-07 05:13:56		2022-02-07 02:50:45	2022-02-07 03:03:29
10	206110523	2022-02-07 00:23:05	04:33:43	2022-02-07 03:03:30	2022-02-07 03:08:14
		2022-02-07 04:56:48		2022-02-07 03:08:14	2022-02-07 03:22:54



Cisco UCS C245 M6 Server

TPC-H Rev. 3.0.0
 TPC-Pricing Rev. 2.8.0
 Report Date: 23-Mar-2022

TPC-H Timing Intervals (in seconds)

Stream ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
0	24.85	20.11	65.99	69.12	90.62	1.76	53.20	90.85	251.26	48.21	122.39	24.88
1	735.30	127.51	1,754.79	495.59	703.70	108.89	1,050.09	1,034.74	1,378.42	632.11	674.30	590.62
2	868.07	139.01	461.64	703.60	1,055.65	10.61	783.25	967.29	1,219.91	941.83	770.82	1,010.37
3	845.95	103.04	1,046.58	560.51	1,240.89	119.76	883.73	880.03	1,184.29	636.14	964.99	553.34
4	349.90	168.26	450.61	848.85	500.22	92.86	737.82	1,056.50	1,123.65	935.46	1,090.85	1,004.08
5	1,028.74	113.30	618.04	1,509.99	444.34	112.57	603.78	580.23	1,165.14	1,195.04	658.65	918.24
6	452.38	104.83	1,648.38	774.90	849.80	81.60	800.91	778.84	1,589.92	451.03	786.50	848.84
7	1,053.52	145.39	563.80	882.37	414.64	104.94	1,187.25	1,242.16	1,397.25	494.27	787.16	1,037.15
8	839.99	90.26	587.76	551.84	917.04	108.55	805.11	1,415.93	1,257.26	472.53	262.61	1,139.86
9	453.22	124.10	967.56	506.74	735.88	94.76	736.90	1,214.26	1,217.06	874.80	871.55	658.47
10	324.99	142.70	783.32	675.44	744.47	44.41	864.65	889.47	982.21	768.03	788.94	819.01
Qi Min	24.85	20.11	65.99	69.12	90.62	1.76	53.20	90.85	251.26	48.21	122.39	24.88
Qi Avg	634.26	116.23	813.50	689.00	699.75	80.06	773.34	922.75	1,160.58	677.22	707.16	782.26
Qi Max	1,053.52	168.26	1,754.79	1,509.99	1,240.89	119.76	1,187.25	1,415.93	1,589.92	1,195.04	1,090.85	1,139.86

Stream ID	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
0	185.27	10.21	7.55	38.55	31.26	233.06	16.36	47.65	204.73	62.01	213.19	557.38
1	1,364.72	124.72	66.52	94.86	807.32	2,128.42	209.87	795.65	1,043.85	421.60	309.57	745.61
2	583.89	126.82	136.39	813.67	1,149.43	2,494.14	211.21	657.34	1,217.93	850.35	261.81	690.94
3	527.14	118.00	106.72	511.47	579.48	2,417.48	874.53	362.17	721.55	713.35	283.40	837.05
4	1,134.13	121.69	130.20	401.20	908.87	2,387.32	739.94	86.16	2,688.15	621.53	265.61	689.18
5	1,741.84	129.22	141.39	169.83	608.29	1,837.01	656.94	1,140.18	1,029.33	919.58	303.40	863.82
6	1,355.80	99.75	29.52	256.41	770.75	1,607.30	714.77	723.78	1,147.82	828.09	282.05	744.21
7	960.34	392.12	85.34	724.34	660.32	1,826.04	518.93	692.00	1,508.67	813.82	330.50	766.91
8	1,358.12	111.28	588.73	290.10	1,031.25	1,881.36	446.54	1,024.46	1,743.35	668.23	281.89	880.63
9	2,199.66	286.31	84.16	452.10	955.77	1,349.22	762.49	594.26	1,231.43	1,079.70	321.03	763.86
10	1,504.67	319.68	115.79	522.03	1,079.98	1,665.33	542.87	948.22	1,275.41	620.41	283.98	880.75
Qi Min	185.27	10.21	7.55	38.55	31.26	233.06	16.36	47.65	204.73	62.01	213.19	557.38
Qi Avg	1,174.14	167.25	135.66	388.60	780.25	1,802.43	517.68	642.90	1,255.66	690.79	285.13	765.49
Qi Max	2,199.66	392.12	588.73	813.67	1,149.43	2,494.14	874.53	1,140.18	2,688.15	1,079.70	330.50	880.75