



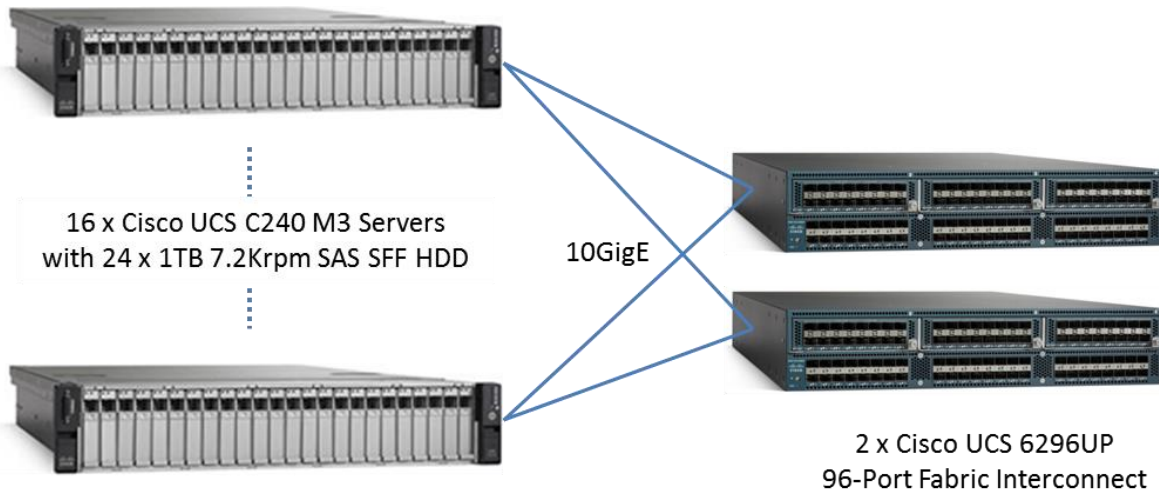
**Cisco UCS Integrated Infrastructure
for Big Data (Cisco UCS CPA v2)
with 16 Cisco UCS C240M3 Servers**

TPCx-HS Rev. 1.2.0
TPC-Pricing Rev. 1.7.0

Report Date:
January 8, 2015

Total System Cost		TPCx-HS Performance Metric		Price/Performance	
614,645 USD		5.07 HSph@1TB		121,231.76 USD \$/HSph@1TB	
Scale Factor	Apache Hadoop Compatible Software	Operating System	Other Software	Availability Date	
1TB	MapR M5 Edition	Red Hat Enterprise Linux Server 6.4	None	January 8, 2015	

System Configuration



Physical Storage/Scale Factor: 384.0

Scale Factor/Physical Memory: 0.25

Servers: 16 x Cisco UCS C240 M3 Server
 Total Processors/Cores/Threads 32/320/640
 Server Configuration:
 Processors 2 x Intel® Xeon® Processor E5-2660 v2, 2.20 GHz, 25M L3
 Memory 256GB
 Storage Controller 1 x MegaRAID 9271CV
 Storage Device 24 x 1TB 7.2K SAS SFF HDD (internal)
 Network 1 x Cisco VIC 1225 Dual Port 10Gb SFP+ CNA
 Connectivity: 2 x Cisco UCS 6296UP 96-Port Fabric Interconnect



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Description	Part Number	Source	Unit Price	Qty	Extended Price	3 Year Maint. Price
UCS C240 M3 SFF w/o CPU mem HD PCIe w/ rail kit expdr	UCSC-C240-M3S	1	3,600.00	16	\$57,600	
2.20 GHz E5-2660 v2/95W 10C/25MB Cache/DDR3 1866MHz	CON-SNTP-C240M3SF	1	3,949.00	32	\$126,368	
16GB DDR3-1866-MHz RDIMM/PC3-14900/dual rank/x4/1.5v	UCS-CPU-E52660B	1	741.00	256	\$189,696	
1TB SAS 7.2K RPM 2.5 inch HDD/hot plug/drive sled mounted	UCS-MR-1X162RZ-A	1	975.00	384	\$374,400	
Cisco VIC 1225 Dual Port 10Gb SFP+ CNA	UCS-HD1T7KS2-E	1	1,594.00	16	\$25,504	
1200W 2u Power Supply For UCS	UCSC-PCIE-CSC-02	1	652.00	32	\$20,864	
Power Cord 125VAC 13A NEMA 5-15 Plug North America	UCSC-PSU2-1200	1	0.00	32	\$0	
Full height PCIe filler for C-Series	CAB-9K12A-NA	1	0.00	48	\$0	
Heat Sink for UCS C240 M3 Rack Server	UCSC-PCIF-01F	1	0.00	32	\$0	
2U Rail Kit for UCS C-Series servers	UCSC-HS-C240M3	1	0.00	16	\$0	
Cisco M3 - v2 CPU asset tab ID label (Auto-Expand)	UCSC-RAIL-2U	1	0.00	16	\$0	
MegaRAID 9271CV with 8 internal SAS/SATA ports with Supercap	UCS-M3-V2-LBL	1	1,686.00	16	\$26,976	
SMARTNET 24X7X4 UCS C240 M3 SFF w/o	UCS-RAID9271CV-8I	1	1,521.00	16		\$24,336
UCS 6296UP 2RU Fabric Int/No PSU/48 UP/ 18p LIC	UCS-FI-6296UP-UPG	1	48,000.00	2	\$96,000	
10GBASE-CU SFP+ Cable 3 Meter	CON-SNTP-FI6296UP	1	210.00	32	\$6,720	
UCS 6296UP Chassis Accessory Kit	SFP-H10GB-CU3M	1	0.00	2	\$0	
UCS 6296UP Power Supply/100-240VAC	UCS-ACC-6296UP	1	2,000.00	4	\$8,000	
UCS Manager v2.2	UCS-PSU-6296UP-AC	1	0.00	2	\$0	
UCS 6200 Series Expansion Module Blank	N10-MGT012	1	0.00	6	\$0	
UCS 6296UP Fan Module	UCS-BLKE-6200	1	0.00	8	\$0	
Power Cord 125VAC 13A NEMA 5-15 Plug North America	UCS-FAN-6296UP	1	0.00	4	\$0	
SMARTNET 24X7X4 UCS 6296UP 2RU Fabric Int/2 PSU/4 Fans	CAB-9K12A-NA	1	5,505.00	2		\$11,010
Red Hat Enterprise Linux Server, 3Y 24x7	CON-ISV1-RH2SUG3A	1	2,397.00	16	\$38,352	Inc.
MapR M5 Edition, 3Y 24x7	UCS-BD-M5SL-3YR	1	25,083.00	16	\$401,328	Inc.
Cisco R42610 standard rack w/side panels	RACK-UCS2	1	3,429	1	\$3,429	
Total:					\$1,375,237	\$35,346
Large Purchase Discount		1			-\$783,885	-\$12,371
Acer - LED monitor - 18.5" (Inc 2 spares)	UM.XV6AA.A01	2	\$88	3	\$264	
Logitech USB KB/Mouse (Inc 2 spares)	920-002565	2	\$18	3	\$54	

1 = Cisco, 2= CDW.com

Three-Year Cost of Ownership: \$614,645

Discounts: 57% for products and 35% for service. All discounts are based on US list prices and for similar quantities and configurations. The discounts are based on the overall specific

HSpH@1TB 5.07

Audited by Doug Johnson, InfoSizing Inc.

\$/HSpH@1TB \$121,231.76

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 for Performance Run

Scale Factor	1TB
Run Start Time	2014-12-19 17:07:40
Run End Time	2014-12-19 17:19:26
Run Elapsed Time	709.000
HSGen Start Time	2014-12-19 17:07:40
HSGen End Time	2014-12-19 17:10:10
HSGen Elapsed Time	150.610
HSSort Start Time	2014-12-19 17:10:14
HSSort End Time	2014-12-19 17:17:40
HSSort Elapsed Time	447.352
HSValidate Start Time	2014-12-19 17:17:44
HSValidate End Time	2014-12-19 17:19:26
HSValidate Elapsed Time	103.555

Measurement Results for Repeatability Run

Run Start Time	2014-12-19 17:20:35
Run End Time	2014-12-19 17:31:55
Run Elapsed Time	683.000
HSGen Start Time	2014-12-19 17:20:35
HSGen End Time	2014-12-19 17:23:06
HSGen Elapsed Time	152.184
HSSort Start Time	2014-12-19 17:23:10
HSSort End Time	2014-12-19 17:30:22
HSSort Elapsed Time	432.979
HSValidate Start Time	2014-12-19 17:30:25
HSValidate End Time	2014-12-19 17:31:55
HSValidate Elapsed Time	91.503



Run Report for Performance Run

```
=====  
TPCx-HS Performance Metric (HSph@SF) Report  
  
Test Run 1 details: Total Time = 709  
                    Total Size = 10000000000  
                    Scale-Factor = 1.0000  
  
TPCx-HS Performance Metric (HSph@SF): 5.0787  
=====
```

Run Report for Repeatability Run

```
=====  
TPCx-HS Performance Metric (HSph@SF) Report  
  
Test Run 2 details: Total Time = 683  
                    Total Size = 10000000000  
                    Scale-Factor = 1.0000  
  
TPCx-HS Performance Metric (HSph@SF): 5.2714  
=====
```