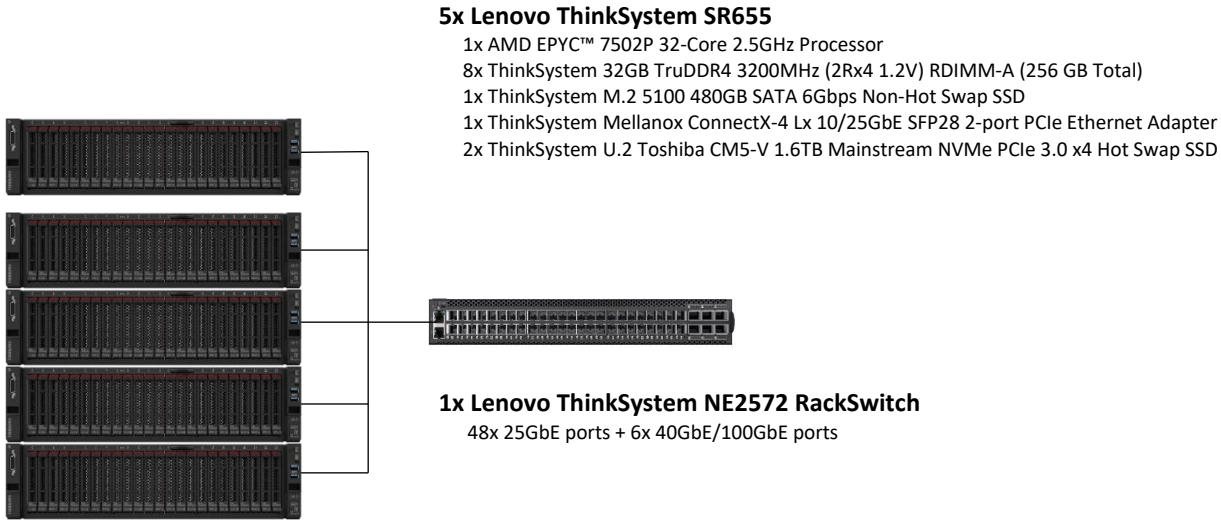
		Lenovo® ThinkSystem™ SR655		TPCx-IoT: v1.0.3
				TPC-Pricing: v2.4.0
Total System Cost		TPCx-IoT Performance Metric		Price/Performance
\$193,642 USD		742,256.79 IoTps		0.26 USD \$/IoTps
Number of Records	DBMS Software	Operating System	Other Software	Availability Date
1,224 Million	HBase 2.1.4 on Cloudera Distribution for Apache Hadoop 6.3.0	Red Hat Enterprise Linux Server Release 7.6	None	Dec 18, 2019

System Configuration



Total Number of Servers:		5x Lenovo ThinkSystem SR655	
Total Processors/Cores/Threads:		5/160/320	
Server Configuration (each):	Processors	1x AMD EPYC 7502P 2.5GHz 32-Core	
	Memory	256GB	
	Storage Device	1x 480GB M.2 SATA SSD (All Nodes)	
	Network	2x 1.6TB U.2 NVMe PCIe 3.0 (Data Nodes) 1x Mellanox ConnectX-4 Lx 10/25GbE SFP28 2-port NIC	
Connectivity:		Lenovo ThinkSystem NE2572 RackSwitch	
Total Rack Units:		(5xSR655) + (1xNE2572) = (5x2) + (1x1) = 11RU	


**Lenovo ThinkSystem
SR655**

TPCx-IoT: v1.0.3

TPC-Pricing: v2.4.0

Report Date: Sep 05,2019

Description	Part Number	Price Key	Unit Price	Qt y	Extended Price	3-Yr. Maint. Price
Server Hardware						
Lenovo SR655 Server : ThinkSystem SR655 - 3yr Warranty	7Z01CTO1WW	1	\$23,268	5	\$116,340	
-ThinkSystem SR655 24x2.5" Chassis	B5VJ			5		
-ThinkSystem AMD EPYC 7502P 32C 180W 2.5GHz Processor	B6VX			5		
-ThinkSystem 32GB TruDDR4 3200MHz (2Rx4 1.2V) RDIMM-A	B5XE			40		
-ThinkSystem 2U 2.5" NVMe 8-Bay Backplane	B4PC			5		
-ThinkSystem U.2 Toshiba CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	B21X			8		
-ThinkSystem M.2 SATA/NVMe 2-Bay Enablement Kit	B5XJ			5		
-ThinkSystem M.2 5100 480GB SATA 6Gbps Non-Hot Swap SSD	B11V			5		
-ThinkSystem SR655 x16/x8/x8 PCIe Riser2	B5VU			5		
-ThinkSystem Mellanox ConnectX-4 Lx 10/25GbE SFP28 2-port PCIe Ethernet Adapter	B653			5		
-ThinkSystem 1600W (230V) Platinum Hot-Swap Power Supply	AVWG			10		
-2.8m, 13A/100-250V, C13 to C14 Jumper Cord	6400			10		
-ThinkSystem Toolless Slide Rail	AXCA			5		
-ThinkSystem 2U left EIA Latch Standard	AURD			5		
-ThinkSystem SR655 8x PCIE Rear Wall BKT	B5WY			5		
-ThinkSystem SR655 Airduct	B5W5			5		
-ThinkSystem SR655 Riser Filler 1 (3FH)	B5WX			5		
-ThinkSystem SR655 Riser Filler 3 (2FH)	B5WS			5		
-ThinkSystem SR655 Performance Fan Module	B5W3			30		
-ThinkSystem Rome Internal M2 BKT	B5WK			5		
-ThinkSystem SR655 EIA Latch with FIO (Right, 2 USB3.0)	B5WR			5		
-ThinkSystem SR655 MS 2FH+1LP Riser BKT	B5WP			5		
-ThinkSystem OCP3 Filler	B5WJ			5		
-ThinkSystem 2x Supercap BKT	B5WM			5		
-ThinkSystem SR635/SR655 Motherboard	B5VH			5		
Essential Service - 3Yr 24x7 4Hr Response + YourDrive YourData	5PS7A34674	1	\$1,559	5		\$7,795
Subtotal					\$116,340	\$7,795



**Lenovo ThinkSystem
SR655**

TPCx-IoT: v1.0.3

TPC-Pricing: v2.4.0

Report Date: Sep 05,2019

Description	Part Number	Price Key	Unit Price	Qty	Extended Price	3-Yr. Maint. Price
Server Software						
RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Prem RH Sup 3Yr	7S0FCTO1WW	1	\$3,703	5	\$18,515	
Cloudera Enterprise Operational Database Edition, Node License, Gold Support 1yr 24x7	CEODN- GOLD-NK	2	\$6,000	15	\$90,000	
Subtotal					\$108,515	\$0
Network						
Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)	7159HE3	1	\$23,312	1	\$23,312	
-Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)	AV19	1		1		
-Adjustable 19" 4 Post Rail Kit	A3KP	1		1		
-2m Passive DAC SFP+ Cable	A51P	1		5		
-2.8m, 10A/100-250V, C13 to C14 Jumper Cord	6311	1		2		
Essential Service - 3Yr 24x7 4Hr Response (Switch)	5WS7A16480	1	\$3,199	1		\$3,199
Subtotal					\$23,312	\$3,199
Infrastructure						
Infrastructure Rack : NetBAY S2 25U Rack Cabinet	9307RC2	1	\$1,330	1	\$1,330	
OU 36 C13/6 C19 24A 1 Phase PDU	00YJ776	1	\$479	1	\$479	
ThinkSystem Pref. Pro II USB Keyboard - US English	AXTL	1	\$29	1	\$29	
ThinkSystem Optical Wheel Mouse - USB	BOLN	1	\$19	1	\$19	
Lenovo D22-10 21.5inch LED Backlit LCD Monitor	61D3KCR6US	1	\$89	1	\$89	
Essential Service - 3Yr 24x7 4Hr Response (Rack)	41L2760	1	\$315	1		\$315
Subtotal					\$1,946	\$315
Total					\$250,113	\$11,309
Dollar Volume Discount (See Note 1)	39.54%	1			\$67,780	
Pricing: 1 - Lenovo 1-877-782-7134; 2 - Cloudera (See the FDR for details); Note 1: Discount applies to all line items where Pricing=1; pricing is for these or similar quantities. Discounts for similarly sized configurations will be similar to what is quoted here, but may vary based on the specific components priced. Audited by Pre-Publication Board.					Three-Year Cost of Ownership USD:	\$193,642
					IoTps:	742,256.79
					\$/IoTps:	\$0.26
<p><i>Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated Line Items. 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 Line Items. For complete details, see the pricing section of the TPC Benchmark Standard. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you</i></p>						

	Lenovo ThinkSystem SR655	TPCx-IoT: v1.0.3
		TPC-Pricing: v2.4.0
Report Date: Sep 05, 2019		
Measurement Results for Performance Run		
Total Number of Records	1,224 Million	
Warmup Run - Start Time	2019-09-03 10:34:55	
Warmup Run - End Time	2019-09-03 11:10:34	
Warmup Run Elapsed Time in Seconds	2,134.338	
Measured Run Start Time	2019-09-03 11:10:34	
Measured Run End Time	2019-09-03 11:37:51	
Total Time In Seconds	1,628.390	
Measurement Results for Repeatability Run		
Total Number of Records	1,224 Million	
Warmup Run Start Time	2019-09-03 11:56:36	
Warmup Run End Time	2019-09-03 12:33:42	
Warmup Run Elapsed Time in Seconds	2,225.802	
Measured Run Start Time	2019-09-03 12:33:42	
Measured Run End Time	2019-09-03 13:01:17	
Total Time In Seconds	1,649.025	



Lenovo ThinkSystem SR655

TPCx-IoT: v1.0.3

TPC-Pricing: v2.4.0

Report Date: Sep 05, 2019

Run Report for Performance Run

```
=====  
TPCx-IoT Performance Metric (IoTps) Report  
  
Total Time For Warmup Run In Seconds = 2,134.338  
Total Time In Seconds = 1,628.390  
Total Number of Records = 1,224 Million  
  
TPCx-IoT Performance Metric (IoTps): 751,662.6852  
  
=====
```

Run Report for Repeatability Run

```
=====  
TPCx-IoT Performance Metric (IoTps) Report  
  
Total Time For Warmup Run In Seconds = 2,225.802  
Total Time In Seconds = 1,649.025  
Total Number of Records = 1,224 Million  
  
TPCx-IoT Performance Metric (IoTps): 742,256.7881  
  
=====
```