	<h2 style="text-align: center;">Dell PowerEdge R7415</h2>		TPCx-IoT	v2.0.0
			TPC-Pricing	v2.3.0
			Report Date: April 02, 2021	
Total System Cost		TPCx-IoT Performance Metric		Price/Performance
<b>265,084 USD</b>		<b>354,811.45 IoTps</b>		<b>747.12 USD \$/kIoTps</b>
Number of Records	DBMS Software	Operating System	Other Software	Availability Date
600 Millions	HBase 2.0.0 on Cloudera Distribution for Apache Hadoop 6.0	Red Hat Enterprise Linux Server Release 7.5	None	May 24, 2019

### System Configuration


**1x Dell PowerEdge R7415 Server (Master Node)**  
 1x AMD EPYC 7401P 24-Core Processor  
 256 GB (8x 32GB RDIMM 2666MT/s Dual Rank)  
 1x 240GB SSD SATA 2.5in Hot-plug Drive  
 1x Mellanox Dual Port 25GbE SFP28 NIC



**Dell S-Series (S5048F-ON)**  
 48x25GbE and 6x100GbE Network Switch.

**7x Dell PowerEdge R7415 Servers (Data Nodes)**  
 1x AMD EPYC 7401P 24-Core Processor  
 256 GB (8x 32GB RDIMM 2666MT/s Dual Rank)  
 1x 240GB SSD SATA 2.5in Hot-plug Drive  
 1x 1.6 TB Dell NVMe  
 1x Mellanox Dual Port 25GbE SFP28 NIC

Total Number of Servers:		8x Dell PowerEdge R7415
Total Processors/Cores/Threads:		8/192/384
Server Configuration (each)	Processors	1x AMD EPYC 7401P 2.0GHz 24-Core
	Memory	256GB
	Storage Controller	Perc H740P
	Storage Device	1x 240GB SSD SATA (all nodes)
	7x	1x Dell 1.6TB NVMe (Data Nodes)
	Network	1x Mellanox Dual Port 25GbE SFP28 NIC
Connectivity:		Dell S-Series (S5048F-ON) Network Switch
Total Rack Units:		(8xR7415) + (1xS5048F) = (8x2) + (1x1) = 17RU

		<h1 style="text-align: center;">Dell PowerEdge R7415</h1>		TPCx-IoT		v2.0.0	
				TPC-Pricing		v2.3.0	
				Report Date: April 02, 2021			
Description				Part Number	Key	Unit Price	
				Qty	Extended Price	3 yr. Maint. Price	
<b>HARDWARE COMPONENTS</b>							
<b>PowerEdge R7415 Server</b>							
PowerEdge R6415/R7415 Motherboard	210-ANKR	1	\$23,619.00	7	\$165,333.00		
No Trusted Platform Module	384-BBSR	1	0.00	7	0.00		
Chassis with up to 24 x 2.5" Drives including Maximum of 8 SAS/SATA or up to 23 NVMe Drives	461-AADZ	1	0.00	7	0.00		
PowerEdge R7415 Shipping	321-BDEL	1	0.00	7	0.00		
PowerEdge R7415 x4 or x10 Drive Shipping Material	340-BVTK	1	0.00	7	0.00		
AMD EPYC™ 7401P 2.0GHz/2.8GHz, 24C/48T, 64M Cache (155W/170W) DDR4-2400/2666	343-BBGJ	1	0.00	7	0.00		
Standard Heatsink	338-BNCT	1	0.00	7	0.00		
2666MT/s RDIMMs	322-BBBL	1	0.00	7	0.00		
Performance Optimized	370-ADNU	1	0.00	7	0.00		
Unconfigured RAID	370-AAIP	1	0.00	7	0.00		
PERC H740P RAID Controller, 8GB NV Cache, Mini card	780-BCDS	1	0.00	7	0.00		
Red Hat Enterprise Linux Non Factory Install.x64.Req Lic&Sub Selection	405-AAMS	1	0.00	7	0.00		
iDRAC9,Enterprise	421-4727	1	\$0.00	3	\$0.00		
iDRAC Group Manager, Disabled	385-BBKT	1	0.00	7	0.00		
iDRAC,Factory Generated Password	379-BCQY	1	0.00	7	0.00		
Riser Config 1, 2 x 16 LP	379-BCSF	1	0.00	7	0.00		
On-Board LOM	330-BBJH	1	0.00	7	0.00		
No Internal Optical Drive	542-BBBP	1	0.00	7	0.00		
Dual, Hot-plug, Redundant Power Supply (1+1) 495W for x24 chassis	429-AAIQ	1	0.00	7	0.00		
No Bezel	450-AGZB	1	0.00	7	0.00		
Dell EMC Luggage Tag	350-BBBW	1	0.00	7	0.00		
No Quick Sync	350-BBBI	1	0.00	7	0.00		
Performance BIOS Settings	350-BBKU	1	0.00	7	0.00		
UEFI BIOS Boot Mode with GPT Partition	384-BBBL	1	0.00	7	0.00		
ReadyBails Sliding Rails With Cable Management Arm	800-BBDM	1	0.00	7	0.00		
No Systems Documentation, No OpenManage DVD Kit	770-BBBR	1	0.00	7	0.00		
US Order	631-AACK	1	0.00	7	0.00		
Dell Hardware Limited Warranty Plus On-Site Service	332-1286	1	0.00	7	0.00		
ProSupport Mission Critical: 7x24 HW / SW Technical Support and Assistance, 3 Years	816-3842	1	\$200.00	7			1,400.00
3 Years ProSupport and Mission Critical 4Hr Onsite Service	816-3859	1	\$1,438.00	7			10,066.00
Thank you choosing Dell ProSupport. For tech support, visit //www.dell.com/support or call 1-800- 945-3355	816-3843	1	\$262.00	7			1,834.00
On-Site Installation Declined	989-3439	1	\$0.00	7			0.00
32GB RDIMM 2666MT/s Dual Rank	900-9997	1	\$0.00	7			0.00
240GB SSD SATA Mixed Use 6Gbps 512e 2.5in Hot Plug S4610 Drive	370-ADNF	1	\$0.00	56	\$0.00		
Dell 1.6TB, NVMe, Mixed Use Express Flash, 2.5 SFF Drive, U.2, PM1725a with Carrier	400-BDSS	1	\$0.00	7	\$0.00		
Mellanox ConnectX-4 Lx Dual Port 25GbE SFP28 Network Adapter, Low Profile	400-AWLD	1	\$0.00	7	\$0.00		
C13 to C14, PDU Style, 12 AMP, 6.5 Feet (2m) Power Cord, North America	406-BBLD	1	\$0.00	7	\$0.00		
Dell EMC S5048F-ON Switch,48x 25GbE,6x 100GbE QSFP28, 10 to PSU.2 PSU.0S10	492-BBDI	1	\$0.00	14	\$0.00		
QSFP28, 10 to PSU airflow, 2x PSU, OS9Software, Rights to use L3 on OS9, S5048-ON	210-ANRH	1	\$25,129.00	1	25,129.00		
Dell Networking, Cable, SFP28 to SFP28, 25GbE, Passive Copper Twinax Direct Attach Cable, 2 Meter	634-BQCB	1	\$0.00	1	\$0.00		
Dell EMC S5048 Series User Guide	470-ACET	1	\$0.00	7	\$0.00		
US No Canada Ship Charge	343-BBGU	1	\$0.00	1	\$0.00		
Force10, Power Cord, 125V, 15A, 10 Feet, NEMA 5-15/C13, S-Series	332-1286	1	\$0.00	1	\$0.00		
Dell Hardware Limited Warranty 1 Year	450-AAFH	1	\$0.00	2	\$0.00		
ProSupport Mission Critical Package: 4-Hour 7x24 On-Site Service withEmergency Dispatch, 1 Year	815-5868	1	\$422.00	1			422.00
ProSupport Mission Critical Package: 4-Hour 7x24 On-Site Service withEmergency Dispatch, Extended to 2 Years	815-5876	1	\$111.00	1			111.00
ProSupport Mission Critical:7x24 HW/SW Technical Support andAssistance, 3 Years	815-5877	1	\$423.00	1			423.00
Dell Limited Hardware Warranty Extended Year(s)	815-5887	1	\$5,956.00	1			5,956.00
Thank you choosing Dell ProSupport. For tech support, visit //www.dell.com/support or call 1-800- 945-3355	975-3461	1	\$0.00	1			0.00
Info 3rd Party Software Warranty provided by Vendor	989-3439	1	\$0.00	7			0.00
On-Site Installation Declined	997-6306	1	\$0.00	1			0.00
APC NetShelter SX 24U 600mm x 1070mm Deep Enclosure	900-9997	1	\$0.00	1			0.00
Rack PDU, Basic, Zero U, 15A, 120V, 5-15 input, (14) 5-15 output	A7067508	1	\$1,079.99	1	1,079.99		
Logitech MK120 Keyboard and Mouse	A7541364	1	\$174.99	1	174.99		
Dell 24 Monitor	A6999510	1	\$15.99	1	15.99		
	210-AIWG	1	\$0.00	1	0.00		
<b>Subtotal</b>					<b>\$191,732.97</b>		<b>\$20,212.00</b>




# Dell PowerEdge R7415


TPCx-IoT v2.0.0  
TPC-Pricing v2.3.0

Report Date: April 02, 2021

Description	Extended Price	3 yr. Maint. Price	Part Number	Key	Unit Price	Qty
<b>PowerEdge R7415 Server</b>						
PowerEdge R6415/R7415 Motherboard			210-ANKR	1	\$20,360.00	
No Trusted Platform Module			384-BBSR	1	\$0.00	
2.5" Chassis with up to 10 Hard Drives, including up to 8 SAS/SATA or 9 NVME Drives			461-AADZ	1	\$0.00	
PowerEdge R7415 Shipping			321-BDEL	1	\$0.00	
PowerEdge R7415 x4 or x10 Drive Shipping Material			340-BVTK	1	\$0.00	
AMD EPYC™ 7401P 2.0GHz/2.8GHz, 24C/48T, 64M Cache (155W/170W) DDR4-2400/2666			343-BBGJ	1	\$0.00	
Standard Heatsink			338-BNCT	1	\$0.00	
2666MT/s RDIMMs			322-BBBL	1	\$0.00	
Performance Optimized			370-ADNU	1	\$0.00	
Unconfigured RAID			370-AAIP	1	\$0.00	
PERC H740P RAID Controller, 8GB NV Cache, Mini card			780-BCDS	1	\$0.00	
Red Hat Enterprise Linux Non Factory Install,x64,Req Lic&Sub Selection			405-AAMS	1	\$0.00	
iDRAC9,Enterprise			421-4727	1	\$0.00	3
iDRAC Group Manager, Disabled			385-BBKT	1	\$0.00	1
iDRAC,Factory Generated Password			379-BCQY	1	\$0.00	1
Riser Config 1, 2 x 16 LP			379-BCSF	1	\$0.00	1
On-Board LOM			330-BBJH	1	\$0.00	1
No Internal Optical Drive			542-BBBP	1	\$0.00	1
Dual, Hot-plug, Redundant Power Supply (1+1) 750W for x24 chassis			429-AAIQ	1	\$0.00	1
No Bezel			450-AGUL	1	\$0.00	1
Dell EMC Luggage Tag			325-BCHU	1	\$0.00	1
No Quick Sync			350-BBMI	1	\$0.00	1
Performance BIOS Settings			350-BBKU	1	\$0.00	1
UEFI BIOS Boot Mode with GPT Partition			384-BBBL	1	\$0.00	1
ReadyRails Sliding Rails With Cable Management Arm			800-BBDM	1	\$0.00	1
No Systems Documentation, No OpenManage DVD Kit			770-BBBR	1	\$0.00	1
US Order			631-AACK	1	\$0.00	1
Dell Hardware Limited Warranty Plus On-Site Service			332-1286	1	\$0.00	1
ProSupport Mission Critical: 7x24 HW / SW Technical Support and Assistance, 3 Years			816-3842	1	\$200.00	1
3 Years ProSupport and Mission Critical 4Hr Onsite Service			816-3859	1	\$262.00	1
Thank you choosing Dell ProSupport. For tech support, visit //www.dell.com/support or call 1-800- 945-3355			816-3843	1	\$1,438.00	1
On-Site Installation Declined			989-3439	1	\$0.00	1
32GB RDIMM 2666MT/s Dual Rank						\$0.00
240GB SSD SATA Boot 6Gbps 512n 2.5in Hot-plug Drive, 1 DWPD, 219 TBW			900-9997	1	\$0.00	1
Mellanox ConnectX-4 Lx Dual Port 25GbE SFP28 Network Adapter, Low Profile			370-ADNF	1	\$0.00	8
C13 to C14, PDU Style, 12 AMP, 6.5 Feet (2m) Power Cord, North America			400-BDSS	1	\$0.00	1
			406-BBLD	1	\$0.00	1
			492-BBDI	1	\$0.00	2
<b>Sub Total</b>					\$20,360.00	\$1,900.00
<b>HARDWARE COMPONENTS</b>			<b>Subtotal</b>		\$212,092.97	\$22,112.00
<b>SOFTWARE COMPONENTS</b>						
Cloudera Enterprise Operational DB Edition, Node License, 24x7, 1YR			CE00N-GOLD	1	\$6,000.00	24
Red Hat Enterprise Linux.1-2SKT.3yr Premium Subscription.1 Virtual Guest			421-5721	1	\$3,702	8
<b>SOFTWARE COMPONENTS</b>			<b>Subtotal</b>		\$0.00	\$173,616.00
<b>Total</b>					\$212,092.97	\$195,728.00
Large Purchase Discount (35%)*					-74,232.54	-68,504.80
Pricing: 1 Dell EMC			<b>Three-Year Cost Ownership:</b>			<b>\$265,084</b>
* Discount based upon total system cost as purchased by a regular customer.			<b>IoTps:</b>			<b>354,811.45</b>
			<b>\$/kIoTps:</b>			<b>\$747.12</b>

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 the TPC at [pricing@tpc.org](mailto:pricing@tpc.org).

	<b>Dell PowerEdge R7415</b>	TPCx-IoT v2.0.0
		TPC-Pricing v2.3.0
		Report Date: April 02, 2021
Measurement Results for Performance Run		
Total Number of Records	600 Millions	
Warmup Run - Start Time	2019-02-10 21:21:37	
Warmup Run - End Time	2019-02-10 22:08:45	
Warmup Run Elapsed Time in Seconds	2,826.715	
Measured Run Start Time	2019-02-10 22:08:45	
Measured Run End Time	2019-02-10 22:36:57	
Total Time In Seconds	1,691.039	
Measurement Results for Repeatability Run		
Total Number of Records	600 Millions	
Warmup Run Start Time	2019-02-10 22:49:56	
Warmup Run End Time	2019-02-10 23:33:25	
Warmup Run Elapsed Time in Seconds	2,608.359	
Measured Run Start Time	2019-02-10 23:33:25	
Measured Run End Time	2019-02-11 00:01:22	
Total Time In Seconds	1,676.257	

	<b>Dell PowerEdge R7415</b>	TPCx-IoT v2.0.0
		TPC-Pricing v2.3.0
		Report Date: April 02, 2021
<b>Run Report for Performance Run</b>		
<pre> ===== TPCx-IoT Performance Metric (IoTps) Report  Total Time For Warmup Run In Seconds = 2,826.72 Total Time In Seconds = 1,691.04 Total Number of Records = 600 Millions  TPCx-IoT Performance Metric (IoTps): 354,811.45  ===== </pre>		
<b>Run Report for Repeatability Run</b>		
<pre> ===== TPCx-IoT Performance Metric (IoTps) Report  Total Time For Warmup Run In Seconds = 2,608.36 Total Time In Seconds = 1,676.26 Total Number of Records = 600 Millions  TPCx-IoT Performance Metric (IoTps): 357,940.34  ===== </pre>		