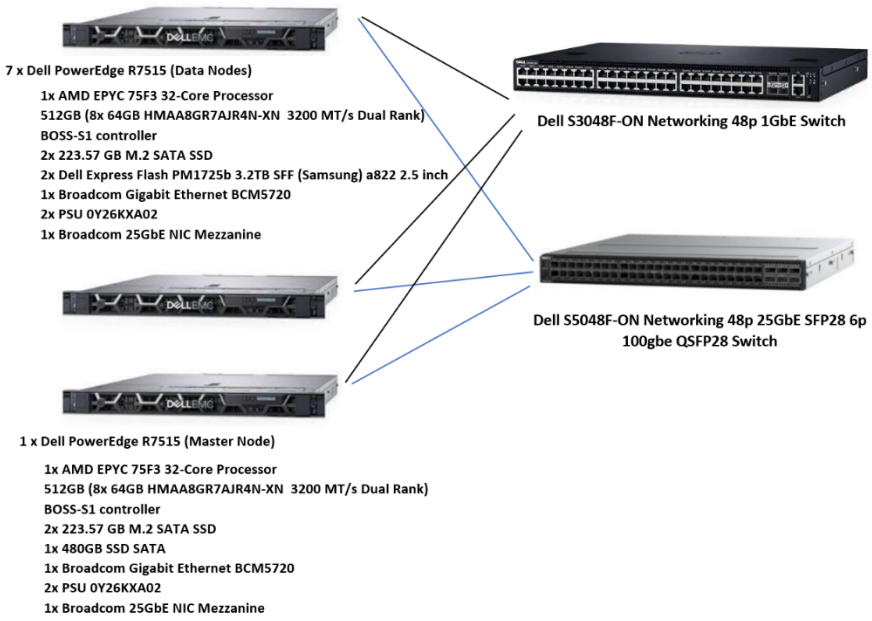
DELL EMC	**Dell PowerEdge R7515**	TPCx-IoT v1.0.5 TPC-Pricing v2.6.0 Report Date: March 15, 2021

Total System Cost	TPCx-IoT Performance Metric	Price/Performance
$533,385.29 USD	**1,617,545.46**	**$0.33 USD/IoTps**

Number of Records	DBMS Software	Operating System	Other Software	Availability Date
1,728 Million	HBase 2.2.3 on CDP 7.1.4	SuSE Enterprise Linux Server Release 12 SP5	None	April 15, 2021

System Configuration



Total Number of Servers:		8x Dell PowerEdge R7515
Total Processors/Cores/Threads:		8/256/512
Server Configuration (each)	Processors	1x AMD EPYC 75F3 2.3GHz 32-Core
	Memory	512GB
	Storage Controller	BOSS-S1 controller
	Storage Device	2x 240GB SSD SATA (all nodes) 1x 480GB SATA 6Gbps SSD (Master Node)
	7x	2x Dell 3.2TB NVMe (Data Nodes)
	Network	1x Broadcom 25GbE Mezzanine NIC 1x Broadcom Gigabit Ethernet BCM5720 NIC
	Connectivity:	Dell S-Series S5048F-ON, S3048F Network Switch
Total Rack Units:		(8xR7515)+(1xS5048F)+(1xS3048F) = (8x2) + (1x1) + (1x1) = 18RU

DELL EMC

Dell PowerEdge R7515

TPCx-IoT v1.0.5

TPC-Pricing v2.6.0

Report Date: March 15, 2021

Description	Part Number	Key	Unit Price	Qty	Extended Price
HARDWARE COMPONENTS					
PowerEdge R7515 - Data Nodes		1	$55,550.70	7	$388,854.90
2.5 Chassis	379-BDTF	1		7	
SAS/SATA/NVMe Capable Backplane	379-BDSX	1		7	
PowerEdge R7515 Server	210-ASVQ	1		7	
No Trusted Platform Module	461-AADZ	1		7	
Chassis with up to 24 x 2.5" Hard Drives Including Maximum of 24 NVME Drives	321-BERW	1		7	
AMD EPYC 75F3 3.3GHz, 32C/64T, 256M Cache (280W) DDR4-3200	338-BZRK	1		7	
Standard Heatsink	412-AASE	1		7	
Performance Optimized	370-AAIP	1		7	
3200MT/s RDIMMs	370-AEVR	1		7	
C30, No RAID for NVMe Chassis	780-BCDO	1		7	
No Controller	405-AACD	1		7	
CFI, STANDARD OPTION NOT SELECTED	692-BBBB	1		7	
Performance BIOS Settings	384-BBBL	1		7	
UEFI BIOS Boot Mode with GPT Partition	800-BBDM	1		7	
No Additional Mid Fan	384-BBSO	1		7	
Dual, Hot-plug, Redundant Power Supply (1+1), 1100W	450-ADWM	1		7	
Riser Config 2, 2 x 16 FH + 2 x 16 LP PCIe slot	330-BBNL	1		7	
PowerEdge R7515 Motherboard, with 2 x 1Gb Onboard LOM (BCM5720) V2	384-BCNR	1		7	
iDRAC9,Enterprise x5	385-BBOT	1		7	
PowerEdge 2U Standard Bezel	350-BBWP	1		7	
BOSS controller card + with 2 M.2 Sticks 240G (RAID 1),FH	403-BCHP	1		7	
No Quick Sync	350-BBKU	1		7	
iDRAC,Legacy Password	379-BCSG	1		7	
iDRAC Group Manager, Enabled	379-BCQV	1		7	
Enterprise Linux OS, Non Factory Installed, Requires Subscription Selection	605-BBFL	1		7	
No Media Required	605-BBFN	1		7	
ReadyRails Sliding Rails	770-BBBQ	1		7	
No Internal Optical Drive	429-AAIQ	1		7	
No Systems Documentation, No OpenManage DVD Kit	631-AACK	1		7	
PowerEdge R7515 Shipping	340-CMZG	1		7	
PowerEdge R7515 Ship Material	340-CODN	1		7	
PowerEdge R7515 CCC Marking, No CE Marking	343-BBPQ	1		7	
GCP Operations Management	929-8509	1		7	
Basic Next Business Day 36 Months	709-BBFM	1		7	
Prosupport Plus and 4Hr Mission Critical Initial, 36 Month(s)	865-BBNF	1		7	
On-Site Installation Declined	900-9997	1		7	
64GB RDIMM, 3200MT/s, Dual Rank	370-AEVP	1		56	
Dell 3.2TB, NVMe, Mixed Use Express Flash, 2.5 SFF Drive, U.2, PM1725b with Carrier	400-BEFE	1		14	

DELL EMC

Dell PowerEdge R7515

TPCx-IoT v1.0.5

TPC-Pricing v2.6.0

Report Date: March 15, 2021

Description	Part Number	Key	Unit Price	Qty	Extended Price
Jumper Cord - C13/C14, 4M, 250V, 12A (North America, Guam, North Marianas, Philippines, Samoa)	492-BBDV	1		14	
Mellanox ConnectX-5 EX Dual Port 40/100GbE QSFP28 Adapter, PCIe Low Profile	540-BCIX	1		7	
SUSE Linux Enterprise Server, 1-2 SKT w Unlimited VMs, L3 Subscription, 3 Year, Digitally Fulfilled	528-CHFF	1		7	
PowerEdge R7515 - Master Node		1	$48,575.72	1	$48,575.72
2.5 Chassis	379-BDTF	1		1	
SAS/SATA/NVMe Capable Backplane	379-BDSW	1		1	
PowerEdge R7515 Server	210-ASVQ	1		1	
No Trusted Platform Module	461-AADZ	1		1	
Chassis with up to 24 x 2.5" Hard Drives Including Maximum of 12 NVME Drives	321-BERS	1		1	
AMD EPYC 75F3 3.3GHz, 32C/64T, 256M Cache (280W) DDR4-3200	338-BZRK	1		1	
Standard Heatsink	412-AASE	1		1	
Performance Optimized	370-AAIP	1		1	
3200MT/s RDIMMs	370-AEVR	1		1	
Unconfigured RAID	780-BCDS	1		1	
PERC H740P RAID Controller, 8GB NV Cache, Mini card	405-AAMS	1		1	
Performance BIOS Settings	384-BBBL	1		1	
UEFI BIOS Boot Mode with GPT Partition	800-BBDM	1		1	
High Performance Fan	750-AAWT	1		1	
Dual, Hot-plug, Redundant Power Supply (1+1), 1100W	450-ADWM	1		1	
Riser Config 2, 2 x 16 FH + 2 x 16 LP PCIe slot	330-BBNL	1		1	
PowerEdge R7515 Motherboard, with 2 x 1Gb Onboard LOM (BCM5720) V2	384-BCNR	1		1	
iDRAC9,Enterprise x5	385-BBOT	1		1	
Broadcom 57414 Dual Port 25GbE SFP28 LOM Mezz Card	540-BCKU				
PowerEdge 2U Standard Bezel	350-BBWP	1		1	
BOSS controller card + with 2 M.2 Sticks 240G (RAID 1),FH	403-BCHP	1		1	
No Quick Sync	350-BBKU	1		1	
iDRAC,Legacy Password	379-BCSG	1		1	
iDRAC Group Manager, Enabled	379-BCQV	1		1	
Enterprise Linux OS, Non Factory Installed, Requires Subscription Selection	605-BBFL	1		1	
No Media Required	605-BBFN	1		1	
ReadyRails Sliding Rails	770-BBBQ	1		1	
No Internal Optical Drive	429-AAIQ	1		1	
No Systems Documentation, No OpenManage DVD Kit	631-AACK	1		1	

DELL EMC

Dell PowerEdge R7515

TPCx-IoT v1.0.5

TPC-Pricing v2.6.0

Report Date: March 15, 2021

Description	Part Number	Key	Unit Price	Qty	Extended Price
PowerEdge R7515 Shipping	340-CMZG	1		1	
PowerEdge R7515 Ship Material	340-CODN	1		1	
PowerEdge R7515 CCC Marking, No CE Marking	343-BBPQ	1		1	
GCP Operations Management	929-8509	1		1	
Basic Next Business Day 36 Months	709-BBFM	1		1	
Prosupport Plus and 4Hr Mission Critical Initial, 36 Month(s)	865-BBNF	1		1	
On-Site Installation Declined	900-9997	1		1	
64GB RDIMM, 3200MT/s, Dual Rank	370-AEVP	1		8	
480GB SSD SATA Read Intensive 6Gbps 512 2.5in Hot-plug AG Drive, 1 DWPD, 876 TBW	400-AXTV	1		1	
Jumper Cord - C13/C14, 4M, 250V, 12A (North America, Guam, North Marianas, Philippines, Samoa)	492-BBDV	1		2	
Mellanox ConnectX-5 EX Dual Port 40/100GbE QSFP28 Adapter, PCIe Low Profile	540-BCIX	1		1	
SUSE Linux Enterprise Server, 1-2 SKT w Unlimited VMs, L3 Subscription, 3 Year, Digitally Fulfilled	528-CHFF	1		1	
PowerSwitch S5248-ON - [amer_s5248-on_12922]		1	$39,234.37	1	$39,234.37
Dell EMC S5248F-ON Switch, 48x25GbE SFP28, 4x100GbE QSFP28, 2x100GbE QSFP-DD, IO to PSU, 2xPSU, OS10	210-APEX				
Dell EMC S52XX-ON Series User Guide	343-BBLP				
OS10 Enterprise, S5248F-ON	634-BRUN				
Dell Hardware Limited Warranty 1 Year	818-4856				
ProSupport Plus:Mission Critical 4-Hour 7x24 On-Site Service with Emergency Dispatch,1 Year	818-4898				
ProSupport Plus Mission Critical:7x24 HW/SW Technical Support and Assistance, 3 Years	818-4901				
ProSupport Plus:Mission Critical 4-Hour 7x24 On-Site Service with Emergency Dispatch, 2 Years Extended	818-4902				
Thank you for choosing Dell ProSupport Plus. For tech support, visit //www.dell.com/contactdell	951-2015				
Dell Limited Hardware Warranty Extended Year(s)	975-3461				
Info 3rd Party Software Warranty provided by Vendor	997-6306				
On-Site Installation Declined	900-9997				
Power Cord, 125V, 15A, 10 Feet, NEMA 5-15/C13	450-AAFH				
Power Cord, 125V, 15A, 10 Feet, NEMA 5-15/C13	450-AAFH				
Mellanox® Passive Copper cable , ETH 100GbE, 100Gb/s, QSFP28, 2m, Black, 30AWG, CA-N	AA319963		$96.67	4	$386.68
APC NetShelter SX Deep Enclosure - Rack - cabinet - black - 24U - 19-inch	A7522217	1	$1,129.99	1	$1,129.99
APC Basic Rack PDU AP9567 - 0U - 120V NEMA 5-15 Input / (14) NEMA 5-15 Output	A7541364	1	$189.99	1	$189.99
ASUS VE248Q 24 Inch LED monitor - Widescreen Full HD Monitor	A6732050	1	$136.99	3	$410.97

DELL EMC

Dell PowerEdge R7515

TPCx-IoT v1.0.5

TPC-Pricing v2.6.0

Report Date: March 15, 2021

Description	Part Number	Key	Unit Price	Qty	Extended Price
Logitech MK200 Media Keyboard and Mouse Combo	A6859396	1	$24.99	3	$74.97
C2G 6ft Cat6 Snagless Unshielded (UTP) Ethernet Network Patch Cable - Black - patch cable - 6 ft - black	A7052140	1	$5.99	9	$53.91
Dell C13 to C14, PDU Style, 250 V Power Cord, North America - 6.5 feet	450-ACHI	1	$11.93	18	$214.74
PowerSwitch S3048-ON		1	$15,066.51	1	$15,066.51
Dell Networking S3048-ON, 48x 1GbE, 4x SFP+ 10GbE ports, Stacking, IO to PSU air, 1x AC PSU, DNOS 9	210-AEDM	1		1	
ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with Emergency Dispatch, Initial Year	802-7419	1		1	
ProSupport Plus: 7x24 HW/SW Tech Support and Assistance, 3 Year	802-7434	1		1	
ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with Emergency Dispatch, 2 Year Extended	802-7435	1		1	
HARDWARE COMPONENTS				**Subtotal**	$494,192.75
SOFTWARE COMPONENTS					
Cloudera CDP - 3 year 24x7 support		1	$40,800.00	8	$326,400.00
SOFTWARE COMPONENTS				**Subtotal**	$326,400.00
Total					**$820,592.75**
Large Purchase Discount (35%)*					-287,207.46

Pricing: 1 - Dell	**Three-Year Cost of Ownership:**	**$533,385.29**
	IoTps :	**1,617,545.46**
* Discount based upon total system cost as purchased by a regular customer.	**$ / IoTps:**	**0.33**

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.

DELL EMC	**Dell PowerEdge R7515**	TPCx-IoT v1.0.5 TPC-Pricing v2.6.0 Report Date: March 15, 2021

Measurement Results for Performance Run	
Total Number of Records	2,112 Million
Warmup Run - Start Time	2021-02-26 12:15:02
Warmup Run - End Time	2021-02-26 12:53:59
Warmup Run Elapsed Time in Seconds	2,335.884
Measured Run Start Time	2021-02-26 12:54:00
Measured Run End Time	2021-02-26 13:14:31
Total Time In Seconds	1,230.240

Measurement Results for Repeatability Run	
Total Number of Records	2,112 Million
Warmup Run Start Time	2021-02-26 13:40:09
Warmup Run End Time	2021-02-26 14:12:41
Warmup Run Elapsed Time in Seconds	1,950.826
Measured Run Start Time	2021-02-26 14:12:42
Measured Run End Time	2021-02-26 14:34:29
Total Time In Seconds	1,305.682

DELL EMC	**Dell PowerEdge R7415**	TPCx-IoT v1.0.5 TPC-Pricing v2.6.0 Report Date: March 15, 2021

Run Report for Performance Run

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TPCx-IoT Performance Metric (IoTps) Report


Total Time For Warmup Run In Seconds = 2,335.88

Total Time In Seconds = 1,230.24

Total Number of Records = 2,112 Million


TPCx-IoT Performance Metric (IoTps): 1,716,738.19


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Run Report for Repeatability Run

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TPCx-IoT Performance Metric (IoTps) Report


Total Time For Warmup Run In Seconds = 1,950.82

Total Time In Seconds = 1,305.68

Total Number of Records = 2,112 Millions


TPCx-IoT Performance Metric (IoTps): 1,617,545.46


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