

VMmark[®] 4.0.1 Disclosure

Server Vendor & Model: Dell PowerEdge R6725
Storage Vendor & Model: Dell PowerStore 5000T
Hypervisor: VMware ESXi 8.0 Update 3, Build 24022510
Server Management Software: VMware vCenter Server 8.0 Update 3, Build 24022515

VMmark 4.0.1 Score =
3.89 @ 4.6 Tiles

Number of Hosts: 2	Uniform Hosts: yes	Total sockets/cores/threads in test: 4/384/768
Tested By: Dell Technologies	Test Date: 09-15-2024	SUT Availability Date: 11-19-2024
Performance Section Performance	Configuration Section Configuration	Notes Section Notes for Workload
Virtual Machines Section Virtual Machines		

Performance

TILE_0_Scores	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	
p0	14091.80	9230.74	3149.07	2355.68	1723.08	59722.46	59719.70	59720.46	72.01	1.00	
p1	14101.04	9227.21	3164.15	2368.57	1801.00	43748.12	43747.83	43747.40	67.96	1.00	
p2	14092.92	9239.79	3177.45	2398.70	1741.05	35444.46	35443.33	35444.13	51.76	1.00	
TILE_0_Ratios	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	Geo.Mean
p0	1.01	1.00	1.09	1.10	1.13	1.06	1.06	1.06	1.00	1.00	1.05
p1	1.01	1.00	1.09	1.10	1.18	0.77	0.77	0.77	0.94	1.00	0.95
p2	1.01	1.00	1.10	1.12	1.14	0.63	0.63	0.63	0.72	1.00	0.86
TILE_0_QoS	WVAuctionVM%	WVAuctionK8S%	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC			
p0	0.48 0.29	0.20 0.00	280.73	289.23	293.80	0.53	0.53	0.53			
p1	0.44 0.11	0.19 0.00	276.21	282.68	295.99	0.60	0.60	0.61			
p2	0.44 0.40	0.19 0.00	269.23	264.30	274.17	0.64	0.64	0.64			
TILE_1_Scores	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	
p0	14122.21	9253.85	3132.43	2402.38	1780.70	70587.55	70588.59	70589.17	72.03	1.00	
p1	14083.29	9241.05	3138.75	2258.40	1705.70	60909.25	60907.16	60907.12	72.01	1.00	
p2	14093.66	9235.82	3154.95	2446.12	1794.80	54791.13	54792.33	54792.42	72.01	1.00	
TILE_1_Ratios	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	Geo.Mean
p0	1.01	1.01	1.08	1.12	1.16	1.25	1.25	1.25	1.00	1.00	1.12
p1	1.01	1.00	1.08	1.05	1.11	1.08	1.08	1.08	1.00	1.00	1.05
p2	1.01	1.00	1.09	1.14	1.17	0.97	0.97	0.97	1.00	1.00	1.03
TILE_1_QoS	WVAuctionVM%	WVAuctionK8S%	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC			
p0	0.33 0.04	0.25 0.00	296.81	306.76	321.02	0.46	0.46	0.46			

p1	0.54 0.27	0.25 0.00	294.87	307.00	312.66	0.50	0.51	0.50			
p2	0.33 0.27	0.25 0.00	283.00	284.31	301.11	0.51	0.51	0.51			
TILE_2_Scores	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	
p0	14075.50	9253.85	3132.62	2403.65	1859.90	59007.31	59003.44	59005.37	72.03	1.00	
p1	14088.05	9264.46	3182.05	2288.25	1644.90	43032.54	43032.14	43032.12	71.97	1.00	
p2	14086.28	9231.68	3209.62	2476.30	1925.35	34906.77	34905.83	34906.53	71.92	1.00	
TILE_2_Ratios	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	Geo.Mean
p0	1.01	1.01	1.08	1.12	1.22	1.04	1.04	1.04	1.00	1.00	1.06
p1	1.01	1.01	1.10	1.06	1.08	0.76	0.76	0.76	1.00	1.00	0.94
p2	1.01	1.00	1.11	1.15	1.26	0.62	0.62	0.62	1.00	1.00	0.90
TILE_2_QoS	WVAuctionVM%	WVAuctionK8S%	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC			
p0	0.49 0.34	0.19 0.00	296.39	309.24	315.04	0.50	0.50	0.50			
p1	0.46 0.11	0.18 0.00	265.05	280.55	293.45	0.58	0.58	0.58			
p2	0.63 0.32	0.19 0.00	252.25	264.56	254.67	0.66	0.66	0.66			
TILE_3_Scores	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	
p0	14143.24	9266.02	3106.45	2318.05	1757.08	66460.27	66461.63	66462.61	72.05	1.00	
p1	14107.86	9242.72	3135.35	2345.18	1710.53	50278.55	50276.95	50277.20	71.96	1.00	
p2	14101.39	9249.91	3145.25	2358.55	1789.83	40861.28	40861.85	40861.82	72.00	1.00	
TILE_3_Ratios	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	Geo.Mean
p0	1.01	1.01	1.07	1.08	1.15	1.18	1.18	1.18	1.00	1.00	1.09
p1	1.01	1.00	1.08	1.09	1.12	0.89	0.89	0.89	1.00	1.00	0.99
p2	1.01	1.01	1.08	1.10	1.17	0.72	0.72	0.72	1.00	1.00	0.93
TILE_3_QoS	WVAuctionVM%	WVAuctionK8S%	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC			
p0	0.31 0.02	0.25 0.00	308.79	318.83	337.17	0.47	0.47	0.47			
p1	0.47 0.25	0.24 0.00	291.16	302.54	308.55	0.57	0.57	0.57			
p2	0.43 0.29	0.25 0.00	284.18	293.94	303.59	0.60	0.60	0.60			
TILE_4_Scores	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	
p0	N/A	N/A	3141.25	2349.60	1718.92	62716.21	62715.34	62715.70	72.01	N/A	
p1	N/A	N/A	3179.57	2366.22	1830.25	44462.86	44461.98	44462.35	71.98	N/A	
p2	N/A	N/A	3178.32	2397.55	1764.15	35685.35	35686.73	35683.59	71.92	N/A	
TILE_4_Ratios	WVAuctionVM	WVAuctionK8S	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC	SocialNetwork	Standby	Geo.Mean
p0	N/A	N/A	1.08	1.09	1.12	1.11	1.11	1.11	1.00	N/A	0.85
p1	N/A	N/A	1.10	1.10	1.20	0.79	0.79	0.79	1.00	N/A	0.74
p2	N/A	N/A	1.10	1.12	1.15	0.63	0.63	0.63	1.00	N/A	0.67
TILE_4_QoS	WVAuctionVM%	WVAuctionK8S%	DVDStoreA	DVDStoreB	DVDStoreC	NoSQLBenchA	NoSQLBenchB	NoSQLBenchC			

p0	N/A	N/A	285.65	299.58	298.85	0.41	0.41	0.41
p1	N/A	N/A	269.55	283.24	270.64	0.48	0.48	0.48
p2	N/A	N/A	268.23	264.73	259.77	0.53	0.53	0.53
p0_score:	5.17							
p1_score:	4.67							
p2_score:	4.39							

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	26.00	9.00	10.00	11.00
Avg_Seconds_To_Complete	19.13	203.17	150.30	283.82
Failures	0.00	0.00	0.00	0.00
Ratio	0.88	0.69	0.77	0.76
Number_Of_Threads	1	1	1	1
Summary		Run_Is_Compliant		Median_Phase(p1)
Unreviewed_VMmark4_Applications_Score		4.67		
Unreviewed_VMmark4_Infrastructure_Score		0.77		
Unreviewed_VMmark4_Score		3.89 @ 4.6 Tiles		

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 8.0 Update 3, Build 24022510 / 06-25-2024
Server Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 8.0 Update 3, Build 24022515 / 06-25-2024
Supplemental Software	None
Servers	
Number of Servers in System Under Test (all subsequent fields in this section are per Server)	2
Server Manufacturer and Model	Dell PowerEdge R6725
Processor Vendor and Model	AMD EPYC 9655
Processor Speed (GHz) / Turbo	

Boost Speed (GHz)	2.6 GHz / 4.5 GHz						
Total Sockets/Total Cores/Total Threads	2 Sockets / 192 Cores / 384 Threads						
NUMA Nodes	2						
BIOS Version	0.2.4 [X-REV]						
Memory Size (in GB, Number of DIMMs)	Physical Memory (BIOS): 1536 GB Physical Memory (ESXi): 1536 GB Number of DIMMs: 24						
Memory Type and Speed	Location	Size	Speed	Max Speed	Rank	Type	Detail
	A1	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A2	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A3	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A4	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A5	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A6	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A7	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A8	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A9	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A10	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A11	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	A12	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B1	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B2	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B3	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B4	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B5	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B6	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B7	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B8	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B9	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B10	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
	B11	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered
B12	64 GB	6000 MT/s	6400 MT/s	2	DDR5	Synchronous, Registered	
Number of SAS Devices	0						
SAS Device Vendors and	None						

Models	
Number of Virtual Host Bus Adapters	0
Virtual Host Bus Adapter Vendors and Models	None
Power Supply Quantity, Name/Part Number, Wattage, Firmware, and Type (Voltage, AC/DC)	2, Dell Technologies, 1PKMH, 1500W, 1308, 230V, AC
Cooling Type (Air Cooling, Closed Loop Cooling, Direct Liquid Cooling, or Other)	Air Cooling
Other Hardware	None
Other Software	None
BIOS Availability Date (MM-DD-YYYY)	11-19-2024
Hardware Availability Date (MM-DD-YYYY)	11-19-2024
Software Availability Date (MM-DD-YYYY)	06-25-2024

Network

Number of Virtual Network Controllers	4																																			
Virtual Network Controllers, Speeds, MTUs, Firmware, Drivers, Vendors, and Models	<table border="1"> <thead> <tr> <th>Device</th> <th>Speed</th> <th>Duplex</th> <th>MTU</th> <th>Firmware</th> <th>Driver</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>vmnic0</td> <td>25 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter</td> </tr> <tr> <td>vmnic1</td> <td>25 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter</td> </tr> <tr> <td>vmnic2</td> <td>25 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter</td> </tr> <tr> <td>vmnic3</td> <td>25 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter</td> </tr> </tbody> </table>	Device	Speed	Duplex	MTU	Firmware	Driver	Description	vmnic0	25 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter	vmnic1	25 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter	vmnic2	25 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter	vmnic3	25 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter
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vmnic3	25 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme E-Series Quad-port 25Gb OCP 3.0 Ethernet Adapter																														

Number of Virtual Switches	3																																				
Virtual Switches, Ports, Port Groups, MTUs, and Uplinks	<table border="1"> <thead> <tr> <th>Switch</th> <th>Ports</th> <th>Configured Ports</th> <th>MTU</th> <th>Uplinks</th> </tr> </thead> <tbody> <tr> <td>vSwitch0</td> <td>9216</td> <td>128</td> <td>9000</td> <td>vmnic0, vmnic3</td> </tr> <tr> <td>vSwitch1</td> <td>9216</td> <td>128</td> <td>9000</td> <td>vmnic1</td> </tr> <tr> <td>vSwitch2</td> <td>9216</td> <td>128</td> <td>9000</td> <td>vmnic2</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Switch</th> <th>Port Group</th> <th>VLAN ID</th> <th>Uplinks</th> </tr> </thead> <tbody> <tr> <td>vSwitch0</td> <td>Management Network</td> <td>0</td> <td>vmnic0, vmnic3</td> </tr> <tr> <td>vSwitch0</td> <td>VMNetwork</td> <td>0</td> <td>vmnic0, vmnic3</td> </tr> <tr> <td>vSwitch0</td> <td>VMNetwork2</td> <td>0</td> <td>vmnic0, vmnic3</td> </tr> </tbody> </table>	Switch	Ports	Configured Ports	MTU	Uplinks	vSwitch0	9216	128	9000	vmnic0, vmnic3	vSwitch1	9216	128	9000	vmnic1	vSwitch2	9216	128	9000	vmnic2	Switch	Port Group	VLAN ID	Uplinks	vSwitch0	Management Network	0	vmnic0, vmnic3	vSwitch0	VMNetwork	0	vmnic0, vmnic3	vSwitch0	VMNetwork2	0	vmnic0, vmnic3
Switch	Ports	Configured Ports	MTU	Uplinks																																	
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vSwitch0	VMNetwork	0	vmnic0, vmnic3																																		
vSwitch0	VMNetwork2	0	vmnic0, vmnic3																																		

	vSwitch1	vMotion	0	vmnic1
	vSwitch2	SAN	0	vmnic2

VMkernel Network Adapters, Port Groups, MTUs, TCP/IP Stacks, and Services	Device	Port Group/DVPort	MTU	TCP/IP Stack	Services
	vmk0	Management Network	1500	Default	Management
	vmk1	vMotion	9000	Default	vMotion
	vmk2	SAN	9000	Default	NVMeTCP

Physical Switch Vendors, Models, and Speeds	Dell PowerSwitch Z9432F-ON 100Gb
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Primary Storage

Storage Category	NVMe over TCP
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Datastores	Datastores	Type	Size	Storage Device
	Deploy	VMFS-6	2.2 TB	NVMe TCP Disk
	OSDATA-61d13e49-8ff8d5b8-8f82-043201373ae0	VMFSOS	128.6 GB	Local NVMe Disk
	Tiles_Datastore	VMFS-6	17.6 TB	NVMe TCP Disk
	svmotion	VMFS-6	1.1 TB	NVMe TCP Disk
	xvmotion	VMFS-6	1.1 TB	NVMe TCP Disk

Number of Storage Devices	5
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Storage Device Names, Sizes, Types, Vendors, Models, and Revisions	Storage Device	Size	Type	Vendor	Model	Revision	Path Selection Policy	Path Selection Policy Config	# Working Paths
	NVMe TCP Disk	1.1 TB	Direct-Access	NVMe	dell EMC PowerStore	3.5.0.1	LB-IOPS	iops=1	1
	NVMe TCP Disk	1.1 TB	Direct-Access	NVMe	dell EMC PowerStore	3.5.0.1	LB-IOPS	iops=1	1
	NVMe TCP Disk	2.2 TB	Direct-Access	NVMe	dell EMC PowerStore	3.5.0.1	LB-IOPS	iops=1	1
	Local NVMe Disk (Boot Device)	3.8 TB	Direct-Access	NVMe	Dell NVMe PM1743 RI E3.S 3.84TB	1.1.0	FIXED	preferred=none	1
	NVMe TCP Disk	17.6 TB	Direct-Access	NVMe	dell EMC PowerStore	3.5.0.1	LB-IOPS	iops=1	1

How Datastores Map to Storage Devices	See detailed storage notes
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VMware vSAN Configuration (if used)	None
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RAID Configuration (if used)	None
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Server Management

VMware vCenter Server Number of vCPUs	8
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VMware vCenter Server Virtual Memory (in GB)	30
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Clients

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Total Client VMs (including Prime Client)	6																																																										
Number of Client Hosts (all subsequent fields in this section are per Client Host)	2																																																										
System Model(s)	<ul style="list-style-type: none"> Client Host 1: Dell PowerEdge R7625 Client Host 2: Dell PowerEdge R7625 																																																										
Processor Vendor(s) and Model(s)	<ul style="list-style-type: none"> Client Host 1: AMD EPYC 9684X Client Host 2: AMD EPYC 9654 																																																										
Processor Speed(s) (GHz)	<ul style="list-style-type: none"> Client Host 1: 2.55 GHz Client Host 2: 2.4 GHz 																																																										
Total Sockets/Total Cores/Total Threads	<table border="1"> <thead> <tr> <th>Client Host</th> <th>Sockets</th> <th>Cores</th> <th>Threads</th> </tr> </thead> <tbody> <tr> <td>Client Host 1</td> <td>2</td> <td>192</td> <td>384</td> </tr> <tr> <td>Client Host 2</td> <td>2</td> <td>192</td> <td>384</td> </tr> <tr> <td>Total</td> <td>4</td> <td>384</td> <td>768</td> </tr> </tbody> </table>							Client Host	Sockets	Cores	Threads	Client Host 1	2	192	384	Client Host 2	2	192	384	Total	4	384	768																																				
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NUMA Nodes	<ul style="list-style-type: none"> Client Host 1: 2 Client Host 2: 2 																																																										
Memory Size (in GB) per Client Host	<table border="1"> <thead> <tr> <th>Client Host</th> <th>BIOS</th> <th>ESXi</th> </tr> </thead> <tbody> <tr> <td>Client Host 1</td> <td>6144 GB</td> <td>6144 GB</td> </tr> <tr> <td>Client Host 2</td> <td>6144 GB</td> <td>6144 GB</td> </tr> </tbody> </table>							Client Host	BIOS	ESXi	Client Host 1	6144 GB	6144 GB	Client Host 2	6144 GB	6144 GB																																											
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Client Host 1	6144 GB	6144 GB																																																									
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Virtual Network Controllers, Speeds, MTUs, Firmware, Drivers, Vendors, and Models	<table border="1"> <thead> <tr> <th>Client Host</th> <th>Device</th> <th>Speed</th> <th>Duplex</th> <th>MTU</th> <th>Firmware</th> <th>Driver</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Client Host 1</td> <td>vmnic0</td> <td>1 Gbps</td> <td>Full</td> <td>1500</td> <td>bc 1.39 ncsi 1.5.53.0</td> <td>ntg3</td> <td>Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet</td> </tr> <tr> <td>vmnic4</td> <td>100 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet</td> </tr> <tr> <td>vmnic5</td> <td>100 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.62.0 /pkg 22.92.07.50</td> <td>bnxtnet</td> <td>Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet</td> </tr> <tr> <td rowspan="3">Client Host 2</td> <td>vmnic0</td> <td>1 Gbps</td> <td>Full</td> <td>1500</td> <td>bc 1.39 ncsi 1.5.53.0</td> <td>ntg3</td> <td>Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet</td> </tr> <tr> <td>vmnic4</td> <td>100 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.54.0 /pkg 22.92.06.10</td> <td>bnxtnet</td> <td>Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet</td> </tr> <tr> <td>vmnic5</td> <td>100 Gbps</td> <td>Full</td> <td>9000</td> <td>229.2.54.0 /pkg 22.92.06.10</td> <td>bnxtnet</td> <td>Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet</td> </tr> </tbody> </table>							Client Host	Device	Speed	Duplex	MTU	Firmware	Driver	Description	Client Host 1	vmnic0	1 Gbps	Full	1500	bc 1.39 ncsi 1.5.53.0	ntg3	Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet	vmnic4	100 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet	vmnic5	100 Gbps	Full	9000	229.2.62.0 /pkg 22.92.07.50	bnxtnet	Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet	Client Host 2	vmnic0	1 Gbps	Full	1500	bc 1.39 ncsi 1.5.53.0	ntg3	Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet	vmnic4	100 Gbps	Full	9000	229.2.54.0 /pkg 22.92.06.10	bnxtnet	Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet	vmnic5	100 Gbps	Full	9000	229.2.54.0 /pkg 22.92.06.10	bnxtnet	Broadcom NetXtreme-E P2100D BCM57508 2x100G QSFP PCIE Ethernet
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Virtual Switches, Ports, Port Groups, MTUs, and Uplinks		vSwitch1	9216	128	9000	vmnic5	
	Client Host 2	vSwitch0	9216	128	9000	vmnic4	
		VCHA	9216	1024	1500	vmnic1	
		VAAI	9216	1024	1500	vmnic0	
		vSwitch1	9216	128	9000	vmnic5	
	Client Host	Switch	Port Group	VLAN ID	Uplinks		
	Client Host 1	vSwitch0	Management Network	0	vmnic4		
		vSwitch0	VMNetwork	0	vmnic4		
		vSwitch0	VMNetwork2	0	vmnic4		
		VCHA	VCHA	0	vmnic1		
		VAAI	VAAI	0	vmnic0		
		vSwitch1	SAN	0	vmnic5		
	Client Host 2	vSwitch0	Management Network	0	vmnic4		
		vSwitch0	VMNetwork	0	vmnic4		
vSwitch0		VMNetwork2	0	vmnic4			
VCHA		VCHA	0	vmnic1			
VAAI		VAAI	0	vmnic0			
vSwitch1		SAN	0	vmnic5			
VMkernel Network Adapters, Port Groups, MTUs, TCP/IP Stacks, and Services	Client Host	Device	Port Group/DVPort	MTU	TCP/IP Stack	Services	
	Client Host 1	vmk0	Management Network	1500	Default	Management	
		vmk1	SAN	9000	Default	NVMeTCP	
	Client Host 2	vmk0	Management Network	1500	Default	Management	
vmk1		SAN	9000	Default	NVMeTCP		
Client Storage Notes	See Client Notes Section						
Other Hardware	None						
Other Software	VMware ESXi 8.0 Update 3, Build 24022510						

Notes for Workload

Template deployed with disk type: Thick Eager

Virtualization Software Notes

- vSphere DRS Enabled
- vSphere DRS Automation Level set to Fully Automated
- vSphere DRS Migration Threshold set to 2

- Logical CPU layout changed for all multi-CPU VMs to 1 socket with multiple cores (default single core per socket) except Prime Client, Template, Client and AuctionK* VMs
- Logging was disabled for all VMs (default enabled)
- All DS35DB VMs had CPU shares set to High (default Normal)
- All DS35DB VMs had Memory shares set to High (default Normal)
- All memory reserved (LockedToMax) for all DS35DB VMs
- All Standby VMs had CPU shares set to Low (default Normal)
- sched.mem.lpage.enable1GPage set to TRUE for all DS35DB VMs (default FALSE)
- CD/DVD device was removed from all VMs except Prime Client (default present)

SUT Host ESXi Advanced Settings:

Advanced Setting	Host 1	Host 2	Default
Cpu.CreditAgePeriod	1000	1000	3000
Cpu.HTWholeCoreThreshold	0	0	800
DataMover.HardwareAcceleratedInit	0	0	1
DataMover.HardwareAcceleratedMove	0	0	1
Disk.IdleCredit	64	64	32
Disk.ReqCallThreshold	1	1	8
Mem.CtlMaxPercent	0	0	65
Mem.ShareScanGHz	0	0	4
Numa.LTermFairnessInterval	0	0	5
Numa.LocalityWeightActionAffinity	0	0	130
Numa.MigImbalanceThreshold	57	57	10
Numa.PageMigEnable	0	0	1
Numa.RebalancePeriod	60000	60000	2000
Numa.SwapLoadEnable	0	0	1
Numa.SwapLocalityEnable	0	0	1
Power.CpuPolicy	Performance	Performance	Balanced
UserVars.HostClientCEIPOptIn	2	2	0
UserVars.SuppressShellWarning	1	1	0

SUT Host ESXi Module Options:

Module	Host 1	Host 2	Default
tcpip4	ipv6=1	ipv6=1	ipv6=1

Server Notes

Server BIOS Settings:

- System Profile Settings : Performance (default Performance per Watt(OS))
- Thermal Profile : Max Performance (default Default Thermal Profile Settings)

- Multi-segment Enable : Disabled (default Enabled)

Networking Notes

SUTs:

- vSwitch0 : Management Network (vmk0), VMNetwork and VMNetwork2 using vmnic0 and vmnic3
- vSwitch1 : vMotion (vmk1) using vmnic 1
- vSwitch2 : SAN (vmk2) using vmnic2
- vmk0 is set to MTU 1500 in all Hosts
- All vSwitches, vmk1, vmk2 and vmnic0-vmnic3 set to MTU 9000

ClientHost 1 and ClientHost 2:

- vSwitch0 : Management Network (vmk0), VMNetwork and VMNetwork2 using vmnic4
 - vSwitchVCHA : using vmnic 1
 - vSwitchVAAI :VAAI using vmnic0
 - vSwitch1 : SAN using vmnic5
- All vSwitch (Except for VCHA and VAAI) vmk1, vmk2 and vmnic4, vmnic5 set to MTU 9000

Storage Notes

- Primary Storage : Dell PowerStore 5000T, Software Version :3.5.0.1, Build 2083289
- Drives used in Dell PowerStore 5000T : 6 x 7.7TB NVMe SSD
- NVMe over TCP was used for connectivity to the LUNs in PowerStore 5000T
- Claim rules were used to change the Path Selection Policy to LB-IOPS and iops=1
- Template was located on the Deploy Datastore which was created on the PowerStore for Deploy operations (Deploy : 2TB)
- On both SUT hosts Dell Customized VMware ESXi 8.0 Update 3 was installed on Dell NVMe PM1743 MU E3.S 3.84TB
- On both Client hosts, VMware ESXi 8.0 Update 3 was installed on installed on Dell Ent NVMe v2 AGN MU U.2 6.4TB

Server Management Notes

VMware vCenter Server 8.0 Update 3, Build 24022515 was hosted as a VM on ClientHost1

Operating System Notes

SUT Host ESXi Image Profile: DEL-ESXi_803.24022510-X71

Software Notes

SUT Host ESXi Image Profile: DEL-ESXi_803.24022510-X71

Client Notes

- vSphere DRS Disabled

Client Host BIOS settings:

- L2 Prefetcher : Disabled (default Enabled)
- L2 Up/Down Prefetcher : Disabled (default Enabled)

- System Profile Settings : Performance (default Performance per Watt(OS))
- Thermal Profile : Max Performance (default Default Thermal Profile Settings)

Client Host ESXi Advanced Settings:

Advanced Setting	Host 1	Host 2	Default
Cpu.CreditAgePeriod	1000	1000	3000
Cpu.HTWholeCoreThreshold	0	0	800
DataMover.HardwareAcceleratedInit	0	0	1
DataMover.HardwareAcceleratedMove	0	0	1
Disk.IdleCredit	64	64	32
Disk.ReqCallThreshold	1	1	8
Mem.CtlMaxPercent	0	0	65
Mem.ShareScanGHz	0	0	4
Numa.LTermFairnessInterval	0	0	5
Numa.LocalityWeightActionAffinity	0	0	130
Numa.MigImbalanceThreshold	57	57	10
Numa.PageMigEnable	0	0	1
Numa.RebalancePeriod	60000	60000	2000
Numa.SwapLoadEnable	0	0	1
Numa.SwapLocalityEnable	0	0	1
Power.CpuPolicy	Performance	Performance	Balanced
UserVars.HostClientCEIPOptIn	2	2	0
UserVars.SuppressShellWarning	1	1	0

Client Host ESXi Module Options:

Module	Host 1	Host 2	Default
tcpip4	ipv6=1	ipv6=1	ipv6=1

Client Host ESXi Image Profile: DEL-ESXi_803.24022510-A00

Client Host VMs:

- Client Host 1: Client0, Client2, Client4, Prime Client, VCSA
- Client Host 2: Client1, Client3

Other Notes

None

VMmark4.properties Settings

- Default Settings

Virtual Machines

SUT Host Virtual Machines

VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
AuctionAppA0	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppA1	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppA2	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppA3	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppA4	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
AuctionAppB0	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppB1	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppB2	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppB3	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppB4	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
AuctionAppC0	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppC1	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppC2	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppC3	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionAppC4	4	4	8192	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
AuctionKA0	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKA1	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKA2	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKA3	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKA4	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
AuctionKB0	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKB1	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325
AuctionKB2	8	1	32768	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Tiles_Datastore	VMNetwork2	17	12325

VM	vCPUs	Cores Per Socket	Memory (MB)	Sync Time	Logging	CD/DVD	CPU Res	CPU Limit	CPU Shares	Mem Res	Mem Limit	Mem Shares	Mem Pin	Mem 1G Page	Disk Shares	Datastore	Port Group	vHW Version	Tools Version
Client0	64	1	98304	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork2	17	12325
Client1	64	1	98304	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork2	17	12325
Client2	64	1	98304	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork2	17	12325
Client3	64	1	98304	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork2	17	12325
Client4	64	1	98304	TRUE	FALSE	Removed	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork2	17	12325
Prime Client	4	1	32768	TRUE	FALSE	Present	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	Client_Datastore	VMNetwork, VMNetwork2	17	12325
VCSA	8	1	30720	TRUE	TRUE	Present	0	Unlimited	normal	0	Unlimited	normal	FALSE	FALSE	normal	datastore1	VMNetwork, VCHA, VAAI	10	12389

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