VMmark® 3.1.1 Results

Server Vendor & Model: Dell PowerEdge C6615 **Storage Vendor & Model: VMware vSAN 8.0 U2 - All Flash** **Hypervisor: VMware ESXi 8.0 U2, Build 22380479** **Datacenter Management Software: VMware vCenter Server 8.0 U2a, Build 22617221**	**VMmark 3.1.1 Server PPKW Score = 18.2000 @ 16 Tiles**

Number of Hosts: 4	**Uniform Hosts [yes/no]: yes**	**Total sockets/cores/threads in test: 4/256/512**
Tested By: Dell Technologies		**Test Date: 12-20-2023**

Performance Section	**Configuration Section**	**Notes Section**
Performance	Configuration	Notes for Workload

Performance

	weathervane			weathervaneE			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3585.87	1.00	0.17 | 0.00	572.28	1.00	0.39 | 0.02	1117.25	1.52	431.43	808.67	1.62	493.38	601.65	1.73	546.20	1.34
p1	3581.66	1.00	0.16 | 0.00	567.22	0.99	0.34 | 0.06	1122.88	1.53	422.54	838.55	1.68	491.12	605.52	1.75	536.62	1.35
p2	3571.24	0.99	0.16 | 0.00	563.27	0.98	0.31 | 0.04	1121.60	1.53	420.27	789.08	1.58	485.28	576.98	1.66	537.08	1.31
TILE_1	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3579.00	0.99	0.16 | 0.00	568.34	0.99	0.35 | 0.01	1120.95	1.53	423.47	838.95	1.68	486.39	607.40	1.75	530.97	1.35
p1	3561.27	0.99	0.17 | 0.00	570.73	1.00	0.29 | 0.00	1122.47	1.53	420.87	810.52	1.62	486.12	608.58	1.75	520.27	1.34
p2	3549.82	0.99	0.17 | 0.00	567.78	0.99	0.29 | 0.03	1119.65	1.52	424.63	810.10	1.62	494.41	580.52	1.67	534.93	1.32
TILE_2	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3578.67	0.99	0.16 | 0.00	573.28	1.00	0.43 | 0.06	1104.97	1.50	442.93	826.12	1.65	508.09	596.80	1.72	562.53	1.34
p1	3565.47	0.99	0.16 | 0.00	570.13	1.00	0.33 | 0.01	1111.33	1.51	440.46	801.60	1.60	511.76	600.42	1.73	555.27	1.33
p2	3553.20	0.99	0.16 | 0.00	569.52	1.00	0.41 | 0.02	1103.55	1.50	448.15	796.90	1.59	524.07	566.73	1.63	579.28	1.31
TILE_3	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3586.55	1.00	0.16 | 0.00	570.41	1.00	0.38 | 0.01	1112.05	1.51	428.62	835.85	1.67	493.81	602.50	1.74	539.95	1.34
p1	3568.72	0.99	0.16 | 0.00	569.22	0.99	0.36 | 0.00	1117.28	1.52	431.82	803.27	1.60	500.44	601.50	1.73	543.43	1.33
p2	3547.08	0.99	0.17 | 0.00	563.43	0.98	0.33 | 0.01	1114.83	1.52	431.27	809.73	1.62	500.56	573.98	1.66	549.07	1.32
TILE_4	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3580.97	1.00	0.17 | 0.00	563.21	0.98	0.29 | 0.01	1113.67	1.52	439.23	829.98	1.66	505.53	594.08	1.71	557.77	1.33
p1	3562.15	0.99	0.17 | 0.00	559.49	0.98	0.26 | 0.02	1113.42	1.52	438.28	803.17	1.60	510.61	598.85	1.73	557.58	1.32
p2	3555.77	0.99	0.17 | 0.00	559.06	0.98	0.25 | 0.02	1113.75	1.52	436.39	806.00	1.61	509.08	572.20	1.65	558.70	1.31
TILE_5	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3583.24	1.00	0.17 | 0.00	571.31	1.00	0.43 | 0.02	1111.83	1.51	433.90	834.52	1.67	501.62	601.70	1.74	555.07	1.34

p1	3565.48	0.99	0.17 | 0.00	570.29	1.00	0.40 | 0.02	1110.38	1.51	439.32	799.52	1.60	511.80	597.23	1.72	563.26	1.33
p2	3551.31	0.99	0.17 | 0.00	568.58	0.99	0.40 | 0.02	1108.00	1.51	439.85	795.40	1.59	515.91	567.27	1.64	571.89	1.31
TILE_6	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3572.48	0.99	0.16 | 0.00	570.76	1.00	0.40 | 0.02	1103.00	1.50	461.68	818.30	1.63	535.93	586.83	1.69	599.38	1.33
p1	3554.19	0.99	0.16 | 0.00	565.67	0.99	0.30 | 0.01	1103.65	1.50	464.78	793.52	1.59	542.94	591.02	1.70	591.50	1.32
p2	3548.67	0.99	0.16 | 0.00	562.47	0.98	0.24 | 0.03	1099.60	1.50	463.35	787.33	1.57	546.51	559.30	1.61	611.26	1.30
TILE_7	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3578.78	0.99	0.16 | 0.00	563.08	0.98	0.23 | 0.01	1112.45	1.51	442.20	826.85	1.65	509.04	598.23	1.72	563.15	1.33
p1	3559.35	0.99	0.17 | 0.00	561.63	0.98	0.23 | 0.02	1104.12	1.50	445.16	798.02	1.59	520.84	592.33	1.71	570.22	1.32
p2	3551.63	0.99	0.17 | 0.00	562.55	0.98	0.27 | 0.00	1110.70	1.51	445.65	799.88	1.60	519.23	566.95	1.63	569.37	1.31
TILE_8	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3577.06	0.99	0.16 | 0.00	565.59	0.99	0.22 | 0.05	1116.75	1.52	430.63	835.48	1.67	492.88	600.23	1.73	543.98	1.34
p1	3568.17	0.99	0.16 | 0.00	567.25	0.99	0.24 | 0.01	1123.83	1.53	419.17	804.52	1.61	494.96	600.90	1.73	547.02	1.33
p2	3556.92	0.99	0.16 | 0.00	565.25	0.99	0.27 | 0.00	1115.38	1.52	431.74	810.62	1.62	493.21	574.95	1.66	549.14	1.32
TILE_9	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3580.90	1.00	0.15 | 0.00	565.63	0.99	0.24 | 0.01	1112.33	1.51	434.88	837.77	1.67	495.18	597.92	1.72	555.29	1.34
p1	3575.71	0.99	0.15 | 0.00	565.41	0.99	0.25 | 0.02	1117.40	1.52	431.00	801.95	1.60	508.37	597.05	1.72	563.88	1.33
p2	3563.02	0.99	0.16 | 0.00	564.80	0.99	0.23 | 0.00	1110.97	1.51	444.08	806.88	1.61	509.08	569.73	1.64	570.05	1.31
TILE_10	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3581.81	1.00	0.16 | 0.00	567.28	0.99	0.24 | 0.02	1092.40	1.49	473.89	816.40	1.63	541.37	588.77	1.70	605.83	1.32
p1	3568.42	0.99	0.16 | 0.00	567.16	0.99	0.24 | 0.01	1099.78	1.50	455.55	791.05	1.58	542.11	563.40	1.62	597.20	1.30
p2	3555.41	0.99	0.16 | 0.00	563.81	0.99	0.25 | 0.01	1097.70	1.49	470.44	790.12	1.58	542.44	584.27	1.68	611.51	1.31
TILE_11	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3587.64	1.00	0.17 | 0.00	567.12	0.99	0.26 | 0.00	1107.80	1.51	440.32	831.92	1.66	499.69	626.62	1.81	559.20	1.35
p1	3565.66	0.99	0.17 | 0.00	563.06	0.98	0.28 | 0.02	1115.85	1.52	430.73	773.83	1.55	513.05	571.90	1.65	564.00	1.30
p2	3558.85	0.99	0.18 | 0.00	560.12	0.98	0.20 | 0.01	1104.00	1.50	448.14	823.55	1.65	518.31	591.40	1.71	579.12	1.33
TILE_12	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3576.75	0.99	0.16 | 0.00	571.07	1.00	0.39 | 0.02	1116.47	1.52	436.85	836.45	1.67	495.85	626.40	1.81	556.71	1.35
p1	3561.07	0.99	0.16 | 0.00	565.96	0.99	0.27 | 0.02	1117.60	1.52	423.42	781.05	1.56	497.08	574.95	1.66	551.10	1.31
p2	3555.19	0.99	0.16 | 0.00	559.88	0.98	0.23 | 0.01	1119.83	1.52	428.11	836.10	1.67	493.22	597.38	1.72	550.81	1.34
TILE_13	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3583.39	1.00	0.16 | 0.00	570.36	1.00	0.38 | 0.01	1107.72	1.51	446.61	856.38	1.71	505.35	625.42	1.80	564.14	1.36
p1	3577.18	0.99	0.17 | 0.00	566.46	0.99	0.28 | 0.02	1114.22	1.52	432.33	771.77	1.54	505.14	571.67	1.65	563.30	1.31
p2	3565.48	0.99	0.17 | 0.01	562.78	0.98	0.24 | 0.01	1109.38	1.51	444.72	827.33	1.65	512.16	596.25	1.72	570.54	1.33
TILE_14	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3580.89	1.00	0.16 | 0.00	568.47	0.99	0.36 | 0.00	1097.67	1.49	467.07	819.25	1.64	538.51	615.27	1.77	598.87	1.34

p1	3569.69	0.99	0.17 | 0.00	562.39	0.98	0.25 | 0.01	1105.00	1.50	455.26	793.45	1.59	532.80	563.42	1.62	604.42	1.30
p2	3560.50	0.99	0.16 | 0.00	561.17	0.98	0.25 | 0.01	1100.45	1.50	466.70	821.85	1.64	537.43	587.77	1.69	600.54	1.32
TILE_15	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3577.60	0.99	0.16 | 0.00	565.92	0.99	0.25 | 0.02	1107.78	1.51	443.07	825.40	1.65	510.20	625.48	1.80	557.63	1.35
p1	3562.99	0.99	0.16 | 0.00	561.22	0.98	0.25 | 0.01	1117.75	1.52	427.34	806.40	1.61	498.98	571.25	1.65	562.00	1.31
p2	3551.27	0.99	0.16 | 0.00	557.81	0.97	0.26 | 0.02	1106.83	1.51	445.48	828.77	1.66	512.00	596.67	1.72	569.25	1.33

p0_score:	21.45
p1_score:	21.13
p2_score:	21.07

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	57.00	52.00	42.00	23.00
Avg_Seconds_To_Complete	4.49	87.48	105.87	269.28
Failures	0.00	0.00	0.00	0.00
Ratio	2.19	2.89	2.33	2.88
Number_Of_Threads	2	2	2	2

PTD_Summary:		
Number_of_PTD_Daemons	1	
Number_of_PTD_Phases	3	
PTD_Phase_Timing	2400secs	
PtdTiming:	ptd0	ptd1
p0	0	---
p1	0	---
p2	0	---

PTD_Results:							
p0	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	956.80	205.88	4.69	0.99	2399.00	0.00
p1	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	956.96	205.87	4.69	0.99	2400.00	0.00
p2	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	957.60	205.88	4.69	0.99	2400.00	0.00

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p1)
Unreviewed_VMmark3_Avg_Watts	956.96	
Unreviewed_VMmark3_Applications_Score	21.13	

Unreviewed_VMmark3_Infrastructure_Score	2.55
Unreviewed_VMmark3_Score	17.42
Unreviewed_VMmark3_PPKW	18.2000

Configuration

PTD Configuration	
Number of Power Meters	2
Power Meter Vendors and Models	2x Yokogawa WT210
Power Meter PTD Target(s) (SERVER/EXT_STOR)	SERVER
Power Meter Connection Type(s) (Eth/GPIB/Serial/USB)	Serial
Power Meter Calibration Date(s) (MM-DD-YYYY)	10-13-2023 (S/N: 91J936840)
Power Meter Calibration Info (Calibrated By/Duration)	Tescom/one year/91J936840
Power Meter(s) Volt/Amp Range	300 / 10
Power Source Voltage/Frequency/Phase	208V / 60Hz / 3-phase
PTD Client Configuration	
Number of Power Meter Clients	1
System Model(s)	PrimeClient, details in client configuration section
Processor Vendor(s) and Model(s)	PrimeClient, details in client configuration section
Processor Speed(s) (GHz)	PrimeClient, details in client configuration section
Total Sockets/Total Cores/Total Threads	PrimeClient, details in client configuration section
Memory Per Power Meter Client	PrimeClient, details in client configuration section
Network Controller(s) Vendors and Models	PrimeClient, details in client configuration section
Operating System, Version, and Service Pack	PrimeClient, details in client configuration section
Other Hardware	2x Future Technology Devices International, LTD FT232 Serial (UART) IC
Other Software	None

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	Dell Customized Image of VMware ESXi 8.0 U2, Build 22380479 / 09-21-2023
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 8.0 U2a, Build 22617221 / 10-26-2023

Supplemental Software	None
Servers	
Number of Servers in System Under Test (all subsequent fields in this section are per server)	4
Server Manufacturer and Model	Dell PowerEdge C6615
Processor Vendor and Model	AMD EPYC 8534P
Processor Speed (GHz) / Turbo Boost Speed (GHz)	2.3 / 3.1
Total Sockets/Total Cores/Total Threads	1 Sockets / 64 Cores / 128 Threads
Primary CPU Cache	32KB I + 32 KB D on chip per core
Secondary CPU Cache	1MB I + D on chip per core
Other CPU Cache	128MB I + D on chip per chip, 16MB shared / 8 cores
BIOS Version	1.2.2
Memory Size (in GB, Number of DIMMs)	576GB, 6
Memory Type and Speed	96GB Dual Rank x4 DDR5, 4800MT/s RDIMM
Disk Subsystem Type	vSAN, iSCSI SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	VMware iSCSI Software Adapter
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Dell EC NVMe ISE 7400 RI M.2 960GB
Number of Host Bus Adapters	0
Host Bus Adapter Vendors and Models	N/A
Number of Network Controllers	2
Network Controller Vendors and Models	• 1x Mellanox ConnectX-6 Dx Dual Port 100GbE QSFP56 Adapter • 1x Broadcom Advanced Dual 25Gb Ethernet Adapter
Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	05-22-2023
BIOS Availability Date (MM-DD-YYYY)	12-07-2023

Software Availability Date (MM-DD-YYYY)	10-26-2023
Network	
Network Switch Vendors and Models	1x Dell EMC Z9432F-On switch
Network Speed	• 1x 100Gbps for Management and vSAN • 2x 25Gbps for Workload VMs excluding Standby and Template VMs • 1x 100Gbps for vMotion, Standby and Template VMs
Primary Storage	
Storage Category	VMware vSAN
Storage Vendors, Models, and Firmware Versions	4x Dell PowerEdge C6615 servers in a VMware vSAN 8.0 U2 cluster
Storage Configuration Summary	VMware vSAN • 1x Disk Group per Host • 4x Dell Ent NVMe v2 AGN MU U.2 6.4TB
Datacenter Management Server	
System Model	Dell PowerEdge R7625
Processor Vendor and Model	AMD EPYC 9634
Processor Speed (GHz)	2.25
Total Sockets/Total Cores/Total Threads	2 Sockets / 168 Cores / 336 Threads
Memory Size (in GB, Number of DIMMs)	1536GB, 24
Network Controller(s) Vendors and Models	1xBroadcom BCM57508 2x100G QSFP PCIE Adapter
Operating System, Version, Bitness, and Service Pack	VMware ESXi 8.0 U2, Build 22380479
Virtual Center VM Number of vCPUs	4
Virtual Center VM Virtual Memory (in GB)	21
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 8.0 U2a, Build 22617221
Other Hardware	None
Other Software	None
Clients	
Total Number of Virtual Clients / Virtual Client	17 / 2

Hosts	
System Model(s)	2x Dell PowerEdge R7625
Processor Vendor(s) and Model(s)	AMD EPYC 9634
Processor Speed(s) (GHz)	2.25
Total Sockets/Total Cores/Total Threads	2 Sockets / 168 Cores / 336 Threads
Memory per Virtual Client Host	1536GB
Network Controller(s) Vendors and Models	1x Broadcom BCM57508 2x100G QSFP PCIE Adapter
Virtual Client Networking Notes	• vSwitch0 on vmnic2 for Management and VM Network at 100Gbps • vSwitch1 on vmnic3 for iSCSI at 100Gbps
Virtual Client Storage Notes	All Virtual Clients Storage on PowerStore 1200T iSCSI SAN storage
Other Hardware	None
Other Software	None

Security Mitigations

Vulnerability	CVE	Exploit Name	Public Vulnerability Name	Mitigated		
				Server Firmware	ESXi	Guest OS
Spectre	2017-5753	Variant 1	Bounds Check Bypass	N/A	Not Vulnerable	Not Vulnerable
Spectre	2017-5715	Variant 2	Branch Target Injection	Not Vulnerable	Not Vulnerable	Not Vulnerable
Meltdown	2017-5754	Variant 3	Rogue Data Cache Load	N/A	Not Vulnerable	Not Vulnerable
Spectre-NG	2018-3640	Variant 3a	Rogue System Register Read	Not Vulnerable	N/A	N/A
Spectre-NG	2018-3639	Variant 4	Speculative Store Bypass	N/A	Not Vulnerable	Not Vulnerable
Foreshadow	2018-3615	Variant 5	L1 Terminal Fault - SGX	N/A	N/A	N/A
Foreshadow-NG	2018-3620	Variant 5	L1 Terminal Fault - OS	N/A	N/A	Not Vulnerable
Foreshadow-NG	2018-3646	Variant 5	L1 Terminal Fault - VMM	N/A	Not Vulnerable	N/A

Notes for Workload

Template deployed with disk type: Thin

Virtualization Software Notes

- vSphere DRS Migration Threshold level set to 1
- Logical CPU configuration changed for all multi-CPU VMs (except for the PrimeClient VM), to 1 socket with multiple cores (default single core per socket)
- CPU shares set to high for all DS3DB, ElasticDB, ElasticLB and DS3WebA VMs (default normal)
- Memory shares set to high for all DS3DB VMs (default normal)

- CDROM removed from all VMs except Prime Client and template VMs
- All memory reserved for DS3DB VMs (default non-reserved)
- CPU shares set to low for all Standby VMs (default normal)
- sched.mem.lpage.enable1GPage set to TRUE for all DS3DB VMs (default false)
- sched.mem.pin set to TRUE for all DS3DB VMs (default False)
- Third virtual disk removed from DS3DB0 before cloning DS3DB VMs for other tiles
- vSphere DRS Advanced Option AggressiveCPUActive set to 1
- Logging disabled for all VMs (default enabled)
- Prime Client's second virtual disk configured to be 400GB (default 200GB)

SUT Advanced Settings:

- Cpu.CreditAgePeriod = 1000 (default 3000)
- Cpu.HTWholeCoreThreshold = 0 (default 800)
- Disk.IdleCredit = 64 (default 32)
- Disk.ReqCallThreshold = 1 (default 8)
- Mem.CtlMaxPercent = 0 (default 65)
- Mem.ShareScanGHz = 0 (default 4)
- Numa.LocalityWeightActionAffinity = 0 (default 130)
- UserVars.HostClientCEIPOptIn = 2 (default 0)
- Power.CpuPolicy = High Performance (default Balanced)
- UserVars.SuppressShellWarning = 1 (default 0)

Server Notes

Server BIOS Settings:

- Fan speed Offset = Maximum (default off)
- L2 Stream HW Prefetcher = Disabled (default Auto)
- L2 Up Down Prefetcher = Disabled (default disabled)
- System Profile Settings = Performance (default Perfromance Per Watt (DAPC))

Networking Notes

SUT cluster - vSwitch Configuration

- vSwitch0 for Management and vSAN on vmnic3 at 100Gbps
- vSwitch1 for vMotion and VM Network on vmnic2 at 100Gbps
    - Standby VMs and templates hosted on VM Network
- vSwitch2 for DS3* VMs on vmnic0 at 25Gbps
- vSwitch3 for iSCSI, Auction* and Elastic* VMs on vmnic1 at 25Gbps
- All vSwitches, vmnic0 - vmnic3, vmk0 - vmk2 have MTU set to 9000 (default 1500)

Storage Notes

Host OS installed on Dell EC NVMe ISE 7400 RI M.2 960GB

Primary Storage

- VMware vSAN 8.0.2 OSA
- Capacity : 69.86TB
- Cache : 21.58TB

Hardware Configuration:

- Each Host has 1 disk group
- Each disk group used:
  - Caching device : 1xDell Ent NVMe v2 AGN MU U.2 6.4TB for vSAN Caching tier
  - Capacity device : 3xDell Ent NVMe v2 AGN MU U.2 6.4TB for vSAN capacity tier
  - vsanDatastore was used for all SUT VMs and template VMs

Software Configuration:

- RDMA support service enabled for vSAN over RDMA

Secondary Storage

- Dell EMC PowerStore 1200T
- 12x Dell Ent NVMe U.2 7.68TB SSDs
- iSCSI is used for Infrastructure Operation LUNs
- All SUT hosts were configured to use iops=1 (default 1000)

Datacenter Management Server Notes

None

Operating System Notes

The SUT hosts used Dell Customized ESXi 8.0 U2 ISO (VMware-VMvisor-Installer-8.0.0.update02-22380479.x86_64-Dell_Customized-A03.iso)for OS installation

Software Notes

None

Client Notes

The Client VMs were distributed across the client hosts as follows:

- Client-Host1: Client2, Client6, Client8, Client9, Client10, Client12, Client14, Client15
- Client-Host2: Client0, Client1, Client3, Client4, Client5, Client7, Client11, Client13, VMware vCenter Server, PrimeClient

Client Host Advanced Settings:

- UserVars.HostClientCEIPOptIn = 1 (default 0)
- Power.CpuPolicy = High Performance (default Balanced)
- UserVars.SuppressShellWarning = 1 for Client-Host1 and 2 for Client-Host2 (default 0)

Client cluster - vSwitch Configuration

- vSwitch0 on vmnic2 for Management and VM Network at 100Gbps
- vSwitch1 on vmnic3 for iSCSI at 100Gbps
- All vSwitches, vmnic2, vmnic3,vmk0,and vmk1 have MTU set to 9000 (default 1500)

Other Notes

Changes to VMmark3.properties file:

- PTD = true (default false)
- TileDelay=5 (default 60)
- VCscratchDir = /root/VMmark3/results/scratch (default /root/VMmark3/samples)
- ErrorImmediate = true (default false)
