

VMmark® 3.1.1 Results

Server Vendor & Model: Dell EMC PowerEdge R7525
Storage Vendor & Model: Dell EMC PowerMax 8000
Hypervisor: VMware ESXi 7.0 U2 Build 17630552
Datacenter Management Software: VMware vCenter Server 7.0.0d Build 16749653

VMmark 3.1.1 Score =
20.04 @ 22 Tiles

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/256/512
Tested By: Dell Inc.		Test Date: 03-21-2021
Performance Section Performance	Configuration Section Configuration	Notes Section 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	3560.21	0.99	1.00 0.05	573.78	1.00	0.79 0.36	907.77	1.24	914.69	627.58	1.25	1079.88	436.05	1.26	1217.22	1.14
p1	3554.15	0.99	0.85 0.00	570.25	1.00	0.76 0.28	901.12	1.23	910.25	650.05	1.30	1061.07	461.75	1.33	1141.38	1.16
p2	3536.51	0.98	1.04 0.15	568.15	0.99	0.74 0.50	847.73	1.15	1109.42	578.77	1.16	1322.45	419.32	1.21	1452.89	1.10
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	3571.52	0.99	0.80 0.01	570.64	1.00	0.85 0.45	905.33	1.23	912.71	627.92	1.25	1070.71	436.20	1.26	1184.60	1.14
p1	3560.07	0.99	0.83 0.01	564.75	0.99	0.54 0.25	875.83	1.19	977.55	631.60	1.26	1134.85	447.45	1.29	1234.25	1.14
p2	3541.00	0.98	0.84 0.01	561.25	0.98	0.43 0.16	887.70	1.21	968.14	610.12	1.22	1140.71	422.95	1.22	1270.17	1.12
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	3575.35	0.99	0.61 0.00	572.45	1.00	0.92 0.48	901.95	1.23	937.32	619.12	1.24	1115.19	433.60	1.25	1225.31	1.14
p1	3560.33	0.99	0.51 0.00	567.69	0.99	0.73 0.39	878.50	1.20	1013.50	623.42	1.25	1185.84	434.70	1.25	1343.44	1.13
p2	3550.98	0.99	0.53 0.00	561.74	0.98	0.47 0.20	889.48	1.21	951.29	612.02	1.22	1128.15	423.02	1.22	1268.92	1.12
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	3560.98	0.99	0.66 0.04	571.75	1.00	1.05 0.60	906.17	1.23	916.38	626.27	1.25	1081.16	414.57	1.20	1209.13	1.13
p1	3542.95	0.98	0.73 0.00	569.15	0.99	0.96 0.53	865.45	1.18	1026.84	619.60	1.24	1190.19	455.52	1.31	1314.84	1.13
p2	3530.79	0.98	0.79 0.00	563.90	0.99	0.58 0.24	898.62	1.22	926.05	620.33	1.24	1091.24	432.27	1.25	1207.73	1.13
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	3572.47	0.99	0.95 0.01	565.38	0.99	0.84 0.53	923.88	1.26	859.92	636.33	1.27	1028.95	424.15	1.22	1136.87	1.14
p1	3560.36	0.99	0.73 0.00	557.68	0.97	0.52 0.18	898.60	1.22	930.59	642.33	1.28	1093.06	468.90	1.35	1215.26	1.15
p2	3538.69	0.98	0.75 0.01	557.17	0.97	0.63 0.28	897.62	1.22	934.72	615.40	1.23	1103.55	429.27	1.24	1219.01	1.12
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	3570.73	0.99	0.68 0.01	567.69	0.99	0.55 0.26	909.10	1.24	903.21	606.75	1.21	1069.87	410.55	1.18	1223.76	1.12

p1	3552.35	0.99	0.72 0.01	562.80	0.98	0.59 0.33	874.38	1.19	998.61	624.02	1.25	1157.30	458.12	1.32	1287.19	1.14
p2	3540.62	0.98	0.66 0.01	560.64	0.98	0.55 0.28	890.90	1.21	953.07	613.25	1.23	1130.56	425.85	1.23	1267.91	1.12
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	3571.29	0.99	0.95 0.02	564.62	0.99	0.55 0.31	883.40	1.20	1003.95	603.15	1.21	1201.46	413.80	1.19	1344.07	1.11
p1	3558.87	0.99	0.95 0.02	562.47	0.98	0.52 0.26	872.20	1.19	1001.98	621.25	1.24	1166.10	456.32	1.32	1289.72	1.14
p2	3546.61	0.99	0.98 0.03	561.59	0.98	0.59 0.21	890.90	1.21	959.47	611.75	1.22	1141.39	420.57	1.21	1285.83	1.12
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	3576.10	0.99	0.68 0.00	567.94	0.99	0.77 0.46	887.75	1.21	971.02	613.25	1.23	1140.64	422.93	1.22	1277.02	1.12
p1	3561.37	0.99	0.63 0.00	565.68	0.99	0.53 0.21	868.10	1.18	1029.80	615.52	1.23	1197.92	448.35	1.29	1342.39	1.13
p2	3548.22	0.99	0.61 0.00	563.26	0.98	0.56 0.21	896.45	1.22	934.82	618.52	1.24	1108.96	428.90	1.24	1247.36	1.13
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	3575.98	0.99	0.58 0.00	561.05	0.98	0.43 0.20	878.73	1.20	1004.92	602.27	1.20	1198.98	410.05	1.18	1359.27	1.11
p1	3567.61	0.99	0.59 0.00	556.81	0.97	0.50 0.17	865.92	1.18	1027.34	616.65	1.23	1196.34	447.35	1.29	1327.56	1.13
p2	3550.08	0.99	0.59 0.00	555.26	0.97	0.56 0.23	883.12	1.20	990.64	606.75	1.21	1167.37	390.15	1.12	1354.47	1.09
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	3581.79	1.00	0.61 0.00	568.29	0.99	0.75 0.41	896.67	1.22	940.62	620.25	1.24	1117.90	424.82	1.22	1259.04	1.13
p1	3569.78	0.99	0.61 0.04	564.25	0.99	0.64 0.32	860.42	1.17	1039.60	613.40	1.23	1208.34	446.68	1.29	1340.28	1.13
p2	3544.38	0.99	0.59 0.00	561.57	0.98	0.58 0.34	888.98	1.21	957.23	610.17	1.22	1148.96	397.50	1.15	1311.15	1.10
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	3566.21	0.99	0.82 0.01	571.18	1.00	0.97 0.55	872.88	1.19	1035.16	604.52	1.21	1204.47	408.65	1.18	1380.17	1.11
p1	3547.51	0.99	0.79 0.10	565.88	0.99	0.67 0.30	880.38	1.20	994.36	617.55	1.23	1202.22	449.85	1.30	1326.24	1.13
p2	3533.98	0.98	0.81 0.01	562.76	0.98	0.65 0.30	882.92	1.20	989.65	587.52	1.17	1164.75	391.45	1.13	1362.05	1.09
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	3577.24	0.99	0.85 0.06	566.91	0.99	0.54 0.27	885.23	1.21	982.37	617.25	1.23	1123.92	441.90	1.27	1286.15	1.13
p1	3565.05	0.99	0.78 0.01	563.24	0.98	0.46 0.11	860.15	1.17	1077.63	602.42	1.20	1297.03	413.32	1.19	1459.30	1.10
p2	3547.03	0.99	0.88 0.04	564.22	0.99	0.59 0.24	859.30	1.17	1086.40	568.50	1.14	1297.53	396.12	1.14	1468.55	1.08
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	3565.10	0.99	0.96 0.04	567.75	0.99	0.63 0.21	844.98	1.15	1129.91	601.08	1.20	1320.52	412.45	1.19	1503.11	1.10
p1	3555.71	0.99	0.83 0.03	567.10	0.99	0.49 0.23	858.75	1.17	1073.12	586.60	1.17	1268.96	416.70	1.20	1429.64	1.10
p2	3543.66	0.98	0.94 0.01	562.87	0.98	0.52 0.18	855.73	1.17	1095.96	582.05	1.16	1310.57	393.20	1.13	1499.70	1.08
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	3572.05	0.99	0.82 0.00	572.27	1.00	0.94 0.57	887.27	1.21	962.00	635.08	1.27	1121.38	439.55	1.27	1283.79	1.14
p1	3556.33	0.99	0.80 0.01	568.26	0.99	1.00 0.59	882.85	1.20	988.63	603.50	1.21	1179.00	428.80	1.24	1338.72	1.12
p2	3555.65	0.99	0.85 0.01	570.34	1.00	0.87 0.59	896.00	1.22	946.71	617.80	1.23	1114.72	419.73	1.21	1281.64	1.12
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	3571.19	0.99	1.03 0.02	566.90	0.99	0.86 0.60	875.50	1.19	1017.22	625.67	1.25	1184.15	430.98	1.24	1349.83	1.13

p1	3560.05	0.99	0.87 0.02	560.29	0.98	0.61 0.36	876.20	1.19	1012.78	598.92	1.20	1200.61	428.12	1.23	1358.99	1.11	
p2	3538.35	0.98	0.89 0.02	562.39	0.98	0.43 0.12	876.90	1.19	1004.25	600.62	1.20	1189.93	414.95	1.20	1320.64	1.11	
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	3573.39	0.99	0.85 0.01	564.10	0.99	0.54 0.16	886.02	1.21	983.58	632.08	1.26	1154.30	437.00	1.26	1303.20	1.13	
p1	3561.10	0.99	0.70 0.10	564.93	0.99	0.52 0.32	882.95	1.20	973.28	603.45	1.21	1166.26	433.70	1.25	1308.16	1.12	
p2	3532.75	0.98	0.61 0.00	557.54	0.97	0.50 0.21	895.52	1.22	954.63	613.10	1.22	1126.38	420.55	1.21	1273.14	1.12	
TILE_16	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3566.67	0.99	0.61 0.00	565.92	0.99	0.45 0.16	855.00	1.16	1083.16	608.55	1.22	1252.25	442.00	1.27	1392.98	1.12	
p1	3546.67	0.99	0.61 0.00	568.18	0.99	0.42 0.13	856.40	1.17	1100.83	575.58	1.15	1332.48	391.68	1.13	1504.08	1.08	
p2	3540.68	0.98	0.53 0.01	563.18	0.98	0.42 0.19	861.70	1.17	1045.40	594.85	1.19	1227.44	426.93	1.23	1372.70	1.11	
TILE_17	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3572.79	0.99	0.75 0.00	569.67	1.00	0.48 0.15	891.58	1.21	954.00	643.75	1.29	1109.27	464.32	1.34	1249.19	1.16	
p1	3549.44	0.99	0.73 0.01	566.28	0.99	0.54 0.26	899.12	1.22	940.72	611.83	1.22	1140.69	418.30	1.21	1297.04	1.12	
p2	3534.31	0.98	0.77 0.02	563.45	0.98	0.53 0.23	888.80	1.21	971.12	616.60	1.23	1131.38	438.52	1.26	1280.30	1.13	
TILE_18	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3584.02	1.00	0.66 0.00	566.43	0.99	0.48 0.21	900.17	1.23	919.13	646.88	1.29	1068.85	475.65	1.37	1192.02	1.16	
p1	3576.81	0.99	0.70 0.00	565.40	0.99	0.57 0.31	903.20	1.23	919.97	620.75	1.24	1105.33	425.05	1.23	1261.76	1.13	
p2	3561.97	0.99	0.78 0.00	562.15	0.98	0.43 0.20	886.30	1.21	971.45	635.27	1.27	1132.27	440.23	1.27	1282.53	1.14	
TILE_19	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3574.68	0.99	0.61 0.00	570.39	1.00	0.89 0.44	902.55	1.23	933.38	645.27	1.29	1092.44	473.48	1.37	1214.99	1.16	
p1	3553.05	0.99	0.67 0.00	570.71	1.00	0.87 0.47	903.50	1.23	912.69	622.75	1.24	1080.26	425.65	1.23	1244.39	1.13	
p2	3539.80	0.98	0.66 0.00	565.96	0.99	0.47 0.25	891.23	1.21	946.95	646.20	1.29	1081.16	449.80	1.30	1226.31	1.15	
TILE_20	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3577.85	0.99	0.71 0.00	568.91	0.99	0.54 0.25	865.08	1.18	1023.28	619.48	1.24	1195.76	455.60	1.31	1321.20	1.14	
p1	3558.10	0.99	0.81 0.01	566.79	0.99	0.54 0.28	875.23	1.19	999.50	607.85	1.21	1167.33	416.82	1.20	1313.67	1.11	
p2	3552.68	0.99	0.80 0.00	564.76	0.99	0.58 0.24	863.10	1.18	1040.66	618.62	1.24	1195.50	428.25	1.23	1362.87	1.12	
TILE_21	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM	
p0	3584.23	1.00	0.56 0.02	567.65	0.99	0.71 0.41	892.83	1.22	944.65	644.85	1.29	1089.12	472.88	1.36	1202.06	1.16	
p1	3567.06	0.99	0.60 0.03	565.40	0.99	0.47 0.19	882.20	1.20	965.72	612.45	1.22	1137.22	404.18	1.17	1262.17	1.11	
p2	3541.17	0.98	0.65 0.00	563.74	0.99	0.58 0.22	869.33	1.18	1017.35	622.15	1.24	1168.20	457.82	1.32	1303.10	1.14	
p0_score:	24.92																
p1_score:	24.74																
p2_score:	24.51																
Infrastructure_Operations_Scores:							vMotion			SVMotion			XVMotion			Deploy	
Completed_Ops_PerHour							27.50			25.00			21.00			10.50	

Avg_Seconds_To_Complete	10.44	98.07	108.72	304.98
Failures	0.00	0.00	0.00	0.00
Ratio	1.06	1.39	1.17	1.31
Number_Of_Threads	1	1	1	1
Summary	Run_Is_Compliant			Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*			Median_Phase(p1)
Unreviewed_VMmark3_Applications_Score	24.74			
Unreviewed_VMmark3_Infrastructure_Score	1.22			
Unreviewed_VMmark3_Score	20.04			

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 7.0 U2, Build 17630552 / 03-09-2021
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 7.0.0d, Build 16749653 / 08-25-2020
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 EMC PowerEdge R7525
Processor Vendor and Model	AMD EPYC 7763
Processor Speed (GHz) / Turbo Boost Speed (GHz)	2.45 / 3.50
Total Sockets/Total Cores/Total Threads	2 Sockets / 128 Cores / 256 Threads
Primary CPU Cache	32 KB I + 32 KB D on chip per core
Secondary CPU Cache	512 KB I+D on chip per core
Other CPU Cache	256 MB I+D on chip per chip, 32 MB shared / 8 cores
BIOS Version	2.0.3

Memory Size (in GB, Number of DIMMs)	2048, 32
Memory Type and Speed	64 GB 2Rx4 PC4-3200
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	Dell BOSS-S1
Total Number of Physical Disks for Hypervisor	2
Disk Vendors, Models, Capacities, and Speeds	Dell, SSDSCKKB480G8R, 480GB SSD, RAID 1
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	QLE2692 Dual Port 16Gb FC Adapter
Number of Network Controllers	2
Network Controller Vendors and Models	Broadcom Gigabit Ethernet BCM5720 Mellanox ConnectX-5 Ex 100 GbE Adapter
Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	03-15-2021
BIOS Availability Date (MM-DD-YYYY)	02-10-2021
Software Availability Date (MM-DD-YYYY)	03-09-2021
Network	
Network Switch Vendors and Models	Dell EMC Z9100-ON 10/25/40/50/100 GbE Switch
Network Speed	1 x 1 Gbps for Management traffic 1 x 100 Gbps for vMotion traffic 1 x 100 Gbps for VM traffic
Primary Storage	
Storage Category	FC SAN
Storage Vendors, Models, and Firmware Versions	Dell EMC PowerMax 8000
Storage Configuration Summary	<ul style="list-style-type: none"> • 2 x Volumes • 1 x 50TB LUN for VMs and Deploy Source • 1 x 1TB LUN for Infrastructure operations

Datacenter Management Server	
System Model	Dell EMC PowerEdge R7525
Processor Vendor and Model	AMD EPYC 7402
Processor Speed (GHz)	2.8
Total Sockets/Total Cores/Total Threads	2 Sockets / 48 Cores / 96 Threads
Memory Size (in GB, Number of DIMMs)	256, 16
Network Controller(s) Vendors and Models	Mellanox ConnectX-6 100 GbE Dual-port
Operating System, Version, Bitness, and Service Pack	VMware ESXi 7.0 Build 15843807
Virtual Center VM Number of vCPUs	8
Virtual Center VM Virtual Memory (in GB)	28
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 7.0.0d Build 16749653
Other Hardware	None
Other Software	None
Clients	
Total Number of Virtual Clients / Virtual Client Hosts	23 / 4
System Model(s)	Dell EMC PowerEdge C6525
Processor Vendor(s) and Model(s)	AMD EPYC 7702P
Processor Speed(s) (GHz)	2.0
Total Sockets/Total Cores/Total Threads	1 Socket / 64 Cores / 128 Threads
Memory per Virtual Client Host	512 GB
Network Controller(s) Vendors and Models	Broadcom Gigabit Ethernet BCM5720 Broadcom 25Gb Ethernet 57414 Mellanox ConnectX-5 100GbE
Virtual Client Networking Notes	vSwitch0 on vmnic0 for Management (1 Gbps) vSwitch3 on vmnic4 for VMs (100 Gbps)
Virtual Client Storage Notes	All Clients on a local 3.84TB NVMe AGN U.2
Other Hardware	None
Other Software	VMware ESXi 6.7 P04, Build 17167734

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: Thick Eager

Virtualization Software Notes

- vSphere DRS Migration Threshold level set to 1
- Logical CPU configuration changed for DS3DB and PrimeClient VMs to 1 socket with multiple cores (Default: Single core per socket)
- Logging disabled for all VMs (Default: Enabled)
- CDROM removed for all VMs (Default: Enabled)
- CPU and Memory shares set to high for all DS3DB VMs (Default: Normal)
- All Memory Reserved for DS3DB VMs (Default: Not reserved)
- sched.mem.pin set to TRUE for all DS3DB VMs (Default: FALSE)
- CPU shares set to Low for all Standby VMs (Default: Normal)
- Third virtual disk removed from DS3DB0 before cloning

Advanced Settings:

- Cpu.HTWholeCoreThreshold = 0 (default 800)
- Mem.ShareScanGHz = 0 (default 4)
- Numa.LocalityWeightActionAffinity = 0 (default 130)

Server Notes

Server BIOS Settings

- NUMA Nodes Per Socket set to 1

Networking Notes

vSwitch Configuration

- vSwitch0 on vmnic0 used for Management traffic (1 Gbps)
- vSwitch1 on vmnic2 used for VM traffic (100 Gbps)
- vSwitch2 on vmnic3 used for vMotion traffic (100 Gbps)

Storage Notes

Host OS installed on 2 x Dell 480GB SSD

Dell EMC PowerMax 8000

- Number of Directors: 2
- Dell EMC PowerMax OS 5978.479.479
- 2 LUNS used for VMmark
 - 1 x 50TB LUN for VMs and Deploy Source
 - 1 x 1TB LUN for Storage vMotion, XvMotion, and Deploy Infrastructure operations

Datacenter Management Server Notes

None

Operating System Notes

Image used to install ESXi: VMware-VMvisor-Installer-7.0.0.update02-17630552.x86_64-DellEMC_Customized-A00.iso

Software Notes

None

Client Notes

- /adv/Virsto/DedupSpaceReclaim = "2" (default 0)

Client Host Storage

- OS installed on 1 x Dell SSDSCKKB480G8R 480GB SSD

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

- Client Host 1: Client0, Client4, Client8, Client12, Client16, Client20 and PrimeClient
- Client Host 2: Client1, Client5, Client9, Client13, Client17, Client21
- Client Host 3: Client2, Client6, Client10, Client14, Client18
- Client Host 4: Client3, Client7, Client11, Client15, Client19

Other Notes

Changes to VMmark3.properties file:

- TileDelay = 10 (Default: 60)
 - ScrubConfigFile = true (Default: false)
 - ErrorImmediate = true (Default: false)
-

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