

VMmark® 3.0 Results

Vendor and Hardware Platform: Dell EMC PowerEdge R740xd
Virtualization Platform: VMware ESXi 6.5.0a (Build 4887370)
VMware vCenter Server : VMware vCenter Server 6.5 U1 (Build 5973321)

VMmark 3.0 Score =
7.45 @ 8 Tiles

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/112/224
Tested By: Dell Inc.		Test Date: 11-01-2017
Performance Section Performance	Configuration Section Configuration	Notes Section Notes for Workload

Performance

	weathervane			weathervaneE			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3603.61	1.00	0.46 0.00	574.72	1.00	0.57 0.55	903.88	1.23	974.81	647.12	1.29	1135.87	444.30	1.28	1315.84	1.15
p1	3600.41	1.00	0.41 0.00	574.05	1.00	0.78 0.53	872.12	1.19	1091.12	585.02	1.17	1334.93	418.90	1.21	1503.15	1.11
p2	3601.63	1.00	0.39 0.00	575.28	1.01	0.87 0.60	874.15	1.19	1088.92	590.45	1.18	1313.44	398.68	1.15	1505.16	1.10
TILE_1	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3599.14	1.00	0.47 0.00	573.05	1.00	0.48 0.22	921.30	1.25	911.62	657.85	1.31	1081.40	478.57	1.38	1224.70	1.18
p1	3600.17	1.00	0.47 0.00	574.56	1.00	0.41 0.16	899.75	1.23	989.52	612.48	1.22	1195.97	420.00	1.21	1360.69	1.13
p2	3599.53	1.00	0.46 0.00	572.41	1.00	0.50 0.12	916.55	1.25	919.22	661.12	1.32	1068.27	458.25	1.32	1229.37	1.17
TILE_2	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3601.65	1.00	0.51 0.00	573.67	1.00	0.50 0.25	932.08	1.27	885.55	644.85	1.29	1066.15	465.45	1.34	1204.36	1.17
p1	3606.53	1.00	0.44 0.00	572.32	1.00	0.65 0.18	914.48	1.25	958.11	627.83	1.25	1138.60	429.73	1.24	1312.16	1.14
p2	3602.97	1.00	0.49 0.00	571.29	1.00	0.60 0.20	890.12	1.21	1018.06	633.30	1.27	1196.63	462.40	1.33	1339.03	1.15
TILE_3	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3602.72	1.00	0.48 0.00	573.81	1.00	0.67 0.69	844.30	1.15	1182.58	564.30	1.13	1443.05	378.52	1.09	1669.80	1.07
p1	3602.55	1.00	0.46 0.00	573.28	1.00	0.66 0.64	825.12	1.12	1243.58	574.25	1.15	1478.16	393.10	1.13	1680.02	1.08
p2	3599.67	1.00	0.41 0.00	574.16	1.00	0.80 0.50	837.98	1.14	1210.26	557.15	1.11	1474.84	391.90	1.13	1685.39	1.08
TILE_4	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3602.65	1.00	0.49 0.00	574.37	1.00	0.42 0.47	854.83	1.16	1141.82	567.73	1.13	1397.29	388.62	1.12	1590.56	1.08
p1	3604.46	1.00	0.45 0.00	573.22	1.00	0.55 0.05	834.08	1.14	1211.05	580.62	1.16	1445.04	417.35	1.20	1642.24	1.10
p2	3593.73	1.00	0.45 0.00	572.95	1.00	0.59 0.16	862.50	1.17	1121.08	577.55	1.15	1367.30	391.45	1.13	1564.81	1.09
TILE_5	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM

p0	3598.42	1.00	0.30 0.00	572.94	1.00	0.59 0.18	909.27	1.24	983.05	621.65	1.24	1172.77	444.18	1.28	1346.40	1.15
p1	3599.89	1.00	0.30 0.00	572.19	1.00	0.42 0.12	857.45	1.17	1149.09	572.30	1.14	1399.99	409.12	1.18	1586.82	1.10
p2	3596.49	1.00	0.28 0.00	571.25	1.00	0.40 0.14	840.58	1.14	1235.01	552.10	1.10	1532.18	368.10	1.06	1774.84	1.06
TILE_6	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3603.41	1.00	0.37 0.00	572.28	1.00	0.52 0.20	962.00	1.31	796.75	721.50	1.44	924.76	506.20	1.46	1066.58	1.23
p1	3603.93	1.00	0.38 0.00	571.63	1.00	0.44 0.16	943.60	1.28	865.13	627.25	1.25	1049.17	447.30	1.29	1201.23	1.16
p2	3605.03	1.00	0.37 0.00	572.54	1.00	0.44 0.16	921.77	1.26	930.71	656.65	1.31	1105.37	455.98	1.31	1260.07	1.17
TILE_7	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3610.00	1.00	0.46 0.00	572.47	1.00	0.66 0.79	919.85	1.25	930.01	652.50	1.30	1108.45	454.02	1.31	1279.19	1.17
p1	3604.52	1.00	0.47 0.00	572.90	1.00	0.66 0.68	922.67	1.26	914.83	614.67	1.23	1094.60	433.95	1.25	1269.70	1.14
p2	3602.83	1.00	0.40 0.00	571.81	1.00	0.62 0.48	925.80	1.26	882.30	666.27	1.33	1044.81	487.85	1.41	1164.53	1.19
p0_score:	9.20															
p1_score:	8.95															
p2_score:	9.00															

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	26.00	27.00	19.00	11.00
Avg_Seconds_To_Complete	17.75	82.37	136.92	286.17
Failures	0.00	0.00	0.00	0.00
Ratio	1.00	1.50	1.06	1.38
Number_Of_Threads	1	1	1	1

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p2)
Unreviewed_VMmark3_Applications_Score	9.00	
Unreviewed_VMmark3_Infrastructure_Score	1.21	
Unreviewed_VMmark3_Score	7.45	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.5.0a, Build 4887370 / 02-02-2017

Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.5 U1, Build 5973321 / 07-27-2017
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 R740xd
Processor Vendor and Model	Intel Xeon Platinum 8180
Processor Speed (GHz)	2.50
Total Sockets/Total Cores/Total Threads	2 Sockets / 56 Cores / 112 Threads
Primary CPU Cache	32 KB I + 32 KB D on chip per core
Secondary CPU Cache	1 MB I+D on chip per core
Other CPU Cache	38.5 MB I+D on chip per chip L3
BIOS Version	1.0.7
Memory Size (in GB, Number of DIMMs)	768, 24
Memory Type and Speed	32 GB 2Rx8 PC4-2666
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	Dell PERC H330 Mini
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Dell, ST1000NX0453, 1TB 7.2K RPM SAS
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	Emulex LightPulse LPe16000
Number of Network Controllers	2
Network Controller Vendors and Models	Broadcom 5720 1Gb Quad Port NDC, Intel X520 10Gb Dual Port
Other Hardware	None

Other Software	None
Hardware Availability Date (MM-DD-YYYY)	07-11-2017
BIOS Availability Date (MM-DD-YYYY)	07-01-2017
Software Availability Date (MM-DD-YYYY)	07-11-2017
Network	
Network Switch Vendors and Models	1 x Dell PowerConnect 6248, 1 x Dell PowerConnect 8024F
Network Speed	10Gbps for VM traffic, 1 Gbps for vMotion and Management
Storage	
Array Vendors, Models, and Firmware Versions	SanDisk ION Data Accelerator, 2.5.0
Fibre Channel Switch Vendors and Models	Brocade 6505
Disk Space Used	14,400 GB
Array Cache Size	N/A
Total Number of Physical Disks Used	4, 6 x PCI-e Flash
Total Number of Enclosures/Pods/Shelves Used	2
Number of Physical Disks Used per Enclosure/Pod/Shelf	Refer section: Storage Notes
Total Number of Storage Groups Used	0
Number of LUNs Used	13
LUN Size and Number of Disks Per LUN	Refer section: Storage Notes
RAID Type	RAID 0
Number of Members per RAID Set	Refer section: Storage Notes
Disk Vendors, Models, and Speeds	Dell, 146 GB 15K RPM SAS SanDisk, 2.4 TB ioDrive2 Duo
Datacenter Management Server	
System Model	Dell PowerEdge 1950
Processor Vendor and Model	Intel Xeon E5450
Processor Speed (GHz)	3.00

Total Sockets/Total Cores/Total Threads	2 Sockets / 8 Cores / 16 Threads
Memory Size (in GB, Number of DIMMs)	16 GB, 4
Network Controller(s) Vendors and Models	Broadcom BCM5708C NetXtreme II GigE
Operating System, Version, Bitness, and Service Pack	Microsoft Windows Server 2008 R2 Enterprise (64-bit)
Virtual Center VM Number of vCPUs	N/A
Virtual Center VM Virtual Memory (in GB)	N/A
Virtual Center VM Operating System, Version, Bitness, and Service Pack	N/A
Other Hardware	None
Other Software	None

Clients

Total Number of Virtual Clients / Virtual Client Hosts	9 / 2
System Model(s)	Dell PowerEdge R730
Processor Vendor(s) and Model(s)	Intel Xeon E5-2699A v4
Processor Speed(s) (GHz)	2.40
Total Sockets/Total Cores/Total Threads	2 Sockets / 44 Cores / 88 Threads
Memory per Virtual Client Host	512 GB
Network Controller(s) Vendors and Models	Broadcom GbE 5720-t NDC, Intel X520 10Gb
Virtual Client Networking Notes	1 virtual adapter for management, 1 virtual adapter for workload traffic, 1 virtual adapter for vMotion
Virtual Client Storage Notes	All clients on LUN00 (Refer section: Storage Notes)
Other Hardware	QLogic QLE2662 16Gb FC Adapter
Other Software	VMware ESXi 6.5.0a (Build 4887370)

Notes for Workload

Virtualization Software Notes

Cluster DRS Automation Level set to "Fully Automated"; Level 2
/adv/UserVars/SuppressShellWarning = 1 (default 0)

Server Notes

Intel Turbo Boost Enabled (Frequency boost up to 3.80 GHz) (default: Enabled)

Networking Notes

vSwitch Configuration:

- vSwitch0 on vmnic0, for Service Console (1Gb/s)
- vSwitch1 on vmnic4, for all VMs (10Gb/s)
- vSwitch3 on vmnic1, for vMotion (1Gb/s)

Storage Notes

- Host OS installed on 1 x 1TB 7.2K RPM SAS HDD, for each host
- All LUNs configured as block devices and no system memory used for write caching

- 2 x Dell PowerEdge R720 configured with 3 x 2.4TB SanDisk ioDrive2 Duo PCI-e Flash cards and ION Accelerator software.
- Configuration for ION Accelerator:
 - Dell PowerEdge R720
 - 2 x Intel Xeon E5-2690 2.90 GHz
 - 256 GB (16 x 16 GB, 2Rx4 PC3-12800R-11)
 - 1 x QLogic QLE2662 16Gb Dual-Port Fibre Channel HBA
 - 2 x 146 GB 15K RPM HDD (for ION software)
 - LUNs striped across all 3 flash cards

- LUN Layout:
 - LUN 00: Template and Client VMs (900 GB, array 1)
 - LUN 01: Auction 0, 1 (900 GB, array 1)
 - LUN 02: Elastic and Standby 0, 1 (900 GB, array 1)
 - LUN 03: DS3 0, 1 (900 GB, array 1)
 - LUN 04: Auction 2, 3; SVmotion, XVMotion, Deploy (900 GB, array 1)
 - LUN 05: Elastic and Standby 2, 3 (900 GB, array 1)
 - LUN 06: DS3 2, 3 (900 GB, array 1)
 - LUN 07: Auction 4, 5 (900 GB, array 1)
 - LUN 08: Elastic and Standby 4, 5 (900 GB, array 2)
 - LUN 09: DS3 4, 5 (900 GB, array 2)
 - LUN 10: Auction 6, 7 (900 GB, array 2)
 - LUN 11: Elastic and Standby 6, 7 (900 GB, array 2)
 - LUN 12: DS3 6,7 (900 GB, array 2)

Datacenter Management Server Notes

None

Operating System Notes

None

Software Notes

None

Client Notes

Four virtual clients on each client host.

Other Notes

None

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