

# VMmark® 3.0 Results

**Vendor and Hardware Platform: HPE Synergy 480 Gen10**  
**Virtualization Platform: VMware ESXi 6.5 U2 Build 8294253**  
**VMware vCenter Server : VMware vCenter Server 6.7 Build 8217866**

**VMmark 3.0 Score =**  
**7.93 @ 8 Tiles**

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/112/224
Tested By: Hewlett Packard Enterprise		Test Date: 07-30-2018
Performance Section <a href="#">Performance</a>	Configuration Section <a href="#">Configuration</a>	Notes Section <a href="#">Notes for Workload</a>

## 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	3603.58	1.00	0.28   0.00	573.36	1.00	0.58   0.28	988.02	1.35	728.91	724.35	1.45	840.28	505.75	1.46	962.63	1.23
p1	3605.20	1.00	0.29   0.00	574.34	1.00	0.31   0.27	992.62	1.35	723.38	697.45	1.39	852.56	505.15	1.46	970.64	1.23
p2	3597.52	1.00	0.28   0.00	572.75	1.00	0.43   0.36	990.52	1.35	721.74	702.60	1.40	850.16	483.65	1.39	976.10	1.21
TILE_1	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3604.50	1.00	0.29   0.00	572.30	1.00	0.71   0.40	967.92	1.32	793.73	697.00	1.39	934.30	509.95	1.47	1048.42	1.22
p1	3596.73	1.00	0.28   0.00	573.38	1.00	0.60   0.33	974.48	1.33	772.73	678.83	1.36	927.17	466.07	1.34	1072.28	1.19
p2	3602.08	1.00	0.27   0.00	574.74	1.00	0.50   0.43	963.92	1.31	811.42	692.70	1.38	945.54	484.20	1.40	1083.12	1.21
TILE_2	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3601.22	1.00	0.28   0.00	570.83	1.00	0.69   0.33	990.38	1.35	717.65	696.70	1.39	855.89	507.23	1.46	957.25	1.22
p1	3599.73	1.00	0.28   0.00	573.17	1.00	0.53   0.41	999.55	1.36	717.02	695.33	1.39	854.10	484.15	1.40	965.15	1.21
p2	3597.53	1.00	0.27   0.00	572.58	1.00	0.45   0.35	978.85	1.33	753.57	714.65	1.43	886.85	523.67	1.51	991.15	1.24
TILE_3	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3605.23	1.00	0.34   0.00	572.50	1.00	0.69   0.46	972.05	1.32	774.13	677.67	1.35	917.33	466.32	1.34	1062.36	1.19
p1	3602.52	1.00	0.34   0.00	570.71	1.00	0.48   0.46	960.38	1.31	808.47	698.33	1.40	935.14	488.00	1.41	1062.04	1.21
p2	3602.55	1.00	0.32   0.00	573.09	1.00	0.44   0.20	965.02	1.31	799.22	668.83	1.34	953.98	482.57	1.39	1090.62	1.20
TILE_4	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3601.48	1.00	0.28   0.00	573.14	1.00	0.66   0.27	995.00	1.35	719.74	673.15	1.34	860.01	482.43	1.39	970.73	1.21
p1	3599.49	1.00	0.29   0.00	574.04	1.00	0.57   0.29	975.27	1.33	759.63	713.05	1.42	879.39	523.83	1.51	990.28	1.23
p2	3596.81	1.00	0.27   0.00	573.13	1.00	0.43   0.28	986.50	1.34	732.60	691.85	1.38	862.00	479.82	1.38	988.38	1.21
TILE_5	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM

<b>p0</b>	3604.87	1.00	0.28   0.00	572.08	1.00	0.75   0.42	941.90	1.28	859.22	680.08	1.36	1015.81	464.48	1.34	1175.67	1.19
<b>p1</b>	3600.75	1.00	0.28   0.00	574.95	1.00	0.50   0.27	944.95	1.29	859.19	655.58	1.31	1020.31	471.38	1.36	1158.71	1.18
<b>p2</b>	3599.39	1.00	0.27   0.00	572.06	1.00	0.48   0.45	940.70	1.28	876.34	649.33	1.30	1049.96	444.75	1.28	1200.11	1.16
<b>TILE_6</b>	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
<b>p0</b>	3602.17	1.00	0.28   0.00	573.22	1.00	0.74   0.47	941.92	1.28	860.05	705.95	1.41	997.93	495.73	1.43	1139.47	1.21
<b>p1</b>	3601.17	1.00	0.27   0.00	573.41	1.00	0.58   0.45	955.42	1.30	830.12	636.70	1.27	1000.79	453.45	1.31	1145.80	1.17
<b>p2</b>	3598.84	1.00	0.26   0.00	572.76	1.00	0.44   0.32	945.30	1.29	855.33	679.48	1.36	1003.80	472.10	1.36	1157.86	1.19
<b>TILE_7</b>	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(nRTIMaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
<b>p0</b>	3598.77	1.00	0.43   0.00	574.76	1.00	0.63   0.39	940.15	1.28	857.31	672.58	1.34	1019.76	472.60	1.36	1145.84	1.19
<b>p1</b>	3603.03	1.00	0.42   0.00	572.27	1.00	0.48   0.35	945.48	1.29	847.57	635.88	1.27	1002.42	450.15	1.30	1159.32	1.16
<b>p2</b>	3602.46	1.00	0.44   0.00	572.89	1.00	0.53   0.30	922.17	1.26	914.19	665.77	1.33	1061.31	484.90	1.40	1204.19	1.19
<b>p0_score:</b>	9.66															
<b>p1_score:</b>	9.59															
<b>p2_score:</b>	9.60															

<b>Infrastructure_Operations_Scores:</b>	vMotion	SVMotion	XVMotion	Deploy
<b>Completed_Ops_PerHour</b>	26.00	26.00	20.00	12.00
<b>Avg_Seconds_To_Complete</b>	17.18	87.07	129.45	270.46
<b>Failures</b>	0.00	0.00	0.00	0.00
<b>Ratio</b>	1.00	1.44	1.11	1.50
<b>Number_Of_Threads</b>	1	1	1	1

<b>Summary</b>	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p2)
<b>Unreviewed_VMmark3_Applications_Score</b>	9.60	
<b>Unreviewed_VMmark3_Infrastructure_Score</b>	1.25	
<b>Unreviewed_VMmark3_Score</b>	7.93	

## Configuration

<b>Virtualization Software</b>	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD- YYYY)	VMware ESXi 6.5 U2 Build 8294253 / 05-03-2018

Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.7 Build 8217866 / 04-17-2018
Supplemental Software	None
<b>Servers</b>	
Number of Servers in System Under Test (all subsequent fields in this section are per server)	2
Server Manufacturer and Model	HPE Synergy 480 Gen10
Processor Vendor and Model	Intel Xeon Platinum 8180
Processor Speed (GHz)	2.5
Total Sockets/Total Cores/Total Threads	2 Sockets / 56 Cores / 112 Threads
Primary CPU Cache	32KB I + 32KB D on chip per core
Secondary CPU Cache	1MB I + D on chip per core
Other CPU Cache	38.5 MB I + D on chip per chip
BIOS Version	I42 v1.42 (06/20/2018)
Memory Size (in GB, Number of DIMMs)	768 GB, 24
Memory Type and Speed	32GB 2Rx4 DDR4 2666MHz RDIMM
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	HPE SmartArray P204i-c SR Gen10
Total Number of Physical Disks for Hypervisor	2
Disk Vendors, Models, Capacities, and Speeds	HPE 400 GB 15K RPM SAS SFF (HPE P/N 872374-B21) HPE 450 GB 15K RPM SAS SFF (HPE P/N 759210-B21)
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	1 x HPE Synergy 3830C 16 Gb FC HBA (dual port)
Number of Network Controllers	2
Network Controller Vendors and Models	2 x HPE Synergy 3820C 10/20Gb CNA (dual port)
Other Hardware	1 x HPE Synergy 12000 Frame

Other Software	HPE OneView version 4.10.01-0348545
Hardware Availability Date (MM-DD-YYYY)	08-16-2017
BIOS Availability Date (MM-DD-YYYY)	06-20-2018
Software Availability Date (MM-DD-YYYY)	06-26-2018
<b>Network</b>	
Network Switch Vendors and Models	1 x HPE FlexFabric 5700 32XGT 8 XG 2QSFP+ 4 x HPE Synergy Virtual Connect SE 40Gb F8 Module
Network Speed	HPE FlexFabric 5700: 32 x 1 GbE ports, 8 x 10 GbE ports, 2 x 40 GbE ports HPE Synergy Virtual Connect: Details in Networking Notes
<b>Storage</b>	
Array Vendors, Models, and Firmware Versions	SanDisk ION Data Accelerator, FW versions 2.5.5
Fibre Channel Switch Vendors and Models	2 x Brocade 16Gb/24 FC Switch Module for Synergy
Disk Space Used	15.6 TB
Array Cache Size	N/A
Total Number of Physical Disks Used	8 (2 per SUT OS, 2 for SanDisk ION OS per storage system), 6 x PCI-e flash
Total Number of Enclosures/Pods/Shelves Used	2
Number of Physical Disks Used per Enclosure/Pod/Shelf	Internal: 2 disks per host Enclosure: 2 disks and 3 x PCI-e flash per storage system (2 systems total)
Total Number of Storage Groups Used	0
Number of LUNs Used	30
LUN Size and Number of Disks Per LUN	Each LUN was in a single storage pool consisting of 3 x PCI-e flash storage <ul style="list-style-type: none"> <li>• 8 x 500 GB LUNs</li> <li>• 8 x 400 GB LUNs</li> <li>• 8 x 700 GB LUNs</li> <li>• 6 x 200 GB LUNs</li> </ul>
RAID Type	RAID 0 for enclosures, RAID 1 for OS drives
Number of Members per RAID Set	RAID 1: 2 RAID 0: 3
Disk Vendors, Models, and Speeds	4 x HPE 400 GB 15K RPM SAS SFF (HPE P/N 872374-B21) for SUT host OS 4 x HPE 450 GB 15K RPM SAS SFF (HPE P/N 759210-B21) for storage box #1 & #2 OS

6 x HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator

### Datacenter Management Server

System Model	HPE ProLiant DL360 Gen9
Processor Vendor and Model	Intel Xeon E5-2698 v4
Processor Speed (GHz)	2.2
Total Sockets/Total Cores/Total Threads	2 Sockets / 40 Cores / 80 Threads
Memory Size (in GB, Number of DIMMs)	512, 16
Network Controller(s) Vendors and Models	1 x HPE Ethernet 1 Gb 4-port 331i Adapter 1 x HPE Ethernet 10 Gb 2-port 546FLR-SFP+ Adapter
Operating System, Version, Bitness, and Service Pack	VMware ESXi 6.7 Build 8169922
Virtual Center VM Number of vCPUs	16
Virtual Center VM Virtual Memory (in GB)	32
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server Appliance 6.7 Build 8217866
Other Hardware	1 x HPE SN1100E 16Gb Dual Port FC HBA
Other Software	None

### Clients

Total Number of Virtual Clients / Virtual Client Hosts	9 / 4
System Model(s)	HPE ProLiant DL360 Gen9
Processor Vendor(s) and Model(s)	Intel Xeon E5-2698 v4
Processor Speed(s) (GHz)	2.2
Total Sockets/Total Cores/Total Threads	2 Sockets / 40 Cores / 80 Threads
Memory per Virtual Client Host	512, 16
Network Controller(s) Vendors and Models	1 x HPE Ethernet 1 Gb 4-port 331i Adapter 1 x HPE Ethernet 10 Gb 2-port 546FLR-SFP+ Adapter
Virtual Client Networking Notes	1 x vmnic for management (1 Gb/s) 2 x vmnic for workload (10 Gb/s)
Virtual Client Storage Notes	1 x HPE MSA2050 SAN storage enclosure <ul style="list-style-type: none"><li>• 24 x 300 GB 15K SFF SAS HDDs</li></ul>

	<ul style="list-style-type: none"> <li>• 2 x 2993.9 GB RAID 5 LUNs</li> </ul>
Other Hardware	1 x HPE SN1100E 16Gb Dual Port FC HBA
Other Software	VMware ESXi 6.7 Build 8169922

## Notes for Workload

### Virtualization Software Notes

- Logging was disabled for all VMs except for clients and primeclient (default enabled)
- CD and Floppy devices were removed from all VMs except for clients and primeclient (default installed)
- Logical CPU layout changed for all multi-CPU VMs to 1 socket with multiple cores (default single core per socket)
- All DS3DB VMs had CPU and Memory Shares set to High (default Normal)
- All memory reserved for all DS3DB VMs (default 0 - no memory reserved)
- All Standby VMs had CPU shares set to Low (default Normal)
- Cluster DRS Automation Level set to Fully Automated
- DRSMigration Threshold set to level 2
- monitor\_control.disable\_flexpriority = "FALSE" added to /etc/vmware/config

#### Advanced Settings:

- Cpu.CreditAgePeriod = 1000 (default 3000)
- Cpu.HTWholeCoreThreshold = 0 (default 800)
- DataMover.HardwareAcceleratedInit = 0 (default 1)
- DataMover.HardwareAcceleratedMove = 0 (default 1)
- Disk.IdleCredit = 64 (default 32)
- Disk.ReqCallThreshold = 1 (default 8)
- Mem.CtlMaxPercent = 0 (default 65)
- Mem.ShareScanGHz = 0 (default 4)
- Misc.TimerMaxHardPeriod = 4000 (default 500000)
- Net.MaxPortRxQueueLen = 160 (default 80)
- Numa.LTermFairnessInterval = 0 (default 5)
- Numa.MigImbalanceThreshold = 57 (default 10)
- Numa.PageMigEnable = 0 (default 1)
- Numa.PreferHT = 1 (default 0)
- Numa.RebalancePeriod = 60000 (default 2000)
- Numa.SwapLoadEnable = 0 (default 1)
- Numa.SwapLocalityEnable = 0 (default 1)
- Power.CpuPolicy = static (default balanced)
- VMFS3.HardwareAcceleratedLocking = 0 (default 1)

### Server Notes

#### Server BIOS settings:

- HPE Workload Profile set to 'Virtualization - Max Performance' (default: General Power Efficient Compute)
  - After changing to 'Virtualization - Max Performance' which modifies other settings, changed to 'Custom' to unlock settings to allow for modification.
- Thermal Configuration set to Maximum Cooling (default: Optimal Cooling)

- Sub-Numa Cluster set to Disabled (default: Enabled)
- Intel Turbo Boost Enabled (frequency boost to 3.8 GHz) (default: Enabled)

## Networking Notes

ESXi					HPE OneView Server Profile			
vmnic	vSwitch	Port Groups	Purpose	Speed	Physical Port	Requested Bandwidth	Allocated Bandwidth	Max Bandwidth
vmnic0	vSwitch0	VM Network, Management Network	Management	1 Gb/s	Mezzanine 2 Port 1-a	1 Gb/s	1 Gb/s	1 Gb/s
vmnic1	vSwitch3	LAN 2	Standby workload	20 Gb/s	Mezzanine 2 Port 2-a	20 Gb/s	20 Gb/s	20 Gb/s
vmnic2	vSwitch1	VMkernel	vMotion	1 Gb/s	Mezzanine 2 Port 1-b	1 Gb/s	1 Gb/s	1 Gb/s
vmnic3	vSwitch5	LAN 4	Elastic workload	20 Gb/s	Mezzanine 2 Port 1-c	18 Gb/s	18 Gb/s	20 Gb/s
vmnic4	vSwitch2	LAN 1	Auction, deploy workloads	20 Gb/s	Mezzanine 3 Port 1-a	20 Gb/s	20 Gb/s	20 Gb/s
vmnic5	vSwitch4	LAN 3	DS3 workload	20 Gb/s	Mezzanine 3 Port 2-a	20 Gb/s	20 Gb/s	20 Gb/s

Each HPE Synergy 3820C 10/20Gb CNA has 2 physical ports capable of 20 Gb/s. When combined with HPE Synergy Virtual Connect modules, each physical port of the HPE Synergy 3820c NIC can be configured to have up to 4 virtual ports with configurable bandwidth speeds. The total bandwidth speeds of all virtual ports of a physical port cannot exceed 20 Gb/s. Virtual port configuration is achieved by configuring server profiles in the HPE OneView management software.

ESXi 6.5 U2 is identifying the max bandwidth from the HPE OneView Server Profile as the port speed for each vmnic.

The HPE FlexFabric 5700 switch had 2 x 10 GbE connections to each client host and 1 x 40 GbE connection to each of the HPE Synergy Virtual Connect modules in the HPE Synergy 12000 frame.

## Storage Notes

- ESXi was installed on two disks configured as RAID1 in the internal server storage bays on each SUT.
- All LUNs were configured as block devices and no system memory was used for write caching.
- Storage Box #1
  - Hardware Configuration
    - HPE ProLiant DL380 Gen9
    - 2 x Intel Xeon E5-2660 v4 2.00 GHz processors
    - 128 GB (16 x 8 GB 2400 MHz Registered DDR4)
    - 3 x HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash cards
    - 2 x HPE SN1000Q dual port 16 Gb fibre HBAs
    - 1 x HPE SmartArray P440ar controller for ION OS
    - 2 x 450 GB 15K RPM SAS SFF for ION OS
    - SanDisk ION Accelerator version 2.5.5
  - Software Configuration
    - A single storage pool was created using 3 x HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash cards.
    - All LUNs are RAID0.
  - LUN details:
    - LUN1 (500 GB): Auction\* VMs for tile 3
    - LUN2 (400 GB): Elastic\* VMs for tile 0
    - LUN3 (700 GB): DS3\* VMs for tile 1
    - LUN4 (500 GB): Auction\* VMs for tile 1
    - LUN5 (700 GB): DS3\* VMs for tile 3

- LUN6 (400 GB): Elastic\* VMs for tile 2
  - LUN7 (500 GB): Auction\* VMs for tile 6
  - LUN8 (700 GB): DS3\* VMs for tile 4
  - LUN9 (400 GB): Elastic\* VMs for tile 5
  - LUN10 (500 GB): Auction\* VMs for tile 3
  - LUN11 (700 GB): DS3\* VMs for tile 6
  - LUN12 (400 GB): Elastic\* VMs for tile 7
  - LUN13 (200 GB): xvMotion target LUN
  - LUN14 (200 GB): deploy target LUN
  - LUN15 (200 GB): Standby VMs for tiles 1, 2, 5, 6
- Storage Box #2
  - Hardware Configuration
    - HPE ProLiant DL380 Gen9
    - 2 x Intel Xeon E5-2690 v3 2.60 GHz processors
    - 128 GB (16 x 8 GB 2133 MHz Registered DDR4)
    - 3 x HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash cards
    - 2 x HPE SN1000Q dual port 16 Gb fibre HBAs
    - 1 x HPE SmartArray P440ar controller for ION OS
    - 2 x 450 GB 15K RPM SAS SFF for ION OS
    - SanDisk ION Accelerator version 2.5.5
  - Software Configuration
    - A single storage pool was created using 3 x HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash cards.
    - All LUNs are RAID0.
  - LUN details:
    - LUN1 (500 GB): Auction\* VMs for tile 0
    - LUN2 (400 GB): Elastic\* VMs for tile 1
    - LUN3 (700 GB): DS3\* VMs for tile 0
    - LUN4 (500 GB): Auction\* VMs for tile 2
    - LUN5 (700 GB): DS3\* VMs for tile 2
    - LUN6 (400 GB): Elastic\* VMs for tile 3
    - LUN7 (500 GB): Auction\* VMs for tile 5
    - LUN8 (700 GB): DS3\* VMs for tile 5
    - LUN9 (400 GB): Elastic\* VMs for tile 6
    - LUN10 (500 GB): Auction\* VMs for tile 7
    - LUN11 (700 GB): DS3\* VMs for tile 7
    - LUN12 (400 GB): Elastic\* VMs for tile 4
    - LUN13 (200 GB): template VM
    - LUN14 (200 GB): svMotion target LUN
    - LUN15 (200 GB): Standby VMs for tiles 0, 3, 4, 7

## **Datacenter Management Server Notes**

VMware vCenter Server Appliance 6.7 build 8217866 was hosted on client host 4.

## **Operating System Notes**

VMware ESXi 6.5 U2 Build 8294253 was installed using the 'HPE Custom Image for VMware ESXi 6.5 U2 Install CD' download named 'VMware-ESXi-6.5.0-Update2-8294253-HPE-Gen9plus-650.U2.10.3.0.24-Jun2018.iso'.

- VMware ESXi 6.5 U2 Build 8294253 was released by VMware on 05-03-2018.
- The HPE customized ISO image was released by HPE on 06-26-2018.



## Software Notes

None

## Client Notes

VMware ESXi 6.7 Build 8169922 was installed using the 'HPE Custom Image for VMware ESXi 6.7 Install CD' download named 'VMware-ESXi-6.7.0-8169922-HPE-Gen9plus-670.10.3.0.30-Jun2018.iso'.

- VMware ESXi 6.7 Build 8169922 was released by VMware on 04-17-2018.
- The HPE customized ISO image was released by HPE on 06-26-2018.

VMware vCenter Server Appliance VM and client VMs were distributed across the client hosts as follows:

- Client host 1: Client0, Client4, PrimeClient
- Client host 2: Client1, Client5
- Client host 3: Client2, Client6
- Client host 4: Client3, Client7, vCSA

## Other Notes

None

## Meltdown/Spectre Mitigations

CVE-2017-5754 (aka "Meltdown")

- ESXi: mitigation present (VMware ESXi 6.5 U2 Build 8294253)
- Guest OS: no mitigation present

CVE-2017-5753 (aka "Spectre variant 1")

- ESXi: mitigation present (VMware ESXi 6.5 U2 Build 8294253)
- Guest OS: no mitigation present

CVE-2017-5715 (aka "Spectre variant 2")

- Server Firmware: mitigation present (I42 v1.42 (06/20/2018))
- ESXi: mitigation present (VMware ESXi 6.5 U2 Build 8294253)
- Guest OS: no mitigation present

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