VMmark® 3.0 Results

Vendor and Hardware Platform: Inspur NF5280M5 **Virtualization Platform: VMware ESXI 6.5 U1g (Build 7967591)** **VMware vCenter Server : VMware vCenter Server 6.7 (Build 8217866）**	**Non-Compliant**

Number of Hosts: 4	**Uniform Hosts [yes/no]: yes**	**Total sockets/cores/threads in test: 8/192/384**
Tested By: Inspur	**Test Date: 07-28-2018**	

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

It has been determined that this result was not in compliance with the VMmark Run and Reporting Rules. Specifically, a change was made to a VMmark workload and therefore the result was not in compliance with section 3.1.1 of the Run and Reporting Rules.

Performance -- all data has been removed = NC

	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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																

p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																
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																
p1																
p2																

p0_score:	NC
p1_score:	NC
p2_score:	NC

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	NC	NC	NC	NC
Avg_Seconds_To_Complete	NC	NC	NC	NC
Failures	NC	NC	NC	NC

Ratio	NC	NC	NC	NC
Number_Of_Threads	NC	NC	NC	NC

Summary	NC	Turbo_Setting:0
	Number_Of_Compliance_Issues(NC)*	Median_Phase(NC)
Unreviewed_VMmark3_Applications_Score	NC	
Unreviewed_VMmark3_Infrastructure_Score	NC	
Unreviewed_VMmark3_Score	NC	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.5.0 U1g / Build 7967591/03-20-2018
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
Servers	
Number of Servers in System Under Test (all subsequent fields in this section are per server)	4
Server Manufacturer and Model	Inspur NF5280M5
Processor Vendor and Model	Intel Xeon Platinum 8160
Processor Speed (GHz)	2.1GHz
Total Sockets/Total Cores/Total Threads	2 Sockets / 48 Cores / 96 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	33MB I+D on chip per chip
BIOS Version	4.0.3

Memory Size (in GB, Number of DIMMs)	384GB,12
Memory Type and Speed	32GB DDR4 2400MHz RDIMM
Disk Subsystem Type	VMware vSAN
Number of Disk Controllers	N/A
Disk Controller Vendors and Models	N/A
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Intel,S3500 M.2 SATA MLC,80G,6Gb/s
Number of Host Bus Adapters	N/A
Host Bus Adapter Vendors and Models	N/A
Number of Network Controllers	2
Network Controller Vendors and Models	Intel(R) Ethernet Connection X722 for 10GbASE-T, Intel Corporation I350 Gigabit Network Connection
Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	08-30-2017
BIOS Availability Date (MM-DD-YYYY)	03-29-2018
Software Availability Date (MM-DD-YYYY)	04-17-2018
Network	
Network Switch Vendors and Models	Ruijie RG-S6220-24XS
Network Speed	10Gb
Storage	
Array Vendors, Models, and Firmware Versions	4 x NF5280M5,with VMware vSAN 6.6.0 1 x Supermicro X11QPH+,with Windows Server 2012
Fibre Channel Switch Vendors and Models	No Fibre Channel Switch
Disk Space Used	64TB（4 x NF5280M5） 2TB（SupermicroX11QPH+）
Array Cache Size	375GB（4 x NF5280M5） No cache used(Supermicro X11QPH+)

Total Number of Physical Disks Used	24(4 x NF5280M5) 1(Supermicro X11QPH+)
Total Number of Enclosures/Pods/Shelves Used	Internal: 8 NVMe SSD (Intel P4800X 375G), 4 SATA SSD (Intel S3500 80G), Shelf: 16 NVMe SSD (Intel P4500 4T)（4 x NF5280M5） 1 Intel P3700 2T and 1 Intel P3500 120G（SupermicroX11QPH+）
Number of Physical Disks Used per Enclosure/Pod/Shelf	6
Total Number of Storage Groups Used	0
Number of LUNs Used	Refer to Storage Note section
LUN Size and Number of Disks Per LUN	Refer to Storage Note section
RAID Type	Refer to Storage Note section
Number of Members per RAID Set	Refer to Storage Note section
Disk Vendors, Models, and Speeds	8 x Intel SSD DC P4800X Series SSDPED1K375GA (375 GB, AIC) NVMe SSD, 16 x Intel SSD DC P4500 Series (4.0TB, 2.5in PCIe 3.1 x4, 3D1, TLC),1 x Intel SSD DC S3500 Series (120GB, M.2 SATA 6Gb/s, 20nm, MLC),1 x Intel SSD DC P3700 Series (2.0TB, 2.5in PCIe 3.0, 20nm, MLC)

Datacenter Management Server	
System Model	Intel Server System R2208WFTZS System board: Intel Server Board S2600WFS, equivalent to Intel Server Board S2600WFQ
Processor Vendor and Model	Intel Xeon Platinum 8170
Processor Speed (GHz)	2.1
Total Sockets/Total Cores/Total Threads	2 Sockets / 52 Cores / 104 Threads
Memory Size (in GB, Number of DIMMs)	128GB,8
Network Controller(s) Vendors and Models	Intel Ethernet Converged Network Adapter X710-DA2 10 GbE
Operating System, Version, Bitness, and Service Pack	VMware ESXi 6.5.0 U2,Build 8294253
Virtual Center VM Number of vCPUs	4
Virtual Center VM Virtual Memory (in GB)	16
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 6.7 (Build 8217866)
Other Hardware	N/A
Other Software	N/A

Clients

Total Number of Virtual Clients / Virtual Client Hosts	12/2
System Model(s)	Client host1: Intel Server System R2208WFTZS System board: Intel Server Board S2600WFS, equivalent to Intel Server Board S2600WFQ Client host2: Intel Server System R2208WFTZS System board: Intel Server Board S2600WFD, equivalent to Intel Server Board S2600WFT
Processor Vendor(s) and Model(s)	Intel(R) Xeon Platinum 8170
Processor Speed(s) (GHz)	2.1
Total Sockets/Total Cores/Total Threads	2 Sockets / 52 Cores / 104Threads
Memory per Virtual Client Host	128G
Network Controller(s) Vendors and Models	Intel(R) Ethernet Controller X710 for 10 GbE SFP+ Intel(R) Ethernet Controller X722 for 10 GbE SFP+
Virtual Client Networking Notes	1 vmnic for management,1 vmnic for workload traffic
Virtual Client Storage Notes	Intel SSD S3710 Series
Other Hardware	N/A
Other Software	VMware ESXi 6.5.0 Update2,Build 8294253

Notes for Workload

Virtualization Software Notes

CDROM & floppy devices were removed on all VMs except the PrimeClient and vmmark3-template

All SUT hosts had firewall disabled

Cluster DRS Automation Level set to Fully Automated, DRS Migration Threshold set to level 2

Config.HostAgent.log.level = warning (default info)

Power management Policy = High Performance (default: Balanced)

All Standby VMs had CPU Shares set to 200 (default Normal)

All Standby VMs had Memory Shares set to 5120 (default Normal)

The vmware-fdm module was updated after the OS was installed on all 4 SUT hosts

/adv/VSAN/SwapThickProvisionDisabled was set to 1 on all 4 SUT hosts (default 0)

/adv/UserVars/HostClientCEIPOptIn was set to 2 on all 4 SUT hosts (default 0)

/adv/UserVars/SuppressShellWarning was set to 1 on all 4 SUT hosts (default 0)

/adv/Virsto/DedupSpaceReclaim was set to 2 on all 4 SUT hosts (default 0)

Server Notes

Server BIOS setting:

Intel Hyper Threading Technology Enabled (default: Enabled)

Power Management Settings: Performance (default: Balanced)

Networking Notes

vSwitch Configuration:

vSwitch0 for the management on vmnic1 at 1Gb/s

vSwitch1 for vsan and vMotion on vmnic4 at 10Gb/s

vSwitch2 for all VMs on vmnic5 at 10Gb/s

Storage Notes

OS was installed on S3500 for each host

Storage box#1 (System Under Test): vsanDatastore(64TB) ,3TB cache used

Hardware Configuration

NF5280M5,with VMware vSAN 6.6.0

2 xIntel Xeon 6138

384 GB Memory (12 x 32GB DDR4 2666MHz RDIMM)

2 x Intel SSD DC P4800X,375GB

4 x Intel SSD DC P4500,4TB

Software Configuration

All Flash vSAN with two disk groups, each disk group include 1 Intel SSD DC P4800X 375GB (AIC) for array cache and 2 Intel SSD DC P4500 Series 4TB (NVMe) for capacity.

LUN/VM layout

LUN1(64TB,3TB cache): DS3DB*,DS3WebB*,DS3WebC*,AuctionLB*,AuctionNoSQL*,AuctionAppA*,AuctionAppB*,AuctionDB*,AuctionMSQ*,

AuctionWebA*,AuctionWebB*,ElasticLB*,ElasticAppA*,ElasticAppB*,ElasticDB*,ElasticWebA*,ElasticWebB* for tile 0-9,template,SVmotion source LUN,XVmotion source LUN, Deploy source LUN

Storage box#2 (Shared storage): Windows Server 2012 with two volumes shared as iSCSI target to System Under Test (2Tb),No cache used

Hardware Configuration

1 x Supermicro X11QPH+

4 x Intel Xeon 8180

768GB Memory

1 x Intel S3500 120GB for OS

1 x Intel P3700 2T

Software Configuration

Storage Pools were created using Windows Server 2012

2 Storage Pools were built on P3700

Storage Pool 1 ,800GB,LUN1

Storage Pool 2 ,800GB,LUN2

LUN/VM layout

LUN1(800GB): DS3WebA*,Standby* for tile 0-9

LUN2(800GB): SVmotion target LUN, XVmotion target LUN,Deploy Target LUN

Datacenter Management Server Notes

None

Software Notes

none

Client Notes

Client host1: Client4,Client6,Client8, Client10,PrimeClient

Client host2:Client0,Client1,Client2,Client3,Client5,Client7, Client9

Cluster DRS Automation Level set to Fully Automated, DRS Migration Threshold set to level 2

Power management Policy = High Performance (default: Balanced)

Both client hosts used 1 x Intel X710 NIC port for the VMs

1 x Intel X722 NIC port for management used 1Gb connection

/adv/UserVars/HostClientCEIPOptIn was set to 2 on client hosts (default 0)

/adv/UserVars/SuppressShellWarning was set to 1 on client hosts (default 0)

Meltdown/Spectre Mitigations:

CVE-2017-5754 (aka “Meltdown”)

ESXi: mitigation present ESXi 6.5 U1g (Build 7967591)

Guest OS:no mitigation present

CVE-2017-5753 (aka “Spectre variant 1”) ESXi: mitigation present ESXi 6.5 U1g (Build 7967591)

Guest OS: no mitigation present

CVE-2017-5715 (aka “Spectre variant 2”)

Server Firmware: mitigation present BIOS version 4.0.3

ESXi: mitigation present ESXi 6.5 U1g (Build 7967591)

Guest OS: no mitigation present

Other Notes

none
