

VMmark® 3.0 Results

Vendor and Hardware Platform: Sugon I620-G30
 Virtualization Platform: VMware ESXi 6.5.0 Patch 2 (Build 7388607)
 VMware vCenter Server : VMware vCenter 6.5 U1 (Build 5973321)

**VMmark 3.0 Score =
6.95 @ 7 Tiles**

Number of Hosts: 4

Uniform Hosts [yes/no]: yes

Total sockets/cores/threads in test: 8/128/256

Tested By: Sugon

Test Date: 02-27-2018

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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	3598.72	1.00	0.43 0.00	570.62	1.00	0.74 0.38	971.20	1.32	724.88	710.48	1.42	835.03	519.77	1.50	951.47	1.23
p1	3602.21	1.00	0.41 0.00	573.04	1.00	0.58 0.33	966.05	1.32	732.00	682.10	1.36	856.54	449.98	1.30	984.37	1.18
p2	3598.27	1.00	0.43 0.00	570.74	1.00	0.56 0.43	960.10	1.31	755.41	698.17	1.39	863.94	515.95	1.49	979.94	1.22
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	3596.62	1.00	0.50 0.00	572.38	1.00	0.86 0.44	950.17	1.29	801.98	663.05	1.32	942.31	474.75	1.37	1089.45	1.19
p1	3602.21	1.00	0.46 0.01	572.20	1.00	0.79 0.42	963.62	1.31	741.24	679.62	1.36	852.07	470.27	1.36	982.73	1.19
p2	3602.20	1.00	0.43 0.00	573.29	1.00	0.61 0.39	960.88	1.31	749.04	696.12	1.39	863.78	489.68	1.41	987.48	1.21
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	3600.85	1.00	0.45 0.00	570.73	1.00	0.87 0.49	948.42	1.29	790.62	636.23	1.27	946.47	452.48	1.30	1079.26	1.16
p1	3602.81	1.00	0.43 0.00	573.60	1.00	0.89 0.56	930.55	1.27	817.15	679.12	1.36	943.94	476.27	1.37	1057.31	1.19
p2	3602.32	1.00	0.44 0.00	573.56	1.00	0.66 0.40	941.48	1.28	803.46	655.45	1.31	962.65	450.52	1.30	1094.87	1.17
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	3600.68	1.00	0.42 0.00	573.30	1.00	0.74 0.32	952.23	1.30	785.96	663.33	1.33	935.49	457.82	1.32	1058.50	1.18
p1	3595.29	1.00	0.41 0.00	572.52	1.00	0.72 0.44	941.17	1.28	800.46	685.62	1.37	925.32	507.30	1.46	1030.91	1.21
p2	3603.07	1.00	0.40 0.00	572.81	1.00	0.59 0.45	954.12	1.30	786.35	659.90	1.32	937.73	433.02	1.25	1081.06	1.16
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	3604.02	1.00	0.41 0.00	571.82	1.00	0.80 0.52	957.45	1.30	768.33	692.48	1.38	900.95	484.30	1.40	1030.38	1.20
p1	3601.86	1.00	0.44 0.00	573.05	1.00	0.85 0.42	966.50	1.32	736.20	677.25	1.35	874.44	491.00	1.42	999.39	1.20
p2	3599.06	1.00	0.42 0.00	568.79	0.99	0.69 0.60	959.45	1.31	761.19	672.52	1.34	897.07	465.05	1.34	1019.77	1.19
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	3599.59	1.00	0.48 0.00	572.18	1.00	0.77 0.34	914.33	1.25	889.29	656.10	1.31	1055.51	479.20	1.38	1195.16	1.18
p1	3600.08	1.00	0.44 0.00	571.60	1.00	0.73 0.34	976.70	1.33	709.49	689.50	1.38	826.98	455.48	1.31	944.26	1.19
p2	3597.68	1.00	0.45 0.00	572.62	1.00	0.60 0.35	948.95	1.29	770.33	693.52	1.39	894.29	510.62	1.47	998.44	1.21
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	3601.87	1.00	0.45 0.00	573.27	1.00	0.81 0.39	936.73	1.28	831.30	647.15	1.29	987.31	469.82	1.35	1130.54	1.18
p1	3601.16	1.00	0.43 0.00	572.58	1.00	0.74 0.37	938.98	1.28	816.82	650.83	1.30	972.33	448.35	1.29	1116.06	1.17
p2	3597.88	1.00	0.42 0.00	573.05	1.00	0.70 0.54	946.50	1.29	790.20	680.98	1.36	929.52	480.27	1.38	1038.50	1.19
p0_score:	8.31															
p1_score:	8.34															
p2_score:	8.36															

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	51.00	38.00	32.00	4.00
Avg_Seconds_To_Complete	15.69	158.32	191.81	1084.95
Failures	0.00	0.00	0.00	0.00
Ratio	1.96	2.11	1.78	0.50
Number_Of_Threads	2	2	2	2

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p1)
Unreviewed_VMmark3_Applications_Score	8.34	
Unreviewed_VMmark3_Infrastructure_Score	1.39	
Unreviewed_VMmark3_Score	6.95	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.5.0 Patch 2 Build 7388607 / 12-19-2017
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.5 U1 Build 5973321 / 07-27-2017

YYYY)	
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	Sugon I620-G30
Processor Vendor and Model	Intel Xeon Gold 6130
Processor Speed (GHz)	2.10
Total Sockets/Total Cores/Total Threads	2 / 32 / 64
Primary CPU Cache	32KB I+32KB D on chip per core
Secondary CPU Cache	1MB I+D on chip per core
Other CPU Cache	22MB I+D on chip per chip
BIOS Version	0.20
Memory Size (in GB, Number of DIMMs)	384GB,24
Memory Type and Speed	SAMSUNG 16GB 1Rx4 PC4-2666V-RC2-12DB1
Disk Subsystem Type	VMware vSAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	LSI Logic SAS3008
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Intel SSD DC S3520 480 GB ,6.0Gb/s
Number of Host Bus Adapters	N/A
Host Bus Adapter Vendors and Models	N/A
Number of Network Controllers	3
Network Controller Vendors and Models	1 x Intel 82599 10Gb SFP+2-Ports NIC 2 x Intel(R) Ethernet Connection X722 1GbE
Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	10-15-2017

BIOS Availability Date (MM-DD-YYYY)	09-25-2017
Software Availability Date (MM-DD-YYYY)	12-19-2017
Network	
Network Switch Vendors and Models	1x Dell force S55,1xRuijie RG-S6220-24S
Network Speed	1Gbps for Management,10Gbps for vMotion,vSAN,VMtraffic and ISCSI Storage
Storage	
Array Vendors, Models, and Firmware Versions	4 x Sugon I620-G30 2U ,with VMware vSAN 6.6.1 1 x Sugon I620-G10 2U,with Windows Server 2012R2 ISCSI Server
Fibre Channel Switch Vendors and Models	N/A
Disk Space Used	35TB (4 x Sugon I620-G30) 8.8TB (1 x Sugon I620-G10)
Array Cache Size	3TB (4 x Sugon I620-G30) No cache used (1 x Sugon I620-G10)
Total Number of Physical Disks Used	24 (4 x Sugon I620-G30) 11 (1 x Sugon I620-G10)
Total Number of Enclosures/Pods/Shelves Used	5 (4 x Sugon I620-G30, 1 x Sugon I620-G10)
Number of Physical Disks Used per Enclosure/Pod/Shelf	4 x Enclosure(Sugon I620-G30): 2 x PCIe-SSD and 4 x PCIe-SSD AIC 1 x Enclosure(Sugon I620-G10): 11 x SATA-SSD
Total Number of Storage Groups Used	0
Number of LUNs Used	Refer section: Storage Notes
LUN Size and Number of Disks Per LUN	Refer section: Storage Notes
RAID Type	Refer section: Storage Notes
Number of Members per RAID Set	Refer section: Storage Notes
Disk Vendors, Models, and Speeds	8 x Intel P4800X 375GB PCIe-SSD, 16 x Intel P4500 2TB PCIe-SSD AIC, 11 x Intel S3520 800GB SATA-SSD
Datacenter Management Server	
System Model	Sugon I620-G20
Processor Vendor and Model	Intel Xeon E5-2650 V4
Processor Speed (GHz)	2.20GHz

Total Sockets/Total Cores/Total Threads	2 Sockets / 24 Cores / 48 Threads
Memory Size (in GB, Number of DIMMs)	256GB,16
Network Controller(s) Vendors and Models	1 x Intel 82599 10Gb SFP+2-Ports NIC; 1xIntel Corporation I350 Gigabit 4-Ports Network
Operating System, Version, Bitness, and Service Pack	VMware ESXi 6.5.0 Patch 2 Build 7388607
Virtual Center VM Number of vCPUs	8
Virtual Center VM Virtual Memory (in GB)	24GB
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 6.5 U1 Build 5973321
Other Hardware	None
Other Software	None

Clients

Total Number of Virtual Clients / Virtual Client Hosts	8 / 4
System Model(s)	Sugon I620-G20
Processor Vendor(s) and Model(s)	Intel Xeon E5-2650 V4
Processor Speed(s) (GHz)	2.20GHz
Total Sockets/Total Cores/Total Threads	2 Sockets / 24 Cores / 48 Threads
Memory per Virtual Client Host	256GB
Network Controller(s) Vendors and Models	1 x Intel 82599 10Gb SFP+2-Ports NIC; 1xIntel Corporation I350 Gigabit4-Ports Network
Virtual Client Networking Notes	1 vmnic for management,1 vmnic for workload traffic
Virtual Client Storage Notes	LUN1:4.2TB LUN1 (6 x Intel S3520 800GB SATA-SSD, RAID 0) LUN2:3.5TB (5 x Intel S3520 800GB SATA-SSD, RAID 0)
Other Hardware	Ruijie RG-S6220-24xS
Other Software	VMware ESXi 6.5.0 Patch 2 Build 7388607

Notes for Workload

Virtualization Software Notes

- Cluster DRS Automation Level set to FullyAutomated,DrmsMigrationThreshold set to level 2
- Power management Policy = High Performance(default:Balanced)
- The primary virtual disk was set to thin provisioning for the following VM types: AuctionDB, AuctionNoSQL, DS3DB, ElasticLB.

Advanced Settings:

- /adv/UserVars/HostClientCEIPOptIn was set to 1 (default 0)
- /adv/Mem/VMOverheadGrowthLimit = 0 (default 4294967295)
- /adv/Virsto/DedupSpaceReclaim = 2 (default 0)

Server Notes

Server BIOS Setting:

- Intel Turbo Boost Enable (default: Disabled)
- Intel Hyper Threading Technology Enabled (default: Disabled)
- C-State:Disabled (default: Enabled)
- Power Mangement Settings:Performance (default:balance)
- Intel TXT Enabled (default: Disabled)

Networking Notes

vSwitch Configuration:

SUT Host:

- vSwitch0 on vmnic1,for Management(1Gb/s)
 - vSwitch1 on vmnic0 and vmnic3,for vSAN,ISCSI,vMotion,all VMs(10Gb/s*2)
- Both manual and auto-negotiation was used across the 4 hosts for the NIC settings

Client Host:

- vSwitch0 on vmnic0,for Management(1Gb/s)
- vSwitch1 on vmnic4 ,for ISCSI,vMotion,all VMs(10Gb/s)

Storage Notes

- OS was installed on Intel DC S3520 SSD for each host.
- Storage box 1(for SUT VMs and Infrastructure workload source):vSAN 6.6.1 Datastore 35TB (capacity: 32TB, cache: 3TB)

Hardware Configuration

- 4 x Sugon I620-G30
- 2 x Intel Xeon Gold 6130
- 384GB Memory(24*16GB DIMMs SAMSUNG 2666V DDR4)
- 1 x Intel S3520 480GB SSD
- 2 x Intel P4800X 375GB PCIe-SSD
- 4 x Intel P4500 2TB PCIe-SSD
- 1 x Intel 82599EB 10GbE SFP+2-Ports NIC
- 2 x Intel(R) Ethernet Connection X722 1GbE

Software Configuration

All flash vSAN with two disk groups,each group include 1 Intel P4800X 375GB for array cache and 2 Intel P4500 2TB NVMe for capacity.

vSAN Default Storage Policy set:

- Primary level of Failure to tolerate:1
- Number of disk stripes per object:1
- Force Provisioning:No
- Object Space reservation (%):0
- Flash read cache reservation (%):0.000

- Disable object checksum: Yes
- LUN/VM layout
- All SUT VMs, template, SVmotion source LUN, XVmotion source LUN, Deploy source LUN
- Storage box 2(for Client VMs and Infrastructure workload target)
 - Windows Server 2012 R2 with two volumes shared as iSCSI target 8TB (Client Host: 4.2TB, SUT: 3.5TB)
 - Hardware Configuration
 - 1 x Sugon I620-G10 (Windows Server iSCSI Target Server)
 - 2 x Intel Xeon CPU E5-2650 @2.20GHz
 - 256GB Memory (16 x 16GB DIMMs SAMSUNG 2666V DDR4)
 - 1 x LSI Logic SAS3008 Disk Controller
 - 1 x Intel 82599EB 10GbE SFP+2-Ports NIC
 - 1 x Intel Corporation I350 Gigabit 4-Ports Network
 - 1 x Intel S3520 480GB SSD
 - 11 x Intel SSD DC S3520 Series 800GB
 - Software Configuration
 - Storage Pools were created using Windows Server 2012R2
 - 11 x Intel SSD DC S3520 480GB were built into two storage pool(RAID 0)
 - Storage Pool 1, Volume 1(RAID 0), LUN1 (6 x Intel S3520)
 - Storage Pool 2, Volume 2(RAID 0), LUN2 (5 x Intel S3520)
 - LUN/VM layout
 - LUN1(4.2TB): PrimeClient, vCenter Server, All of Client VMs
 - LUN2(3.5TB): SVmotion target LUN, XVmotion target LUN, Deploy target LUN

Datacenter Management Server Notes

Sugon I620-G20 running ESXI 6.5.0 with vCenter Server Appliance 6.5 for SUT and Client hosts

- 8vCPU
- 24 GB virtual memory
- vCenter Server 6.5.0 Build 5973321

Operating System Notes

None

Software Notes

None

Client Notes

PrimeClient was deployed on to one of the 4x Sugon I620-G20 used for client hosts

- Client host1: Client3, Client6
- Client host2: Client1, Client5
- Client host3: Client0, Prime Client
- Client host4: Client2, Client4

Advanced Settings:

- Power management Policy = High Performance(default: Balanced)
- /adv/UserVars/HostClientCEIPOptIn was set to 1(default 0)

Other Notes

None

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