

VMware® VMmark® V2.5.2 Results

Vendor and Hardware Platform: Supermicro SYS-6028R-WTR
 Virtualization Platform: VMware ESXi 5.5.0 Update 2 Build 2068190
 VMware vCenter Server : VMware vCenter Server Appliance 5.5 Update 1 Build 1623101

**VMmark V2.5.2 Score =
18.14 @ 16 Tiles**

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/56/112
Tested By: Supermicro Inc.		Test Date: 5-12-2015
Performance Section Performance	Configuration Section Configuration	Notes Section Notes for Workload

Performance

	mailserver			olio			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.05	0.99	126.00	4667.45	1.01	172.56	3943.97	1.79	72.26	2897.25	1.91	74.74	2144.20	2.03	71.75	1.47
p1	331.18	1.00	129.50	4647.88	1.00	202.57	3328.93	1.51	106.94	2460.80	1.62	113.32	1765.12	1.67	118.41	1.33
p2	329.82	1.00	141.40	4632.77	1.00	210.30	3806.95	1.73	76.70	2777.80	1.83	82.26	2069.35	1.96	89.22	1.44
TILE_1	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.98	1.00	124.80	4672.18	1.01	180.59	3685.82	1.68	85.64	2746.55	1.81	88.52	1931.38	1.83	96.11	1.41
p1	328.27	0.99	129.35	4660.02	1.00	202.09	3254.50	1.48	111.43	2511.85	1.65	116.05	1827.30	1.73	116.49	1.33
p2	329.93	1.00	134.25	4676.00	1.01	173.98	3549.40	1.61	88.25	2624.30	1.73	89.48	1861.00	1.76	94.25	1.38
TILE_2	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	333.02	1.01	130.50	4681.45	1.01	174.29	3769.00	1.71	81.46	2812.82	1.85	88.34	2026.95	1.92	94.04	1.44
p1	323.00	0.98	148.50	4639.75	1.00	204.39	3669.15	1.67	91.38	2650.25	1.75	103.93	1964.88	1.86	112.08	1.40
p2	329.05	1.00	154.00	4669.93	1.01	201.03	3602.68	1.64	88.35	2540.28	1.67	100.00	1870.05	1.77	96.52	1.37
TILE_3	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.62	1.00	140.10	4634.23	1.00	203.19	3611.43	1.64	87.23	2674.70	1.76	94.88	2062.85	1.95	95.77	1.41
p1	326.60	0.99	152.75	4630.85	1.00	209.80	3349.53	1.52	105.83	2295.95	1.51	122.21	1663.00	1.57	129.12	1.29
p2	325.93	0.99	155.25	4615.88	0.99	219.95	3488.40	1.59	94.59	2593.97	1.71	103.88	1860.30	1.76	112.38	1.36
TILE_4	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.12	0.98	143.47	4651.95	1.00	184.98	3744.60	1.70	78.85	2760.70	1.82	78.46	2110.85	2.00	79.04	1.44
p1	329.93	1.00	157.25	4645.90	1.00	197.26	3304.30	1.50	107.74	2371.82	1.56	116.33	1685.17	1.59	123.91	1.30
p2	333.15	1.01	165.25	4633.65	1.00	204.65	3841.30	1.75	77.08	2932.20	1.93	88.23	2188.50	2.07	89.99	1.48
TILE_5	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.43	0.98	120.75	4675.93	1.01	176.70	4045.62	1.84	67.66	2957.25	1.95	71.39	2222.72	2.10	62.89	1.49

p1	327.40	0.99	124.25	4677.50	1.01	200.46	3981.32	1.81	69.01	3130.78	2.06	64.55	2319.90	2.19	62.76	1.52
p2	324.77	0.98	127.75	4627.15	1.00	204.08	3842.62	1.75	75.89	2836.93	1.87	79.04	2272.18	2.15	79.72	1.47
TILE_6	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.40	0.99	125.97	4676.30	1.01	171.90	3865.95	1.76	76.06	2872.90	1.89	78.42	2005.22	1.90	87.28	1.44
p1	321.43	0.97	143.50	4632.93	1.00	204.71	3851.90	1.75	77.24	3048.38	2.01	79.50	2303.50	2.18	70.98	1.49
p2	324.77	0.98	158.25	4650.15	1.00	199.75	3589.60	1.63	83.88	2683.03	1.77	82.98	2040.20	1.93	83.64	1.41
TILE_7	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	322.43	0.98	130.75	4662.95	1.00	178.67	3598.45	1.64	87.21	2743.95	1.81	89.52	2010.50	1.90	93.64	1.41
p1	324.23	0.98	145.35	4661.85	1.00	180.06	3291.10	1.50	108.35	2462.62	1.62	117.05	1839.67	1.74	125.26	1.33
p2	323.77	0.98	154.50	4623.57	1.00	205.51	3662.50	1.67	83.78	2719.95	1.79	86.27	1974.47	1.87	83.52	1.40
TILE_8	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.95	1.00	141.75	4675.70	1.01	167.20	3734.80	1.70	82.93	2876.20	1.89	89.90	2072.53	1.96	99.69	1.45
p1	314.62	0.95	152.65	4640.73	1.00	216.98	3487.75	1.59	105.48	2348.57	1.55	127.17	1729.95	1.64	140.18	1.31
p2	330.98	1.00	164.00	4647.95	1.00	191.82	3581.60	1.63	91.09	2540.47	1.67	101.36	1762.90	1.67	113.66	1.35
TILE_9	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.50	0.99	140.40	4648.07	1.00	185.25	3596.10	1.64	85.28	2626.82	1.73	93.62	1993.92	1.88	97.02	1.40
p1	323.20	0.98	140.03	4662.85	1.00	174.23	3323.28	1.51	107.62	2207.55	1.45	130.10	1547.53	1.46	142.55	1.26
p2	329.45	1.00	145.45	4650.62	1.00	202.60	3455.30	1.57	95.45	2531.80	1.67	106.55	1830.88	1.73	113.57	1.35
TILE_10	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.60	0.98	159.00	4649.52	1.00	198.80	3680.75	1.67	84.18	2644.60	1.74	89.56	2043.58	1.93	84.81	1.41
p1	319.77	0.97	156.75	4620.00	1.00	225.63	3286.68	1.49	105.60	2421.97	1.59	105.23	1731.12	1.64	110.23	1.30
p2	329.27	1.00	164.75	4626.77	1.00	215.15	3693.55	1.68	83.39	2800.65	1.84	89.94	2109.78	1.99	95.02	1.44
TILE_11	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.62	1.00	152.20	4642.52	1.00	198.14	3892.70	1.77	75.00	2877.20	1.89	78.01	2067.53	1.95	83.68	1.46
p1	329.45	1.00	153.35	4648.62	1.00	216.51	3801.75	1.73	80.88	2881.00	1.90	85.48	2178.40	2.06	75.99	1.46
p2	323.73	0.98	163.10	4645.27	1.00	199.53	3456.97	1.57	93.27	2508.25	1.65	97.18	1843.92	1.74	104.35	1.35
TILE_12	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.48	0.99	156.25	4657.60	1.00	204.74	3913.35	1.78	72.81	2860.22	1.88	78.07	2075.82	1.96	82.85	1.46
p1	324.45	0.98	179.00	4609.50	0.99	242.01	3808.50	1.73	82.01	2890.28	1.90	87.37	2209.03	2.09	91.15	1.46
p2	326.65	0.99	183.50	4633.68	1.00	217.96	3725.65	1.69	79.63	2774.25	1.83	81.84	2044.85	1.93	76.25	1.43
TILE_13	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.05	0.99	168.50	4652.15	1.00	202.71	3626.20	1.65	85.74	2672.20	1.76	94.66	1969.83	1.86	99.02	1.40
p1	325.10	0.98	169.25	4607.75	0.99	233.78	3332.47	1.52	106.66	2286.82	1.51	123.06	1740.62	1.65	129.74	1.30
p2	316.95	0.96	169.65	4640.48	1.00	202.28	3535.60	1.61	91.94	2552.35	1.68	100.44	1856.22	1.75	100.35	1.35
TILE_14	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.45	0.99	159.90	4660.23	1.00	180.57	3799.32	1.73	76.08	2876.82	1.89	78.32	2193.10	2.07	80.95	1.46

p1	318.60	0.96	153.40	4651.10	1.00	189.88	3388.05	1.54	109.02	2359.95	1.55	124.32	1634.62	1.54	139.80	1.29
p2	327.48	0.99	163.25	4621.30	1.00	218.80	3530.80	1.61	93.44	2603.45	1.71	105.96	1807.15	1.71	119.55	1.36
TILE_15	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	322.32	0.98	185.10	4651.20	1.00	180.25	3873.38	1.76	74.20	2832.40	1.87	77.71	2166.85	2.05	75.36	1.46
p1	328.20	0.99	178.75	4673.48	1.01	182.15	3959.93	1.80	71.35	2986.47	1.97	67.50	2169.05	2.05	70.46	1.49
p2	324.93	0.98	176.70	4652.52	1.00	201.77	3742.07	1.70	80.68	2824.82	1.86	86.08	2138.88	2.02	91.71	1.45
p0_score:	23.00															
p1_score:	21.86															
p2_score:	22.38															

Infrastructure_Operations_Scores:	vmotion	svmotion	deploy
Completed_Ops_PerHour	17.00	11.00	5.00
Avg_Seconds_To_Complete	28.61	22.13	353.91
Failures	0.00	0.00	0.00
Ratio	1.06	1.22	1.25
Number_Of_Threads	1	1	1

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p2)
Unreviewed_VMmark2_Applications_Score	22.38	
Unreviewed_VMmark2_Infrastructure_Score	1.18	
Unreviewed_VMmark2_Score	18.14	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 5.5.0 Update 2 Build 2068190 / 09-09-2014
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server Appliance 5.5 Update 1 Build 1623101 / 3-11-2014
Supplemental Software	None
Servers	
Quantity	2

Server Manufacturer and Model	Supermicro SYS-6028R-WTR
Processor Vendor and Model	Intel Xeon E5-2697 v3
Processor Speed (GHz)	2.60
Total Sockets/Total Cores/Total Threads	2 Sockets / 28 Cores / 56 Threads
Primary Cache	32 KB I + 32 KB D on chip per core
Secondary Cache	256 KB I + D on chip per core
Other Cache	35 MB I + D on chip per chip L3
BIOS Version	1.0b Build date 10-29-2014
Memory Size (in GB, Number of DIMMs)	256 GB , 16 x 16 GB
Memory Type and Speed	16GB 2Rx4 PC4-2133P-RA0-10-DC0 , 2133 MHz
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	Intel C612 Chipset
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	QLogic QLE2562 (2 ports) 8Gb Fibre HBA
Number of Network Controllers	2
Network Controller Vendors and Models	Intel I350 Gigabit Network Connection (2 ports) Broadcom Corporation NetXtreme II BCM57840 10 Gigabit Ethernet (4 ports)
Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	10-29-2014
Software Availability Date (MM-DD-YYYY)	09-09-2014
Network	
Network Switch Vendors and Models	Supermicro ESS-X3348 10G Switch , Supermicro SSE-G48-TG4 1G Switch
Network Speed	Management and vMotion was at 1 Gb 10 Gbps for All VMs.
Storage	
Array Vendors, Models, and Firmware Versions	Silvershine technology inc – ES DS S16F-G2851
Fibre Channel Switch Vendors and Models	Brocade 300
Disk Space Used	6400 GB

Array Cache Size	4GB
Total Number of Physical Disks Used	16 x SSDs , 2 x ADATA UV150/8GB USB 3.0 flash drive.
Total Number of Enclosures/Pods/Shelves Used	1
Number of Physical Disks Used per Enclosure/Pod/Shelf	16 SSDs for all hosts.
Total Number of Storage Groups Used	0
Number of LUNs Used	8
LUN Size and Number of Disks Per LUN	5 LUNs (3 SSDs per LUN) at 1.08 TB (LUN01,LUN02,LUN03, LUN04, LUN05) 3 LUNs on 1 SSD (deploylun: 10GB, deployt: 10GB, svmotion: 380GB)
RAID Type	LUN01 , LUN02 , LUN03 , LUN04 , LUN05 are RAID 0. svmotion , deployt , delpoylun are part of one Non-Raid. No RAID was used for USB flash drivers.
Number of Members per RAID Set	3 SSDs - RAID0 – Share LUN “LUN01”. 3 SSDs - RAID0 – Share LUN “LUN02”. 3 SSDs - RAID0 – Share LUN “LUN03”. 3 SSDs - RAID0 – Share LUN “LUN04”. 3 SSDs - RAID0 – Share LUN “LUN05”. 1 SSD - NonRAID – For LUNs “svmotion” , “deployt” , “deploylun”.
Disk Vendors, Models, and Speeds	16 x Seagate 2.5" 400 GB SATA3 SSD (ST400FM0012) 2 x ADATA UV150/8GB USB 3.0 flash drive.

Datacenter Management Server

System Model	Supermicro SYS-8028B-C0R3FT
Processor Vendor and Model	Intel Xeon E7-4860 v2
Processor Speed (GHz)	2.60GHz
Total Sockets/Total Cores/Total Threads	4 Sockets / 48 Cores / 96 Threads
Memory	128 GB Virtual Center VM: 8GB
Network Controller(s) Vendors and Models	Intel Corporation Ethernet Controller 10 Gigabit X540-AT2 (2 ports) Broadcom Corporation NetXtreme II BCM57840 10 Gigabit Ethernet (4 ports)
Operating System, Version, Bitness, and Service Pack	Hypervisor: VMware ESXi 5.5.0 Update 2 Build 2068190 / 09-09-2014 Virtual Center VM: SUSE Linux Enterprise 11 (64-bit)
Other Hardware	None
Other Software	None

Clients

Total Number of Clients / Total Physical Clients / Total Virtual Client Hosts	17 / 1 / 1
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System Model(s)	Prime Client : Supermicro SYS-6017R-TDF Virtual Client Host : Supermicro SYS-8028B-C0R3FT
Processor Vendor(s) and Model(s)	Prime Client : Intel Xeon E5-2650L Virtual Client Host : Intel Xeon E7-4860 v2
Processor Speed(s) (GHz)	Prime Client : 1.80 GHz Virtual Client Host : 2.60GHz
Total Sockets/Total Cores/Total Threads	Prime Client : 1 Sockets / 8 Cores / 16 Threads Virtual Client Host : 4 Sockets / 48 Cores / 96 Threads
Memory per Physical Client	Prime Client : 16 GB Virtual Client Host : 128 GB
Network Controller(s) Vendors and Models	Prime Client : Intel I350 Gigabit Network Connection (2 ports) Virtual Client Host : Intel Corporation Ethernet Controller 10 Gigabit X540-AT2 (2 ports) , Broadcom Corporation NetXtreme II BCM57840 10 Gigabit Ethernet (4 ports)
Operating System, Version, Bitness, and Service Pack	Prime Client : Microsoft® Windows® 2008 R2 Enterprise - Sp1 (64bit) Virtual Client Host : ESXi 5.5.0 Update 2 Build 2068190
Number of Virtual Clients	16
Number of vCPUs Per Virtual Client	4
Number of vMem (GB) Per Virtual Client	4 GB
Virtual Client Networking Notes	None
Virtual Client Storage Notes	None
Other Hardware	QLogic QLE2562 (2 ports) 8Gb Fibre HBA
Other Software	None

Notes for Workload

Virtualization Software Notes

- All VMs used Virtual hardware V10, Deploy Template used virtual hardware version 8
- All VMs used VMware tools version 9354 , build-2068191.
- All VMs disk except Standby used thin provision.
- Ethernet adapter type set to vmxnet3 (1.1.18) for all VMs
- All Mailserver VMs used 1 virtual socket / 4 cores per socket. (Default is 1 core per socket.)
- Floppy removed for all VMs. (Default is enabled.)
- SCSI controller : Mailserver used LSI Logic SAS , Standby used LSI Logic Parallel , others used Paravirtual. (Default is LSI Logic SAS.)

Server Notes

- Server BIOS settings:
 - Disable “Enforce POR”. (Default is Enabled.)
 - Change “Memory Frequency” to “2133”. (Default is Auto.)
- Intel Turbo Boost Technology up to 3.6 GHz (default)
- 2 x ADATA UV150/8GB USB 3.0 flash drive.
 - One for Server0 Host.
 - One for Server1 Host.

Networking Notes

vSwitch Configuration:

- vSwitch0 on vmnic 0 (1G) for Service Console , vMotion .
- vSwitch2 on vmnic 3 (10G) for Tile 0,1,6,7,12,13 and Deploy VMs.
- vSwitch3 on vmnic 4 (10G) for Tile 2,3,8,9,14,15
- vSwitch4 on vmnic 5 (10G) for Tile 4,5,10,11

Storage Notes

- ESDS S16F-G2851 4GB cache memory used.
- ESXi were installed on three “ADATA UV150/8GB USB 3.0 flash drive”.
- 16 SSDs were configured into 8 storage pools.
 - 3 SSDs for one pool on “LUN01”.
 - 3 SSDs for one pool on “LUN02”.
 - 3 SSDs for one pool on “LUN03”.
 - 3 SSDs for one pool on “LUN04”.
 - 3 SSDs for one pool on “LUN05”.
 - 1 SSD for 3 LUNs “svmotion” , “deployt” , “deploylun”.
- 8 storage pools for tile:
 - LUN01 - RAID0 at 1200 GB , for 4 tiles.(Tile 0,5,10,15)
 - LUN02 - RAID0 at 1200 GB , for 3 tiles.(Tile 1,6,11)
 - LUN03 - RAID0 at 1200 GB , for 3 tiles.(Tile 2,7,12)
 - LUN04 - RAID0 at 1200 GB , for 3 tiles.(Tile 3,8,13)

- LUN05 - RAID0 at 1200 GB , for 3 tiles.(Tile 4,9,14)
- deploylun - NonRAID at 10 GB , for DeployTemplate.
- deployt – NonRAID at 10 GB , for Deploy Target.
- svmotion - NonRAID at 380 GB , for Storage vMotion.

Datacenter Management Server Notes

- None

Operating System Notes

- All Mailservers and Clients ran Microsoft Windows 2008 R2 Enterprise 64-bit
- All Standby VMs ran Microsoft Windows Server 2003 Enterprise Service Pack 2.
- All SLES11 VMs were updated with Service Pack 2.

Software Notes

- Microsoft Exchange Server 2007 version is 08.03.0327.001.
- VMware-PowerCLI version 5.1.0-1012425
- vSphere DRS setting - Fully automated migration threshold : 2

Client Notes

- 1 x ADATA UV150/8GB USB 3.0 flash drive for Virtual Client Host.
- Microsoft Windows Server 2008 R2 Enterprise 64-bit installed on all client virtual machines.
- 4 x WD 500GB SATA2 were configured into 1 local storage pool.
 - Client_local - RAID0 at 2000 GB , for All client VMs.

Other Notes

- Installed all vibcs from BCM-NetXtremeII-4.0-1796156 on all ESXi servers.
- Standby VMs have patches include :
 - KB2423089,KB2443105,KB2603381,KB2645640,KB2820197,KB923561,KB924667-v2
 - KB925902-v2,KB926122,KB927891,KB929123,KB930178,KB932168,KB933729,KB933854
 - KB936357,KB936782,KB938127-IE7,KB938464-v2,KB941569,KB943055,KB943460,KB944653
 - KB945553,KB946026,KB950762,KB950974,KB951066,KB951748,KB952004,KB952069,KB952954
 - KB954600,KB955069,KB955839,KB956572,KB956802,KB956803,KB957097,KB958644,KB958687
 - KB958690,KB959426,KB960225,KB960803,KB961373,KB963027-IE7,KB967715,KB974318
 - KB975713,KB979309

This is a full disclosure report for a VMmark benchmark result. All published VMmark results must be from fully-compliant tests for which a full disclosure report is publicly available.

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