

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: Dell PowerEdge M600
Virtualization Platform: VMware ESX 3.5 Update 2 (build 110181)

VMmark V1.1 Score =
8.97 @ 6 Tiles

Tested By: Dell Inc.

Test Date: 10/09/2008

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Performance

	webservers		javaserver		mailserver		fileserver		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1992.83	1.96	18069.67	1.09	1548.95	1.41	19.91	1.55	2161.10	1.45	1.47
p1	1992.60	1.96	18071.55	1.09	1771.03	1.61	20.24	1.58	2160.35	1.45	1.51
p2	1991.33	1.95	18062.45	1.09	1709.60	1.56	19.95	1.55	2125.97	1.42	1.49
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1997.70	1.96	18078.12	1.09	1432.47	1.31	20.69	1.61	2218.30	1.49	1.46
p1	2001.60	1.96	18041.72	1.09	1824.42	1.66	20.58	1.60	2194.82	1.47	1.53
p2	1996.30	1.96	18067.55	1.09	1723.80	1.57	20.62	1.61	2038.67	1.37	1.49
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2007.35	1.97	17623.80	1.06	1476.75	1.35	20.29	1.58	2240.43	1.50	1.46
p1	2001.78	1.96	18077.62	1.09	1596.28	1.46	20.45	1.59	2174.53	1.46	1.49
p2	1995.60	1.96	18080.00	1.09	1794.67	1.64	20.42	1.59	2106.38	1.41	1.51
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2001.33	1.96	17603.15	1.06	1351.45	1.23	19.78	1.54	2260.88	1.51	1.43
p1	2000.12	1.96	18041.67	1.09	1589.22	1.45	20.17	1.57	2247.10	1.51	1.49
p2	1999.05	1.96	18062.83	1.09	1720.45	1.57	19.98	1.56	2262.62	1.52	1.51
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2031.12	1.99	17686.28	1.06	1259.83	1.15	19.72	1.54	2312.28	1.55	1.42
p1	2023.55	1.99	18127.17	1.09	1568.17	1.43	20.01	1.56	2312.22	1.55	1.50
p2	2026.88	1.99	18132.70	1.09	1659.20	1.51	19.87	1.55	2321.10	1.56	1.51
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2014.80	1.98	18048.88	1.09	1264.42	1.15	19.29	1.50	2175.57	1.46	1.40
p1	2002.60	1.97	18046.80	1.09	1527.05	1.39	19.63	1.53	2165.68	1.45	1.46
p2	2001.78	1.96	18062.38	1.09	1566.50	1.43	19.64	1.53	2170.95	1.45	1.47
p0_score:	8.64										
p1_score:	8.97										
p2_score:	8.98										
Unreviewed_VMmark_Score:	8.97										

Configuration

Server and Network	
Server Manufacturer and Model	Dell PowerEdge M600
Processor Vendor and Model	Quad-Core Intel Xeon X5470
Processor Speed (GHz)	3.33
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket (8 Cores Total)
Primary Cache	32KB(I) + 32KB(D) on chip, per core
Secondary Cache	12MB(I+D) on chip, per chip, 6 MB shared/2 cores
Other Cache	None
Memory	32GB (4x8GB) 667MHz ECC CL5 DDR2 FB-DIMM
Disk Subsystem Type	SAS (OS), FC SAN (VMs)
Number of Disk Controllers	N/A
Number of Host Bus Adapters	2
Host Bus Adapter Vendors and Models	1 x Onboard Dell CERC6 RAID Controller 1 x QLogic Corp QME2472
Number of Network Controllers	1
Network Controller Vendors and Models	Onboard Broadcom NetXtreme II BCM5708 Dual Port
Network Switch Vendors and Models	Dell PowerConnect 6248
Network Speed	1000Base-T
Other Hardware	None
Other Software	None
Hardware Availability Date	08/09/2008
Software Availability Date	N/A

Virtualization Software	
Vendor, Product, Version, and Build	VMware ESX 3.5 Update 2 (build 110181)
Virtualization Type	Hardware Virtualization
Supplemental Software	None
Virtualization Software Availability Date	12/08/2008

Storage	
Array Vendor, Model, and Firmware Version	1. EMC CX300, version 02.26.300.5.005 2. EMC CX300, version 02.26.300.5.005 3. EMC CX300, version 02.26.300.5.005 4. EMC CX300, version 02.26.300.5.005 5. EMC CX300, version 02.26.300.5.005
Fibre Channel Switch Vendors and Models	Brocade Silkworm 3800
Disk Space Used	447GB
Array Cache Size	1. EMC CX300, 2048MB 2. EMC CX300, 2048MB 3. EMC CX300, 2048MB 4. EMC CX300, 2048MB 5. EMC CX300, 2048MB

Number and Size of LUNs	LUN 1: 250GB LUN 2: 250GB LUN 3: 250GB LUN 4: 250GB LUN 5: 250GB LUN 6: 250GB
RAID Type	RAID0 (all LUNs)
Number of Members per RAID Set	LUN 1: 10 members LUN 2: 10 members LUN 3: 10 members LUN 4: 10 members LUN 5: 10 members LUN 6: 10 members
Disk Vendor, Model, and Speed	Fujitsu Enterprise/15K

Clients

Number of Clients	6
System Model(s)	1 x PowerEdge 1650, 4 x PowerEdge 1750, 1 x PowerEdge 1850
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	1 x 1.40 (1650), 2 x 3.20 (1750), 2 x 3.06 (1750), 1 x 2.80 (1850)
Number of Sockets/Cores per Socket	5 x 2 Sockets / 1 Core per Socket (2 Cores Total), 1 x 2 Sockets / 2 Cores per Socket (4 Cores Total)
Memory	2 GB
Network Controller Vendor and Model	1 x Intel PRO/1000 XT Network Connection (1650), 4 x Broadcom NetXtreme Gigabit Ethernet (1750), 1 x Intel PRO/1000 MT Network Connection (1850)
Operating System, Version, and Service Pack	Microsoft Windows Server 2003 Enterprise Edition SP2
Other Hardware	None
Other Software	None

Notes for Workload

Server and Network Notes

- The onboard CERC6 controller contained 1 36GB/15K drive for OS
- BIOS settings:
User-Accessible USB Ports = All Ports Off (default All Ports On)
- Qlogic HBA BIOS settings:
Fibre Channel tape support disabled (default enabled)
Data rate option set to 1 (default 2)
Interrupt Delay timer set to 15 (default 0)
Maximum queue depth 64 (default 32)
- EMC CX300 Settings:
Storage Processor cache High/Low watermark - 40/20 (default 80/60)
- Network Settings:
Two vSwitches (0,1) bound to two physical NICs, vmnic 0 and vmnic 1 respectively
Each vSwitch was configured to 120 ports (default 56)
Service console was shared with vSwitch0
Database, FileServer, JavaServer, MailServer, and Standby VMs attached to vSwitch0
WebServer VMs attached to vSwitch1
- Storage Notes:
For all VMs, each tile was stored on its own LUN

Virtualization Software Notes

- vmfs2 was unloaded prior to run
- pegasus CIMOM server was unloaded prior to run
- Virtualized MMU was enabled on all Linux VMs (default Automatic)
- Disk.SchedNumReqOutstanding set to 64 (default 32)
- Ethernet Adapter type set to Enhanced vmxnet for all VMs
- Logging was disabled for all VMs (default enabled)
- MaxHeapSizeMB was set to 64 (default 16)

Operating System Notes

- Microsoft Windows Server 2003 virtual machines were updated to Service Pack 2, and [KB 933360](#) was applied
- SUSE Linux Enterprise Server 10 virtual machines were updated to Service Pack 2

Software Notes

Client Notes

- [KB 933360](#) was applied

Other Notes

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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