

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: Dell PowerEdge M805
Virtualization Platform: VMware ESX 3.5 Update 3 BETA (build 120079)

VMmark V1.1 Score =
11.00 @ 8 Tiles

Tested By: Dell Inc.

Test Date: 11/05/2008

Performance Section
[Performance](#)

Configuration Section
[Configuration](#)

Notes Section
[Notes for Workload](#)

Performance

	webservers		javaserver		mailserver		fileserver		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1838.67	1.80	18121.35	1.09	1536.35	1.40	18.15	1.41	1726.25	1.16	1.35
p1	1828.38	1.79	18087.30	1.09	1708.30	1.56	17.97	1.40	1721.25	1.15	1.37
p2	1822.00	1.79	18116.28	1.09	1830.28	1.67	17.69	1.38	1666.55	1.12	1.38
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1844.45	1.81	18114.95	1.09	1632.35	1.49	17.34	1.35	1826.22	1.22	1.37
p1	1796.10	1.76	18119.85	1.09	1753.42	1.60	16.90	1.32	1796.05	1.20	1.37
p2	1780.67	1.75	18126.17	1.09	1758.12	1.60	16.49	1.29	1756.50	1.18	1.36
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1834.45	1.80	18173.62	1.09	1585.33	1.45	18.11	1.41	1865.35	1.25	1.38
p1	1820.42	1.79	18138.95	1.09	1760.92	1.61	17.58	1.37	1826.55	1.22	1.39
p2	1814.38	1.78	17696.55	1.07	1814.45	1.65	17.72	1.38	1792.70	1.20	1.39
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1834.53	1.80	18176.03	1.09	1494.22	1.36	17.55	1.37	2075.95	1.39	1.39
p1	1818.78	1.78	18168.05	1.09	1612.65	1.47	16.87	1.31	2075.65	1.39	1.39
p2	1810.10	1.78	18124.47	1.09	1682.15	1.53	17.04	1.33	2071.75	1.39	1.41
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1878.67	1.84	18169.08	1.09	1475.70	1.35	17.70	1.38	2077.50	1.39	1.39
p1	1872.65	1.84	18152.10	1.09	1582.05	1.44	17.24	1.34	2073.20	1.39	1.40
p2	1869.17	1.83	18170.53	1.09	1736.90	1.58	16.70	1.30	2074.22	1.39	1.42
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1844.72	1.81	17698.83	1.07	1306.92	1.19	17.74	1.38	1980.92	1.33	1.33
p1	1792.97	1.76	18150.15	1.09	1634.38	1.49	17.48	1.36	1959.72	1.31	1.39
p2	1735.70	1.70	18153.38	1.09	1756.30	1.60	17.15	1.34	1955.58	1.31	1.39
TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1686.70	1.66	18134.92	1.09	1270.35	1.16	16.78	1.31	1997.28	1.34	1.30
p1	1659.53	1.63	17668.05	1.06	1531.67	1.40	16.38	1.28	1988.85	1.33	1.33
p2	1605.83	1.58	18109.58	1.09	1670.30	1.52	16.12	1.26	1983.62	1.33	1.34
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM

p0	1798.47	1.77	18109.62	1.09	1194.83	1.09	16.54	1.29	1986.08	1.33	1.29
p1	1796.50	1.76	18118.10	1.09	1495.25	1.36	16.67	1.30	1981.05	1.33	1.35
p2	1775.88	1.74	18119.33	1.09	1700.92	1.55	16.37	1.28	1972.33	1.32	1.38
p0_score:	10.80										
p1_score:	11.00										
p2_score:	11.07										
Unreviewed_VMmark_Score:	11.00										

Configuration

Server and Network	
Server Manufacturer and Model	Dell PowerEdge M805
Processor Vendor and Model	Quad-Core AMD Opteron 2384
Processor Speed (GHz)	2.7
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket (8 Cores Total)
Primary Cache	64 KB I + 64 KB D on chip per core
Secondary Cache	512 KB I+D on chip per core
Other Cache	6 MB I+D L3 on chip per chip
Memory	64 GB (8 x 8 GB) PC2-5300 667 MHz Registered ECC DDR2 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 Dell PowerEdge Expandable RAID Controller (CERC) 6/i 1 x QLogic Corp QME2472 Dual Port
Number of Network Controllers	2
Network Controller Vendors and Models	2 x onboard Broadcom NetXtreme II BCM5709
Network Switch Vendors and Models	Dell PowerConnect 6248
Network Speed	1000Base-T
Other Hardware	None
Other Software	None
Hardware Availability Date	11/13/2008
Software Availability Date	N/A

Virtualization Software

Vendor, Product, Version, and Build	VMware ESX 3.5 Update 3 (build 120079)
Virtualization Type	Hardware Virtualization
Supplemental Software	None
Virtualization Software Availability Date	Nov-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	496GB for VMs
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	8 LUNs, each ~260 GB
RAID Type	RAID0
Number of Members per RAID Set	10
Disk Vendor, Model, and Speed	Fujitsu Enterprise/15K

Clients

Number of Clients	8
System Model(s)	client0: PowerEdge 1750 client1: PowerEdge 1750 client2: PowerEdge 1750 client3: PowerEdge 1750 client4: PowerEdge 1850 client5: PowerEdge 1650 client6: PowerEdge 1650 client7: PowerEdge 1650
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	client0: 3.06 client1: 3.06 client2: 3.20 client3: 3.20 client4: 2.80 client5: 1.40 client6: 1.40 client7: 1.40
Number of Sockets/Cores per Socket	client0: 2 Sockets / 1 Core per Socket (2 Cores Total) client1: 2 Sockets / 1 Core per Socket (2 Cores Total) client2: 2 Sockets / 1 Core per Socket (2 Cores Total) client3: 2 Sockets / 1 Core per Socket (2 Cores Total) client4: 1 Socket / 2 Cores per Socket (2 Cores Total) client5: 2 Sockets / 1 Core per Socket (2 Cores Total) client6: 2 Sockets / 1 Core per Socket (2 Cores Total) client7: 2 Sockets / 1 Core per Socket (2 Cores Total)
Memory	2 GB
Network Controller Vendor and Model	Intel PRO/1000 XT Network Connection (1650), Broadcom NetXtreme Gigabit Ethernet (1750), 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 CERC 6/i onboard controller contained 1 36GB/15K drive for OS
- 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:
 - 1 physical NIC (vmnic0) bound to vSwitch0
 - 1 physical NIC (vmnic1) bound to vSwitch1
 - 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

- pegasus, iptables, and firewall services stopped in service console
- vmfs2 module was unloaded prior to run
- Virtualized MMU was enabled on all VMs (default Automatic)
- Disk.SchedNumReqOutstanding was set to 128 (default 32)
- VMFS3.MaxHeapSizeMB was set to 64 (default 16)
- IRQ.RoutingPolicy was set to 0 (default 2)
- BufferCache.SoftMaxDirty was set to 85 (default 15)
- COW.MaxHeapSizeMB was set to 64 (default 32)
- Ethernet Adapter type was set to Enhanced vmxnet for all VMs
- Logging was disabled for all VMs (default enabled) except mailserv11,12,13
- IDE and Floppy devices were removed on all VMs (default enabled)

Operating System Notes

- Microsoft Windows Server 2003 virtual machines were updated to Service Pack 2, and KB951072-v2 was applied
- SUSE Linux Enterprise Server 10 virtual machines were updated to Service Pack 2

Software Notes

Client Notes

- KB951072-v2 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.

For information about VMmark and the rules regarding its usage visit www.vmware.com/products/vmmark.

VMware and VMmark are trademarks or registered trademarks of VMware, Inc. VMware® VMmark™ is a product of [VMware, Inc.](http://www.vmware.com). VMmark utilizes SPECjbb®2005 and SPECweb®2005, which are available from the [Standard Performance Evaluation Corporation \(SPEC®\)](http://www.spec.org).