

# VMware® VMmark™ V1.1 Results

**Vendor and Hardware Platform: Dell PowerEdge R805**  
**Virtualization Platform: VMware ESX 3.5 Update 3 BETA (build 120079)**

**VMmark V1.1 Score =**  
**11.22 @ 8 Tiles**

Tested By: Dell Inc.

Test Date: 10/21/2008

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## Performance

	webservers		javaserver		mailserver		fileserver		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1890.15	1.85	18153.17	1.09	1534.95	1.40	17.85	1.39	2087.88	1.40	1.41
p1	1861.40	1.83	18148.78	1.09	1699.12	1.55	17.42	1.36	2090.03	1.40	1.43
p2	1860.62	1.83	18149.38	1.09	1674.38	1.53	17.23	1.34	2093.25	1.40	1.42
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1746.17	1.71	18147.55	1.09	1584.08	1.44	18.62	1.45	2095.93	1.40	1.41
p1	1685.00	1.65	18154.60	1.09	1725.50	1.57	18.52	1.44	2096.97	1.41	1.42
p2	1653.95	1.62	18161.40	1.09	1614.12	1.47	18.11	1.41	2096.10	1.40	1.39
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1894.85	1.86	18139.62	1.09	1473.95	1.34	18.69	1.46	2102.43	1.41	1.41
p1	1859.15	1.82	17686.97	1.06	1606.90	1.47	18.49	1.44	2110.62	1.41	1.42
p2	1858.53	1.82	18147.35	1.09	1774.72	1.62	18.37	1.43	2107.12	1.41	1.45
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1887.75	1.85	18153.90	1.09	1401.97	1.28	18.05	1.41	2139.18	1.43	1.39
p1	1863.95	1.83	18157.75	1.09	1683.70	1.54	17.71	1.38	2146.97	1.44	1.44
p2	1854.42	1.82	18170.38	1.09	1672.95	1.53	17.25	1.34	2151.80	1.44	1.43
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1828.35	1.79	18177.62	1.09	1455.33	1.33	16.94	1.32	2120.25	1.42	1.37
p1	1771.72	1.74	18188.55	1.09	1662.10	1.52	16.07	1.25	2132.47	1.43	1.39
p2	1743.33	1.71	18170.53	1.09	1693.70	1.54	15.92	1.24	2139.53	1.43	1.39
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1805.80	1.77	18151.08	1.09	1319.20	1.20	17.31	1.35	2039.78	1.37	1.34
p1	1747.92	1.72	18148.35	1.09	1649.00	1.50	16.96	1.32	2028.58	1.36	1.38
p2	1712.00	1.68	18137.35	1.09	1673.60	1.53	16.50	1.29	2030.72	1.36	1.37
TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1801.88	1.77	18124.55	1.09	1275.47	1.16	17.89	1.39	2030.05	1.36	1.34
p1	1743.65	1.71	18127.58	1.09	1545.62	1.41	17.95	1.40	2021.60	1.35	1.38
p2	1708.33	1.68	17675.92	1.06	1752.62	1.60	17.82	1.39	2019.80	1.35	1.40
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM

<b>p0</b>	1905.42	1.87	18146.60	1.09	1186.38	1.08	17.05	1.33	2017.88	1.35	1.32
<b>p1</b>	1880.40	1.85	18136.20	1.09	1504.33	1.37	16.80	1.31	2009.05	1.35	1.37
<b>p2</b>	1879.45	1.84	18136.30	1.09	1646.67	1.50	16.31	1.27	2001.65	1.34	1.39
<b>p0_score:</b>	10.98										
<b>p1_score:</b>	11.22										
<b>p2_score:</b>	11.24										
<b>Unreviewed_VMmark_Score:</b>	11.22										

## Configuration

<b>Server and Network</b>	
Server Manufacturer and Model	Dell PowerEdge R805
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 667MHz 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 (PERC) 6/i 1 x QLogic Corp QLE2462 Dual Port
Number of Network Controllers	2
Network Controller Vendors and Models	2 x Onboard Broadcom NetXtreme II BCM5708
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	LUN 1: 250GB LUN 2: 250GB LUN 3: 250GB LUN 4: 250GB LUN 5: 250GB LUN 6: 250GB LUN 7: 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 LUN 7: 10 members
Disk Vendor, Model, and Speed	Fujitsu Enterprise/15K

### Clients

Number of Clients	8
System Model(s)	3 x PowerEdge 1650, 4 x PowerEdge 1750, 1 x PowerEdge 1850
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	3 x 1.40 (1650), 2 x 3.20 (1750), 2 x 3.06 (1750), 2.80 (1850)
Number of Sockets/Cores per Socket	7 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	3 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 PERC 6/i onboard controller contained 1 73GB/10K drive for OS
- BIOS settings:

- Optical Drive Controller = Off (default 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, vmnics (0,1)
  - 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 VMs (default Automatic)
- Disk.SchedNumReqOutstanding was set to 128 (default 32)
- VMFS3.MaxHeapSizeMB was set to 64 (default 16)
- Ethernet Adapter type was set to Enhanced vmxnet for all VMs
- Logging was disabled for all VMs (default enabled)
- 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 [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

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