

# VMware® VMmark™ V1.0.0 Results

**Vendor and Hardware Platform: Dell PowerEdge 2950 III**  
**Virtualization Platform: VMware ESX Server V3.5.0 BETA (build 61177)**

**VMmark V1.0.0 Score =**  
**8.47 @ 6 Tiles**

**Tested By: Dell Inc., Round Rock, TX**

**Test Date: Nov-12-2007**

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## Performance

	webservers		javaserver		mailserver		fileserver		database		
<b>TILE_0</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1700.72	1.67	17992.33	1.08	1631.03	1.49	20.52	1.60	2105.28	1.41	1.43
<b>p1</b>	1645.35	1.61	18011.60	1.08	1752.22	1.60	20.26	1.58	2112.20	1.42	1.44
<b>p2</b>	1628.08	1.60	18008.12	1.08	1728.80	1.58	20.22	1.58	2109.10	1.41	1.43
<b>TILE_1</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1700.92	1.67	17982.10	1.08	1527.17	1.39	20.37	1.59	2075.07	1.39	1.41
<b>p1</b>	1655.40	1.62	17968.80	1.08	1706.03	1.56	20.27	1.58	2075.22	1.39	1.43
<b>p2</b>	1640.20	1.61	17517.88	1.05	1799.70	1.64	20.11	1.57	2078.82	1.39	1.43
<b>TILE_2</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1676.97	1.65	18039.00	1.09	1390.80	1.27	20.53	1.60	2066.68	1.38	1.38
<b>p1</b>	1670.78	1.64	18063.17	1.09	1630.08	1.49	20.33	1.58	2074.12	1.39	1.42
<b>p2</b>	1619.72	1.59	17550.60	1.06	1744.35	1.59	20.19	1.57	2074.80	1.39	1.42
<b>TILE_3</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1666.47	1.64	18019.65	1.08	1430.00	1.30	20.53	1.60	2050.95	1.37	1.38
<b>p1</b>	1640.20	1.61	18031.20	1.09	1594.83	1.45	20.26	1.58	2060.22	1.38	1.41
<b>p2</b>	1593.50	1.56	17982.20	1.08	1638.50	1.49	20.08	1.56	2091.00	1.40	1.41
<b>TILE_4</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1726.60	1.69	17979.78	1.08	1340.17	1.22	20.45	1.59	2010.08	1.35	1.37
<b>p1</b>	1680.25	1.65	17994.03	1.08	1544.80	1.41	20.17	1.57	2041.67	1.37	1.40
<b>p2</b>	1657.85	1.63	17988.33	1.08	1657.92	1.51	20.45	1.59	2045.97	1.37	1.42
<b>TILE_5</b>	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
<b>p0</b>	1679.33	1.65	18083.20	1.09	1220.05	1.11	19.86	1.55	1956.35	1.31	1.32
<b>p1</b>	1654.97	1.62	18009.22	1.08	1465.55	1.34	19.62	1.53	1985.28	1.33	1.37

<b>p2</b>	1616.55	1.59	18028.15	1.09	1644.83	1.50	19.52	1.52	1995.80	1.34	1.39
<b>p0_score:</b>	8.30										
<b>p1_score:</b>	8.47										
<b>p2_score:</b>	8.52										
<b>VMmark_Score:</b>	8.47										

## Configuration

System Under Test (SUT)	
Processor Vendor and Model	Quad-Core Intel Xeon X5460
Processor Speed (GHz)	3.16
# 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 (8x4GB) 667MHz ECC CL5 DDR2 FB-DIMM
Disk Subsystem	SAS (OS), FC SAN (VMs)
# of Disk Controllers	N/A
Host Bus Adapters Vendor and Model	1 x Dell PowerEdge Expandable RAID Controller (PERC) 5/i 2 x QLogic Corp QLA2432
# of Host Bus Adapters	3
# of Network Controllers	2
Network Controllers Vendor and Model	Broadcom NetXtreme II BCM5708 1000Base-T
Network Switches Vendor and Model	Dell PowerConnect 5224
Network Speed	1000Base-T
Other Hardware	None
Other Software	None
Hardware Availability Date	Nov-2007
Software Availability Date	Within 90 days of test date
Virtualization Platform	
Vendor, Product, and Version	VMware ESX Server V3.5.0
Virtualization Type	Hardware Virtualization
Supplemental Software	None
Virtualization Platform Availability Date	Within 90 days of test date

**Storage**

Array Vendor and Model/ 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
Fibre Channel Switches Vendor and Model	Brocade Silkworm 3800
Used GB	416
Array Cache GB	1. EMC CX300, 2048MB 2. EMC CX300, 2048MB 3. EMC CX300, 2048MB 4. EMC CX300, 2048MB
Number and Size of LUNs	LUN 1: 120GB LUN 2: 120GB LUN 3: 120GB LUN 4: 120GB LUN 5: 120GB LUN 6: 120GB LUN 7: 260GB
RAID Type	LUN 1: RAID10 LUN 2: RAID10 LUN 3: RAID10 LUN 4: RAID10 LUN 5: RAID10 LUN 6: RAID10 LUN 7: RAID10
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: 16 members
Disk Vendor and Model/Speed	Fujitsu Enterprise/15K

**Clients**

# of Clients	6
System Model	PowerEdge 1650, 4 x PowerEdge 1750, PowerEdge 1850
Processor Vendor and Model	Intel Xeon
Processor Speed (GHz)	1.40 (1650), 2 x 3.20 (1750), 2 x 3.06 (1750), 2.80 (1850)
# of Sockets/# of Cores	2/2 (1650), 2/2 (1750), 2/4 (1850)
Memory	2 GB
Network Controller Vendor and Model	Intel PRO/1000 XT Network Connection (1650), 4 x Broadcom NetXtreme Gigabit Ethernet (1750), Intel PRO/1000 MT Network Connection (1850)

Operating System, Version, and Service Pack	Microsoft Windows Server 2003 SP1
Other Hardware	None
Other Software	None

## Notes for Workload

### SUT Notes

- The PERC 5/i onboard controller contained 1 146GB/10K drive for OS.
- BIOS settings: Hardware Prefetcher Disabled (default Enabled), Adjacent Sector Prefetch Disabled (default Enabled)

### Virtualization Platform Notes

- Two vSwitch0 and vSwitch1 bound to vmnic0 and vmnic1 (physical NICs) respectively.
- Each vSwitch was configured to 120 ports (default 56).
- Service Console was shared with vSwitch0.
- Webserver VMs were attached to vSwitch1; the rest of the VMs were attached to vSwitch0.
- Database VMs were stored on LUN 7. For all other VMs, each tile was stored on its own LUN.

### Operating System Notes

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

### Software Notes

### Client Notes

- [KB 933360](#) was applied.

### Other Notes

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