

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: Cisco B200-M1
Virtualization Platform: VMware ESX 4.0 build-151628

VMmark V1.1 Score =
24.14 @ 17 Tiles

Tested By: Cisco Systems

Test Date: 04/03/2009

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Performance

	webservers		javaserver		mailserver		fileservers		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1775.70	1.74	18079.42	1.09	1473.70	1.34	16.78	1.31	1926.83	1.29	1.34
p1	1780.80	1.75	18078.72	1.09	1519.10	1.39	16.66	1.30	1950.97	1.31	1.35
p2	1783.90	1.75	18097.60	1.09	1397.15	1.27	16.88	1.32	2083.07	1.40	1.35
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1774.97	1.74	18036.92	1.09	1691.55	1.54	16.35	1.27	2393.50	1.60	1.43
p1	1780.67	1.75	18018.28	1.08	1709.90	1.56	16.31	1.27	2388.95	1.60	1.43
p2	1784.78	1.75	18008.08	1.08	1667.38	1.52	16.71	1.30	2391.80	1.60	1.43
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1859.33	1.82	18078.47	1.09	1707.35	1.56	16.40	1.28	2398.00	1.61	1.45
p1	1773.25	1.74	18096.67	1.09	1567.50	1.43	16.45	1.28	2401.10	1.61	1.41
p2	1784.50	1.75	18100.70	1.09	1558.20	1.42	16.54	1.29	2397.93	1.61	1.41
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1776.97	1.74	18086.80	1.09	1741.92	1.59	16.32	1.27	2401.40	1.61	1.44
p1	1782.40	1.75	18106.33	1.09	1734.42	1.58	16.63	1.30	2402.57	1.61	1.44
p2	1785.45	1.75	18079.80	1.09	1626.08	1.48	16.52	1.29	2403.12	1.61	1.42
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1765.30	1.73	18086.17	1.09	1639.97	1.50	16.27	1.27	2395.18	1.60	1.42
p1	1779.60	1.75	18104.40	1.09	1616.20	1.47	16.72	1.30	2396.50	1.61	1.42
p2	1778.25	1.75	17643.03	1.06	1578.58	1.44	16.62	1.30	2397.50	1.61	1.41
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1774.42	1.74	18035.03	1.09	1664.03	1.52	16.34	1.27	2392.50	1.60	1.42
p1	1779.20	1.75	18080.53	1.09	1613.97	1.47	16.69	1.30	2388.53	1.60	1.42
p2	1788.47	1.76	18089.60	1.09	1595.60	1.45	16.65	1.30	2389.97	1.60	1.42
TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1768.65	1.74	18088.65	1.09	1710.92	1.56	16.18	1.26	2399.68	1.61	1.43

p1	1778.95	1.75	18083.47	1.09	1675.03	1.53	16.60	1.29	2402.45	1.61	1.43
p2	1787.33	1.75	18089.65	1.09	1704.53	1.55	16.71	1.30	2401.32	1.61	1.44
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1756.47	1.72	18101.25	1.09	1594.90	1.45	16.20	1.26	2390.72	1.60	1.41
p1	1773.10	1.74	18085.60	1.09	1696.08	1.55	16.58	1.29	2388.50	1.60	1.43
p2	1775.62	1.74	18067.45	1.09	1617.25	1.47	16.71	1.30	2389.25	1.60	1.42
TILE_8	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1766.30	1.73	18073.90	1.09	1670.90	1.52	16.57	1.29	2387.60	1.60	1.43
p1	1773.33	1.74	18071.10	1.09	1688.10	1.54	16.69	1.30	2388.22	1.60	1.43
p2	1777.95	1.74	18027.38	1.09	1583.95	1.44	16.81	1.31	2391.32	1.60	1.42
TILE_9	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1763.75	1.73	18099.20	1.09	1615.22	1.47	16.54	1.29	2376.75	1.59	1.42
p1	1771.20	1.74	18107.08	1.09	1558.05	1.42	16.56	1.29	2385.72	1.60	1.41
p2	1778.35	1.75	18083.83	1.09	1592.17	1.45	16.88	1.32	2386.25	1.60	1.42
TILE_10	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1766.65	1.73	18073.97	1.09	1598.60	1.46	16.52	1.29	2394.93	1.60	1.42
p1	1772.00	1.74	18082.62	1.09	1793.30	1.64	16.65	1.30	2397.47	1.61	1.45
p2	1776.70	1.74	18062.65	1.09	1704.55	1.55	16.98	1.32	2396.15	1.61	1.44
TILE_11	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1759.80	1.73	18076.20	1.09	1647.40	1.50	16.24	1.27	2401.45	1.61	1.42
p1	1768.42	1.74	18092.92	1.09	1635.47	1.49	16.29	1.27	2395.50	1.61	1.42
p2	1771.05	1.74	18079.08	1.09	1734.38	1.58	16.55	1.29	2398.65	1.61	1.44
TILE_12	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1768.55	1.74	18037.85	1.09	1526.20	1.39	16.32	1.27	2387.07	1.60	1.40
p1	1775.08	1.74	18016.20	1.08	1663.50	1.52	16.60	1.29	2384.12	1.60	1.43
p2	1774.95	1.74	18042.17	1.09	1710.40	1.56	16.51	1.29	2386.18	1.60	1.43
TILE_13	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1762.83	1.73	18089.40	1.09	1534.62	1.40	16.06	1.25	2394.20	1.60	1.40
p1	1771.33	1.74	18038.12	1.09	1643.85	1.50	16.51	1.29	2388.53	1.60	1.42
p2	1775.53	1.74	18028.67	1.09	1683.67	1.54	16.43	1.28	2389.45	1.60	1.43
TILE_14	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1773.62	1.74	18053.80	1.09	1405.25	1.28	16.20	1.26	2384.93	1.60	1.37
p1	1778.22	1.75	18027.72	1.09	1615.75	1.47	16.66	1.30	2384.32	1.60	1.42
p2	1777.50	1.74	18054.17	1.09	1617.78	1.47	16.64	1.30	2384.18	1.60	1.42
TILE_15	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1756.47	1.72	18003.08	1.08	1327.80	1.21	16.64	1.30	2370.82	1.59	1.36
p1	1762.60	1.73	18066.40	1.09	1574.12	1.44	16.42	1.28	2372.00	1.59	1.41
p2	1767.65	1.73	18039.92	1.09	1649.45	1.50	16.80	1.31	2376.47	1.59	1.43

TILE_16	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1770.35	1.74	18071.10	1.09	1234.72	1.13	16.23	1.26	2366.47	1.59	1.34
p1	1774.60	1.74	18065.85	1.09	1537.25	1.40	16.49	1.29	2370.75	1.59	1.40
p2	1769.20	1.74	18098.67	1.09	1701.55	1.55	16.43	1.28	2370.10	1.59	1.43
p0_score:	23.88										
p1_score:	24.14										
p2_score:	24.17										
Unreviewed_VMmark_Score:	24.14										

Configuration

Server and Network	
Server Manufacturer and Model	Cisco B200-M1
Processor Vendor and Model	Intel Xeon X5570
Processor Speed (GHz)	2.933 GHz
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket / 2 Threads per Core (16 threads in total)
Primary Cache	32 KB I + 32 KB D on chip per core
Secondary Cache	256 KB I + D on chip per core
Other Cache	8 MB I + D on chip per chip
Memory	96 GB (12 * 8 GB @ 1066 Mhz Registered ECC DDR3)
Disk Subsystem Type	Direct attached SAS for OS, FC SAN for VMs
Number of Disk Controllers	1
Number of Host Bus Adapters	1 (Dual Port)
Host Bus Adapter Vendors and Models	Qlogic (SA-Menlo-Q)
Number of Network Controllers	1 (Dual Port)
Network Controller Vendors and Models	Intel (SA-Menlo-Q)
Network Switch Vendors and Models	UCS-2104XP, UCS-6120XP & Cisco 3750
Network Speed	10 Gbps
Other Hardware	None
Other Software	None
Hardware Availability Date	06/30/2009
Software Availability Date	06/30/2009

Virtualization Software

Vendor, Product, Version, and Build	VMware: ESX 4.0 build-151628
Virtualization Type	Hardware Virtualization

Supplemental Software	None
Virtualization Software Availability Date	06/30/2009

Storage

Array Vendor, Model, and Firmware Version	EMC, CX4-480, version 04.28.000.5.504
Fibre Channel Switch Vendors and Models	Cisco MDS 9506
Disk Space Used	1520GB
Array Cache Size	16GB
Number and Size of LUNs	17*70GB ; 2*165GB
RAID Type	RAID0
Number of Members per RAID Set	70GB RAID sets are over 15 drives and 165GB RAID sets are over 5 drives. Total 20 drives were used.
Disk Vendor, Model, and Speed	STEC, ZIV00074 CLAR72 (72GB FC SSD)

Clients

Number of Clients	17
System Model(s)	Dell 2950
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	2.66 Ghz
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket
Memory	16GB
Network Controller Vendor and Model	Broadcom BMC5708C
Operating System, Version, and Service Pack	Windows 2003 Enterprise Edition SP2
Other Hardware	None
Other Software	None

Notes for Workload

Server and Network Notes

vSwitch Configuration:

- a) 2 vSwitches (vmnetwork1 and 2) defined and configured for 120 ports each.
- b) vSwitch vmnetwork1 bound to vmnic0 and vSwitch vmnetwork2 bound to vmnic1.
- c) The following VM's connected to vswitch vmnetwork2 while all others connected to vmnetwork1(including Service Console) - javaserver[7-13], mailserver [7-13] and standby[7-13]

Storage Configuration:

- a) Tile0 - Tile17 datastore for all VM's on a tile basis except Database VM's.
- b) Data10 datastore for even numbered tiles database VM's and Data11 for odd numbered tiles database VM's.

Server BIOS settings:

- a) Intel Hyperthreading enabled.
- b) Intel Turbo Boost Technology enabled.

Virtualization Software Notes

- a) Ethernet Adapter type set to VMXNET2 for Windows VM's (javaserver, mailserver, standby).
- b) Ethernet Adapter type set to VMXNET3 for Linux VM's (database, fileservr, webserver).
- c) Disabled logging for VM's.
- d) Disabled iptables, firewall processs on ESX host.
- e) Enabled Virtualized MMU for for all VM's except fileservr9 from "Automatic".
- f) Changed SchedNumReqOutstanding to 128, default being 32.
- g) All VM's upgradr to hardware version 7.

Operating System Notes

- a) Windows 2003 SP2 Enterprise Edition - Updated with KB955839
- b) Enabled Large Pages in Javaserver workload as per published instructions for VMmark.

Software Notes

None

Client Notes

- a) Windows 2003 SP2 Enterprise Edition - Updated with KB955839

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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