

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: Inspur NF520D2
Virtualization Platform: VMware ESX 3.5 Update 3 (build 123630)

VMmark V1.1 Score =
19.67 @ 14 Tiles

Tested By: Inspur Inc.

Test Date: 12/22/2008 (DD/MM/YYYY)

Performance Section
[Performance](#)

Configuration Section
[Configuration](#)

Notes Section
[Notes for Workload](#)

Performance

	webservers		javaserver		mailserver		fileserver		database		
	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
TILE_0											
p0	1860.33	1.83	17972.97	1.08	1832.25	1.67	16.86	1.31	2150.90	1.44	1.44
p1	1859.28	1.82	17535.58	1.06	1822.67	1.66	16.73	1.30	2133.25	1.43	1.43
p2	1842.88	1.81	17990.20	1.08	1880.20	1.71	16.67	1.30	2124.38	1.42	1.44
TILE_1											
p0	1881.47	1.85	17902.78	1.08	1883.70	1.72	16.53	1.29	2082.20	1.40	1.44
p1	1836.22	1.80	17470.10	1.05	1839.28	1.68	16.27	1.27	2068.03	1.39	1.41
p2	1860.58	1.83	17942.75	1.08	1760.20	1.60	16.20	1.26	2049.38	1.37	1.41
TILE_2											
p0	1870.12	1.84	17932.25	1.08	1645.33	1.50	17.40	1.36	2074.88	1.39	1.41
p1	1877.20	1.84	17499.00	1.05	1739.00	1.59	17.20	1.34	2058.28	1.38	1.42
p2	1814.62	1.78	17939.58	1.08	1774.05	1.62	16.79	1.31	2050.93	1.37	1.41
TILE_3											
p0	1832.12	1.80	17471.88	1.05	1719.67	1.57	16.32	1.27	2135.90	1.43	1.40
p1	1877.62	1.84	17916.88	1.08	1784.05	1.63	15.98	1.25	2127.60	1.43	1.42
p2	1840.38	1.81	17928.62	1.08	1797.28	1.64	16.00	1.25	2107.38	1.41	1.41
TILE_4											
p0	1866.78	1.83	17916.70	1.08	1663.83	1.52	16.82	1.31	2078.55	1.39	1.40
p1	1819.53	1.79	17473.53	1.05	1753.22	1.60	16.24	1.27	2059.20	1.38	1.39
p2	1853.30	1.82	17952.90	1.08	1819.28	1.66	16.48	1.28	2054.60	1.38	1.42
TILE_5											
p0	1880.12	1.85	17552.00	1.06	1586.65	1.45	17.41	1.36	2135.05	1.43	1.41
p1	1855.10	1.82	18003.03	1.08	1631.92	1.49	17.21	1.34	2121.30	1.42	1.41
p2	1850.58	1.82	17989.95	1.08	1753.72	1.60	16.73	1.30	2107.53	1.41	1.42

Configuration

Server and Network

Server Manufacturer and Model	Inspur NF520D2
Processor Vendor and Model	Intel Xeon X7460
Processor Speed (GHz)	2.67
Number of Sockets/Cores per Socket	4 Sockets / 6 Cores per Socket (24 Cores Total)
Primary Cache	32KB(I)+32KB(D) on chip, per core
Secondary Cache	3MB per core pair, total 9MB
Other Cache	16MB L3
Memory	80GB (20x4GB) 667MHz Registered ECC DDR2 DIMM
Disk Subsystem Type	SAS HDD 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 QLE2462
Number of Network Controllers	1 dual-port onboard, 2 dual-port
Network Controller Vendors and Models	Intel 82575EB Gigabit Ethernet (onboard) Intel 82571EB Gigabit Ethernet
Network Switch Vendors and Models	Cisco Linksys SR2024
Network Speed	Gigabit Ethernet
Other Hardware	None
Other Software	None
Hardware Availability Date	22/09/2008 (DD/MM/YYYY)
Software Availability Date	06/11/2008 (DD/MM/YYYY)

Virtualization Software

Vendor, Product, Version, and Build	VMware ESX 3.5 Update 3 (build 123630)
Virtualization Type	Hardware Virtualization
Supplemental Software	None
Virtualization Software Availability Date	06/11/2008 (DD/MM/YYYY)

Storage

Array Vendor, Model, and Firmware Version	EMC CX3-40f, version 03.24.040.5.011
Fibre Channel Switch Vendors and Models	None

Disk Space Used	924GB for VMs
Array Cache Size	4GB
Number and Size of LUNs	20 Set #1: LUN 2 – LUN 8 (100GB each) Set #2: LUN 9, 10, 20, 21 (300GB each) LUN 18, 19 (200GB each) Set #3: LUN 11 – LUN 17 (100GB each)
RAID Type	RAID0
Number of Members per RAID Set	Set #1: 10 Set #2: 10 Set #3: 15
Disk Vendor, Model, and Speed	Hitachi 146GB 15K RPM, FC HDD

Clients

Number of Clients	14
System Model(s)	Inspur NF190D2
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	2.0
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket (8 Cores Total)
Memory	4GB
Network Controller Vendor and Model	Intel 82566DM-2 Gigabit Network
Operating System, Version, and Service Pack	Microsoft Windows Server 2003 Enterprise Edition with SP2
Other Hardware	None
Other Software	None

Notes for Workload

Server and Network Notes

1 Storage settings:

- n Storage Processor cache High/Low watermark: 40/20 (default 80/60)

- n Path policy of each LUN storage set to “fixed” (default “most recently used”)

- n LUN 9, 10 for database VMs split equally

- n LUN 20 for 4 mailserver VMs (tile0 – tile3), LUN 18 for 3 mailserver VMs (tile4 – tile6), LUN 21 for 4 mailserver VMs (tile7 – tile10), LUN 19 for 3 mailserver VMs (tile11 – tile13)

- n LUN 2 – LUN 8 and LUN 11 – LUN 17 for other VMs of 14 tiles (each LUN contains one tile)

1 Network settings:

n vSwitch0 was attached to vmnic0

n vSwitch1 was attached to vmnic1

n vSwitch2 was attached to vmnic2

n vSwitch3 was attached to vmnic3

n vSwitch4 was attached to vmnic12

n vSwitch5 was attached to vmnic13

n All virtual switches set to 120 ports (default 56)

n vSwitch0 – Service Console, 10 Database VMs (tile0 – tile9)

n vSwitch1 – 5 Java VMs (tile0 – tile4), 4 Standby VMs (tile0 – tile3), 5 Web VMs (tile0 – tile4)

n vSwitch2 –14 Mail VMs (tile0 – tile13), 4 Database VMs (tile10 – tile13)

n vSwitch3 –14 File VMs (tile0 – tile13)

n vSwitch4 –4 Java VMs (tile5 – tile8), 5 Standby VMs (tile4 – tile8), 5 Web VMs (tile5 – tile9)

n vSwitch5 – 5 Java VMs (tile9 – tile13), 5 Standby VMs (tile9 – tile13), 4 Web VMs (tile10 – tile13)

Virtualization Software Notes

1 Misc.RunningVcpuLimit set to 192 (default 128)

1 VMkernel.Boot.cpuCellSize set to 6 (default 4)

1 Net.TcpipUseIoat set to 1 (default 0)

1 Ethernet Adapter Type set to Enhanced vmxnet for all VMs

1 vmfs2 module was unloaded before the runs

1 Disk.SchedNumReqOutstanding set to 128 (default 32)

1 Disable ESX logging for all VMs

1 Service iptables stop

1 Service firewall stop

1 Service pegasus stop

1 VMFS3.MaxHeapSizeMB set to 64 (default 16)

1 COW.MaxHeapSizeMB set to 64 (default 32)

1 IRQ.RoutingPolicy set 0 (default 2)

1 BufferCache.SoftMaxDirty set to 85 (default 15)

1 IDE and floppy devices removed (default enabled)

Operating System Notes

Microsoft Windows Server 2003 is Chinese version

Software Notes

None

Client Notes

None

Other Notes

1 iSCSI Software Adapter (This is the other vmhba adapter except for the one that metioned)

1 Time Sync is False for Mailservers 0,8,9,10.

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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