

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: HP Proliant DL585 G5
Virtualization Platform: VMware ESX 3.5.0 Update 1, build 82663

VMmark V1.1 Score =
14.74 @ 10 Tiles

Tested By: Hewlett Packard

Test Date: 07/28/2008

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Performance

	webservers		javaserver		mailserver		fileserver		database		
	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
TILE_0											
p0	1954.75	1.92	18083.53	1.09	1709.17	1.56	19.96	1.56	2273.05	1.52	1.50
p1	1932.35	1.90	18069.90	1.09	1705.33	1.55	19.81	1.54	2274.53	1.52	1.50
p2	1911.80	1.88	18079.10	1.09	1576.38	1.44	19.38	1.51	2267.72	1.52	1.46
TILE_1											
p0	1947.47	1.91	18077.78	1.09	1496.25	1.36	19.98	1.56	2267.22	1.52	1.46
p1	1923.15	1.89	18074.40	1.09	1419.33	1.29	19.48	1.52	2269.72	1.52	1.44
p2	1910.28	1.87	18069.20	1.09	1438.40	1.31	20.00	1.56	2274.62	1.52	1.45
TILE_2											
p0	1936.70	1.90	18135.25	1.09	1550.15	1.41	19.90	1.55	2251.47	1.51	1.47
p1	1925.45	1.89	17642.45	1.06	1644.58	1.50	19.25	1.50	2261.78	1.52	1.47
p2	1915.22	1.88	18090.78	1.09	1557.90	1.42	19.60	1.53	2253.85	1.51	1.46
TILE_3											
p0	1948.40	1.91	18137.75	1.09	1491.90	1.36	19.91	1.55	2267.72	1.52	1.46
p1	1943.00	1.91	17682.45	1.06	1711.47	1.56	19.11	1.49	2280.15	1.53	1.48
p2	1939.67	1.90	18129.53	1.09	1619.00	1.48	19.69	1.53	2294.32	1.54	1.49
TILE_4											
p0	1951.33	1.92	18058.30	1.09	1599.58	1.46	19.79	1.54	2276.18	1.53	1.48
p1	1932.00	1.90	18071.17	1.09	1645.17	1.50	19.65	1.53	2285.80	1.53	1.49
p2	1908.92	1.87	18104.03	1.09	1548.50	1.41	19.95	1.56	2279.82	1.53	1.47
TILE_5											
p0	1950.92	1.91	18086.45	1.09	1473.60	1.34	20.26	1.58	2272.40	1.52	1.46
p1	1926.08	1.89	18118.90	1.09	1675.50	1.53	19.40	1.51	2266.12	1.52	1.49

p2	1917.17	1.88	18125.85	1.09	1717.08	1.57	19.92	1.55	2273.15	1.52	1.50
TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1939.33	1.90	18115.78	1.09	1429.17	1.30	20.09	1.57	2255.03	1.51	1.45
p1	1925.17	1.89	18104.67	1.09	1658.97	1.51	19.43	1.51	2263.88	1.52	1.48
p2	1924.33	1.89	17688.35	1.06	1635.85	1.49	19.79	1.54	2256.53	1.51	1.48
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1952.42	1.92	18102.83	1.09	1344.20	1.23	19.92	1.55	2264.10	1.52	1.43
p1	1947.00	1.91	18090.88	1.09	1547.70	1.41	19.27	1.50	2270.47	1.52	1.46
p2	1942.50	1.91	18106.30	1.09	1698.35	1.55	19.77	1.54	2288.15	1.53	1.50
TILE_8	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1958.92	1.92	18101.60	1.09	1347.45	1.23	19.90	1.55	2291.70	1.54	1.44
p1	1937.08	1.90	18105.00	1.09	1523.25	1.39	19.48	1.52	2283.18	1.53	1.46
p2	1923.58	1.89	17673.47	1.06	1740.55	1.59	19.88	1.55	2290.20	1.53	1.50
TILE_9	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1959.15	1.92	18134.45	1.09	1203.50	1.10	20.01	1.56	2296.80	1.54	1.41
p1	1936.47	1.90	18137.20	1.09	1539.08	1.40	19.99	1.56	2295.28	1.54	1.47
p2	1914.28	1.88	17656.00	1.06	1620.62	1.48	19.39	1.51	2287.12	1.53	1.47
p0_score:	14.57										
p1_score:	14.74										
p2_score:	14.77										
Unreviewed_VMmark_Score:	14.74										

Configuration

Server and Network	
Server Manufacturer and Model	HP Proliant DL585 G5
Processor Vendor and Model	Quad-Core AMD Opteron 8360 SE
Processor Speed (GHz)	2.5
Number of Sockets/Cores per Socket	4 Sockets / 4 Cores per Socket (16 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	2 MB I + D L3 on chip per core

Memory	64 GB (16 x 4 GB) PC2-5300 DIMMs
Disk Subsystem Type	Direct attach SAS for operating system, FC SAN for VMs
Number of Disk Controllers	1
Number of Host Bus Adapters	5 dual port HBAs
Host Bus Adapter Vendors and Models	Qlogic 2462
Number of Network Controllers	3
Network Controller Vendors and Models	HP NC 360T (dual port), HP NC364T (quad port), Embedded NC371i (single port)
Network Switch Vendors and Models	HP ProCurve Switch 3400CL
Network Speed	1000Base-T
Other Hardware	None
Other Software	None
Hardware Availability Date	July 2008
Software Availability Date	April 2008

Virtualization Software

Vendor, Product, Version, and Build	VMware ESX 3.5 Update 1, build 82663
Virtualization Type	Hardware Virtualization
Supplemental Software	None
Virtualization Software Availability Date	April, 2008

Storage

Array Vendor, Model, and Firmware Version	HP StorageWorks MSA 2000, Storage Controller Firmware J200P16, Management Controller Firmware W420R30
Fibre Channel Switch Vendors and Models	None
Disk Space Used	640 GB used for virtual machines
Array Cache Size	1 GB
Number and Size of LUNs	10 LUNs, 1.60 TB per LUN
RAID Type	RAID 0
Number of Members per RAID Set	12 drives per RAID set
Disk Vendor, Model, and Speed	HP Dual Port 146GB SAS 15K RPM

Clients

Number of Clients	10
System Model(s)	HP Proliant DL360 G5
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	2.83
Number of Sockets/Cores per Socket	1 Socket / 4 Cores per Socket (4 Cores Total)

Memory	2 GB
Network Controller Vendor and Model	HP NC373i Gigabit adapter
Operating System, Version, and Service Pack	Microsoft Windows Server 2003 Enterprise Edition, Service Pack 2
Other Hardware	none
Other Software	none

Notes for Workload

Server and Network Notes

- Server BIOS settings:
 - Second embedded NC371i NIC disabled (default enabled)
 - Embedded Serial Port disabled (default enabled)
 - Virtual Serial Port disabled (default enabled)
 - USB Ports disabled (default enabled)
- Qlogic HBA BIOS settings:
 - Fibre Channel tape support disabled (default enabled)
 - Data rate option set to 3 (default 2)
 - Execution Throttle set to 256 (default 16)
 - Interrupt Delay timer set to 15 (default 0)
- Three vSwitches were created (each vSwitch was set to 120 ports (default 56) except for vSwitch0 left at default):
 - vSwitch0 for the service console on vmnic0
 - vSwitch1 for the Webserver virtual machines on vmnic6, vmnic14, and vmnic15
 - vSwitch2 for all other virtual machines on vmnic5, vmnic16, and vmnic17
- 10 LUNs were created for the virtual machines:
 - Datastore_0 for all tile 0 virtual machines
 - Datastore_1 for all tile 1 virtual machines
 - Datastore_2 for all tile 2 virtual machines
 - Datastore_3 for all tile 3 virtual machines
 - Datastore_4 for all tile 4 virtual machines
 - Datastore_5 for all tile 5 virtual machines

- Datastore_6 for all tile 6 virtual machines
- Datastore_7 for all tile 7 virtual machines
- Datastore_8 for all tile 8 virtual machines
- Datastore_9 for all tile 9 virtual machines

Virtualization Software Notes

- vmfs2 was unloaded prior to run
- pegasus CIMOM server was unloaded prior to run
- Virtualized MMU was enabled on all Linux VMs (default Automatic)
- Disk.Sched.NumRequestOutstanding set to 64 (default 32)
- Ethernet Adapter type set to Enhanced vmxnet for all VMs
- Logging was disabled for all VMs (default enabled)
- MaxHeapSizeMB was set to 64 (default 16)

Operating System Notes

Microsoft Windows Server 2003 virtual machines were updated to Service Pack2

Software Notes

None

Client Notes

Microsoft Windows Server 2003 client machines were updated to Service Pack 2

Other Notes

None

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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