

VMware® VMmark™ V1.1 Results

Vendor and Hardware Platform: HP ProLiant DL385G5p
Virtualization Platform: VMware ESX 3.5 Update 3 (build 123630)

VMmark V1.1 Score =
11.28 @ 8 Tiles

Tested By: Hewlett Packard

Test Date: 12/11/2008

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Performance

	webservers		javaserver		mailserver		fileserver		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1752.45	1.72	18185.67	1.09	1619.40	1.48	18.53	1.44	2204.80	1.48	1.43
p1	1730.90	1.70	18179.92	1.09	1663.78	1.52	18.33	1.43	2201.53	1.48	1.43
p2	1719.83	1.69	18174.83	1.09	1659.30	1.51	18.09	1.41	2201.47	1.48	1.42
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1704.08	1.67	18153.55	1.09	1645.15	1.50	18.22	1.42	2216.12	1.48	1.42
p1	1676.83	1.65	18131.85	1.09	1721.42	1.57	18.02	1.40	2229.43	1.49	1.43
p2	1634.75	1.60	18140.62	1.09	1721.95	1.57	17.48	1.36	2225.97	1.49	1.41
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1761.15	1.73	18138.67	1.09	1523.72	1.39	18.45	1.44	2197.95	1.47	1.41
p1	1741.05	1.71	18147.45	1.09	1657.28	1.51	18.19	1.42	2196.15	1.47	1.43
p2	1729.12	1.70	18123.00	1.09	1487.03	1.36	18.10	1.41	2193.38	1.47	1.39
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1715.42	1.68	18156.10	1.09	1411.78	1.29	18.21	1.42	2220.38	1.49	1.38
p1	1679.62	1.65	18155.62	1.09	1595.40	1.45	17.96	1.40	2231.55	1.50	1.41
p2	1636.50	1.61	17715.40	1.07	1680.88	1.53	17.60	1.37	2231.60	1.50	1.40
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1751.65	1.72	17711.17	1.07	1497.60	1.37	18.42	1.44	2210.38	1.48	1.40
p1	1726.85	1.69	18131.80	1.09	1594.85	1.45	18.34	1.43	2211.30	1.48	1.42
p2	1715.60	1.68	18108.80	1.09	1712.90	1.56	18.23	1.42	2200.43	1.47	1.43
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1713.38	1.68	17730.60	1.07	1369.65	1.25	18.25	1.42	2233.60	1.50	1.37
p1	1676.50	1.65	18180.08	1.09	1557.58	1.42	17.99	1.40	2232.68	1.50	1.40
p2	1630.95	1.60	18164.28	1.09	1634.15	1.49	17.57	1.37	2234.65	1.50	1.40
TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1760.35	1.73	17722.67	1.07	1312.83	1.20	18.88	1.47	2212.10	1.48	1.37
p1	1737.92	1.71	18152.95	1.09	1537.80	1.40	18.69	1.46	2207.45	1.48	1.41
p2	1728.45	1.70	18143.03	1.09	1640.65	1.50	18.38	1.43	2198.07	1.47	1.42
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1708.97	1.68	18174.22	1.09	1349.35	1.23	18.32	1.43	2235.00	1.50	1.37

p1	1677.33	1.65	18153.42	1.09	1527.95	1.39	17.92	1.40	2246.20	1.51	1.39
p2	1634.97	1.60	18165.12	1.09	1643.85	1.50	17.49	1.36	2241.00	1.50	1.40
p0_score:	11.14										
p1_score:	11.31										
p2_score:	11.28										
Unreviewed_VMmark_Score:	11.28										

Configuration

Server and Network	
Server Manufacturer and Model	HP ProLiant DL385G5p
Processor Vendor and Model	Quad-Core AMD Opteron 2384
Processor Speed (GHz)	2.7GHz
Number of Sockets/Cores per Socket	2 Sockets / 4 Cores per Socket (8 Cores Total)
Primary Cache	64KB I + 64KB D on chip per core
Secondary Cache	512KB I + D on chip per core
Other Cache	6MB
Memory	64GB (8x8GB 533MHz DDR2)
Disk Subsystem Type	Direct attach SAS for operating system, FC SAN for VMs
Number of Disk Controllers	1 HP Smart Array P400 (OS controller)
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	1 QLogic QLE2462 dual-port fibre-channel HBA
Number of Network Controllers	3
Network Controller Vendors and Models	2 x embedded HP NC382i DP adapters, 1 x HP NC373T SP adapter
Network Switch Vendors and Models	HP ProCurve 3400
Network Speed	1000BaseT
Other Hardware	None
Other Software	None
Hardware Availability Date	March 30, 2009
Software Availability Date	November 2008

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	November 2008

Storage

Array Vendor, Model, and Firmware Version	HP StorageWorks MSA 1000, firmware version 4.48
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Fibre Channel Switch Vendors and Models	HP StorageWorks SAN Switch 4/32
Disk Space Used	548.75GB
Array Cache Size	256MB
Number and Size of LUNs	5 LUNs, 474.75GB each
RAID Type	RAID 0
Number of Members per RAID Set	14 drives per RAID set
Disk Vendor, Model, and Speed	HP 36GB Ultra320 SCSI drive

Clients

Number of Clients	8
System Model(s)	HP ProLiant DL360G5
Processor Vendor(s) and Model(s)	Intel Xeon
Processor Speed(s) (GHz)	2.83GHz
Number of Sockets/Cores per Socket	1 Sockets / 4 Cores per Socket (4 Cores Total)
Memory	2GB
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:
 - Power Regulator: Static High Performance (default Dynamic Power Savings Mode)
 - Ultra Low Power State: disabled (default enabled)
 - Independent Memory Mode Enabled (default Ganged Memory Mode)

- QLogic HBA BIOS settings:
 - Fibre Channel tape support disabled (default enabled)
 - Data rate option set to 1 (default 2)
 - Execution Throttle set to 64 (default 16)

- vSwitch Configuration:
 - vSwitch0 was the Service Console configured on vmnic0
 - vSwitch7 was for all file servers, database servers and mail servers configured with 120 ports (default 56) on vmnic4
 - vSwitch8 was for all web servers, java servers and standby configured on vmnic1, vmnic2 & vmnic3

- Storage Configuration:
 - "Database Storage" configured to store all database VMs
 - "Storage_0" configured to store all VMs except database for tiles 0 & 1
 - "Storage_1" configured to store all VMs except database for tiles 2 & 3
 - "Storage_2" configured to store all VMs except database for tiles 4 & 5
 - "Storage_3" configured to store all VMs except database for tiles 6 & 7

Virtualization Software Notes

- vmfs2 was unloaded prior to run
- firewall and iptables services were stopped prior to the run
- pegasus CIMOM server was unloaded prior to run
- virtualized MMU was enabled for all VMs (default automatic)
- ethernet adapter type set to Enhanced vmxnet for all VMs
- logging was disabled for all VMs
- IDE & floppy devices were removed on all VMs except Standby2 (default enabled)
- Disk.Sched.NumRequestOutstanding set to 128 (default 32)
- VMFS3.MaxHeapSizeMB set to 64 (default 16)
- IRQ.RoutingPolicy was set to 0 (default 2)
- Qlogic queue depth set to 64

Operating System Notes

- Microsoft Windows Server 2003 virtual machines were updated to Service Pack 2
- All Linux-based virtual machines were updated to SLES 10 SP2

Software Notes

On the webservers, FastCGI version 2.4.6 was used.

Client Notes

- Microsoft Windows Server 2003 client machines were updated to Service Pack 2, as well as KB 933360
- TCP TOE chimney was disabled on all clients (default enabled)

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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