

VMware® VMmark™ V1.1.1 Results

Vendor and Hardware Platform: Fujitsu BX960 S1
Virtualization Platform: VMware ESX 4.0 Update 2 (build 257240)

VMmark V1.1.1 Score =
52.27 @ 35 Tiles

Tested By: Fujitsu

Test Date: 06/10/2010

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Performance

	webserver		javaserver		mailserver		fileserver		database		
TILE_0	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2037.83	2.00	18156.30	1.09	1615.00	1.47	18.48	1.44	2332.68	1.56	1.49
p1	2032.12	1.99	18159.80	1.09	1900.80	1.73	17.93	1.40	2333.43	1.56	1.53
p2	2022.40	1.98	18154.00	1.09	1901.92	1.73	17.59	1.37	2330.60	1.56	1.52
TILE_1	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2041.90	2.00	18131.47	1.09	1701.78	1.55	20.55	1.60	2379.75	1.59	1.54
p1	2018.40	1.98	18140.62	1.09	1738.47	1.59	20.12	1.57	2385.43	1.60	1.54
p2	2020.47	1.98	18135.28	1.09	1739.92	1.59	20.43	1.59	2390.30	1.60	1.54
TILE_2	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1957.40	1.92	18115.30	1.09	1679.58	1.53	20.45	1.59	2358.30	1.58	1.52
p1	1904.60	1.87	18112.88	1.09	1739.42	1.59	20.28	1.58	2356.62	1.58	1.52
p2	1882.53	1.85	18112.42	1.09	1751.75	1.60	20.28	1.58	2353.53	1.58	1.52
TILE_3	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1951.30	1.92	18126.38	1.09	1554.22	1.42	19.75	1.54	2360.97	1.58	1.48
p1	1901.85	1.87	18128.97	1.09	1658.03	1.51	19.73	1.54	2357.50	1.58	1.50
p2	1877.28	1.84	18135.12	1.09	1693.65	1.54	19.59	1.53	2356.82	1.58	1.50
TILE_4	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1700.38	1.67	18147.28	1.09	1673.10	1.53	20.04	1.56	2360.75	1.58	1.47
p1	1654.88	1.62	18125.70	1.09	1675.25	1.53	19.42	1.51	2359.95	1.58	1.45
p2	1637.33	1.61	18133.42	1.09	1749.85	1.60	19.43	1.51	2357.78	1.58	1.46
TILE_5	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2051.80	2.01	18151.65	1.09	1527.38	1.39	20.43	1.59	2379.35	1.59	1.51
p1	2011.65	1.97	18170.85	1.09	1656.80	1.51	20.42	1.59	2385.72	1.60	1.53
p2	1996.20	1.96	18158.67	1.09	1682.92	1.53	20.24	1.58	2389.15	1.60	1.53

TILE_6	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1999.10	1.96	18151.55	1.09	1503.53	1.37	19.20	1.50	2269.28	1.52	1.46
p1	1964.72	1.93	18122.28	1.09	1594.90	1.45	18.94	1.48	2274.75	1.52	1.47
p2	1957.67	1.92	18121.85	1.09	1468.55	1.34	18.38	1.43	2289.95	1.53	1.44
TILE_7	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1830.60	1.80	18149.62	1.09	1557.40	1.42	18.49	1.44	2361.20	1.58	1.45
p1	1770.50	1.74	18125.70	1.09	1647.62	1.50	18.11	1.41	2361.43	1.58	1.45
p2	1764.25	1.73	18132.50	1.09	1804.08	1.64	17.92	1.40	2360.90	1.58	1.47
TILE_8	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1951.35	1.92	18146.55	1.09	1464.08	1.33	18.61	1.45	2358.35	1.58	1.45
p1	1894.80	1.86	18163.50	1.09	1791.42	1.63	18.02	1.40	2357.72	1.58	1.49
p2	1876.03	1.84	18122.67	1.09	1724.50	1.57	17.89	1.39	2355.78	1.58	1.47
TILE_9	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1941.12	1.91	18110.10	1.09	1571.90	1.43	19.59	1.53	2378.00	1.59	1.49
p1	1898.22	1.86	18113.83	1.09	1678.30	1.53	19.34	1.51	2384.15	1.60	1.50
p2	1872.17	1.84	18118.30	1.09	1818.75	1.66	19.23	1.50	2389.30	1.60	1.51
TILE_10	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2041.75	2.00	18162.25	1.09	1495.72	1.36	20.25	1.58	2317.68	1.55	1.49
p1	1993.08	1.96	18137.42	1.09	1750.53	1.60	19.81	1.54	2322.65	1.56	1.52
p2	1995.47	1.96	18136.42	1.09	1900.95	1.73	19.65	1.53	2329.60	1.56	1.55
TILE_11	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1950.28	1.91	18110.85	1.09	1489.20	1.36	20.41	1.59	2357.35	1.58	1.48
p1	1899.08	1.86	18108.80	1.09	1698.38	1.55	20.47	1.60	2356.72	1.58	1.51
p2	1871.67	1.84	18102.40	1.09	1697.10	1.55	20.28	1.58	2356.57	1.58	1.51
TILE_12	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2035.70	2.00	18179.62	1.09	1464.90	1.34	18.50	1.44	2350.53	1.58	1.46
p1	2001.78	1.96	18168.65	1.09	1718.80	1.57	17.90	1.40	2353.43	1.58	1.49
p2	2012.72	1.98	18184.62	1.09	1758.20	1.60	17.57	1.37	2352.82	1.58	1.50
TILE_13	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2019.03	1.98	18132.40	1.09	1460.53	1.33	18.48	1.44	2373.35	1.59	1.46
p1	2001.95	1.96	18130.45	1.09	1699.20	1.55	17.93	1.40	2372.82	1.59	1.49
p2	1986.92	1.95	18148.38	1.09	1662.45	1.52	17.92	1.40	2376.10	1.59	1.48
TILE_14	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2048.97	2.01	18118.88	1.09	1392.17	1.27	19.67	1.53	2377.55	1.59	1.47
p1	2035.17	2.00	18115.92	1.09	1658.50	1.51	19.63	1.53	2382.43	1.60	1.52
p2	1987.28	1.95	18118.30	1.09	1783.50	1.63	19.38	1.51	2386.45	1.60	1.53

TILE_15	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2051.18	2.01	18116.72	1.09	1383.62	1.26	20.07	1.56	2359.55	1.58	1.47
p1	2020.45	1.98	18119.97	1.09	1694.80	1.55	19.67	1.53	2360.40	1.58	1.52
p2	2016.85	1.98	18116.45	1.09	1753.90	1.60	19.69	1.53	2358.45	1.58	1.53
TILE_16	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2027.35	1.99	18111.92	1.09	1469.22	1.34	20.77	1.62	2373.38	1.59	1.50
p1	2018.05	1.98	18110.75	1.09	1627.62	1.48	20.06	1.56	2371.78	1.59	1.51
p2	2016.15	1.98	18144.88	1.09	1638.67	1.49	20.25	1.58	2377.25	1.59	1.52
TILE_17	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1956.85	1.92	18188.83	1.09	1457.00	1.33	20.13	1.57	2360.00	1.58	1.47
p1	1904.17	1.87	18181.55	1.09	1570.28	1.43	19.84	1.55	2357.15	1.58	1.48
p2	1876.60	1.84	18180.83	1.09	1707.22	1.56	19.91	1.55	2354.12	1.58	1.50
TILE_18	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2044.28	2.01	18143.03	1.09	1363.38	1.24	19.57	1.53	2362.82	1.58	1.46
p1	2034.85	2.00	18151.28	1.09	1520.53	1.39	19.39	1.51	2362.22	1.58	1.49
p2	2015.97	1.98	18148.03	1.09	1804.50	1.65	19.21	1.50	2361.57	1.58	1.53
TILE_19	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2051.15	2.01	18169.40	1.09	1479.10	1.35	19.69	1.53	2373.32	1.59	1.49
p1	2015.55	1.98	18153.75	1.09	1621.92	1.48	19.35	1.51	2372.25	1.59	1.50
p2	1976.83	1.94	18116.58	1.09	1757.40	1.60	19.39	1.51	2375.57	1.59	1.52
TILE_20	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1990.45	1.95	18110.15	1.09	1355.33	1.24	20.46	1.59	2386.12	1.60	1.46
p1	1991.05	1.95	18108.50	1.09	1602.75	1.46	20.26	1.58	2389.70	1.60	1.51
p2	1996.00	1.96	18107.83	1.09	1770.15	1.61	20.21	1.57	2394.95	1.60	1.54
TILE_21	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1958.92	1.92	18109.47	1.09	1372.95	1.25	20.53	1.60	2363.40	1.58	1.46
p1	1900.88	1.87	18114.17	1.09	1647.55	1.50	20.38	1.59	2360.60	1.58	1.50
p2	1878.33	1.84	18110.75	1.09	1795.62	1.64	20.26	1.58	2357.97	1.58	1.52
TILE_22	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2045.47	2.01	18146.05	1.09	1358.22	1.24	18.78	1.46	2384.90	1.60	1.45
p1	2033.12	2.00	18133.28	1.09	1590.60	1.45	18.26	1.42	2389.28	1.60	1.48
p2	2025.97	1.99	18135.67	1.09	1736.97	1.58	17.79	1.39	2394.50	1.60	1.50
TILE_23	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1955.97	1.92	18118.67	1.09	1375.58	1.25	18.67	1.45	2378.22	1.59	1.44
p1	1905.60	1.87	18108.12	1.09	1600.70	1.46	18.21	1.42	2375.38	1.59	1.46
p2	1879.30	1.84	18125.75	1.09	1735.33	1.58	17.85	1.39	2380.12	1.59	1.48

TILE_24	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2045.25	2.01	18175.78	1.09	1400.80	1.28	20.17	1.57	2366.80	1.59	1.48
p1	2030.80	1.99	18177.40	1.09	1697.40	1.55	19.89	1.55	2363.45	1.58	1.53
p2	2021.88	1.98	18176.47	1.09	1786.88	1.63	19.60	1.53	2362.40	1.58	1.54
TILE_25	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2066.05	2.03	18130.25	1.09	1322.25	1.21	19.62	1.53	2368.65	1.59	1.45
p1	2011.67	1.97	18110.25	1.09	1616.50	1.47	19.62	1.53	2366.72	1.59	1.50
p2	1785.88	1.75	18119.50	1.09	1685.45	1.54	19.47	1.52	2364.20	1.58	1.48
TILE_26	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1892.70	1.86	18138.35	1.09	1366.80	1.25	19.67	1.53	2386.32	1.60	1.44
p1	1857.15	1.82	18110.22	1.09	1606.47	1.46	19.35	1.51	2388.80	1.60	1.48
p2	1830.83	1.80	18112.35	1.09	1726.92	1.57	19.17	1.49	2393.22	1.60	1.49
TILE_27	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1954.78	1.92	18121.90	1.09	1342.85	1.22	20.27	1.58	2367.85	1.59	1.45
p1	1902.67	1.87	18106.60	1.09	1523.20	1.39	19.83	1.55	2363.30	1.58	1.47
p2	1877.47	1.84	18108.22	1.09	1736.72	1.58	19.77	1.54	2361.75	1.58	1.51
TILE_28	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2029.80	1.99	18122.33	1.09	1305.60	1.19	18.50	1.44	2367.85	1.59	1.43
p1	2036.95	2.00	18112.62	1.09	1537.12	1.40	17.96	1.40	2365.53	1.59	1.47
p2	2022.47	1.98	18115.92	1.09	1677.30	1.53	17.91	1.40	2364.22	1.58	1.49
TILE_29	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2037.60	2.00	18120.03	1.09	1332.72	1.22	19.66	1.53	2378.70	1.59	1.45
p1	1981.85	1.94	18111.28	1.09	1580.78	1.44	19.56	1.52	2375.05	1.59	1.49
p2	1861.42	1.83	18114.25	1.09	1739.45	1.59	19.25	1.50	2376.93	1.59	1.50
TILE_30	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2050.90	2.01	18139.58	1.09	1254.08	1.14	20.01	1.56	2388.00	1.60	1.44
p1	2038.70	2.00	18140.65	1.09	1516.95	1.38	19.74	1.54	2390.38	1.60	1.49
p2	2025.92	1.99	18140.12	1.09	1556.20	1.42	19.53	1.52	2395.50	1.61	1.50
TILE_31	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	1953.33	1.92	18129.25	1.09	1197.95	1.09	20.18	1.57	2381.65	1.60	1.42
p1	1902.35	1.87	18121.70	1.09	1464.67	1.34	19.95	1.55	2378.60	1.59	1.46
p2	1873.72	1.84	18143.15	1.09	1716.97	1.57	19.84	1.55	2381.38	1.60	1.51
TILE_32	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2045.35	2.01	18115.33	1.09	1215.05	1.11	18.62	1.45	2369.60	1.59	1.41
p1	2023.17	1.99	18117.25	1.09	1512.40	1.38	18.09	1.41	2366.65	1.59	1.46
p2	2026.85	1.99	18115.58	1.09	1655.65	1.51	17.79	1.39	2368.53	1.59	1.48

TILE_33	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2061.62	2.02	17674.38	1.06	1257.92	1.15	20.36	1.59	2303.70	1.54	1.43
p1	2021.25	1.98	18121.20	1.09	1404.40	1.28	20.03	1.56	2308.32	1.55	1.46
p2	1993.55	1.96	18138.62	1.09	1624.80	1.48	19.82	1.54	2312.43	1.55	1.50
TILE_34	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	Actual	Ratio	GM
p0	2040.85	2.00	18149.35	1.09	1140.90	1.04	20.39	1.59	2377.53	1.59	1.42
p1	1989.30	1.95	18159.55	1.09	1444.25	1.32	20.55	1.60	2376.30	1.59	1.48
p2	2011.28	1.97	17703.45	1.07	1557.00	1.42	20.25	1.58	2380.22	1.59	1.50
p0_score:	51.22										
p1_score:	52.27										
p2_score:	52.66										
Unreviewed_VMmark_Score:	52.27										

Configuration

Server and Network	
Server Manufacturer and Model	Fujitsu BX960 S1
Processor Vendor and Model	Intel Xeon E7540
Processor Speed (GHz)	2.0
Total Sockets/Total Cores/Total Threads	4 Sockets / 24 Cores / 48 Threads
Primary Cache	32KB I + 32KB D on chip per core
Secondary Cache	256KB I+D on chip per core
Other Cache	18MB I+D on chip per chip L3
BIOS Version	Aptio 3.6 R1.01C.2873
Memory Size (in GB, Number of DIMMs)	512GB, 32
Memory Type and Speed	16GB per DIMM, Quad Rank 1066MHz registered ECC DDR3
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	1 dual-channel MC-FC82E (Emulex LPe12002 based)
Number of Network Controllers	2
Network Controller Vendors and Models	Two integrated Intel 82599EB dual port 10GbE adapter
Network Switch Vendors and Models	4xBX600 GbE Switch Blade 30/12, 2xBX900 Switch/IBP 10GbE 18/8, 1xCISCO 4900M
Network Speed	10Gbps

Other Hardware	Intel SATA SSD 32GB (SSDSA2SH032G1GN) for Host-OS attached to onboard ICH10R
Other Software	none
Hardware Availability Date (MM-DD-YYYY)	09/24/2010
Software Availability Date (MM-DD-YYYY)	09/24/2010
Virtualization Software	
Vendor, Product, Version, and Build	VMware ESX 4.0 Update 2 (build 257240)
Virtualization Type	Hardware
Supplemental Software	none
Virtualization Software Availability Date (MM-DD-YYYY)	06/10/2010
Storage	
Array Vendors, Models, and Firmware Versions	11xFujitsu ETERNUS DX80, Firmware version V10L20-0000
Fibre Channel Switch Vendors and Models	Brocade 5100
Disk Space Used	Total 3322GB: 2298GB for VMs, 1TB for VM-config and swap
Array Cache Size	2GB
Total Number of Physical Disks Used	244
Total Number of Enclosures/Pods/Shelves Used	21
Total Number of Physical Disks per Enclosures/Pods/Shelves Used	12 except first ETERNUS DX80 with only 4 disks
Total Number of Storage Groups Used	11
Number LUNs Used	Total 49: 48 LUNs for VMs, 1 LUN for VM-config and swap
LUN Size and Number of Disks Per LUN	12x31GB/6 Disks (Database VMs), 18x18GB/12 Disks (Fileserver VMs), 18x89GB/12 Disks, 1x1TB/4 Disks
RAID Type	0
Number of Members per RAID Set	ETERNUS DX80[0]: 1, ETERNUS DX80[1-9]: 2/2, ETERNUS DX80[10]: 3/3/3/3
Disk Vendors, Models, and Speeds	240xSeagate, ST3300656SS, 15krpm 4xSeagate, ST3450856SS, 15krpm
Clients	
Number of Clients	35
System Model(s)	BX620 S4

Processor Vendor(s) and Model(s)	Intel Xeon 5130
Processor Speed(s) (GHz)	2
Total Sockets/Total Cores/Total Threads	2 Sockets / 4 Cores / 4 Threads
Memory per Client	3GB
Network Controller Vendors and Models	Broadcom NetXtreme
Operating System, Version, and Service Pack	Microsoft(R) Windows(R) Server 2003 R2 Enterprise Edition, Service Pack 2
Other Hardware	none
Other Software	none

Notes for Workload

Server and Network Notes

- Server BIOS settings:
 - Turbo Boost Technology: Enabled (Intel Turbo Boost up to 2.27GHz, default enabled)
 - Serial 1: Disabled (default auto)
 - SATA Controller Mode: Enhanced (default SW RAID)
- MC-FC82E(Emulex) HBA BIOS settings:
 - defaults
- vSwitch Configuration:
 - vSwitch0 for Service Console on vmnic0
 - vSwitch1 for all Java/Mail/Standby VMs on vmnic2
 - vSwitch1 configured for 120 Ports (default 56)
 - vSwitch2 for all Database/Fileserver VMs on vmnic1
 - vSwitch2 configured for 120 Ports (default 56)
 - vSwitch3 for all Webserver VMs on vmnic3
 - vSwitch3 configured for 56 Ports (default 56)
- Storage Configuration:
 - ETERNUS DX80[0]
 - RAID set 0, LUN 1: VM-config and swap
 - ETERNUS DX80[1]
 - RAID set 0, LUN 1: Fileservers for tiles 0 and 2
 - RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 0 and 2
 - RAID set 1, LUN 3: Fileserver for tiles 1 and 3
 - RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 1 and 3
 - ETERNUS DX80[2]
 - RAID set 0, LUN 1: Fileservers for tiles 4 and 6
 - RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 4 and 6
 - RAID set 1, LUN 3: Fileserver for tiles 5 and 7

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 5 and 7

○ ETERNUS DX80[3]

RAID set 0, LUN 1: Fileservers for tiles 8 and 10

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 8 and 10

RAID set 1, LUN 3: Fileserver for tiles 9 and 11

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 9 and 11

○ ETERNUS DX80[4]

RAID set 0, LUN 1: Fileservers for tiles 12 and 14

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 12 and 14

RAID set 1, LUN 3: Fileserver for tiles 13 and 15

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 13 and 15

○ ETERNUS DX80[5]

RAID set 0, LUN 1: Fileservers for tiles 16 and 18

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 16 and 18

RAID set 1, LUN 3: Fileserver for tiles 17 and 19

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 17 and 19

○ ETERNUS DX80[6]

RAID set 0, LUN 1: Fileservers for tiles 20 and 22

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 20 and 22

RAID set 1, LUN 3: Fileserver for tiles 21 and 23

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 21 and 23

○ ETERNUS DX80[7]

RAID set 0, LUN 1: Fileservers for tiles 24 and 26

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 24 and 26

RAID set 1, LUN 3: Fileserver for tiles 25 and 27

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 25 and 27

○ ETERNUS DX80[8]

RAID set 0, LUN 1: Fileservers for tiles 28 and 30

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 28 and 30

RAID set 1, LUN 3: Fileserver for tiles 29 and 31

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tiles 29 and 31

○ ETERNUS DX80[9]

RAID set 0, LUN 1: Fileservers for tiles 32 and 34

RAID set 0, LUN 2: Javaser/Mailserver/Standby/Webserver for tiles 32 and 34

RAID set 1, LUN 3: Fileserver for tile 33

RAID set 1, LUN 4: Javaser/Mailserver/Standby/Webserver for tile 33

○ ETERNUS DX80[10]

RAID set 0, LUN 1: Database for tiles 0, 4 and 8

RAID set 0, LUN 2: Database for tiles 12, 16 and 20

RAID set 0, LUN 3: Database for tiles 24, 28 and 32

RAID set 1, LUN 4: Database for tiles 1, 5 and 9

RAID set 1, LUN 5: Database for tiles 13, 17 and 21

RAID set 1, LUN 6: Database for tiles 25, 29 and 33

RAID set 2, LUN 7: Database for tiles 2, 6 and 10
RAID set 2, LUN 8: Database for tiles 14, 18 and 22
RAID set 2, LUN 9: Database for tiles 26, 30 and 34
RAID set 3, LUN 10: Database for tiles 3, 7 and 11
RAID set 3, LUN 11: Database for tiles 15, 19 and 23
RAID set 3, LUN 12: Database for tiles 27 and 31

Virtualization Software Notes

- All VMs were upgraded to hardware version 7
- Virtualized MMU was set to full hardware support for all VMs (default automatic)
- Ethernet adapter type set to vmxnet3 for all VMs
- Logging disabled for all VMs (default enabled)
- Floppy and CDROM removed for all VMs (default enabled)
- Firewall disabled for the Console OS (default enabled)
- CPU.HaltingIdleMsecPenalty = 0 (default 100)
- CPU.Quantum = 70 (default 50)
- IRQ.RoutingPolicy = 0 (default 2)
- Mem.BalancePeriod was set to 0 (default 15)
- Mem.SamplePeriod was set to 0 (default 60)
- Mem.ShareScanGHz was set to 0 (default 4)
- Net.MaxNetifRxQueueLen=300 (default 100)
- Net.MaxNetifTxQueueLen=1000 (default 500)
- Numa.PageMigEnable was set to 0 (default 1)
- VGA buffer for all Windows VMs was set to 1310720 Bytes
- VGA buffer for all Linux VMs was set to 1572864 Bytes
- One dedicated LUN(ETERNUS DX80[0]/LUN 1) for the VM configuration/swap files
- /vmkernel/module/ixgbe.o/options = "VMDQ=1,1,1,1 InterruptThrottleRate=3000,3000,3000,3000" (defaults 8,8,8,8 / 16000,16000,16000,16000)
- /vmkernel/module/lpfc820.o/options = "lpfc_lun_queue_depth=64 lpfc_cr_count=5 lpfc_cr_delay=1" (defaults 31,1,0)
- /vmkernel/module/vmfs2/enabled = "false" (default true)
- Used the VMmark AutoPart utility to expand all mailserver data partitions
- Used the new VMmark harness file 'fileserver_functions.xml' from 02/16/2010

Operating System Notes

- Microsoft Windows Server 2003 R2 VMs were updated with Service Pack 2
- Standby server and mail server were updated with KB955839

Software Notes

- none

Client Notes

- Microsoft Windows Server 2003 R2 Clients were updated with Service Pack 2 and KB955839

Other Notes

- The following parameters were altered from their default values in VMMARK.CONFIG

Database/DELAYTIME=20 (default 360)
Fileserver/DELAYTIME=0 (default 450)
JavaServer/DELAYTIME=10 (default 540)
MailServer/DELAYTIME=15 (default 5)
Standby/DELAYTIME=0 (default 170)
TILEDELAY=120 (default 600)
WebServer/DELAYTIME=25 (default 180)

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.

For information about VMmark and the rules regarding its usage visit www.vmware.com/products/vmmark.

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