

SPECweb99 Result

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Dell: PowerEdge 8450/700
Microsoft: IIS 5.0 and SWC 3.0

SPECweb99 = 8001
Test Date: Apr-2001
Tester: Dell

Hardware Avail: Jun-2000 OS Avail: May-2001 HTTP Software Avail: May-2001 Sup. Software Avail: Jun-2001 SPEC license #: 55

Hardware

Vendor: Dell
Model: PowerEdge 8450/700
Processor: 700MHz Pentium III Xeon
Processors: 8 cores, 8 chips, 1 core/chip
Primary Cache: 16KBI+16KBD on chip
Secondary Cache: 2MB(I+D)
Other Cache: None
Memory: 32 GB
Disk Subsystem: 7 9GB 10KRPM drives, 1 18GB 15K RPM drive
Disk Controllers: Onboard Symbios SCSI
Other Hardware: 8 Alteon ACEswitch 180

Software

Operating System: Windows 2000 Datacenter Server
File System: NTFS
Other Software: SP2, 3Com driver, TCPIP, & NDIS hotfixes

HTTP Software

Vendor: Microsoft
HTTP Software: IIS 5.0 and SWC 3.0
API: TWC 3.0
Server Cache: None
Log Mode: Binary CLF

Test Sponsor

Test Date: Apr-2001
Tested By: Dell
SPEC License: 55

Network

of Controllers: 8
Network Controllers: 3Com 3C985B-SX
of Nets: 8
Type of Nets: Gigabit Ethernet
Network Speed: 1 Gb/s
MSL (sec): 30 (Non RFC1122)
Time-Wait (sec): 60 (Non RFC1122)
MTU: 1500

Clients

of Clients: 34
Model: Dell Precision 410
Processor: 450MHz Pentium II
of Processors: 2
Memory: 128MB
Network Controller: 3Com 3C985B-SX
Operating System: Windows 2000 Professional
Compiler: Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

- 1 disk for OS, 1 disk for logs
- 6 disk software RAID0 stripe for fileset.

Operating System Notes

- Tuning parameters:
- AFD/Parameters/TransmitWorker=32, adjusts system default thread, default 16.
 - Control/FileSystem/NtfsDisableLastAccessUpdate=1, prevents updating LastAccess time stamp on NTFS directories.
 - Control/Session Manager/Memory Management/LargeSystemCache=0, limits system cache, default 1.
 - Control/Session Manager/Memory Management/SystemPages=0xffffffff, sets system pages.
 - Tcpi/Parameters/DisableLargeSendOffload=0, enable large sends for TCP/IP.
 - Tcpi/Parameters/MaxFreeTWTcbs=1098000, sets maximum number of TIME_WAIT tcbs to 1,098,000.
 - Tcpi/Parameters/MaxHashTableSize=0x10000, sets TCB hash table size to 65,536 entries, default 512.
 - Tcpi/Parameters/MaxSendSegments=0x1000, max TCP segments sent consecutively to a destination, default 64.
 - Tcpi/Parameters/MaxUserPort=0xfffe, sets maximum open ports to 65534.
 - Tcpi/Parameters/NumTcbTablePartitions=64, sets number of independent TCB table segments, default 4.
 - Tcpi/Parameters/TcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default is 240.
 - Tcpi/Parameters/TcpWindowSize=65535, sets TCP send/receive window size, default 8192.

NIC registry settings:

- PciReadMax=128, sets maximum number of bytes per PCI read burst, default 0xffffffff.
- LargeSend=1, enables large sends.
- HybridLen=54, threshold in bytes that the driver decides to DMA versus copy, default 128.
- HostTracing=0 (off), disables NIC driver logging events, default 1 (on).

Windows 2000 SP2, 3C985-SX driver, NDIS and TCPIP hotfixes available May 2001.

HTTP Software Notes

- TWC CAD buffers=1024, default not set.
- CGI-Gateway buffers=48, default not set.

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Notes/Tuning Information (Continued)

Client Notes

Tcpip/Parameters/MaxUserPort = 0xffff, sets maximum open ports to 65534.

Other Notes

SWC 3.0 Configuration:

7 NIC IRQs bound to different CPUs, 1 NIC bound across 4 CPUs, CGI bound to 8th CPU.

SWC/Parameters/LogDrive=G, puts log file on G: drive.

SWC/Parameters/LogFileInitialSize=0xffffffff, sets initial log file size to 4 gigabytes.

SWC/Parameters/VirtualRootName=spec99, sets virtual directory name to spec99.

SWC/Parameters/VirtualRootPath=F:\wwwroot99, sets physical path where files are located.

SWC/Parameters/SmallCachingThreshold=500, max size for small files (bytes), default system-dependent.

SWC/Parameters/LargeCachingThreshold=1200000, max size for cached files (bytes), default system-dependent.

SWC/Parameters/SmallBufferSize=0x40, memory for caching small files (MB), default system-dependent.

SWC/Parameters/LargeBufferSize=0x6590, memory for caching large files (MB), default system-dependent.

SWC/Parameters/SwcLockedMemorySize=0x80, size of locked memory for SWC ops (MB), default system-dependent.