

SPECweb99 Result

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Dell: PowerEdge 4600
Microsoft: IIS 5.0 and SWC 3.0

SPECweb99 = 4320

Test Date: Feb-2002
Tester: Dell

Hardware Avail: Feb-2002 OS Avail: Feb-2000 HTTP Software Avail: May-2001 Sup. Software Avail: Nov-2001 SPEC license #: 55

Hardware

Vendor: Dell
Model: PowerEdge 4600
Processor: 2.20 GHz Pentium Xeon
Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache: 12KBI+8KBD on chip
Secondary Cache: 512KB ATC
Other Cache: None
Memory: 8 GB
Disk Subsystem: 8 18GB 10KRPM drives
Disk Controllers: Onboard Adaptec 7899
Other Hardware: 4 Dell PowerConnect 5012,
4 Nortel ACEswitch 180

Software

Operating System: Windows 2000 Advanced Server
File System: NTFS
Other Software: SP2, Q298896, Intel 3.1 driver

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: Feb-2002
Tested By: Dell
SPEC License: 55

Network

of Controllers: 4
Network Controllers: Intel PRO/1000 XT
of Nets: 4
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: 20
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 and logs
- 7 disk software RAID0 stripe for file set.

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.
 - Tcpiip/Parameters/DisableLargeSendOffload=0, enable large sends for TCP/IP.
 - Tcpiip/Parameters/MaxFreeTWTcbs=1098000, sets maximum number of TIME_WAIT tcbs to 1,098,000.
 - Tcpiip/Parameters/MaxHashTableSize=0x10000, sets TCB hash table size to 65,536 entries, default 512.
 - Tcpiip/Parameters/MaxSendSegments=0x1000, max TCP segments sent consecutively to a destination, default 64.
 - Tcpiip/Parameters/MaxUserPort=0xffffe, sets maximum open ports to 65534.
 - Tcpiip/Parameters/NumTcbTablePartitions=32, sets number of independent TCB table segments, default 4.
 - Tcpiip/Parameters/TcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default is 240.
 - Tcpiip/Parameters/TcpWindowSize=65535, sets TCP send/receive window size, default 8192.
- 3 NIC IRQs bound to CPU 1,2,3; 4th NIC IRQ across CPU1,2,3
- Intel NIC settings:
- NumTxDescriptors=4096, number of descriptors to send packets, default 256.
 - TcpSegmentation=1, enables TCP segmentation offload, default 0.
 - NumCoalesceBuffers=768, number of coalesce buffers for transmit acceleration, default 128.
 - FlowControl=0, disables flow control, default 1.
 - ChecksumRxTcp=1, offloads RX checksums to NIC, default 0.

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Notes/Tuning Information (Continued)

HTTP Software Notes

- SWC/Parameters/LogDrive=D, puts log file on D: 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=50, 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=0x3a, memory for caching small files (MB), default system-dependent.
- SWC/Parameters/LargeBufferSize=0x1b58, memory for caching large files (MB), default system-dependent.
- SWC/Parameters/SwcLockedMemorySize=0x6c, size of locked memory for SWC ops (MB), default system-dependent.
- TWC CAD buffers=1024, default not set.
- CGI-Gateway buffers=64, default not set.

Client Notes

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

Other Notes

Tuning Disclosure: See above
Dynamic API: Dell-20001212-TWC.zip