SPECweb99 Result

Dell: PowerEdge 4600
Microsoft: IIS 5.0 and SWC 3.0

SPECweb99 = 4615
Test Date: Jun-2002
Tester: Dell

Hardware Avail:	OS Avail:	HTTP Software Avail:	Sup. Software Avail:	SPEC license #:
Feb-2002	Feb-2000	May-2001	Jun-2002	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:	10 18GB 15KRPM drives
Disk Controllers:	Onboard Adaptec 7899
Other Hardware:	2 Dell PowerConnect 5012 4 Nortel ACEswitch 180

Software

Operating System:	Windows 2000 Advanced Server
File System:	NTFS
Other Software:	SP2, Intel 6.2, Q298896 hotfix

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:	Jun-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 SP2
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS, 1 disk for logs, 8 disk software RAID0 stripe for file set

Operating System Notes

Tuning parameters:
- AFDParametersTransmitWorker=32, adjusts system default thread, default 16
- ControlFileSystemNtfsDisableLastAccessUpdate=1, prevents updating LastAccess time stamp on NTFS directories
- ControlSession ManagerMemory ManagementLargeSystemCache=0, limits system cache, default 1
- ControlSession ManagerMemory ManagementSystemPages=0xffffffff, sets system pages
- TcpipParametersDisableLargeSendOffload=0, enable large sends for TCP/IP
- TcpipParametersMaxFreeTWTcbs=1098000, sets maximum number of TIME_WAIT tcbs to 1,098,000
- TcpipParametersMaxHashTableSize=0x10000, sets TCB hash table size to 65,536 entries, default 512
- TcpipParametersMaxSendSegments=0x1000, max TCP segments sent consecutively to a destination, default 64
- TcpipParametersMaxUserPort=0xfffe, sets maximum open ports to 65534
- TcpipParametersNumTcbTablePartitions=32, sets number of independent TCB table segments, default 4
- TcpipParametersTcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default 240
- TcpipParametersTcpWindowSize=65535, sets TCP send eceive window size, default 8192

3 NIC IRQs bound to CPU 1,2,3 via IntFiltr (4th NIC unbound)
Primary, secondary SCSI IRQs bound to CPU 0, 1 respectively
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

SPECweb99 Result

Notes/Tuning Information (Continued)

HTTP Software Notes

- SWCParametersLogDrive=E, puts log file on E: drive
- SWCParametersLogFileInitialSize=0xffffffff, sets initial log file size to 4 gigabytes
- SWCParametersVirtualRootName=spec99, sets virtual directory name to spec99
- SWCParametersVirtualRootPath=F:wwwroot99, sets physical path where files are located
- SWCParametersSmallCachingThreshold=50, max size for small files (bytes), default system-dependent
- SWCParametersLargeCachingThreshold=1200000, max size for cached files (bytes), default system-dependent
- SWCParametersSmallBufferSize=0x3a, memory for caching small files (MB), default system-dependent
- SWCParametersLargeBufferSize=0x1b58, memory for caching large files (MB), default system-dependent
- SWCParametersSwcLockedMemorySize=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
- CGI Gateway bound to CPU 0 via Task Manager, default last CPU

Client Notes

- TcpipParametersMaxUserPort=0xfffe, sets maximum open ports to 65534
- TcpipParametersTcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default 240
- TcpipParametersMaxFreeTWTcbs=100000, sets maximum number of TIME_WAIT tcbs to 100,000
- TcpipParametersTcpWindowSize=65535, sets TCP send eceive window size, default 8192

Other Notes

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