SPECweb99 Result

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IBM: eServer xSeries 235
Microsoft: IIS 5.0 and SWC 3.0

SPECweb99 = 4470

Test Date: Jun-2002
Tester: IBM

Hardware Avail:	Jun-2002	OS Avail:	Feb-2000	HTTP Software Avail:	May-2001	Sup. Software Avail:	--	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	eServer xSeries 235
Processor:	2.2 GHz Pentium Xeon
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+8KBD on chip
Secondary Cache:	512KB
Other Cache:	None
Memory:	8GB
Disk Subsystem:	6 18GB 15KRPM Drives
Disk Controllers:	LSI Logic 1030 Ultra 320 SCSI
Other Hardware:	1 Extreme Networks Summit 7i GbE Switch

Software

Operating System:	Windows 2000 Advanced Server w/SP2
File System:	NTFS
Other Software:	Hot Fix Q298896, Intel driver v6.1.14

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:	IBM
SPEC License:	11

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:	16
Model:	IBM eServer xSeries 330
Processor:	966 MHz Pentium III
# of Processors:	1
Memory:	256MB
Network Controller:	IBM Netfinity Gigabit Ethernet Adapter
Operating System:	Microsoft Windows 2000 Professional w/SP2
Compiler:	Microsoft VC++ v6.0

Notes/Tuning Information

SUT Notes

OS and logs on 1 disk, separate logical drives, NTFS format
5-disk RAID0 software stripe for file set, NTFS format

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 size, default 1
- Control/Session Manager/Memory Management/SystemPages=0xffffffff, sets number of system pages
- Tcpip/Parameters/DisableLargeSendOffload=0, enable large sends for TCP/IP
- Tcpip/Parameters/IPEnableRouter=0x1, enables IP routing on server, default 0
- Tcpip/Parameters/MaxFreeTwTcbs=0x10c110, sets maximum number of TIME_WAIT tcbs to 1,098,000
- Tcpip/Parameters/MaxHashTableSize=0x10000, sets TCB hash table size to 65,536 entries, default 512
- Tcpip/Parameters/MaxSendSegments=0x1000, max TCP segments sent consecutively to a destination, default 64
- Tcpip/Parameters/MaxUserPort=0xfffe, sets maximum open ports to 65534
- Tcpip/Parameters/NumTcbTablePartions=0x20, sets number of independent TCB table segments, default 4
- Tcpip/Parameters/TcpTimedWaitDelay=0x3c, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default 240
- Tcpip/Parameters/TcpWindowSize=0xffff, sets TCP send/receive window size, default 8192

3 NIC IRQs bound to logical CPUs 1,2,3; 4th NIC IRQs not bound (Hyper-Threading enabled)
cgigate process affinitized to logical CPU0 via Task Manager, default last (logical) CPU
Intel NIC settings:
- ChecksumRxTcp=1, offloads RX checksums to NIC, default 0
- FlowControl=0, disables flow control, default 1
- NumCoalesceBuffers=768, number of coalesce buffers for transmit acceleration, default 128
- NumTxDescriptors=4096, number of descriptors to send packets, default 256
- TcpSegmentation=1, enables TCP segmentation offload, default 0

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Notes/Tuning Information (Continued)

HTTP Software Notes

IIS Parameters:
- IIS set for more than 100,000 hits/day
- IIS Home Directory: Read/Write Permissions, Execute Permissions for Scripts & Executables, Low Application Protection
- IIS Virtual Directory spec99 points back to web server root
- IIS Logging: NCSA CLF format

SWC Parameters:
- SWC/Parameters/LargeBufferSize=0x1b58, large file cache size (MB), default system-dependent
- SWC/Parameters/LargeCachingThreshold=0x124f80, max file size (bytes) for cached files, default system-dependent
- SWC/Parameters/LogDrive=F, puts log file on F: drive
- SWC/Parameters/LogFileInitialSize=0xffffffff, sets initial log file size to 4 gigabytes
- SWC/Parameters/NumberOfFreeConnections=0xe10
- SWC/Parameters/SmallBufferSize=0x40, memory for caching small files (MB), default system-dependent
- SWC/Parameters/SmallCachingThreshold=0x32, max size for small files (bytes), default system-dependent
- SWC/Parameters/SwcLockedMemorySize=0x6c, size of locked memory for SWC ops (MB), default system-dependent
- SWC/Parameters/VirtualRootName=spec99, sets virtual directory name to spec99
- SWC/Parameters/VirtualRootPath=E:spec99, sets physical path where files are located
- TWC CAD buffers=768, default not set
- CGI-Gateway buffers=48, default not set

Client Notes

Tcpip/Parameters/MaxUserPort = 0xfffe, sets maximum open port to 65534

Other Notes

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