

SPECweb99_SSL Result

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IBM : eServer xSeries 225
Zeus Technology Limited : Zeus V4.1R1
CD SPECweb99_SSL
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PERFORMANCE

Iteration	Conforming Simultaneous Connections
1	CD
2	CD
3	CD
Median	CD

Availability Dates

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All Hardware          Dec-2002
HTTPS Software        Mar-2002
Operating System      Jul-2002
Supplemental System   May-2002

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Hardware

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Vendor                IBM
Model                 eServer xSeries 225
Processor             2.4B GHz Intel Xeon DP
# Processors          2 cores, 2 chips, 1 core/chip
Primary Cache         12KBI+8KBD on chip
Secondary Cache       512KB
Other Cache           None
Memory                4 GB
Disk Subsystem        6 36GB 15KRPM U320 SCSI Drives
Disk Controllers      Integrated Dual-Channel Ultra320 SCSI
Other Hardware        1 Extreme Networks Summit 7i GbE Switch

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Software

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Operating System      Red Hat Linux 7.3
File System           ext2
Other Software        None

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HTTPS Software

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Vendor                Zeus Technology Limited
HTTPS Software        Zeus V4.1R1
API                  Zeus PEPP 0.6 ISAPI
Server Cache         None
Log Mode              Zeus Binary CLF

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Test Sponsor

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Test Date            Oct-2002
Tested By            IBM
SPEC License         11

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Network

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# of Controllers      1
Network Controllers   Integrated Gb Ethernet
# of Nets             1
Type of Nets          Gigabit Ethernet
Network Speed         1 Gb/s
MSL (sec)             30 (Non RFC1122)
Time-Wait (sec)      60 (Non RFC1122)
MTU                   1500

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Clients

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# of Clients          6
Model                 IBM eServer xSeries 330
Processor             933Mhz 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

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Benchmark Configuration

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Requested Connections 912
Fileset Size (MB)     3040.24

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Notes/Tuning information

SUT Notes

- 1 disk for OS
- 5 disk software RAID0, using 64KB chunk size, for web pages and logs

Operating System Notes

Tuning parameters:

- net.ipv4.ip_forward=1, default 0
 - net.ipv4.conf.all.rp_filter = 1, enables source route verification, default 0
 - net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default 1
 - net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
 - net.core.rmem_max = 10000000, maximum receive socket buffer size, default 65535
 - net.core.rmem_default = 10000000, default receive socket buffer size, default 65535
 - net.core.wmem_max = 10000000, maximum send socket buffer size, default 65535
 - net.core.wmem_default = 10000000, default send socket buffer size, default 65535
 - net.core.optmem_max = 10000000, default 10240
 - net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
 - net.ipv4.tcp_rmem = 30000000 30000000 30000000, maximum TCP read-buffer space allocatable, default 4096 87380 174760
 - net.ipv4.tcp_wmem = 30000000 30000000 30000000, maximum TCP write-buffer space allocatable, default 4096 16384 131072
 - net.ipv4.tcp_mem=30000000 30000000 30000000, maximum TCP buffer space, default 31744 32256 32768
- Kernel is standard default Red Hat Linux (2.4.18-3bigmem)

HTTPS Software Notes

Zeus Configuration

- tuning!bind_any yes
- tuning!num_children 4
- tuning!so_wbuff_size 1048576
- tuning!softservers no
- tuning!unique_bind no
- tuning!use_poll yes
- tuning!cbuff_size 65536
- tuning!ssl_keepalive yes
- tuning!ssl_diskcache yes
- tuning!keepalive yes
- tuning!sendfile yes
- tuning!sendfile_minsize 1
- tuning!sendfile_maxsize 2147483647
- tuning!listen_queue_size 8192
- tuning!so_rbuff_size 0
- tuning!modules!cgi!cleansize 0

See Zeus-tuning.txt for a description of the Zeus tuning parameters

ISAPI Source code is available in the SPECweb99 support docs as IBM-20011019_1-API.tar.gz

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Test Run Details

Run Num	Conforming Connections	Percent Conform	Throughput ops/sec	Response msec	ops/sec/ loadgen	Kbits/sec
=> 1	CD	CD	CD	CD	CD	CD
2	CD	CD	CD	CD	CD	CD
3	CD	CD	CD	CD	CD	CD