

SPECweb99\_SSL Result

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IBM : eServer xSeries 225          |||      CD SPECweb99_SSL
Zeus : Zeus V4.1R1                |||
                                   |||
=====

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SPEC has discovered a code defect in the SPECweb99\_SSL test harness run on the client systems used in this result. The defect prevents these client systems from generating the correct SPECweb99\_SSL workload. Specifically, the defect in the SPECweb99\_SSL code results in the clients not generating any of the required SSL ClientKeyExchanges during the benchmark. Therefore, the results presented here are not comparable with any other SPECweb99\_SSL results.

PERFORMANCE

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

Availability Dates

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All Hardware          Feb-2003
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             2.8B 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 Ultra 320 SCSI Drives
Disk Controllers      1 LSI 1020 Ultra 320 SCSI LOM
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
HTTPS Software        Zeus V4.1R1
API                   Zeus PEPP 0.8 ISAPI used for Dynamic content
Server Cache         None
Log Mode              Zeus CLF

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Test Sponsor

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Test Date             Jan-2003
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          7
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

Requested Connections 1001
Fileset Size (MB) 3323.28

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=0, 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 = 182000, 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.core.netdev\_max\_backlog = 20000, default 300
- 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!clientfirst\_optimize yes
- tuning!ssl\_sessioncache\_size 3109
- tuning!ssl\_sessioncache\_expiry 120
- 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
- tuning!timeout 600
- tuning!keepalive\_timeout 20
- tuning!keepalive\_max 3000
- tuning!maxaccept 64
See IBM-Zeus-tuning-20021224.txt for a description of the Zeus tuning parameters
ISAPI Source code is available in the SPECweb99\_ssl support docs as HP-20020724-API.tgz

Test Run Details

Table with 8 columns: Run Num, Conforming Connections, Percent Conform, Throughput ops/sec, Response msec, ops/sec/loadgen, Kbits/sec. Rows 1, 2, 3 all show CD (Conformance Data) for all metrics.