

SPECweb99\_SSL Result

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IBM : eServer xSeries 235                ||      CD  SPECweb99_SSL
Zeus Technology Ltd. : Zeus V4.2r2      ||
                                         ||
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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           May-2003
HTTPS Software         Mar-2002
Operating System       Jul-2002
Supplemental System    Mar-2003

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Hardware

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Vendor                 IBM
Model                  eServer xSeries 235
Processor               2.8 GHz Intel Pentium 4
# Processors           2 cores, 2 chips, 1 core/chip
Primary Cache          12KBI+8KBD on chip
Secondary Cache         512KB
Other Cache             None
Memory                 6 GB
Disk Subsystem          6 36GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers        On-board LSI controller
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 Ltd.
HTTPS Software         Zeus V4.2r2
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              Apr-2003
Tested By              IBM
SPEC License           11

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Network

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# of Controllers        1
Network Controllers     Integrated Gigabit 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            16
Model                   IBM eServer xSeries 330
Processor               1133Mhz 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 1740  
Fileset Size (MB) 5685.2

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Notes/Tuning information

SUT Notes

- 2 disk hardware RAID0 for OS and logs
- 3 disk hardware RAID0 for web pages

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 = 324000, 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 (2.4.18-3smp)

HTTPS Software Notes

Zeus Configuration

- tuning!so\_wbuff\_size 1048576
- tuning!softservers no
- tuning!cbuff\_size 65536
- tuning!clientfirst\_optimise yes
- tuning!ssl\_sessioncache\_size 2251
- tuning!sendfile\_minsize 1
- tuning!listen\_queue\_size 8192
- tuning!keepalive\_timeout 20
- tuning!keepalive\_max 1000
- tuning!maxaccept 64
- tuning!so\_rbuff\_size 0
- modules!cgi!enabled yes
- modules!isapi!enabled yes

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.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