

SPECweb99_SSL Result

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IBM : eServer xSeries 305          |||      CD   SPECweb99_SSL
Zeus : Zeus V4.2                  |||
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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           Apr-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 305
Processor             3.06 GHz Intel Pentium 4
# Processors          1 core, 1 chip, 1 core/chip
Primary Cache         12KBI+8KBD on chip
Secondary Cache       512KB
Other Cache           None
Memory                4 GB
Disk Subsystem        14x18GB 15KRPM Ultra 160 SCSI Drives
Disk Controllers      1 ServeRaid 4Lx
Other Hardware        1 Extreme Networks Summit 7i GbE Switch
                    1 EXP300 drive enclosure

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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 V4.2
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            Mar-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          11
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 Advanced Server w/SP2

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Compiler Microsoft VC++ v6.0

Benchmark Configuration

Requested Connections 1015
Fileset Size (MB) 3367.2

Notes/Tuning information

SUT Notes

14 disk hardware RAID0 for OS and logs and web pages

Operating System Notes

Tuning parameters:

- 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 = 200000, 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, maximum buffer size allowed per socket, default 10240
 - net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
 - net.core.netdev.max_backlog = 20000, Maximim size of SYN backlog of the listening socket, 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 4951
- tuning!sendfile_minsize 1
- tuning!listen_queue_size 8192
- tuning!keepalive_max 1500, The maximum number of keepalive connections the web server will allow, default 256
- tuning!keepalive_timeout 20, If no traffic has been seen on a keepalive connection for this amount of time, then close the connection, default 15
- tuning!maxaccept 64
- 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

ISAPI Configure parameters: -sendfile=yes -checkconfig=yes -locking=lockf -ssl=yes -64bit=no

Virtual Server configuration

- ip_name = server
- bindaddr = 192.0.1.100, 192.0.2.100

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