

SPECweb99_SSL Result

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IBM : xSeries 440
Red Hat : Zeus V4.1R1
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||
||
||
CD SPECweb99_SSL
=====

```

SPEC has discovered a bug in the SPECweb99_SSL test harness run on the client systems used in this result. The bug prevents these client systems from generating the correct SPECweb99_SSL workload. Specifically, the bug 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           Mar-2002
HTTPS Software         Mar-2002
Operating System       May-2002
Supplemental System    May-2002

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Hardware

```

Vendor                 IBM
Model                  xSeries 440
Processor              1.6 GHz Intel Xeon MP
# Processors           8 cores, 8 chips, 1 core/chip
Primary Cache          12KBI + 8KBD on chip
Secondary Cache        256MB L2
Other Cache            1MB L3 cache and 32MB L4 cache
Memory                 8 GB
Disk Subsystem         7 18GB ST318451LC
Disk Controllers        Adaptec On-Board SCSI
Other Hardware          2 x Alteon ACEswitch 180

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Software

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Operating System       Red Hat 7.2 Linux with a 2.4.18 Kernel
File System            Ext. 2
Other Software          IBM Summit chipset patches
                       Intel 3.6.8 driver

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HTTPS Software

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Vendor                 Red Hat
HTTPS Software         Zeus V4.1R1
API                    Zeus PEPP 0.6 ISAPI used for dynamic content
Server Cache           None
Log Mode               Zeus CLF

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Test Sponsor

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Test Date              Jun-2002
Tested By              IBM
SPEC License           11

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Network

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# of Controllers       2
Network Controllers    Intel Pro 1000
# of Nets              2
Type of Nets           Gigabit Ethernet
Network Speed          1 Gb/s
MSL (sec)              30 (Non RFC1122)
Time-Wait (sec)        60 (Non RFC1122)
MTU                    1500

```

Clients

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# of Clients           10
Model                  IBM xSeries 330
Processor              1.13Ghz Pentium III
# of Processors        1
Memory                256MB
Network Controller     Alteon ACENIC
Operating System        Windows 2000

```

Compiler Visual C++ 6.0

Benchmark Configuration

Requested Connections 1740
Fileset Size (MB) 5685.2

Notes/Tuning information

SUT Notes

- 1 disk for OS
- 5 disk software RAID0, using 64KB chunk size, for web pages
- 1 disk for 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
 - fs.file-max = 81920, maximum number of open files, default 1024
- See x440config for kernel build information

HTTPS Software Notes

Zeus Configuration

- tuning!bind_any yes
- tuning!cache_files 8192
- tuning!cache_flush_interval 31536000
- tuning!cache_large_file 1048576
- tuning!cache_max_bytes 0
- tuning!cache_small_file 4096
- tuning!cache_stat_expire 31536000
- tuning!num_children 16
- tuning!so_wbuff_size 1048576
- tuning!softservers no
- tuning!unique_bind no
- tuning!use_poll yes
- tuning!cache_cooling_time 0
- tuning!cbuff_size 65536
- tuning!ssl_sessioncache_size 5011
- 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

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

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