SPECweb99_SSL Result

```
================================================================================
                                                    ||
 IBM : eServer xSeries 335                          ||      CD SPECweb99_SSL
 Zeus Technology Limited : Zeus V4.1R1              ||
                                                    ||
================================================================================
    SPEC has discovered a code defect 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	
All Hardware	Sep-2002
HTTPS Software	Mar-2002
Operating System	Jul-2002
Supplemental System	May-2002

Hardware	
Vendor	IBM
Model	eServer xSeries 335
Processor	2.4 GHz Intel Xeon Processor
# 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	2 x 36GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers	1 LSI 1020 Ultra 320 SCSI LOM
Other Hardware	1 Extreme Networks Summit 7i Gb Switch

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

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

Test Sponsor	
Test Date	Aug-2002
Tested By	IBM
SPEC License	11

Network	
# of Controllers	1
Network Controllers	Broadcom NetXtreme GB
# 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

Clients	
# of Clients	5
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

Benchmark Configuration

Requested Connections 870
Fileset Size (MB) 2903.6

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Notes/Tuning information

SUT Notes
2 disk software RAID0, using 64KB chunk size, for OS, webpages, 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
- fs.file-max = 81920, maximum number of open files, default 1024

Kernel is standard default Red Hat Linux (2.4.18-3bigmem)

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

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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