SPECweb99_SSL Result

```
================================================================================
                                                      ||
 IBM : eServer xSeries 235                            ||     CD  SPECweb99_SSL
 Zeus Technology Ltd. : Zeus V4.2r2                   ||
                                                      ||
================================================================================
    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

All Hardware                  May-2003
HTTPS Software                Mar-2002
Operating System              Jul-2002
Supplemental System           Mar-2003

                                   Hardware

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

                                   Software

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

                                HTTPS Software

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

                                 Test Sponsor

Test Date                     Apr-2003
Tested By                     IBM
SPEC License                  11

                                    Network

# 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

                                    Clients

# 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
```

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