

SPECweb99\_SSL Result

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IBM : xSeries 360
Zeus : Zeus V4.1R1
CD SPECweb99_SSL
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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      Nov-2002
HTTPS Software    Mar-2002
Operating System  Dec-2000
Supplemental System May-2002

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Hardware

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Vendor      IBM
Model       xSeries 360
Processor    2.0 GHz Intel Xeon MP
# Processors 4 cores, 4 chips, 1 core/chip
Primary Cache 12KBI+8KBD on chip
Secondary Cache 256KB L2
Other Cache  2MB L3 cache
Memory       8 GB
Disk Subsystem 14 x 18GB ST318451LC
Disk Controllers 1 IBM ServeRaid 4Lx
Other Hardware 2 x Alteon ACEswitch 180,
                1 IBM EXP-300 Drive Bay

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Software

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Operating System Red Hat Linux 7.3
File System       Ext. 2
Other Software    None

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HTTPS Software

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Vendor      Zeus
HTTPS Software Zeus V4.1R1
API         Zeus PEPP 0.8 ISAPI used for dynamic content
Server Cache None
Log Mode    Zeus Binary CLF

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Test Sponsor

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Test Date      Oct-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     2
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     10
Model           IBM xSeries 330
Processor        1.13GHz Pentium III
# of Processors 1

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Memory                256MB
Network Controller    Alteon ACENIC
Operating System      Windows 2000
Compiler              Visual C++ 6.0

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Benchmark Configuration

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Requested Connections    1650
Fileset Size (MB)       5397.28

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Notes/Tuning information

SUT Notes  
12 Disk Hardware RAID 0 for O/S and fileset, 2 disk RAID 0 for logfiles

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.core.optmem\_max=10000000, default 10240  
-net.core.rmem\_default=10000000,default receive socket buffer size, default 65535  
-net.core.rmem\_max=10000000, maximum receive socket buffer size, default 65535  
-net.core.wmem\_default=10000000, default send socket buffer size, default 65535  
-net.core.wmem\_max=10000000, maximum send socket buffer size, default 65535  
-net.core.hot\_list\_length=10000, maximum number of skb-heads to be cached, default 128  
-net.core.netdev\_max\_backlog=10000  
-net.ipv4.tcp\_max\_tw\_buckets=150000, sets TCP time-wait buckets pool size, default 180000  
-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  
-net.ipv4.tcp\_timestamps=0, turns TCP timestamp support off, default 1

HTTPS Software Notes

Zeus Configuration  
-tuning!so\_wbuff\_size 1048576  
-tuning!softservers no  
-tuning!cbuff\_size 65536  
-tuning!ssl\_sessioncache\_size 4951  
-tuning!keepalive\_timeout 20  
-tuning!keepalive\_max 1700  
-tuning!sendfile\_minsize 1  
-tuning!listen\_queue\_size 8192  
-tuning!so\_rbuff\_size 0  
-tuning!modules!cgi!cleansize 0  
-tuning!clientfirst\_optimise yes  
-tuning!maxaccept 64

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        |

Cumulative Conformance % Chart

| Run Num | Conforming Connections | Percent of connections conforming at various speeds |        |        |        |        |        |
|---------|------------------------|---|--------|--------|--------|--------|--------|
|         |                        | 380000  | 360000 | 340000 | 320000 | 300000 | 280000 |
| 1       | 1643                   | 0.00  | 0.00   | 0.73   | 99.58  | 100.00 | 100.00 |
| => 2    | 1643                   | 0.00  | 0.00   | 0.30   | 99.58  | 100.00 | 100.00 |
| 3       | 1642                   | 0.00  | 0.00   | 0.36   | 99.52  | 100.00 | 100.00 |

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