

# SPECweb99\_SSL Result

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IBM: eServer xSeries x346  
Zeus: Zeus V4.2r4 (64-bit)

SPECweb99\_SSL =2400

Test Date: Sep-2004  
Tester: IBM

Hardware Avail: Dec-2004 OS Avail: Aug-2004 HTTPS Software Avail: Nov-2003 Sup. Software Avail: Nov-2003 SPEC license #: 11

## Hardware

Vendor: IBM  
Model: eServer xSeries x346  
Processor: 3.6 GHz Intel Xeon DP  
# Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)  
Primary Cache: 12KBI+16KBD on chip  
Secondary Cache: 1024KB  
Other Cache: None  
Memory: 16GB  
Disk Subsystem: 6 73GB 15k SCSI Drives  
Disk Controllers: Onboard SCSI  
Other Hardware: 1 Nortel 8010 GbE Switch

## Software

Operating System: SLES 9  
File System: ext2  
Other Software: None

## HTTPS Software

Vendor: Zeus  
HTTPS Software: Zeus V4.2r4 (64-bit)  
API: Zeus PEPP 0.9pre1 ISAPI for Dynamic content  
Server Cache: None  
Log Mode: Zeus Binary CLF

## Test Sponsor

Test Date: Sep-2004  
Tested By: IBM  
SPEC License: 11

## Network

# of Controllers: 1  
Network Controllers: Intel Pro 1000 MT Dual Port  
# 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

# of Clients: 10  
Model: IBM eServer xSeries 330  
Processor: 1133Mhz Pentium III  
# of Processors: 1  
Memory: 256MB  
Network Controller: IBM Netfinity Gigabit Ethernet Adapter  
Operating System: Red Hat 7.3  
Compiler: gcc version 2.96

## Notes/Tuning Information

### SUT Notes

1 disk for OS and web server  
5 disks configured with software RAID0 for access log and file set  
Memory configuration 8x2GB PC2-3200

### Operating System Notes

Tuning parameters:  
- net.ipv4.ip\_forward=1, default 0  
- net.ipv4.tcp\_timestamps = 0, turns TCP timestamp support off, default 1  
- net.ipv4.tcp\_max\_tw\_buckets = 456000, sets TCP time-wait buckets pool size, default 180000  
- 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.optmem\_default = 10000000, maximum amount of option memory buffers, default 10240  
- net.core.hot\_list\_length = 10000, maximum number of skb-heads to be cached, default 128  
- net.core.netdev.max\_backlog = 300000, 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  
- net.ipv4.tcp\_max\_syn\_backlog = 8192  
- fs.file-max = 254108, increases number of open file handles kernel allocates, default 4096  
- Each NICs txqueuelen was set to 40000, default 100  
- Each NICs IRQ was bound to separate logical CPUs (0 and 3), default unbound  
- irqbalancer service was disabled during run  
- ulimit -n 10000, sets number of open files, default 1024  
Kernel is standard default SLES 9 (2.6.5-7.97-smp)

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes

Zeus Configuration

- tuning!listen\_queue\_size 8192
- tuning!so\_wbuff\_size 1048576
- tuning!so\_rbuff\_size 0
- tuning!maxaccept 2500
- tuning!clientfirst\_optimise yes
- tuning!unique\_bind no
- tuning!cache\_stat\_expire 31536000
- tuning!cache\_max\_bytes 0
- tuning!cache\_flush\_interval 31536000
- tuning!cache\_files 282011
- tuning!cache\_cooling\_time 0
- tuning!sendfile yes
- tuning!sendfile\_minsize 1
- tuning!softservers no
- tuning!keepalive\_timeout 30
- tuning!keepalive\_max -1
- tuning!ssl\_sessioncache\_size 7507
- tuning!cbuff\_size 65536
- tuning!isapi!enabled yes
- tuning!modules!stats!enabled no
- tuning!modules!cgi!enabled yes
- tuning!modules!cgi!cleansize 0
- tuning!modules!security!enabled yes
- tuning!num\_children 8

ISAPI Source code is available in the SPECweb99\_SSL support docs as HP-20020724-API.tar.gz

### Client Notes

Client code generated with ./configure --enable-posix-threads  
net.ipv4.ip\_local\_port\_range 1024 65535