

# SPECweb99\_SSL Result

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Sun Microsystems: Sun Fire X4200  
Zeus Technology Ltd.: Zeus Web Server 4.3r1 (64 bit)

SPECweb99\_SSL =3158

Test Date: Aug-2005  
Tester: Sun Microsystems

Hardware Avail: Oct-2005 OS Avail: Aug-2004 HTTPS Software Avail: Jan-2005 Sup. Software Avail: Oct-2005 SPEC license #: 6

## Hardware

Vendor: Sun Microsystems  
Model: Sun Fire X4200  
Processor: AMD Opteron 254, 2.8 GHz  
# Processors: 2 cores, 2 chips, 1 core/chip  
Primary Cache: 64KBI + 64KBD on chip  
Secondary Cache: 1MB on chip  
Other Cache: none  
Memory: 16 GB DDR400  
Disk Subsystem: 3 x 73GB 10K Internal SAS  
Disk Controllers: Onboard LSI 1064 SAS Controller  
Other Hardware: 1 Cisco Systems Catalyst 3750G-24T Switch

## Software

Operating System: SuSE Linux Enterprise Server 9 for AMD64 SP1  
File System: ext2  
Other Software: LSI Fusion MPT SCSI Host driver 3.02.18

## HTTPS Software

Vendor: Zeus Technology Ltd.  
HTTPS Software: Zeus Web Server 4.3r1 (64 bit)  
API: Zeus PEPP 0.9pre1 ISAPI for Dynamic content  
Server Cache: none  
Log Mode: Zeus Binary CLF

## Test Sponsor

Test Date: Aug-2005  
Tested By: Sun Microsystems  
SPEC License: 6

## Network

# of Controllers: 2  
Network Controllers: onboard Intel 82546EB Gigabit Ethernet (x2)  
# 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: 8  
Model: Sun Fire V240  
Processor: 1280MHz UltraSPARC IIIi  
# of Processors: 2  
Memory: 8192MB  
Network Controller: Sun GigaSwift Ethernet  
Operating System: Solaris 9 09/04  
Compiler: Sun Workshop 6 update 2 C 5.3

## Notes/Tuning Information

### SUT Notes

- 1 Internal 73GB 10K SAS disk for OS, and swap
- 1 Internal 73GB 10K SAS disk for fileset and post log
- 1 Internal 73GB 10K SAS disk for access log

### Operating System Notes

irqbalancer disabled  
Network port 1, ioc0, and ohci\_hcd, irq bound to CPU0  
Network port 2, and timer, irq bound to CPU1, client loading adjusted accordingly  
Bound each Zeus process to CPU corresponding to NIC irq binding with taskset  
ulimit -n 72720, sets number of open files, default 1024  
Each NIC's TX queue length set to 40000 via ifconfig, default 1000  
log & fileset partitions mounted 'noatime, nodiratime, noacl', no inode access time updating, no access control lists  
net.ipv4.ip\_forward = 0, kernel should not attempt to forward packets. Off by default, 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.ipv4.tcp\_rmem = 3000000 3000000 3000000, maximum TCP read-buffer space allocatable, default 4096 87380 174760  
net.ipv4.tcp\_wmem = 3000000 3000000 3000000, maximum TCP write-buffer space allocatable, default 4096 16384 131072  
net.ipv4.tcp\_mem = 3000000 3000000 3000000, maximum TCP buffer space, default 31744 32256 32768  
fs.file-max = 291879, maximum number of open files, default 1024

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes

Zeus Configuration  
runningsite/wstest: bindaddr IP addr. (Port1) IP addr. (Port2)  
global.cfg:  
tuning!bind\_any no  
tuning!unique\_bind yes  
tuning!cache\_cooling\_time 0  
tuning!cache\_files 282011  
tuning!cache\_flush\_interval 31536000  
tuning!cache\_small\_file 10000  
tuning!cache\_large\_file 1048576  
tuning!cache\_max\_bytes 12884901888  
tuning!cache\_stat\_expire 31536000  
tuning!cbuff\_size 65536  
tuning!clientfirst\_optimise yes  
tuning!keepalive yes  
tuning!keepalive\_max -1  
tuning!keepalive\_timeout 3600  
tuning!listen\_queue\_size 8192  
tuning!maxaccept 2048  
tuning!modules!cgi!cleansize 0  
tuning!num\_cgid 2  
tuning!sendfile no  
tuning!sendfile\_minsize 0  
tuning!sendfile\_maxsize 0  
tuning!so\_wbuff\_size 1048576  
tuning!softservers no  
tuning!ssl\_diskcache no  
tuning!ssl\_sessioncache\_size 6037  
tuning!ssl\_cbuff\_size 32840  
tuning!modules!stats!enabled no  
tuning!modules!nsapi!enabled no  
See SUN-20050815-Zeus-tunings.txt for a description of the Zeus tuning parameters.

### HTTP API Notes

Zeus PEPP configured with command: ./Configure --ssl=yes  
Zeus PEPP compiled with default gcc (v3.3.3-43.28)

### Client Notes

set sq\_max\_size=0, set hires\_tick=1  
ndd -set /dev/tcp tcp\_smallest\_anon\_port 2048  
ndd -set /dev/tcp tcp\_time\_wait\_interval 60000  
Client code generated with: CFLAGS=-xO4 -xchip=ultra -xarch=v8plusa  
./configure --enable-posix-threads --enable-gethostbyname\_r --enable-pthread\_scope\_system --enable-rlimit --enable-safe-usleep=no

### Other Notes

Tuning Disclosure: See above.  
Dynamic API: HP-20020724-API.tgz  
Client Tuning Disclosure: Sun-20020610.txt  
1 Cisco Systems Catalyst 3750G-24T Switch used for 2 networks