

# SPECweb99\_SSL Result

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Sun Microsystems: Sun Fire V40z  
Zeus Technology Ltd.: Zeus Web Server 4.2r4 (64 bit)

SPECweb99\_SSL =4608

Test Date: Jun-2004  
Tester: Sun Microsystems

Hardware Avail: Aug-2004 OS Avail: Nov-2003 HTTPS Software Avail: Nov-2003 Sup. Software Avail: Aug-2004 SPEC license #: 6

## Hardware

Vendor: Sun Microsystems  
Model: Sun Fire V40z  
Processor: AMD Opteron 850, 2.4 GHz  
# Processors: 4 cores, 4 chips, 1 core/chip  
Primary Cache: 64KBI + 64KBD on chip  
Secondary Cache: 1MB on chip  
Other Cache: none  
Memory: 32 GB PC2700R/DDR333  
Disk Subsystem: 2 x 73GB Internal ULTRA320 SCSI  
Disk Controllers: Onboard SCSI  
Other Hardware: 2 Cisco Systems Catalyst 3750G-24T Switch

## Software

Operating System: SuSE Linux Enterprise Server 8 for AMD64 SP3  
File System: ext2  
Other Software: - bcm5700 driver ver. 7.1.22  
- lsi (Fusion MPT SCSI) driver ver. 2.05.16

## HTTPS Software

Vendor: Zeus Technology Ltd.  
HTTPS Software: Zeus Web Server 4.2r4 (64 bit)  
API: Zeus PEPP 0.9pre1 ISAPI for Dynamic content  
Server Cache: none  
Log Mode: Zeus Binary CLF

## Test Sponsor

Test Date: Jun-2004  
Tested By: Sun Microsystems  
SPEC License: 6

## Network

# of Controllers: 4  
Network Controllers: Intel Pro/1000 MT Single Port Server Adapter  
# of Nets: 4  
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: 24  
Model: Ultra 60  
Processor: 450MHz UltraSPARC II  
# of Processors: 2  
Memory: 512MB  
Network Controller: Sun GigaSwift Ethernet  
Operating System: Solaris 9 12/03  
Compiler: Sun Workshop 6 update 2 C 5.3

## Notes/Tuning Information

### SUT Notes

- 1 U320 10K 73GB SCSI disk for OS, swap, and access log
- 1 U320 10K 73GB SCSI disk for fileset and post log

### Operating System Notes

One NIC irq bound per CPU  
timer irq bound to CPU 3, onboard LSI irq bound to CPU4  
ulimit -n 110490, sets number of open files, default 1024  
Each NIC's TX queue length set to 20000 via ifconfig, default 100  
log, & fileset partitions mounted with 'noatime, nodiratime', no inode access time updating  
net.ipv4.ip\_forward = 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 = 3000000 3000000 3000000, 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.core.netdev\_max\_backlog = 300000, number of unprocessed input packets before kernel starts dropping them, default 300  
fs.file-max = 442961, 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. 1 IP addr. 2 IP addr. 3 IP addr. 4  
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 90000  
tuning!cache\_large\_file 1048576  
tuning!cache\_max\_bytes 18522046464  
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!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 2617  
tuning!ssl\_cbuff\_size 32840  
tuning!modules!stats!enabled no  
tuning!modules!nsapi!enabled no  
tuning!modules!isapi!enabled no

### HTTP API Notes

Zeus PEPP configured with command: ./Configure --ssl=yes  
Zeus PEPP compiled with default gcc (v3.2.2-4)

### Client Notes

set sq\_max\_size=0, set hires\_tick=1  
nnd -set /dev/tcp tcp\_smallest\_anon\_port 2048  
nnd -set /dev/tcp tcp\_time\_wait\_interval 60000  
Client code generated with: CLFLAGS=-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  
2 Cisco Systems Catalyst 3750G-24T Switch used for 4 networks