

# SPECweb99\_SSL Result

© Copyright 1999-2004, Standard Performance Evaluation Corporation

Sun Microsystems: Sun Fire V480  
Zeus Technology Ltd.: Zeus 4.1

SPECweb99\_SSL = 568

Test Date: May-2002  
Tester: Sun Microsystems

Hardware Avail: Jun-2002 OS Avail: Mar-2002 HTTPS Software Avail: Feb-2002 Sup. Software Avail: -- SPEC license #: 6

## Hardware

Vendor: Sun Microsystems  
Model: Sun Fire V480  
Processor: 900MHz UltraSPARC III Cu  
# Processors: 4 cores, 4 chips, 1 core/chip  
Primary Cache: 32KBI+64KBD on chip  
Secondary Cache: 8MB(I+D) off chip  
Other Cache: none  
Memory: 32 GB  
Disk Subsystem: 1 x 36GB FC-AL  
9 x 73GB Sun StorEdge T3  
Disk Controllers: Integrated FC-AL  
PCI Single FC Network Adapter  
Other Hardware: 2 x Asante IntraCore 65120 Copper Switch

## Software

Operating System: Solaris 8 2/02  
File System: UFS  
Other Software: none

## HTTPS Software

Vendor: Zeus Technology Ltd.  
HTTPS Software: Zeus 4.1  
API: Zeus PEPP 0.6 ISAPI  
Server Cache: See notes  
Log Mode: Zeus Binary CLF

## Test Sponsor

Test Date: May-2002  
Tested By: Sun Microsystems  
SPEC License: 6

## Network

# of Controllers: 4  
Network Controllers: 3 x SUN Gigabit Ethernet and 1 x Onboard Sun GigaSwift Ethernet  
# 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: 8  
Model: Ultra 60  
Processor: 450MHz UltraSPARC II  
# of Processors: 2  
Memory: 512MB  
Network Controller: Sun GigaSwift Ethernet  
Operating System: Solaris 8 2/02  
Compiler: Sun Workshop 6 update 2 C 5.3

## Notes/Tuning Information

### SUT Notes

### Operating System Notes

```
set autoup=60
set pcisch:pci_stream_buf_enable=0
set rlim_fd_max=262144
set rlim_fd_cur=262144
set maxpgio=128
set tcp:tcp_conn_hash_size=65536
set ge:ge_intr_mode=1
set ge:ge_dmaburst_mode=1
set ge:ge_tx_fastdvma_min=95
set ge:ge_nos_tmnds=8192
set ge:ge_nos_txdvma=8192
set ge:ge_tx_bcopy_max=96
set ge:ge_pci_intr_blank_time=12
set ce:ce_bcopy_thresh=256
set ce:ce_dvma_thresh=256
set ce:ce_taskq_disable = 1
set ce:ce_ring_size = 256
set ce:ce_comp_ring_size = 1024
set ce:ce_tx_ring_size = 4096
/usr/sbin/ndd -set /dev/tcp tcp_time_wait_interval 60000
/usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q 8192
/usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q0 8192
```

# SPECweb99\_SSL Result

© Copyright 1999-2004, Standard Performance Evaluation Corporation

## Notes/Tuning Information (Continued)

### Operating System Notes (Continued)

```
/usr/sbin/ndd -set /dev/tcp tcp_xmit_hiwat 32768
/usr/sbin/ndd -set /dev/tcp tcp_recv_hiwat 32768
/usr/sbin/ndd -set /dev/ce rx_intr_time 32
# Force single interrupt per CE device (default = 4)
/platform/sun4u/kernel/drv/ce.conf: interrupts=1;
```

### HTTPS Software Notes

```
Zeus 4.1 Tuning
Enabled Modules - runningsites/wstest:
cgi, get, index, isapi, map, mime, log, security
bindaddr 20.10.10.50 20.10.20.50 20.10.5.50 129.146.239.13
Parameters - global.cfg:
tuning!modules!stats!enabled no
tuning!cache_files 199999
tuning!cache_max_bytes 0
tuning!cache_small_file 4096
tuning!cache_large_file 1048576
tuning!cache_stat_expire 31536000
tuning!cache_flush_interval 31536000
tuning!cache_cooling_time 0
tuning!sendfile yes
tuning!listen_queue_size 8192
tuning!so_wbuff_size 1048576
tuning!so_rbuff_size 0
tuning!modules!cgi!cleansize 0
tuning!cbuff_size 65536
tuning!sendfile_minsize 1
tuning!sendfile_reservefd 200000
tuning!unique_bind yes
tuning!keepalive yes
tuning!keepalive_timeout 30
tuning!keepalive_max 8192
tuning!ssl_keepalive yes
tuning!ssl_diskcache no
tuning!ssl_sessioncache_size 12281
tuning!sendfile_maxsize 1048576
```

### HTTP API Notes

```
Zeus PEPP 0.6 ISAPI used for dynamic content
Compiled with Sun Workshop 6 Update 2 C 5.3
./Configure --sendfile=no --locking=semop
CFLAGS: -I$INCLUDES -xtarget=ultra2 -Kpic -dalign -fns -fsimple=2 -ftrap=%none -xlibmil -xO5 -DCHECK_CONFIG
LDFLAGS: -z muldefs -G
```

### Hardware Notes

```
Disk Configuration:
OS - 1 Internal FC-AL disk
file_set & post log - T3, 4 disk RAID 0 LUN
access log - T3, 4 disk RAID 0 LUN
Default rd_ahead on and cache auto set in T3
```

### Network Notes

```
3x2 load generators used 3 GE interfaces
1x2 load generators used 1 CE onboard interface
```

# SPECweb99\_SSL Result

© Copyright 1999-2004, Standard Performance Evaluation Corporation

## Notes/Tuning Information (Continued)

### 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: Sun-20020610.txt  
Dynamic API: SUN-20010402-API.tar.gz