

# SPECweb99\_SSL Result

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Sun Microsystems: Sun Fire 280R  
Sun Microsystems: Sun ONE Web Server 6.0 SP5

SPECweb99\_SSL =1008

Test Date: Mar-2003  
Tester: Sun Microsystems

Hardware Avail: Apr-2003 OS Avail: Apr-2003 HTTPS Software Avail: Dec-2002 Sup. Software Avail: Mar-2003 SPEC license #: 6

## Hardware

Vendor: Sun Microsystems  
Model: Sun Fire 280R  
Processor: 1200MHz UltraSPARC III Cu  
# Processors: 2 cores, 2 chips, 1 core/chip  
Primary Cache: 32KBI+64KBD on chip  
Secondary Cache: 8MB(I+D) off chip  
Other Cache: none  
Memory: 8 GB  
Disk Subsystem: 2 x 36GB internal FC-AL  
12 x 36GB Sun StorEdge 3310 SCSI Array  
Disk Controllers: Integrated FC-AL  
Sun StorEdge PCI Dual Ultra3 SCSI Host Adapter  
Other Hardware: 1 x Sun Crypto Accelerator 1000 Board Version 1.1  
1 x Cisco Systems Catalyst 4912G

## Software

Operating System: Solaris 9 4/03  
File System: UFS  
Other Software: Sun Crypto Accelerator 1000 patch 114790-01  
Netscape Security Services Libraries - NSS 3.4  
Sun GigaSwift Ethernet 1.0 driver patch 112817-07

## HTTPS Software

Vendor: Sun Microsystems  
HTTPS Software: Sun ONE Web Server 6.0 SP5  
API: NSAPI  
Server Cache: SNCA  
Log Mode: SNCA Binary CLF

## Test Sponsor

Test Date: Mar-2003  
Tested By: Sun Microsystems  
SPEC License: 6

## Network

# of Controllers: 2  
Network Controllers: Sun GigaSwift Ethernet  
# 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: 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 segmap_percent=90
set pcisch:pci_stream_buf_enable=0
set rlim_fd_max=131072
set rlim_fd_cur=131072
set maxpgio=128
set tcp:tcp_conn_hash_size=65536
set ce:ce_bcopy_thresh=96
set ce:ce_dvma_thresh=95
set ce:ce_taskq_disable = 1
set ce:ce_tx_ring_size = 8192
set ce:ce_reclaim_pending=16
set ce:ce_no_tx_lb=1
set nca:nca_conn_hash_size=393209
set nca:nca_conn_req_max_q=10240
set nca:nca_conn_req_max_q0=10240
set nca:ncaurhash_sz=289669
set nca:nca vnodehash_sz=289669
set nca:nca_ppthresh=128
set nca:nca_ppmax=840000
set nca:nca_vpmax=840000
```

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## Notes/Tuning Information (Continued)

### Operating System Notes (Continued)

```
/usr/sbin/ndd -set /dev/ce instance 0,1
/usr/sbin/ndd -set /dev/ce rx_intr_time 500
/usr/sbin/ndd -set /dev/ce rx_intr_pkts 16
/platform/sun4u/kernel/drv/ce.conf: interrupts=1,2;
/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
/usr/sbin/ndd -set /dev/nca nca_http_keep_alive_timeout 30000
/usr/sbin/ndd -set /dev/nca nca_max_cache_size 1000000
/usr/sbin/ndd -set /dev/nca nca_segmap_min_size 4096
/usr/sbin/ndd -set /dev/nca nca_use_segmap 1
/etc/nca/nca.if: ce0 ce1, /etc/nca/ncakmod.conf: status=enabled
/etc/nca/ncalogd.conf: status=enabled, logd_file_size=100000000
/etc/nca/ncalogd.conf: logd_path_name=/http_logs/log0 ... /http_logs/log5
```

### HTTPS Software Notes

```
Sun ONE 6.0 Tuning
Two unique instances of Sun One started.
The first instance listening on port 80
The second instance listening on port 443
config/magnus.conf:
RqThrottle 16
CGIWaitPid on
GIStubIdleTimeout 10000
ThreadIncrement 10
ConnQueueSize 8192
ListenQ 8192
MaxKeepAliveConnections 0
KeepAliveTimeout 0
config/obj.conf:
Disable PathCheck for 'check-acl'
config/nsfc.conf:
FileCacheEnable=true
CopyFiles=false
TransmitFile=true
CacheFileContent=true
MaxAge=86400
MaxFiles=65536
MaxOpenFiles=65536
SmallFileSizeLimit=1000000
SmallFileSpace=1
MediumFileSizeLimit=1000001
MediumFileSpace=1
config/server.xml - webserver instance listening on port 80
Disable ACLFILE
acceptorthreads=2
family=nca
config/server.xml - webserver instance listening on port 443
Disable ACLFILE
acceptorthreads=2
family=nca
SSLPARAMS
security=on
ssl2=no
ssl3=yes
ssl3tlsciphers+=rsa_rc4_128_sha
tls=no
clientauth=no
```

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## Notes/Tuning Information (Continued)

### HTTP API Notes

Dynamic API: SUN-20010412-API.tar.gz  
Compiled with Sun WorkShop 6 update 2 C 5.3  
CFLAGS: -c -xO4 -DMCC\_HTTPD -DXP\_UNIX -DSPAPI20  
IFLAGS: -I. -I\$(INCLUDEDIR) -I\$(INCLUDEDIR)/base -I\$(INCLUDEDIR)/frame -I\$(INCLUDEDIR)/nspr  
LDFLAGS: -G  
Flag descriptions in SUN-20030331-APIFlags.txt

### Hardware Notes

Disk Configuration:  
OS - 1 Internal FC-AL disk  
file\_set & logs - SS3310, 6 disk RAID 0 LUN  
Filesystems mounted with noatime option - no inode access time updating

### Network Notes

2x4 load generators used 2 CE NIC interfaces

### 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: 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: Sun-20030331.txt  
Sun ONE Web Server 6.0 Tuning Guide: <http://docs.sun.com>