

# SPECweb99 Result

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

SPECweb99 = 4500

Test Date: Jun-2002  
Tester: Sun Microsystems

Hardware Avail: Jun-2002 OS Avail: Mar-2002 HTTP 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: 32GB  
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

## HTTP Software

Vendor: Zeus Technology Ltd.  
HTTP Software: Zeus 4.1  
API: Zeus PEPP 0.6 ISAPI  
Server Cache: SNCA  
Log Mode: SNCA binary CLF

## Test Sponsor

Test Date: Jun-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: 16  
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 segmap_percent=80
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
set nca:nca_ppmax=3150000
set nca:nca_vpmax=3150000
```

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## Notes/Tuning Information (Continued)

### Operating System Notes (Continued)

```
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:ncaurihash_sz=289669
set nca:nca vnodehash_sz=289669
set nca:nca_ppthresh=128
/usr/sbin/ndd -set /dev/ce rx_intr_time 32
/usr/sbin/ndd -set /dev/nca nca_max_cache_size 1000000
/usr/sbin/ndd -set /dev/nca nca_http_keep_alive_timeout 30000
/usr/sbin/ndd -set /dev/nca nca_use_segmap 1
/platform/sun4u/kernel/drv/ce.conf: interrupts=1;
/etc/nca/nca.if: ge0 ge1 ge2 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/log15
Mount /docs for file_set with noatime option - no inode access time updating
```

### HTTP Software Notes

Zeus 4.1 Tuning

Enabled Modules - runningsites/wstest:

cgi, get, index, isapi, map, mime

Parameters - global.cfg:

tuning!modules!stats!enabled no

tuning!accelerator!nca!enabled yes

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!bind\_any no

tuning!keepalive no

For a description of Zeus tuning parameters, refer to <http://support.zeus.com/faq/zws/v4/entries/settings.html>

### 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

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## Notes/Tuning Information (Continued)

### Network Notes

3x4 load generators used 3 GE interfaces  
1x4 load generators used 1 CE onboard interface

### 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