SPECweb99_SSL Result

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_tmds=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

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

Notes/Tuning Information (Continued)

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: CLFAGS=-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