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 = 30000000 30000000 30000000, 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
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: 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