SPECweb99_SSL Result

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Sun Microsystems: Sun Fire V20z
Zeus Technology Ltd.: Zeus Web Server 4.2r4 (64 bit)

SPECweb99_SSL =2340

Test Date: Feb-2004
Tester: Sun Microsystems

Hardware Avail:	Mar-2004	OS Avail:	Nov-2003	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	--	SPEC license #:	6

Hardware

Vendor:	Sun Microsystems
Model:	Sun Fire V20z
Processor:	AMD Opteron 248, 2.2 GHz
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	64KBI + 64KBD
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	16 GB PC2700/DDR333
Disk Subsystem:	2 x 73GB Internal ULTRA320 SCSI
Disk Controllers:	Onboard SCSI
Other Hardware:	2 x Sun Fire B1600 w Internal Switches

Software

Operating System:	SuSE Linux Enterprise Server 8 for AMD64 SP3
File System:	ext2
Other Software:	none

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:	Feb-2004
Tested By:	Sun Microsystems
SPEC License:	6

Network

# of Controllers:	2
Network Controllers:	Onboard Broadcom
# 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:	30
Model:	B100s blade
Processor:	650MHz UltraSPARC II
# of Processors:	1
Memory:	2048MB
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 and fileset
1 U320 10K 73GB SCSI disk for swap and log

Operating System Notes

One NIC irq bound per CPU
ulimit -n 63277, 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 = 254108, maximum number of open files, default 1024

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Configuration
runningsite/wstest: bindaddr IP address 1 IP address 2
golbal.cfg:
tuning!unique_bind yes
tuning!cache_cooling_time 0
tuning!cache_files 282011
tuning!cache_flush_interval 86400
tuning!cache_small_file 90000
tuning!cache_large_file 1048576
tuning!cache_max_bytes 12884901888
tuning!cache_stat_expire 86400
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
Server kernel config: SUN-20040203-x86_64.config
Client Tuning Disclosure: Sun-20020610.txt