SPECweb99_SSL Result

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Sun Microsystems: Sun Fire X4100
Zeus Technology Ltd.: Zeus Web Server 4.3r1 (64 bit)

SPECweb99_SSL =3158

Test Date: Aug-2005
Tester: Sun Microsystems

Hardware Avail:	Oct-2005	OS Avail:	Aug-2004	HTTPS Software Avail:	Jan-2005	Sup. Software Avail:	Oct-2005	SPEC license #:	6

Hardware

Vendor:	Sun Microsystems
Model:	Sun Fire X4100
Processor:	AMD Opteron 254, 2.8 GHz
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	64KBI + 64KBD on chip
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	16 GB DDR400
Disk Subsystem:	3 x 73GB 10K Internal SAS
Disk Controllers:	Onboard LSI 1064 SAS Controller
Other Hardware:	1 Cisco Systems Catalyst 3750G-24T Switch

Software

Operating System:	SuSE Linux Enterprise Server 9 for AMD64 SP1
File System:	ext2
Other Software:	LSI Fusion MPT SCSI Host driver 3.02.18

HTTPS Software

Vendor:	Zeus Technology Ltd.
HTTPS Software:	Zeus Web Server 4.3r1 (64 bit)
API:	Zeus PEPP 0.9pre1 ISAPI for Dynamic content
Server Cache:	none
Log Mode:	Zeus Binary CLF

Test Sponsor

Test Date:	Aug-2005
Tested By:	Sun Microsystems
SPEC License:	6

Network

# of Controllers:	2
Network Controllers:	onboard Intel 82546EB Gigabit Ethernet (x2)
# 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:	Sun Fire V240
Processor:	1280MHz UltraSPARC IIIi
# of Processors:	2
Memory:	8192MB
Network Controller:	Sun GigaSwift Ethernet
Operating System:	Solaris 9 09/04
Compiler:	Sun Workshop 6 update 2 C 5.3

Notes/Tuning Information

SUT Notes

1 Internal 73GB 10K SAS disk for OS, and swap
1 Internal 73GB 10K SAS disk for fileset and post log
1 Internal 73GB 10K SAS disk for access log

Operating System Notes

irqbalancer disabled
Network port 1, ioc0, and ohci_hcd, irq bound to CPU0
Network port 2, and timer, irq bound to CPU1, client loading adjusted accordingly
Bound each Zeus process to CPU corresponding to NIC irq binding with taskset
ulimit -n 72720, sets number of open files, default 1024
Each NIC's TX queue length set to 40000 via ifconfig, default 1000
log & fileset partitions mounted 'noatime, nodiratime, noacl', no inode access time updating, no access control lists
net.ipv4.ip_forward = 0, kernel should not attempt to forward packets. Off by default, default 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.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
fs.file-max = 291879, 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. (Port1) IP addr. (Port2)
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 10000
tuning!cache_large_file 1048576
tuning!cache_max_bytes 12884901888
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!num_cgid 2
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 6037
tuning!ssl_cbuff_size 32840
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
See SUN-20050815-Zeus-tunings.txt for a description of the Zeus tuning parameters.

HTTP API Notes

Zeus PEPP configured with command: ./Configure --ssl=yes
Zeus PEPP compiled with default gcc (v3.3.3-43.28)

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: 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: See above.
Dynamic API: HP-20020724-API.tgz
Client Tuning Disclosure: Sun-20020610.txt
1 Cisco Systems Catalyst 3750G-24T Switch used for 2 networks
This result was measured on Sun Fire X4200;
The Sun Fire X4200 and Sun Fire X4100 are electronically equivalent.