SPECweb99_SSL Result

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Sun Microsystems: Sun Fire V40z
Zeus Technology Ltd.: Zeus Web Server 4.3r1 (64 bit)

SPECweb99_SSL =7583

Test Date: Aug-2005
Tester: Sun Microsystems

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

Hardware

Vendor:	Sun Microsystems
Model:	Sun Fire V40z
Processor:	AMD Opteron 875, 2.2 GHz
# Processors:	8 cores, 4 chips, 2 cores/chip
Primary Cache:	64KBI + 64KBD per core on chip
Secondary Cache:	1MB per core on chip
Other Cache:	none
Memory:	32 GB DDR400
Disk Subsystem:	3 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 9 for x86_64 SP1
File System:	ext2
Other Software:	SuSE kernel patch-9962 Release 2030321

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:	Intel Pro/1000 MT Quad Port Server Adapter
# of Nets:	8
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:	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

2 U320 10K 73GB SCSI disk for OS, swap, and access log
1 U320 10K 73GB SCSI disk for fileset and post log
Intel PRO/1000 Quad port NICs installed in slots 4 and 6.

Operating System Notes

One NIC irq bound per CPU, default round-robin
irqbalancer disabled
timer irq bound to CPU 1
ulimit -n 500000, sets number of open files, default 1024
Each NIC's TX queue length set to 40000 via ifconfig, default 100
Each NIC's RX descriptor size set to 4096, default 256
log, & fileset mounted with 'noatime, nodiratime, noacl', no inode access time updating, no access control lists
For information on SuSE patch-9962 Release 2030321(2.6.5-7.151-smp) refer to
http://support.novell.com/cgi-bin/search/searchtid.cgi?/psdb/2558830537429cdedb543926fd6344a8.html
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_fin_timeout = 210, time to hold socket in state FIN-WAIT-2, default 60
net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
vm.max_map_count = 131072, maximum number of active map areas, default 65536
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

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

net.ipv4.tcp_mem = 30000000 30000000 30000000, maximum TCP buffer space, default 31744 32256 32768
fs.file-max = 1100000, maximum number of open files, default 1024

HTTPS Software Notes

Zeus Configuration
runningsite/wstest: bindaddr IP addr. 1 - IP addr. 8
global.cfg:
tuning!bind_any no
tuning!unique_bind yes
tuning!cache_cooling_time 0
tuning!cache_files 560699
tuning!cache_flush_interval 31536000
tuning!cache_small_file 4096
tuning!cache_large_file 1048576
tuning!cache_max_bytes 25769803776
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 10240
tuning!maxaccept 4096
tuning!modules!cgi!cleansize 0
tuning!num_cgid 8
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
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 (v3.2.2-4)

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: 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
2 Cisco Systems Catalyst 3750G-24T Switch used for 8 networks