SPECweb99_SSL Result

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PogoLinux: PerformanceWare 3566

Zeus Technology Ltd.: Zeus Web Server V4.2r4 (64-bit)

SPECweb99_SSL =4100

Test Date: Apr-2005
Tester: Advanced Micro Devices

Hardware Avail:	May-2005	OS Avail:	Aug-2004	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	May 2005	SPEC license #:	49

Hardware

Vendor:	PogoLinux
Model:	PerformanceWare 3566
Processor:	AMD Opteron 870, 2.0 GHz
# Processors:	4 cores, 2 chips, 2 cores/chip
Primary Cache:	128KBI + 128KBD on chip
Secondary Cache:	2MB on chip
Other Cache:	none
Memory:	16 GB PC3200 DDR
Disk Subsystem:	5 74GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers:	Onboard LSI SCSI
Other Hardware:	2 SMC 8624T Gigabit Switches

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 V4.2r4 (64-bit)
API:	Zeus PEPP 0.8 ISAPI used for Dynamic content
Server Cache:	None
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Apr-2005
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Network

# of Controllers:	4
Network Controllers:	Intel Pro/1000MT 82546GB 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:	24
Model:	Sun V20Z
Processor:	AMD Opteron 244
# of Processors:	2
Memory:	2048MB
Network Controller:	Onboard Broadcom BCM5703 Gigabit Ethernet
Operating System:	SuSE SLES 8 SP3
Compiler:	gcc v3.2.2

Notes/Tuning Information

SUT Notes

1 U320 15K 74GB SCSI disk with EXT2 for OS
4 U320 15K 18GB SCSI disks with EXT2 for log/html/fileset in RAID 0 configuration

Operating System Notes

Two NIC port irqs bound per logical cpu, default round-robin
irqbalancer disabled
taskset used to set processor affinity for each zeus instance
Each NIC's TX queue length set to 40000 via ifconfig, default 1000
Each NIC's RX descriptor size set to 4096, default 256
Log/Fileset filesystem mounted with "noatime,nodiratime,noacl", no inode access time updating, no access control lists
ulimit -n 127015, sets number of open files, default 1024
fs.file-max = 509059, maximum number of open file handles, default 1024
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
Tuning Parameters:
- 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.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

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Configuration:
tuning!bind_any no
tuning!unique_bind yes
tuning!cache_cooling_time 0
tuning!cache_files 282011
tuning!cache_flush_interval 360000
tuning!cache_small_file 40000
tuning!cache_large_file 1048576
tuning!cache_max_bytes 12884901888
tuning!cache_stat_expire 360000
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_maxsize 0
tuning!sendfile_minsize 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
Refer to AMD-Zeus-tuning-20050509.txt for a description of Zeus tuning parameters

HTTP API Notes

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

Client Notes

Client code configured with command: ./configure --enable-posix-threads
Client code compiled with default gcc (v3.2.2)
net.ipv4.ip_local_port_range 1024 65535
Clients use DDR PC2700 memory

Other Notes

Tuning Disclosure: See above
Dynamic API: HP-20020724-API.tgz
Server kernel config: Default kernel with SuSE patch-9962 Release 2030321 (2.6.5-7.151-smp)
Client kernel config: Default SuSE SLES8 x86 SP3 (2.4.21-138-smp)