SPECweb99_SSL Result

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Appro: 4144H

Zeus Technology Ltd.: Zeus Web Server V4.2r2 (64-bit)

SPECweb99_SSL =3399

Test Date: Sep-2003
Tester: Advanced Micro Devices

Hardware Avail:	Sep-2003	OS Avail:	Aug-2003	HTTPS Software Avail:	Mar-2003	Sup. Software Avail:	Aug-2003	SPEC license #:	49

Hardware

Vendor:	Appro
Model:	4144H
Processor:	AMD Opteron 846, 2.0 GHz
# Processors:	4 cores, 4 chips, 1 core/chip
Primary Cache:	64KBI+64KBD
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	32 GB pc2100 DDR
Disk Subsystem:	3 18GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers:	Onboard LSI SCSI
Other Hardware:	2 Extreme Networks Summit 5i

Software

Operating System:	SuSE Linux Enterprise Server 8 for AMD64 SP2
File System:	ext2
Other Software:	gcc v3.2.2

HTTPS Software

Vendor:	Zeus Technology Ltd.
HTTPS Software:	Zeus Web Server V4.2r2 (64-bit)
API:	Zeus PEPP 0.8 ISAPI used for Dynamic content
Server Cache:	None
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Sep-2003
Tested By:	Advanced Micro Devices
SPEC License:	49

Network

# of Controllers:	2
Network Controllers:	Intel Pro/1000 MT Dual 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:	16
Model:	Tyan Tiger/AMD Athlon MP
Processor:	AMD Athlon MP 1900+
# of Processors:	2
Memory:	1024MB
Network Controller:	Intel Pro/1000 XT Server Adapter
Operating System:	SuSE Linux Professional 8.2
Compiler:	gcc v3.3

Notes/Tuning Information

SUT Notes

1 U320 15K 18GB SCSI disk with EXT2 for OS
1 U320 15K 18GB SCSI disk with EXT2 for log
1 U320 15K 18GB SCSI disk with EXT2 for html/fileset

Operating System Notes

One NIC irq bound per CPU

Each NIC's TX queue length set to 20000 via ifconfig, default 100
log & html partitions mounted with 'noatime, nodiratime', no inode access time updating
fileset partition mounted with 'ro,noatime,nodiratime', read-only with no inode access time updating

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.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
- fs.file-max = 524288, maximum number of open files, default 1024

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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 95989
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 300
tuning!listen_queue_size 8192
tuning!maxaccept 64
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
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)

Client Notes

Client code configured with command: ./configure --enable-posix-threads
Client code compiled with default gcc (v3.3)
net.ipv4.ip_local_port_range 1024 65535
Clients require a Tyan Tiger motherboard and an ATX capable case
Case uses 300W ATX power supply, Clients use a 40G ATA 133 IDE hard drive
Clients use DDR pc2100 memory

Other Notes

Tuning Disclosure: See above
Dynamic API: HP-20020724-API.tgz
Server kernel config: AMD-20030830-4p-server64.config
Client kernel config: AMD-20030808-client.config