SPECweb99_SSL Result

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Advanced Micro Devices: Rioworks HDAMA/Opteron 246
Zeus Technology Ltd.: Zeus Web Server V4.2r2 (64-bit)

SPECweb99_SSL =1748

Test Date: Aug-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:	Advanced Micro Devices
Model:	Rioworks HDAMA/Opteron 246
Processor:	AMD Opteron 246, 2.0 GHz
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	64KBI+64KBD
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	16 GB pc2100 DDR
Disk Subsystem:	2 18GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers:	LSI 22320-R U320 SCSI adapter
Other Hardware:	2 Netgear GS508T Gigabit Switches

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

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Network

# of Controllers:	2
Network Controllers:	Intel Pro/1000 XT Server Adapter
# 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:	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/fileset
1 U320 15K 18GB SCSI disk with EXT2 for log

Operating System Notes

One NIC irq bound per CPU
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
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

HTTPS Software Notes

Zeus Configuration:
tuning!bind_any no
tuning!unique_bind yes

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Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

tuning!cache_cooling_time 0
tuning!cache_files 95989
tuning!cache_flush_interval 86400
tuning!cache_max_bytes 12884901888
tuning!cache_stat_expire 86400
tuning!cbuff_size 65536
tuning!clientfirst_optimise yes
tuning!keepalive_max -1
tuning!keepalive_timeout 20
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 gcc v3.2.2 (version included with OS)

Client Notes

Client code configured with ./configure --enable-posix-threads
Client code compiled with gcc v3.3 (version included with OS)
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-20030808-server64.config
Client kernel config: AMD-20030808-client.config
SUT requires a Rioworks HDAMA motherboard, an eATX 2 hard drive capable case with a minimum 400 watt power supply.