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 =2000

Test Date: Oct-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:	3 18 GB SCSI Ultra SCSI drives
Disk Controllers:	LSI 22320-R U320 SCSI adapter
Other Hardware:	1 Dell PowerConnect 5224 Gigabit Switch

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 Common Log Format

Test Sponsor

Test Date:	Oct-2003
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Network

# of Controllers:	2
Network Controllers:	Intel Pro/1000 MT 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:	RackSaver RS-1100
Processor:	AMD Athlon MP 2800+
# of Processors:	2
Memory:	1024MB
Network Controller:	Intel Pro/1000 MF Server Adapter
Operating System:	SuSE Linux Professional 8.2
Compiler:	gcc v3.3

Notes/Tuning Information

SUT Notes

1 U320 15K 18GB SCSI disk for OS
1 U320 15K 18GB SCSI disk for log
1 U320 15K 18GB SCSI disk for fileset

Operating System Notes

One NIC irq bound per CPU
ulimit -n 63277, sets number of open files, default 1024
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 = 254108, 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 282011
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 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
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

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 3 hard drive capable case with a minimum 400 watt power supply.
SCSI adapter drive configuration:
Operating System and fileset: Channel A
Logs: Channel B
PCI card configuration:
2 Intel Pro/1000 MT Server adapters: PCI-X slots
LSI 22320-R U320 SCSI adapter: PCI-64 slot