

# 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