

SPECweb99\_SSL Result

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Appro : 4100H                               ||
Zeus Technology Ltd. : Zeus Web Server V4.2r2 ||      CD  SPECweb99_SSL
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SPEC has discovered a code defect in the SPECweb99\_SSL test harness run on the client systems used in this result. The defect prevents these client systems from generating the correct SPECweb99\_SSL workload. Specifically, the defect in the SPECweb99\_SSL code results in the clients not generating any of the required SSL ClientKeyExchanges during the benchmark. Therefore, the results presented here are not comparable with any other SPECweb99\_SSL results.

PERFORMANCE

Iteration	Conforming Simultaneous Connections
1	CD
2	CD
3	CD
Median	CD

Availability Dates

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All Hardware           Jul-2003
HTTPS Software        Mar-2003
Operating System      May-2003
Supplemental System   May-2003

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Hardware

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Vendor           Appro
Model            4100H
Processor        AMD Opteron 844, 1.8 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 36GB 15KRPM Ultra 320 SCSI Drives
Disk Controllers Onboard LSI SCSI
Other Hardware   2 Extreme Networks Summit 5i GbE Switches

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Software

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Operating System  SuSE Linux Enterprise Server 8 for AMD64
File System       ext2
Other Software    None

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HTTPS Software

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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

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Test Sponsor

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

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Network

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# 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

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Clients

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# 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 Windows 2000 Professional, w/ SP3
Compiler         Microsoft Visual C++ 6.0

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Benchmark Configuration

Requested Connections 3500
Fileset Size (MB) 11321.6

Notes/Tuning information

SUT Notes

- 1 U320 15K 36GB SCSI disk for OS
1 U320 15K 36GB SCSI disk for log
1 U320 15K 36GB SCSI disk for fileset

Operating System Notes

- One NIC irq bound per CPU
Each NIC's TX queue length set to 8192 via ifconfig, default 100
File systems 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
- 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
Other Zeus 4.2r2 virtual\_server performance parameters:
(%zeushome%/web-4.2r2/runningsites/ssl-64)
modules!cgi!enable yes
modules!isapi!enable yes

HTTP API Notes

Zeus PEPP configured with command: ./Configure --ssl=yes

Client Notes

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
Kernel config: AMD-20030401-kernel64-config.txt

Test Run Details

Table with 8 columns: Run Num, Conforming Connections, Percent Conform, Throughput ops/sec, Response msec, ops/sec, loadgen, Kbits/sec. Row 1: 1, CD, CD, CD, CD, CD, CD, CD. Row 2: 2, CD, CD, CD, CD, CD, CD, CD. Row 3: 3, CD, CD, CD, CD, CD, CD, CD.