

# SPECweb99\_SSL Result

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IBM: BladeCenter HS20  
Zeus: Zeus V4.2r2

SPECweb99\_SSL =1304

Test Date: Jul-2003  
Tester: IBM

Hardware Avail: Sep-2003 OS Avail: Jul-2002 HTTPS Software Avail: Mar-2002 Sup. Software Avail: May-2002 SPEC license #: 11

## Hardware

Vendor: IBM  
Model: BladeCenter HS20  
Processor: 3.06 GHz Intel Xeon  
# Processors: 2 cores, 2 chips, 1 core/chip  
Primary Cache: 12KBI+8KBD on chip  
Secondary Cache: 512KB  
Other Cache: None  
Memory: 8GB  
Disk Subsystem: 2 40GB IDE Drives  
Disk Controllers: Onboard IDE  
Other Hardware: 1 Nortel Networks Switch

## Software

Operating System: Red Hat Linux 7.3  
File System: ext2  
Other Software: GCC 2.96

## HTTPS Software

Vendor: Zeus  
HTTPS Software: Zeus V4.2r2  
API: Zeus PEPP 0.8 ISAPI used for Dynamic content  
Server Cache: None  
Log Mode: Zeus Binary CLF

## Test Sponsor

Test Date: Jul-2003  
Tested By: IBM  
SPEC License: 11

## Network

# of Controllers: 1  
Network Controllers: Integrated Gigabit Ethernet  
# of Nets: 1  
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: 9  
Model: IBM eServer xSeries 330  
Processor: 1133Mhz Pentium III  
# of Processors: 1  
Memory: 512MB  
Network Controller: IBM Netfinity Gigabit Ethernet Adapter  
Operating System: Red Hat Linux 7.3  
Compiler: GCC 2.96

## Notes/Tuning Information

### SUT Notes

- 2 disk Software RAID 0 for File Set and Logs
- 1 partition for OS
- Memory configuration 4 x 2GB DIMMs

### Operating System Notes

Tuning parameters:

- net.ipv4.ip\_forward=0, default 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 = 330000, 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

Kernel is Red Hat 2.4.18-27.7x

Kernel config is located in support docs as IBM-20030630-kernel.txt

### HTTPS Software Notes

Zeus Configuration

- tuning!so\_wbuff\_size 1048576
- tuning!softservers no
- tuning!cbuff\_size 65536

For more  
Information  
Contact

SPEC

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes (Continued)

- tuning!clientfirst\_optimise yes
- tuning!ssl\_sessioncache\_size 5501
- tuning!sendfile yes
- tuning!sendfile\_minsize 1
- tuning!listen\_queue\_size 8192
- tuning!keepalive\_timeout 20
- tuning!keepalive\_max 1900
- tuning!maxaccept 64
- modules!cgi!enabled yes
- modules!isapi!enabled yes

#### Virtual Server Configuration

- ip\_name = server
- bindaddr = 192.0.1.100

See IBM-Zeus-tuning-20021224.txt for a description of the Zeus tuning parameters

ISAPI Source code is available in the SPECweb99\_SSL support docs as HP-20020724-API.tar.gz

### HTTP API Notes

Zeus ISAPI interface used

Zeus PEPP 0.8 ISAPI used for Dynamic content

./Configure --sendfile=yes --checkconfig=yes --locking=lockf --ssl=yes --64bit=no

### Network Notes

txqueuelen=20000, transmit queue length, default 100

### Client Notes

Client code generated with ./configure --enable-posix-threads

net.ipv4.ip\_local\_port\_range 1024 65535