

# SPECweb99\_SSL Result

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IBM: BladeCenter Telco HS20  
Zeus: Zeus V4.2r4

SPECweb99\_SSL =1400

Test Date: Feb-2004  
Tester: IBM

Hardware Avail: Jul-2004 OS Avail: Dec-2003 HTTPS Software Avail: Jul-2003 Sup. Software Avail: May-2002 SPEC license #: 11

## Hardware

Vendor: IBM  
Model: BladeCenter Telco HS20  
Processor: 3.2 GHz Intel Xeon  
# Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)  
Primary Cache: 12KBI+8KBD on chip  
Secondary Cache: 512KB  
Other Cache: 1MB L3  
Memory: 8GB  
Disk Subsystem: 1 40GB IDE Drive internal  
2 73GB U320 15K RPM SCSI Drives  
Disk Controllers: Onboard IDE and Onboard LSI 53C1030 SCSI  
Other Hardware: Nortel Networks GbE Switch  
IBM SCSI Storage Expansion Unit

## Software

Operating System: Red Hat Enterprise Linux 3.0 AS  
File System: ext2  
Other Software: None

## HTTPS Software

Vendor: Zeus  
HTTPS Software: Zeus V4.2r4  
API: Zeus PEPP 0.8 ISAPI used for Dynamic content  
Server Cache: None  
Log Mode: Zeus Binary Log File

## Test Sponsor

Test Date: Feb-2004  
Tested By: IBM  
SPEC License: 11

## Network

# of Controllers: 2  
Network Controllers: Integrated Gigabit Ethernet  
# 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: 6  
Model: IBM eServer xSeries 330  
Processor: 1133Mhz Pentium III  
# of Processors: 1  
Memory: 256MB  
Network Controller: IBM Netfinity Gigabit Ethernet Adapter  
Operating System: Red Hat Linux 7.3  
Compiler: gcc version 2.96

## Notes/Tuning Information

### SUT Notes

1 IDE disk for OS and 2 disks configured with software RAID0 for filesset and logs  
ETH0 Network adapter interrupts bound to physical processor 0  
ETH1 Network adapter interrupts bound to physical processor 1

### Operating System Notes

Tuning parameters:  
- net.ipv4.ip\_forward=1, 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 = 255000, sets TCP time-wait buckets pool size, default 180000  
- 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 standard default Red Hat Enterprise Linux 3.0(2.4.21-elsmp)

### HTTPS Software Notes

Zeus Configuration  
- tuning!so\_wbuff\_size 1048576  
- tuning!softservers no  
- tuning!cbuff\_size 65536  
- tuning!clientfirst\_optimise yes

For more  
Information  
Contact

SPEC

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes (Continued)

- tuning!ssl\_sessioncache\_size 4051
- tuning!sendfile\_minsize 1
- tuning!listen\_queue\_size 8192
- tuning!keepalive\_timeout 20
- tuning!keepalive\_max 1500
- tuning!maxaccept 64
- tuning!modules!cgi!cleansize 0
- tuning!bind\_any no
- tuning!unique\_bind yes
- modules!cgi!enabled yes
- modules!isapi!enabled yes

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

Virtual Server configuration information is contained in IBM-20040315-Zeus-vs.cfg

### Client Notes

Client code generated with ./configure --enable-posix-threads  
net.ipv4.ip\_local\_port\_range 1024 65535