

# SPECweb99\_SSL Result

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Hewlett-Packard Company: HP ProLiant BL20p G3  
Zeus Technology Limited: Zeus V4.2r4 (64-bit)

SPECweb99\_SSL =2569

Test Date: Aug-2005  
Tester: Hewlett-Packard Company

Hardware Avail: Sep-2005 OS Avail: Aug-2004 HTTPS Software Avail: Nov-2003 Sup. Software Avail: Apr-2005 SPEC license #: 3

## Hardware

Vendor: Hewlett-Packard Company  
Model: HP ProLiant BL20p G3  
Processor: 3.8GHz Intel Xeon  
# Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading Enabled)  
Primary Cache: 12KBI+16KBD  
Secondary Cache: 2MB L2  
Other Cache: none  
Memory: 8GB (4x2GB PC2-3200 DDR2)  
Disk Subsystem: 2x146.8GB Ultra320 15Krpm  
Disk Controllers: hp Smart Array 6i with 128MB BBWC  
Other Hardware: 1xHP ProCurve 2824 switch

## Software

Operating System: SuSE Linux Enterprise Server 9 (x86\_64) SP2  
File System: ext2  
Other Software: none

## HTTPS Software

Vendor: Zeus Technology Limited  
HTTPS Software: Zeus V4.2r4 (64-bit)  
API: Zeus PEPP 0.9pre1 ISAPI for dynamic content  
Server Cache: none  
Log Mode: Binary Common Log Format

## Test Sponsor

Test Date: Aug-2005  
Tested By: Hewlett-Packard Company  
SPEC License: 3

## Network

# of Controllers: 4  
Network Controllers: 2xIntegrated NC7781, 2xIntegrated NC320i  
# 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: 4  
Model: HP ProLiant DL360 G3  
Processor: 3.06GHz 1MB L3 cache Intel Xeon  
# of Processors: 2 cores, 2 chips, 1 core/chip  
Memory: 2048MB  
Network Controller: 2xIntegrated NC7781  
Operating System: Windows Server 2003 Std. Edition  
Compiler: Microsoft Visual C++ 6.0

## Notes/Tuning Information

### SUT Notes

1 drive RAID 0 used for OS and access log, 1 drive RAID 0 used for file set  
1xHP BladeSystem p-Class enclosure  
1xHP BladeSystem p-Class Power Subsystem  
2xHP BladeSystem Patch Panel

### Operating System Notes

Filesystem mounted with noatime,nodiratime - no inode access time updateing, no access control lists  
irq\_balancer disabled, default enabled  
Each NIC irq bound to a seperate CPU, default round-robin  
Each NIC's TX queue length set to 40000, default 100  
ulimit -n 12000, sets number of open files, default 1024  
1 &gt; /proc/sys/net/ipv4/conf/all/rp\_filter #enables source route verification, default 0  
456000 &gt; /proc/sys/net/ipv4/tcp\_max\_tw\_buckets #sets TCP time-wait buckets pool size, default 180000  
30000000 30000000 30000000 &gt; /proc/sys/net/ipv4/tcp\_rmem #maximum TCP read-buffer space allocatable, default 4096 87380 174760  
30000000 30000000 30000000 &gt; /proc/sys/net/ipv4/tcp\_wmem #maximum TCP write-buffer space allocatable, default 4096 16384 131072  
30000000 30000000 30000000 &gt; /proc/sys/net/ipv4/tcp\_mem #maximum TCP buffer space allocatable, default 31744 32256 32768  
10000000 &gt; /proc/sys/net/core/rmem\_max #maximum receive socket buffer size, default 65535  
10000000 &gt; /proc/sys/net/core/rmem\_default #default receive socket buffer size, default 65535  
10000000 &gt; /proc/sys/net/core/wmem\_max #maximum send socket buffer size, default 65535  
10000000 &gt; /proc/sys/net/core/wmem\_default #default send socket buffer size, default 65535  
10000000 &gt; /proc/sys/net/core/optmem\_max #default 10240  
8192 &gt; /proc/sys/net/ipv4/tcp\_max\_syn\_backlog #, sets maximum queued connection requests before kernel drops them, default 1024  
509059 &gt; /proc/sys/fs/file-max #maximum number of open files, default 1024  
TSO turned off for all NICs, default on

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes

tuning!listen\_queue\_size 8192  
tuning!so\_wbuff\_size 1048576  
tuning!so\_rbuff\_size 0  
tuning!maxaccept 2500  
tuning!clientfirst\_optimise yes  
tuning!unique\_bind yes  
tuning!cache\_stat\_expire 31536000  
tuning!cache\_max\_bytes 0  
tuning!cache\_flush\_interval 31536000  
tuning!cache\_files 282011  
tuning!cache\_cooling\_time 0  
tuning!sendfile no  
tuning!sendfile\_minsize 0  
tuning!sendfile\_maxsize 0  
tuning!softservers no  
tuning!keepalive\_timeout 30  
tuning!keepalive\_max -1  
tuning!ssl\_sessioncache\_size 2037  
tuning!cbuff\_size 65536  
tuning!isapi!enabled yes  
tuning!modules!stats!enabled no  
tuning!modules!cgi!enabled yes  
tuning!modules!cgi!cleansize 0  
tuning!modules!security!enabled yes  
tuning!ssl\_cbuff\_size 32840  
See HP-20030414-tunings.txt for a description of the Zeus tuning parameters

### HTTP API Notes

Dynamic API: HP-20020724-API.tgz  
Zeus PEPP configured with the ./Configure --ssl=yes

### Client Notes

The alternate performance neutral alt.Win32 client was used.  
Tcip\Parameters\MaxUserPort=0xffff, sets maximum open ports to 65534  
Tcip\Parameters\TcpTimedWaitDelay=60, sets TIME\_WAIT parameter to 60 seconds (non-RFC 1122), default 240  
Tcip\Parameters\MaxFreeTwTcbs=100000, sets maximum number of TIME\_WAIT tcbs to 100,000  
Tcip\Parameters\TcpWindowSize=65535, sets TCP receive window size, default 8192

### Other Notes

Server kernel: default SLES 9 SP2 (2.6.5-7.187-smp)