

# SPECweb99\_SSL Result

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Hewlett-Packard Company: HP ProLiant ML350 G4p  
Zeus Technology Limited: Zeus V4.3r1 (64 bit)

SPECweb99\_SSL =2600

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

Hardware Avail: Feb-2005 OS Avail: Jan-2005 HTTPS Software Avail: Nov-2003 Sup. Software Avail: Apr-2005 SPEC license #: 3

## Hardware

Vendor: Hewlett-Packard Company  
Model: HP ProLiant ML350 G4p  
Processor: 3.6GHz Intel Xeon  
# Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)  
Primary Cache: 12KBI+16KBD  
Secondary Cache: 2MB on chip  
Other Cache: none  
Memory: 12GB (6x2GB PC2-3200 DDR2)  
Disk Subsystem: 2x80GB SATA 7,200 rpm  
Disk Controllers: HP Integrated 2 Port SATA controller  
Other Hardware: 1xHP ProCurve 2824 switch

## Software

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

## HTTPS Software

Vendor: Zeus Technology Limited  
HTTPS Software: Zeus V4.3r1 (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: 2  
Network Controllers: 2xHP NC7170 Dual Port  
# 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: 4096MB  
Network Controller: 2xIntegrated NC7781  
Operating System: Windows Server 2003 Std. Edition  
Compiler: Microsoft Visual C++ 6.0

## Notes/Tuning Information

### SUT Notes

2 drives used: 1 for OS and access log, 1 for file set

### Operating System Notes

Filesystem mounted with noatime,nodiratime,noacl - no inode access time updating, no access control list updating  
irq\_balancer daemon disabled, default enabled  
Each NIC IRQ bound to a separate logical CPU, default round-robin  
SATA (storage) IRQ bound to CPU 1, default round-robin  
Timer IRQ bound to CPU 0, default round-robin  
Each NIC's TX queue length set to 40000, default 100  
ulimit -n 12001, sets number of open files, default 1024  
1 &gt; /proc/sys/net/ipv4/conf/all/rp\_filter #enables source route verification, default 0  
2000000 &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  
1000000 &gt; /proc/sys/net/core/rmem\_max #maximum receive socket buffer size, default 65535  
1000000 &gt; /proc/sys/net/core/rmem\_default #default receive socket buffer size, default 65535  
1000000 &gt; /proc/sys/net/core/wmem\_max #maximum send socket buffer size, default 65535  
1000000 &gt; /proc/sys/net/core/wmem\_default #default send socket buffer size, default 65535  
1000000 &gt; /proc/sys/net/core/optmem\_max #default 10240  
384000 &gt; /proc/sys/fs/file-max #maximum number of open files, default 1024  
TSO turned off for all NICs #TCP Segmentation Offload, default On

### HTTPS Software Notes

tuning!bind\_any no  
tuning!cache\_cooling\_time 0  
tuning!cache\_files 282011

For more  
Information  
Contact

SPEC

info@spec.org  
http://www.spec.org

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## Notes/Tuning Information (Continued)

### HTTPS Software Notes (Continued)

tuning!cache\_flush\_interval 180000  
tuning!cache\_large\_file 1048576  
tuning!cache\_max\_bytes 12884901888  
tuning!cache\_small\_file 90000  
tuning!cache\_stat\_expire 180000  
tuning!cbuff\_size 65536  
tuning!clientfirst\_optimise yes  
tuning!keepalive yes  
tuning!keepalive\_max -1  
tuning!keepalive\_timeout 3600  
tuning!listen\_queue\_size 8192  
tuning!maxaccept 2048  
tuning!modules!cgi!cleansize 0  
tuning!modules!nsapi!enabled no  
tuning!modules!stats!enabled no  
tuning!sendfile no  
tuning!sendfile\_maxsize 0  
tuning!sendfile\_minsize 0  
tuning!so\_wbuff\_size 1048576  
tuning!softservers no  
tuning!ssl\_cbuff\_size 32840  
tuning!ssl\_diskcache no  
tuning!ssl\_sessioncache\_size 2037  
tuning!unique\_bind yes  
tuning!pipeline\_readahead 0  
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.  
Tcpip\Parameters\MaxUserPort=0xffff, sets maximum open ports to 65534  
Tcpip\Parameters\TcpTimedWaitDelay=60, sets TIME\_WAIT parameter to 60 seconds (non-RFC 1122), default 240  
Tcpip\Parameters\MaxFreeTwtcbs=100000, sets maximum number of TIME\_WAIT tcbs to 100,000  
Tcpip\Parameters\TcpWindowSize=65535, sets TCP receive window size, default 8192  
Client 1 speed = 642, Client 2 speed = 641, Client 3 speed = 644, Client 4 speed = 644

### Other Notes

Server kernel: default SLES 9 (2.6.5-7.97-smp)