

SPECweb99\_SSL Result

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Hewlett-Packard : hp server rx2600
Zeus Technology Limited : Zeus 4.2r2
NC SPECweb99_SSL
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SPEC has determined that this result was not in compliance with the SPECweb99\_SSL run and reporting rules. Specifically, the result did not meet the 3 month availability requirement in the SPECweb99\_SSL run rules due to a change in availability of the OS.

PERFORMANCE

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

Availability Dates

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

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Hardware

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Vendor                Hewlett-Packard
Model                 hp server rx2600
Processor              1.5 GHz Intel Itanium 2
# Processors          2 cores, 2 chips, 1 core/chip
Primary Cache         16KBI+16KBD on chip
Secondary Cache       256KB unified on chip
Other Cache           6144KB unified on chip
Memory                12 GB (12x1GB)
Disk Subsystem        1x36GB (10K RPM) 2x36GB (15K RPM)
Disk Controllers      SCSI C896 UW SE (internal)
Other Hardware        2xAlteon 180e Switches

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Software

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Operating System      HP-UX 11i v2
File System           See SUT Notes
Other Software        B3913DB C.05.36 HP aC++/C

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HTTPS Software

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Vendor                Zeus Technology Limited
HTTPS Software        Zeus 4.2r2
API                  ISAPI
Server Cache         None
Log Mode             Binary Log Format

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Test Sponsor

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Test Date            Apr-2003
Tested By            Hewlett-Packard Company
SPEC License         3

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Network

# of Controllers 2  
Network Controllers HP A6847A PCI 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 8  
Model HP 9000/A500-5X  
Processor 550 Mhz PA-8600  
# of Processors 2  
Memory 4 GB  
Network Controller HP A4926A Gigabit Ethernet  
Operating System HP-UX 11i  
Compiler B3901BA B.11.11.04 HP C/ANSI C

#### Benchmark Configuration

Requested Connections 1873  
Fileset Size (MB) 6114.64

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#### Notes/Tuning information

##### SUT Notes

1 (36 GB 10K RPM) disk with vxfs used for HP-UX  
1 (36 GB 15K RPM) disk with hfs used for the file\_set  
1 (36 GB 15K RPM) disk with hfs with largefiles, behind used for logs  
largefiles is an option used when making the hfs file system. When this  
option is used, the maximum size for the files created on the file system is  
not limited to the 2 GB limit.  
behind is an option used when mounting the hfs file system. This enables  
asynchronous writes to disk.  
Bound each Zeus instance to the processor corresponding to its NIC  
Processor binding is performed by: mpsched -c cpu# -p pid  
Set page size attribute for zeus.web and zeus.cgi binaries  
chatr +pd 64k +pi 4k zeus.cgi  
chatr +pd 64M +pi 64M zeus.web

##### Operating System Notes

HP-UX Tunable Parameters:  
dbc\_max\_pct=25 Max Buffer Cache Size as Percent of RAM (50)  
dbc\_min\_pct=25 Min Buffer Cache Size as Percent of RAM (5)  
maxfiles=60000 Soft File Limit per Process (60)  
maxfiles\_lim=60000 Hard File Limit per Process (1024)  
nfile=120000 Max number of open files (790)  
ninode=120000 Max number of inodes (444)  
tcphashsz=16384 Relative Scaling Factor for TCP & IP Int. Tables(2048)  
vps\_ceiling=4096 Max System selected page size [KB] (16)  
vps\_pagesize=64 Default User page size [KB] (4)  
fs\_async=1 Enables asynchronous writes of file-system data structures (metadata) to disk (0)

##### HTTPS Software Notes

Zeus Global Parameters:  
tuning!cache\_files 356750  
tuning!cache\_max\_bytes 0  
tuning!cache\_small\_file 0  
tuning!cache\_large\_file 1048576  
tuning!cache\_stat\_expire 86400  
tuning!cache\_flush\_interval 86400  
tuning!listen\_queue\_size 1024  
tuning!multiple\_accept yes  
tuning!so\_rbuff\_size 0  
tuning!so\_wbuff\_size 1048576  
tuning!cbuff\_size 65536  
tuning!keepalive yes  
tuning!keepalive\_timeout 1200

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tuning!keepalive_max      -1
tuning!timeout            600
tuning!unique_bind       yes
tuning!bind_any          no
tuning!sendfile          no
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!ssl_keepalive     yes
tuning!ssl_sessioncache_size 256
tuning!ssl_diskcache    no
tuning!softservers      no
tuning!use_poll         no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled yes
tuning!cache_cooling_time 0
tuning!maxaccept        1024
security!enabled       yes
modules!cgi!enabled    yes

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HTTP API Notes

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Zeus ISAPI interface used
Zeus PEPK Toolkit(0.6) used for SPECweb99_SSL dynamic content
./Configure --sendfile=no --checkconfig=yes --locking=semop

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Network Notes

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Networking Tunable Parameters:
tcp_xmit_hiwater_def=2000000 Max unsent data triggers flow control(32768)
tcp_conn_request_max=1024 Max outstanding connection reqs (20)
Gigabit Tunable Parameters:
send_max_bufs=128 Number of sending buffers consumed to trigger interrupt (16)
recv_max_bufs=128 Number of receiving buffers consumed to trigger interrupt (1)
send_coal_ticks=5000 Number of ticks to wait to trigger interrupt (0)
recv_coal_ticks=12000 Number of ticks to wait to trigger interrupt (0)

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Client Notes

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Client code generated with ./configure --enable-posix-threads
HP-UX Tunable Parameters:
max_thread_proc=800 Number of threads per process (64)
maxusers=256 Value of MAXUSERS macro (32)
ncallout=5000 Increase number of pending timeouts
nkthread=8000 Maximum number of system-wide threads (499)
ninode=5000 Maximum number of inodes (444)
nfile=4096 Maximum number of open files (790)
maxswapchunks=2048 Maximum number of swap chunks (256)

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Other Notes

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Tuning Disclosure: HP-20020708.txt
Dynamic API: HP-20010917-API.tar.gz

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Test Run Details

Run Num	Conforming Connections	Percent Conform	Throughput ops/sec	Response msec	ops/sec/ loadgen	Kbits/ sec
1	NC	NC	NC	NC	NC	NC
=> 2	NC	NC	NC	NC	NC	NC
3	NC	NC	NC	NC	NC	NC