

SPECweb99\_SSL Result

Hewlett-Packard : hp server rx5670  
 Zeus Technology Limited : Zeus 4.2r2

NC SPECweb99\_SSL

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

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

Hardware

Vendor Hewlett-Packard  
 Model hp server rx5670  
 Processor 1.5 GHz Intel Itanium 2  
 # Processors 4 cores, 4 chips, 1 core/chip  
 Primary Cache 16KBI+16KBD on chip  
 Secondary Cache 256KB unified on chip  
 Other Cache 6144KB unified on chip  
 Memory 24 GB (24x1GB)  
 Disk Subsystem 2x36GB (10K RPM) 1x18GB (10K RPM)  
 Disk Controllers SCSI C896 UW SE (internal)  
 Other Hardware 4 x Alteon 180e Switches

Software

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

HTTPS Software

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

Test Sponsor

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

Network

# of Controllers 4  
Network Controllers HP A6847A PCI Gigabit Ethernet  
# 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 16  
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 3344  
Fileset Size (MB) 10818.96

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Notes/Tuning information

SUT Notes

1 (36 GB 10K RPM) disk with vxfs used for OS  
1 (36 GB 10K RPM) disk with hfs used for the file\_set  
1 (18 GB 10K 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 64k zeus.cgi  
chatr +pd 64M +pi 64M zeus.web

Operating System Notes

HP-UX Tunable Parameters:  
dbc\_max\_pct=35 Max Buffer Cache Size as Percent of RAM (50)  
dbc\_min\_pct=35 Min bufer 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=60000 Max number of inodes (444)  
tcpshasz=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)

#### 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 8192  
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  
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

#### HTTP API Notes

Zeus ISAPI interface used  
Zeus PEPP Toolkit(0.6) used for SPECweb99\_SSL dynamic content  
./Configure --sendfile=no --checkconfig=yes --locking=semop

#### Network Notes

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)

#### Client Notes

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)

Other Notes

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