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 a dependency of the web server.

PERFORMANCE

<table>
<thead>
<tr>
<th>Iteration</th>
<th>Conforming Simultaneous Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
</tr>
<tr>
<td>Median</td>
<td>NC</td>
</tr>
</tbody>
</table>

Availability Dates

All Hardware                   Dec-2004
HTTPS Software                 Oct-2005
Operating System               Jul-2005
Supplemental System            Jul-2005

Hardware

Vendor                        Hewlett-Packard
Model                         HP Integrity server rx7620
Processor                     Itanium2 1.6 GHz
# Processors                  8 cores, 8 chips, 1 core/chip
Primary Cache                 16KBI + 16KBD on chip
Secondary Cache               256KB unified on chip
Other Cache                   6144KB unified on chip
Memory                        64 GB (32x2GB)
Disk Subsystem                2x73GB(15K RPM)
Disk Controllers              Internal SCSI
Other Hardware                 8 x HP Procurve 2724 Switch

Software

Operating System              SuSE SLES9 SP2
File System                   See Notes
Other Software                 gcc from distro

HTTPS Software

Vendor                        Zeus Technology Limited
HTTPS Software                Zeus 4.3r2
API: ISAPI
Server Cache: none
Log Mode: Binary Log Format

Test Sponsor:

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

Network:

# of Controllers: 8
Network Controllers: A9900A PCI-X Gigabit Ethernet
# of Nets: 8
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: 32
Model: HP Integrity rx2600
Processor: Intel Itanium2 1.0GHz
# of Processors: 2
Memory: 6GB
Network Controller: HP A6825A
Operating System: HPUX 11i V2
Compiler: B3901BA HP C/ANSI C

Benchmark Configuration:

Requested Connections: 7750
Fileset Size (MB): 24917.28

Notes/Tuning information:

SUT Notes:
1 ReiserFS partition on Disc 1 for OS
1 ext2 partition on Disc 1 for logs, mounted noatime,nodiratime
1 ext2 partition on Disc 2 for fileset, mounted noatime,nodiratime
Two separate instances of Zeus started via numactl --membind=N --cpubind=N corresponding to its NIC via taskset.
Each Zeus.cgi bound to one CPU, and client loading adjusted accordingly

Operating System Notes:
ulimit -n 500000, default 1024
NIC Transmit queue lengths set to 20000 via ifconfig, default 100
NIC InterruptThrottleRate set to 700 via modprobe
NIC RxDescriptors set to 512 via modprobe
TSO disabled via ethtool, default enabled
sysctl settings:
net.core.rmem_max=1048576
net.core.rmem_default=1048576
net.core.wmem_max=1048576
net.core.wmem_default=1048576
net.ipv4.tcp_max_syn_backlog=20480
fs.file-max=2000000
net.ipv4.tcp_syncookies=0
net.ipv4.tcp_timestamps=0
net.ipv4.tcp_max_tw_buckets=2000000
net.core.netdev_max_backlog=20000
net.core.somaxconn=20480

```
echo 'expr 128 \* 1024' > /proc/sys/vm/max_map_count
```

7/8 of RAM configured for Cell Local Memory

HTTPS Software Notes

Zeus Global Parameters:

- tuning!bind_any: no
- tuning!cache_cooling_time: 0
- tuning!cache_files: 569263
- tuning!cache_flush_interval: 180000
- tuning!cache_large_file: 1048576
- tuning!cache_max_bytes: 0
- tuning!cache_small_file: 16384
- tuning!cache_stat_expire: 180000
- tuning!cbuff_size: 65536
- tuning!fadvise!max_unflushed: 2147483647
- tuning!keepalive: yes
- tuning!keepalive_timeout: 1200
- tuning!keepalive_max: -1
- tuning!listen_queue_size: 8192
- tuning!maxaccept: 2048
- tuning!max_connections: -1
- tuning!modules!cgi!cleansize: 0
- tuning!modules!isapi!enabled: yes
- tuning!modules!nsapi!enabled: no
- tuning!modules!stats!enabled: no
- tuning!multiple_accept: yes
- tuning!sendfile: no
- tuning!sendfile_reservefd: 56000
- tuning!softservers: no
- tuning!so_rbuff_size: 0
- tuning!so_wbuff_size: 1048576
- tuning!ssl_keepalive: yes
- tuning!ssl_sessioncache_size: 9109
- tuning!ssl_diskcache: no
- tuning!ssl_cbuff_size: 103000
- tuning!ssl_sessioncache_expiry: 120
- tuning!timeout: 600
- tuning!unique_bind: yes
- tuning!modules!cgi!cbuff_size: 1048576
- tuning!num_children: 4

Zeus running site configuration:
- modules!cgi!enabled: yes
- modules!isapi!enabled: yes

HTTP API Notes

- Zeus ISAPI interface used
- Zeus PEPP Toolkit (0.9) used for SPECweb99 dynamic content
- ./Configure --ssl=yes, compiled with gcc
- HP-20020724-API.tgz

Network Notes

Client Notes
- Client code generated with ./configure --enable-posix-threads
- HP-UX Tunable Parameters:
  - max_thread_proc=4096  Number of threads per process (64)

Other Notes
### Test Run Details

<table>
<thead>
<tr>
<th>Run Num</th>
<th>Conforming Connections</th>
<th>Percent Conform</th>
<th>Throughput ops/sec</th>
<th>Response msec</th>
<th>loadgen</th>
<th>Kbits/sec</th>
</tr>
</thead>
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<tr>
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