

SPECweb99_SSL Result

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IBM : pSeries 630 Model 6E4 (1000MHz)      ||      NC   SPECweb99_SSL
Zeus Technology Ltd. : Zeus 4.0r2         ||
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SPEC has determined that this result was not in compliance with the SPECweb99_SSL run and reporting rules. Specifically, the original tester has discovered that performance of the SUT shipped to customers did not achieve same results (within 5%) thus failing to meet the 3-month availability requirement.

New results for this hardware can be found at:
<http://www.spec.org/osg/web99ssl/results/res2002q3/web99ssl-20020819-00024.asc>

PERFORMANCE

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

Availability Dates

All Hardware Aug-2002
 HTTPS Software Jan-2002
 Operating System Jul-2002
 Supplemental System Jul-2002

Hardware

Vendor IBM
 Model pSeries 630 Model 6E4 (1000MHz)
 Processor 1000MHz POWER4
 # Processors 4 cores, 4 chips, 1 core/chip
 Primary Cache 64KBI+32KBD on chip
 Secondary Cache 1.44MB unified on chip
 Other Cache 32MB unified (off chip)/SCM, 2SCM in SUT
 Memory 8 GB
 Disk Subsystem 11x9.1GB 16Bit SCSI Disk,
 1x18.2GB 16bit SCSI Disk,
 1x36.4GB 16bit SCSI Disk
 Disk Controllers 2 Wide/Ultra-3 SCSI I/O Controllers
 Other Hardware 4 x Alteon ACESwitch 180

Software

Operating System AIX 5L V5.1(64bit)
 File System JFS2
 Other Software None

HTTPS Software

Vendor Zeus Technology Ltd.
 HTTPS Software Zeus 4.0r2
 API ISAPI
 Server Cache None
 Log Mode Binary CLF for Zeus

Test Sponsor

Test Date May-2002
 Tested By IBM
 SPEC License 11

Network

of Controllers 4
 Network Controllers 4 IBM Gigabit Ethernet-SX PCI Adapter
 # of Nets 4
 Type of Nets Gigabit Ethernet
 Network Speed 1 Gb/sec
 MSL (sec) 30 (Non RFC1122)
 Time-Wait (sec) 60 (Non RFC1122)
 MTU 1500

Clients

of Clients 8
 Model IBM eServer pSeries 640 Model B80
 Processor 375 MHz POWER3-II
 # of Processors 4
 Memory 4GB
 Network Controller 1 Gigabit Ethernet-SX PCI Adapter
 Operating System AIX 4.3.3
 Compiler IBM Cset++ Version 5.1

Benchmark Configuration

Requested Connections 1050
 Fileset Size (MB) 3479.44

Notes/Tuning information

SUT Notes

APAR IY31315 was applied to AIX5L V5.1
 bindintcpu [interrupt level] [cpu] (Interrupt affinity - bind 4 Ethernet interrupts to 4 CPU's(1 interrupt to 1 cpu))
 bindprocessor [process] [cpu] (Process affinity - bind 4 Zeus child processes to 4 CPU's(1 process to 1 CPU))

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maxpgahead=64(the maximum number of pages to be read ahead,default=8)
minperm=5%(the point below which the page-stealer will steal file of computational pages,default=20%)
maxperm=95%(the point above which the page stealing algorithm steals only file page,default=80%)
4 different logs for 4 zeus instances (1 log per zeus instance) for dynamic requests
Disk layout: 1 disk for OS, 1 disk for webserver, 10 disks striped for file_set,1 disk for weblog
Set Gigabit Ethernet driver attribute copy_bytes=256 (copy packet into contiguous buffer on transmit if this many or less bytes, default=2048)
Set Gigabit Ethernet driver attribute large_send=yes (turn on large_send capability of TCP/IP, default=no)
no(network option) tuning:
no -o tcp_sendspace=131072(default socket send buffer size, default=16384)
no -o tcp_recvspace=65536(default socket receive buffer size, default=16384)
no -o somaxconn=10240(max listen backlog, default=1024)
no -o tcp_timewait=5(ensure that TIME_WAIT is at least 60 seconds, default=1)
no -o tcp_newreno=0 (disables the modification to TCP's Fast Recovery algorithm as described in RFC 2582, default=1)

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HTTP API Notes

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Zeus PEPP-06 SPECweb99 toolkit used for dynamic content
post.log in /weblog directory instead of doc_root
./Configure --sendfile=no --locking=semop
Compiled with IBM VAC 5.0.1

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Client Notes

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APAR IY17356 was applied to AIX 4.3.3
no (network option) tuning:
no -o delayack=3(delay ack for connection setup and shutdown,default=0)
no -o delayackports={80}(delay ack ports,default={})
no -o tcp_timewait=5(ensure that TIME_WAIT is at least 60 seconds,default=1)
no -o tcp_sendspace=65536(default socket send buffer size, default=16384)
no -o tcp_recvspace=65536(default socket receive buffer size, default=16384)

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Other Notes

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Starts 4 unique instances of Zeus sharing a common docroot
The 1 child process of each Zeus instance bind to 1 unique IP address
Zeus 4.0 global.cfg (one per instance)
tuning!bind_any no
tuning!cache_files 100003
tuning!cache_large_file 1048576
tuning!cache_small_file 9216
tuning!cache_stat_expire 180000
tuning!cache_flush_interval 180000
tuning!cache_max_bytes 0
tuning!num_children 1
tuning!keepalive yes
tuning!ssl_keepalive yes
tuning!ssl_diskcache no
tuning!ssl_sessioncache_size 100003
tuning!keepalive_timeout 300
tuning!keepalive_max -1
tuning!listen_queue_size 9216
tuning!cbuff_size 1048576
tuning!multiple_accept yes
tuning!sendfile no
tuning!so_rbuff_size 32768
tuning!softservers no
tuning!unique_bind yes
tuning!use_poll no
tuning!cache_cooling_time 0
tuning!modules!cgi!cleansize 0
tuning!modules!cgi!cbuff_size 921632
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
Zeus_Site_Configuration (one per instance):
modules!cgi!enabled yes
modules!isapi!enabled yes
security!enabled yes
bindaddr ip_addr1
Tuning Disclosure: IBM-20011019.txt
Dynamic API: IBM-20011019_2-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