SPECweb99_SSL Result

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IBM: pSeries 630 Model 6E4(1000MHz)
Zeus Technology Ltd.: Zeus 4.1r5

SPECweb99_SSL = 986

Test Date: Aug-2002
Tester: IBM

Hardware Avail:	Aug-2002	OS Avail:	Jul-2002	HTTPS Software Avail:	Oct-2002	Sup. Software Avail:	Aug-2002	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	pSeries 630 Model 6E4(1000MHz)
Processor:	1000MHz POWER4
# Processors:	4 cores, 1 chip, 2 cores/chip, 1 chip/SCM
Primary Cache:	64KBI+32KBD (on chip) per core
Secondary Cache:	1440KB unified (on chip) per chip
Other Cache:	32MB unified (off chip)/SCM, 2SCM in SUT
Memory:	16GB
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:	1 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 4.1r5
API:	ISAPI
Server Cache:	None
Log Mode:	Binary CLF

Test Sponsor

Test Date:	Aug-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:	4
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

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))
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%)
lgpg_size=16777216(large page size in bytes, default=0)
lgpg_regions=256(reserve 4GB=256*16MB for large_page pool, default 0)
4 different logs for 4 zeus instances (1 log per zeus instance)
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,
Set Gigabit Ethernet driver attribute large_send=yes (turn on large_send capability of TCPIP, default=no)
no(network option) tuning:
no -o tcp_sendspace=131072(default socket send buffer size, default=16384)
no -o tcp_recvspace=131072(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)

HTTP API Notes

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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Notes/Tuning Information (Continued)

Client Notes

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={443}(delay ack ports,default={})
no -o tcp_timewait=5(ensure that TIME_WAIT is at least 60 seconds,default=1)
no -o tcp_sendspace=131072(default socket send buffer size, default=16384)
no -o tcp_recvspace=131072(default socket receive buffer size, default=16384)

Other Notes

Starts 4 unique instances of Zeus sharing a common docroot
The 1 child iprocesses of each Zeus instance bind to 1 unique IP address
Zeus 4.1r5 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!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
bindaddr ip_addr1
Tuning Disclosure: IBM-20011019.txt
Dynamic API: IBM-20011019_2-API.tar.gz