

SPECweb99 Result

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IBM: IBM eServer pSeries 680
Zeus Technology Ltd.: Zeus 3.3.8.4

SPECweb99 = 9106

Test Date: May-2001
Tester: IBM

Hardware Avail: Oct-2000 OS Avail: Apr-2001 HTTP Software Avail: Apr-2001 Sup. Software Avail: Apr-2001 SPEC license #: 11

Hardware

Vendor: IBM
Model: IBM eServer pSeries 680
Processor: 600MHz RS64-IV
Processors: 12 cores, 12 chips, 1 core/chip
Primary Cache: 128KBI+128KBD on chip
Secondary Cache: 16MB(I+D) off chip
Other Cache: None
Memory: 96 GB
Disk Subsystem: 1x9.1GB 16Bit SCSI Disk
16x18.2GB SSA Disk(fast-write enabled)
Disk Controllers: Wide/Ultra-2 SCSI I/O Controller,
IBM SSA 160 SerialRAID Controller
Other Hardware: 12xAlteon ACESwitch 180

Software

Operating System: AIX 4.3.3 + APAR IY17356
File System: JFS
Other Software: None

HTTP Software

Vendor: Zeus Technology Ltd.
HTTP Software: Zeus 3.3.8.4
API: ISAPI
Server Cache: See Notes
Log Mode: Binary Common Log Format

Test Sponsor

Test Date: May-2001
Tested By: IBM
SPEC License: 11

Network

of Controllers: 12
Network Controllers: 12 Gigabit Ethernet-SX PCI Adapter
of Nets: 12
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: 48
Model: RS/6000 7044-270
Processor: 375 MHz POWER3-II
of Processors: 4
Memory: 2048MB
Network Controller: 1 Gigabit Ethernet-SX PCI Adapter
Operating System: AIX 4.3.3
Compiler: IBM Cset++ Version 3.1.3

Notes/Tuning Information

SUT Notes

APAR IY17356: New hardware support for Apr-2001
bosdebug -H (enables secondary thread on the processor)
no(network option) tuning:
no -o send_file duration=180000(cached send_file expiration time, default=300)
no -o somaxconn=10240(max listen backlog, default=1024)
no -o nbc_max_cache=100(max file size for network buffer cache, default=1048576)
no -o nbc_pseg=400000(max file entries in private segment,default=0)
no -o tcp_timewait=5(ensure that TIME_WAIT is at least 60 seconds, default=1)
Interrupt affinity - bind 12 Ethernet interrupts to 12 cpu's(1 interrupt to 1 cpu)
Process affinity - bind 12 Zeus instances to 12 cpu's(1 instance to 1 cpu)
maxpgahead=64(the maximum number of pages to be read ahead,default=8)
maxfree=786(the number of frames on the free list at which page stealing is to stop,default=768)
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%)
12 different logs for 12 zeus instances (1 log per zeus instance)
Disk layout: 1 disk for OS, 1 disk for webserver, 14 disks striped for file_set, 1 disk for logfile)
Set Gigabit Ethernet driver attribute copy_bytes=256 (copy packet into contiguous buffer on transmit if this many or less bytes, default=2048)
Used 1 external 7017-F/C6321 I/O drawer (3 adapter each).
Used 3 external 7017-F/C6323 I/O drawers (3 adapter each).

HTTP API Notes

Zeus PEPP SPECweb99 toolkit used for dynamic content(same API code as Sun fire 280R's)
./Configure --sendfile=no --locking=semop

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Notes/Tuning Information (Continued)

Client Notes

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)

Other Notes

Starts 12 unique instances of Zeus sharing a common docroot
The two children of each Zeus instance are bound to an unique IP address
Zeus 3.3.8.4 global.cfg
tuning!bind_any no
tuning!cache_files 74017
tuning!cache_large_file 30720
tuning!cache_small_file 9216
tuning!cache_stat_expire 180000
tuning!cache_flush_interval 180000
tuning!cache_max_bytes 0
tuning!num_children 2
tuning!keepalive yes
tuning!keepalive_max -1
tuning!listen_queue_size 10240
tuning!cbuff_size 1048576
tuning!multiple_accept yes
tuning!sendfile yes
tuning!sendfile_maxsize 1048576
tuning!sendfile_minsize 9216
tuning!sendfile_reservefd 32000
tuning!so_nagle_off 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!stats!enabled no
tuning!modules!nsapi!enabled no
Zeus_Site_Configuration :
modules!cgi!enabled yes
modules!isapi!enabled yes