SPECweb99 Result

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IBM: IBM eServer pSeries 680
Zeus Technology Ltd.: Zeus 3.3.7

SPECweb99 = 8344

Test Date: Dec-2000
Tester: IBM

Hardware Avail:	Oct-2000	OS Avail:	Oct-2000	HTTP Software Avail:	Oct-2000	Sup. Software Avail:	Oct-2000	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:	64 GB
Disk Subsystem:	6x9.1GB 16Bit SCSI Disk and 16x18.2 SSA Disk
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 IY12054
File System:	JFS
Other Software:	None

HTTP Software

Vendor:	Zeus Technology Ltd.
HTTP Software:	Zeus 3.3.7
API:	ISAPI
Server Cache:	See Notes
Log Mode:	Binary Common Log Format

Test Sponsor

Test Date:	Dec-2000
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 Gigabit/sec
MSL (sec):	30 (Non RFC1122)
Time-Wait (sec):	60 (Non RFC1122)
MTU:	1500

Clients

# of Clients:	48
Model:	RS/6000 43P-260
Processor:	200 MHz POWER3
# of Processors:	2
Memory:	1024MB
Network Controller:	1 Gigabit Ethernet-SX PCI Adapter
Operating System:	AIX 4.3.2
Compiler:	IBM Cset++ Version 3.1.3

Notes/Tuning Information

SUT Notes

APAR IY12054: New hardware support for Oct-2000
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=8192(max listen backlog, default=1024)
no -o nbc_max_cache=100(max file size for network buffer cache, default=1048576)
no -o nbc_pseg=130000(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=544(the number of frames on the free list at which page stealing is to stop,default=488)
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%)
Rotate log every 30 minutes
Disk layout: 1 disk for OS, 1 disk for webserver, 8 disks for file_set, 2 disks for logfiles
Remaining disks unused.
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 ISAPI interface used for dynamic content
FastCGI used as communication method to manage all the independent CGI processes

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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 a unique IP address.
Zeus 3.3.7 global.cfg
tuning!bind_any no
tuning!cache_files 72503
tuning!cache_large_file 300000
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 8192
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!fastcgi!enabled yes
modules!isapi!enabled yes