SPECweb99 Result

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IBM: IBM pSeries 660 Model 6H1
Zeus Technology Ltd.: Zeus 3.3.8

SPECweb99 = 4522

Test Date: Mar-2001
Tester: IBM

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

Hardware

Vendor: IBM
Model: IBM pSeries 660 Model 6H1
Processor: 6 RM64-RS64-IV
Processors: 6 enabled, 1 core/chip, 1 chip/processor
Primary Cache: 128KBI+128KBD on chip
Secondary Cache: 8MB(I+D) off chip
Other Cache: none
Memory: 32 GB
Disk Subsystem: 1 disk for OS, 1 disk for webserver, 7 disks striped for file_set, 1 disk for logfile)

Software

Operating System: AIX 5L V5.1 ML1 with APAR IY17356: New hardware support for Apr-2001
Other Software: bosdebug -H (enables secondary processor)
Filesystem: jfs
Web Server: Zeus 3.3.8

Notes/Tuning Information

SUT Notes

no (network option) tuning:
no -o tcp_sendspace=131072(default send_file duration time,default=300)
no -o somaxconn=8192(max listen backlog, default=1024)
no -o nbc_max_cache=32768(max file size for network buffer cache,default=1048576)
no -o tcp_pmtu_discover=0(disable path mtu discovery)
no -o udp_pmtu_discover=0(disable path mtu discovery)
no -o rfc1323=1(enable window scaling)
no -o tcp_recvspace=131072(default receive window size,default=16384)
no -o sb_max=1310720(max socket buffer size,default=1048576)
no -o ipqmaxlen=512(max number of packets queued at the input interface,default=100)
no -o clean_partial_conns=1(tcp clean partial connection,default=0)
no -o tcp_mssdflt=1448(default max segment size,default=512)
no -o thewall=1048576(max memory for network buffers,default=262144)
no -o sack=1(enable selective ack for tcp,default=0)
no -o tcp_tcpsecure=0(disable security for tcp,default=0)
no -o tcp_keepidle=600(keepalive timeout,default=14400)
no -o tcp_keepintvl=300(keepalive interval,default=150)
no -o tcp_keepinit=300(timeout for initial tcp connection,default=150)
no -o tcp_finwait2=300(fin_wait_2 timeout,default=1200)
no -o tcp_nodelayack=1(disable delay ack for tcp,default=0)
no -o tcp_timewait=5(ensure that TIME_WAIT is at least 60 seconds, default=1)
Interrupt affinity - bind 6 Ethernet interrupts to 6 cpu's(1 interrupt to 1 cpu)
Processor affinity - bind 6 Zeus instances to 6 cpu's(1 instance to 1 cpu)
maxpgahead=64(the maximum number of pages to be read ahead,default=8)
maxfree=304(the number of frames on the free list at which page stealing is to stop,default 256)
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%)
Set Gigabit Ethernet driver attribute copy_bytes=256(copy packet from system memory to Gigabit Ethernet adapter if this many or less bytes, default=2048)
6 different logs for 6 zeus instances (1 log per zeus instance)
Disk layout: 1 disk for OS, 1 disk for webserver, 7 disks striped for file_set, 1 disk for logfile)

HTTP API Notes

Zeus ISAPI interface used for dynamic content
FastCGI used as communication method to manage all the independent CGI processes
IBM-20001225.tar.gz dynamic API used

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 6 instances of Zeus sharing a common docroot
The two children of each Zeus instance are bound to a unique IP address
Zeus 3.3.8 global.cfg:
tuning!bind_any no
tuning!cache_files 120011
tuning!cache_large_file 92160
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 12000
tuning!so_nagle_off no
tuning!so_rbuff_size 65535
tuning!softservers no

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Notes/Tuning Information (Continued)

Other Notes (Continued)

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