

# SPECweb99 Result

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IBM: IBM pSeries 660 Model 6M1 (750MHz)  
Zeus Technology Ltd.: Zeus 3.3.8.4

SPECweb99 = 8145

Test Date: Jul-2001  
Tester: IBM

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

## Hardware

Vendor: IBM  
Model: IBM pSeries 660 Model 6M1 (750MHz)  
Processor: 750MHz RS64 IV  
# Processors: 8 cores, 8 chips, 1 core/chip  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 8MB(I+D) off chip  
Other Cache: None  
Memory: 64 GB  
Disk Subsystem: 17x18.2 SSA Disk(fast-write enabled)  
Disk Controllers: IBM SSA 160 SerialRAID Adapter  
Other Hardware: 8 x Alteon ACESwitch 180

## Software

Operating System: AIX 4.3.3  
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: Jul-2001  
Tested By: IBM  
SPEC License: 11

## Network

# of Controllers: 8  
Network Controllers: 8 Gigabit Ethernet-SX PCI Adapter  
# of Nets: 8  
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: 31  
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 IY22024: New hardware support for Sep-2001  
bosdebug -H (enables secondary thread on the processor)  
bindprocessor &lt;process> &lt;cpu> (Processor affinity - bind 8 Zeus instances to 8 cpu's(1 instance to 1 cpu))  
bindintcpu &lt;interrupt level> &lt;cpu> (Interrupt affinity - bind 8 Ethernet interrupts to 8 cpu's(1 interrupt 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=512)  
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 into contiguous buffer on transmit if this many or less bytes, default=2048)  
8 different logs for 8 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  
no(network option) tuning:  
no -o send\_file duration=180000(cached send\_file expiration time, default=300)  
no -o somaxconn=9216(max listen backlog, default=1024)  
no -o nbc\_max\_cache=100(max file size for network buffer cache,default=1048576)  
no -o nbc\_pseg=120000(max file entries in private segment,default=0)  
no -o tcp\_timewait=5(ensure that TIME\_WAIT is at least 60 seconds, default=1)  
Used 1 external 7026-F/C6324 I/O drawer ( 4 adapters each ).  
Used 1 external 7026-F/C6325 I/O drawer ( 4 adapters each ).

### HTTP API Notes

Zeus PEPP version 0.6 SPECweb99 toolkit used for dynamic content  
./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 8 instances of Zeus sharing a common docroot  
The two children of each Zeus instance are bound to a unique IP address  
Zeus 3.3.8.4 global.cfg:  
tuning!bind\_any no  
tuning!cache\_files 76001  
tuning!cache\_large\_file 9216  
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 9216  
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