SPECweb99_SSL Result

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IBM: eServer xSeries 360
Zeus: Zeus V4.2r2

SPECweb99_SSL =2174

Test Date: Jul-2003
Tester: IBM

Hardware Avail:	Jun-2003	OS Avail:	Jul-2002	HTTPS Software Avail:	Mar-2002	Sup. Software Avail:	May-2002	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	eServer xSeries 360
Processor:	2.8 GHz Intel Xeon MP
# Processors:	4 cores, 4 chips, 1 core/chip
Primary Cache:	12KBI+8KBD on chip
Secondary Cache:	512KB
Other Cache:	2MB L3
Memory:	16GB
Disk Subsystem:	14 18GB 15K rpm SCSI Drives
Disk Controllers:	1 IBM ServRaid 6M
Other Hardware:	1 Nortel Networks 8010 Switch, IBM EXP300 Storage Expansion Unit

Software

Operating System:	Red Hat Linux 7.3
File System:	ext2
Other Software:	GCC 2.96

HTTPS Software

Vendor:	Zeus
HTTPS Software:	Zeus V4.2r2
API:	Zeus PEPP 0.8 ISAPI used for Dynamic content
Server Cache:	None
Log Mode:	Zeus CLF

Test Sponsor

Test Date:	Jul-2003
Tested By:	IBM
SPEC License:	11

Network

# of Controllers:	1
Network Controllers:	Intel Pro1000 Gigabit Ethernet Adapter
# of Nets:	1
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:	9
Model:	IBM eServer xSeries 330
Processor:	1133Mhz Pentium III
# of Processors:	1
Memory:	512MB
Network Controller:	IBM Netfinity Gigabit Ethernet Adapter
Operating System:	Red Hat Linux 7.3
Compiler:	GCC 2.96

Notes/Tuning Information

SUT Notes

- 7 disk Hardware RAID 0 for File Set
- 6 disk Hardware RAID 0 for logs
- 1 disk for OS
- Memory configuration 8 x 2GB DIMMs
- Network Adapter installed in Slot 5
- IBM ServRaid installed in Slot 3

Operating System Notes

Tuning parameters:
- net.ipv4.ip_forward=0, default 0
- net.ipv4.conf.all.rp_filter = 1, enables source route verification, default 0
- net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default 1
- net.ipv4.tcp_max_tw_buckets = 400000, sets TCP time-wait buckets pool size, default 180000
- net.core.rmem_max = 10000000, maximum receive socket buffer size, default 65535
- net.core.rmem_default = 10000000, default receive socket buffer size, default 65535
- net.core.wmem_max = 10000000, maximum send socket buffer size, default 65535
- net.core.wmem_default = 10000000, default send socket buffer size, default 65535
- net.core.optmem_max = 10000000, default 10240
- net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
- net.ipv4.tcp_rmem = 30000000 30000000 30000000, maximum TCP read-buffer space allocatable, default 4096 87380 174760
- net.ipv4.tcp_wmem = 30000000 30000000 30000000, maximum TCP write-buffer space allocatable, default 4096 16384 131072
- net.ipv4.tcp_mem=30000000 30000000 30000000, maximum TCP buffer space, default 31744 32256 32768

Kernel is Red Hat 2.4.18-27.7x
Kernel config is located in support docs as IBM-20030630-kernel.txt

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Configuration
- tuning!so_wbuff_size 1048576
- tuning!softservers no
- tuning!cbuff_size 65536
- tuning!clientfirst_optimise yes
- tuning!ssl_sessioncache_size 6607
- tuning!sendfile_minsize 1
- tuning!listen_queue_size 8192
- tuning!keepalive_timeout 20
- tuning!keepalive_max 2100
- tuning!maxaccept 64
- modules!cgi!enabled yes
- modules!isapi!enabled yes

Virtual Server Configuration
- ip_name = server
- bindaddr = 192.0.1.100

See IBM-Zeus-tuning-20021224.txt for a description of the Zeus tuning parameters
ISAPI Source code is available in the SPECweb99_SSL support docs as HP-20020724-API.tar.gz

HTTP API Notes

Zeus ISAPI interface used
Zeus PEPP 0.8 ISAPI used for Dynamic content
./Configure --sendfile=yes --checkconfig=yes --locking=lockf --ssl=yes --64bit=no

Network Notes

txqueuelen=20000, transmit queue length, default 100

Client Notes

Client code generated with ./configure --enable-posix-threads
net.ipv4.ip_local_port_range 1024 65535