SPECweb99_SSL Result

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IBM: eServer xSeries x346
Zeus: Zeus V4.2r4 (64-bit)

SPECweb99_SSL =2400

Test Date: Sep-2004
Tester: IBM

Hardware Avail:	Dec-2004	OS Avail:	Aug-2004	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	Nov-2003	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	eServer xSeries x346
Processor:	3.6 GHz Intel Xeon DP
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+16KBD on chip
Secondary Cache:	1024KB
Other Cache:	None
Memory:	16GB
Disk Subsystem:	6 73GB 15k SCSI Drives
Disk Controllers:	Onboard SCSI
Other Hardware:	1 Nortel 8010 GbE Switch

Software

Operating System:	SLES 9
File System:	ext2
Other Software:	None

HTTPS Software

Vendor:	Zeus
HTTPS Software:	Zeus V4.2r4 (64-bit)
API:	Zeus PEPP 0.9pre1 ISAPI for Dynamic content
Server Cache:	None
Log Mode:	Zeus Binary CLF

Test Sponsor

Test Date:	Sep-2004
Tested By:	IBM
SPEC License:	11

Network

# of Controllers:	1
Network Controllers:	Intel Pro 1000 MT Dual Port
# of Nets:	2
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:	10
Model:	IBM eServer xSeries 330
Processor:	1133Mhz Pentium III
# of Processors:	1
Memory:	256MB
Network Controller:	IBM Netfinity Gigabit Ethernet Adapter
Operating System:	Red Hat 7.3
Compiler:	gcc version 2.96

Notes/Tuning Information

SUT Notes

1 disk for OS and web server
5 disks configured with software RAID0 for access log and file set
Memory configuration 8x2GB PC2-3200

Operating System Notes

Tuning parameters:
- net.ipv4.ip_forward=1, default 0
- net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default 1
- net.ipv4.tcp_max_tw_buckets = 456000, sets TCP time-wait buckets pool size, default 180000
- 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.optmem_default = 10000000, maximum amount of option memory buffers, default 10240
- net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
- net.core.netdev.max_backlog = 300000, default 300
- 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
- net.ipv4.tcp_max_syn_backlog = 8192
- fs.file-max = 254108, increases number of open file handles kernel allocates, default 4096
- Each NICs txqueuelen was set to 40000, default 100
- Each NICs IRQ was bound to separate logical CPUs (0 and 3), default unbound
- irqbalancer service was disabled during run
- ulimit -n 10000, sets number of open files, default 1024

Kernel is standard default SLES 9 (2.6.5-7.97-smp)

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Configuration
- tuning!listen_queue_size 8192
- tuning!so_wbuff_size 1048576
- tuning!so_rbuff_size 0
- tuning!maxaccept 2500
- tuning!clientfirst_optimise yes
- tuning!unique_bind no
- tuning!cache_stat_expire 31536000
- tuning!cache_max_bytes 0
- tuning!cache_flush_interval 31536000
- tuning!cache_files 282011
- tuning!cache_cooling_time 0
- tuning!sendfile yes
- tuning!sendfile_minsize 1
- tuning!softservers no
- tuning!keepalive_timeout 30
- tuning!keepalive_max -1
- tuning!ssl_sessioncache_size 7507
- tuning!cbuff_size 65536
- tuning!isapi!enabled yes
- tuning!modules!stats!enabled no
- tuning!modules!cgi!enabled yes
- tuning!modules!cgi!cleansize 0
- tuning!modules!security!enabled yes
- tuning!num_children 8

ISAPI Source code is available in the SPECweb99_SSL support docs as HP-20020724-API.tar.gz

Client Notes

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