SPECweb99_SSL Result

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IBM: BladeCenter Telco HS20
Zeus: Zeus V4.2r4

SPECweb99_SSL =1400

Test Date: Feb-2004
Tester: IBM

Hardware Avail:	Jul-2004	OS Avail:	Dec-2003	HTTPS Software Avail:	Jul-2003	Sup. Software Avail:	May-2002	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	BladeCenter Telco HS20
Processor:	3.2 GHz Intel Xeon
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+8KBD on chip
Secondary Cache:	512KB
Other Cache:	1MB L3
Memory:	8GB
Disk Subsystem:	1 40GB IDE Drive internal 2 73GB U320 15K RPM SCSI Drives
Disk Controllers:	Onboard IDE and Onboard LSI 53C1030 SCSI
Other Hardware:	Nortel Networks GbE Switch IBM SCSI Storage Expansion Unit

Software

Operating System:	Red Hat Enterprise Linux 3.0 AS
File System:	ext2
Other Software:	None

HTTPS Software

Vendor:	Zeus
HTTPS Software:	Zeus V4.2r4
API:	Zeus PEPP 0.8 ISAPI used for Dynamic content
Server Cache:	None
Log Mode:	Zeus Binary Log File

Test Sponsor

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

Network

# of Controllers:	2
Network Controllers:	Integrated Gigabit Ethernet
# 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:	6
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 Linux 7.3
Compiler:	gcc version 2.96

Notes/Tuning Information

SUT Notes

1 IDE disk for OS and 2 disks configured with software RAID0 for fileset and logs
ETH0 Network adapter interrupts bound to physical processor 0
ETH1 Network adapter interrupts bound to physical processor 1

Operating System Notes

Tuning parameters:
- net.ipv4.ip_forward=1, 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 = 255000, 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.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 standard default Red Hat Enterprise Linux 3.0(2.4.21-elsmp)

HTTPS Software Notes

Zeus Configuration
- tuning!so_wbuff_size 1048576
- tuning!softservers no
- tuning!cbuff_size 65536
- tuning!clientfirst_optimise yes

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Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

- tuning!ssl_sessioncache_size 4051
- tuning!sendfile_minsize 1
- tuning!listen_queue_size 8192
- tuning!keepalive_timeout 20
- tuning!keepalive_max 1500
- tuning!maxaccept 64
- tuning!modules!cgi!cleansize 0
- tuning!bind_any no
- tuning!unique_bind yes
- modules!cgi!enabled yes
- modules!isapi!enabled yes

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
Virtual Server configuration information is contained in IBM-20040315-Zeus-vs.cfg

Client Notes

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