SPECweb99_SSL Result

Dell: PowerEdge 6650
Zeus: Zeus 4.2r2

SPECweb99_SSL =	2540
Test Date:	Jan-2004
Tester:	Dell

Hardware Avail:	Feb-2004	OS Avail:	Oct-2003	HTTPS Software Avail:	Mar-2003	Sup. Software Avail:	Mar-2003	SPEC license #:	55

Hardware

Vendor:	Dell
Model:	PowerEdge 6650
Processor:	3.0 GHz Intel Xeon processor MP
# Processors:	4 cores, 4 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+8KBD on chip
Secondary Cache:	512KB
Other Cache:	4MB L3
Memory:	16 GB
Disk Subsystem:	1 36GB, 14 18GB 15K RPM drives
Disk Controllers:	Onboard Adaptec SCSI, LSI 21320-IS
Other Hardware:	4 Dell PowerConnect 5012 switch 1 Dell PowerConnect 5224 switch 1 Dell PowerVault 220S disk enclosure

Software

Operating System:	Red Hat Enterprise Linux AS 3
File System:	ext2
Other Software:	None

HTTPS Software

Vendor:	Zeus
HTTPS Software:	Zeus 4.2r2
API:	Zeus PEPP 0.8
Server Cache:	None
Log Mode:	Binary CLF

Test Sponsor

Test Date:	Jan-2004
Tested By:	Dell
SPEC License:	55

Network

# of Controllers:	4
Network Controllers:	Intel PRO/1000 MT Dual Port Server Adapter
# of Nets:	8
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:	16
Model:	8 Dell PowerEdge 1550, 8 Dell PowerEdge 1650
Processor:	1.26/1.4GHz Pentium III
# of Processors:	2
Memory:	256MB
Network Controller:	Intel PRO/1000 XT
Operating System:	Windows XP Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS attached to onboard SCSI
7 disk software RAID0 stripe for logs attached to external LSI channel
7 disk software RAID0 stripe for file attached to external LSI channel
Hyper-Threading enabled, Sequential Memory Access enabled in BIOS

Operating System Notes

ulimit -n 10000, sets number of open files, default 1024
Each NIC's TX queue length set to 20000 via ifconfig, default 1000
Each NIC IRQ bound to a separate logical CPU (Hyper-Threading enabled)
Timer IRQ bound to CPU1, default CPU0
File systems mounted with "noatime,nodiratime", no inode access time updating
fs.file-max = 524288, sets open file limit, default 3355443
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_max_tw_buckets = 450000, sets TCP time-wait buckets pool size, default 180000
net.ipv4.tcp_rmem = 30000000 30000000 30000000, sets min/default/max TCP read buffer, default 4096 87380 174760
net.ipv4.tcp_wmem = 30000000 30000000 30000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072
net.ipv4.tcp_mem = 30000000 30000000 30000000, sets min/pressure/max TCP buffer space, default 31744 32256 32768
net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
net.core.rmem_max = 10000000, maximum receive socket buffer size, default 131071
net.core.wmem_max = 10000000, maximum send socket buffer size, default 131071
net.core.rmem_default = 10000000, default receive socket buffer size, default 65535
net.core.wmem_default = 10000000, default send socket buffer size, default 65535
net.core.optmem_max = 10000000, maximum amount of option memory buffers, default 10240
net.core.netdev_max_backlog = 300000, number of unprocessed input packets before kernel starts dropping them, default 300
Kernel parameters:
idle=poll, idle threads poll reschedule flag, default is to use HLT instruction

Notes/Tuning Information (Continued)

HTTPS Software Notes

global.cfg settings:
tuning!bind_any no, Zeus instances listen on all interfaces, default yes
tuning!cbuff_size 65536, CGI buffer size, default 8192
tuning!clientfirst_optimise yes, accept connections only when client data available, default no
tuning!isapi!enabled yes, enable ISAPIs
tuning!keepalive_max 1000, max number of keepalives allowed, default 256
tuning!keepalive_timeout 20, close connection after 20 secs inactivity, default 15
tuning!listen_queue_size 8192, increase TCP listen queue, default 256
tuning!maxaccept 64, maximum number of accepts per socket per poll/select, default 32
tuning!sendfile_minsize 0, smallest file to be sent with sendfile, default 32768
tuning!sendfile_maxsize 0, largest file to be sent with sendfile, default 2GB
tuning!so_wbuff_size 1048576, set socket write buffer, default not set
tuning!softservers no, disable software virtual servers, default yes
tuning!ssl_sessioncache_size 7573, SSL session cache size, default 199
tuning!unique_bind yes, bind each network to a specific Zeus instance, default no
modules!cgi!enabled yes, enable CGIs
modules!security!enabled yes, enable SSL
Virtual Server configuration:
ip_name = sol