SPECweb99_SSL Result

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Dell: PowerEdge 1855

Zeus Technology Ltd.: Zeus Web Server 4.2r4 (64 bit)

SPECweb99_SSL =2508

Test Date: Feb-2005
Tester: Dell

Hardware Avail:	Feb-2005	OS Avail:	Aug-2004	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	Nov-2003	SPEC license #:	55

Hardware

Vendor:	Dell
Model:	PowerEdge 1855
Processor:	3.6GHz Intel Xeon
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+16KBD on chip
Secondary Cache:	2MB(I+D) on chip
Other Cache:	N/A
Memory:	12 GB
Disk Subsystem:	2 36GB 15KRPM drives
Disk Controllers:	Onboard SCSI
Other Hardware:	Dell PowerConnect 5224 switch PowerEdge 1855 blade chassis 2 Gb pass-through I/O modules

Software

Operating System:	SUSE LINUX Enterprise Server 9
File System:	ext2
Other Software:	None

HTTPS Software

Vendor:	Zeus Technology Ltd.
HTTPS Software:	Zeus Web Server 4.2r4 (64 bit)
API:	Zeus PEPP 0.9pre1 ISAPI for Dynamic content
Server Cache:	None
Log Mode:	Zeus Binary CLF

Test Sponsor

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Network

# of Controllers:	2
Network Controllers:	Dual On-board NICs
# 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:	8
Model:	Dell PowerEdge 1650
Processor:	1.4GHz Pentium III
# of Processors:	2
Memory:	256MB
Network Controller:	Onboard NIC
Operating System:	Microsoft Windows XP Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

OS on first disk; 2-disk RAID0 stripe for access log and file set
Each SUT NIC passed through to separate VLAN on PowerConnect switch

Operating System Notes

ulimit -n 10000, sets number of open files, default 1024
Each NIC's TX queue length set to 40000 via ifconfig, default 100
Each NIC's InterruptThrottleRate set to 3000 via modprobe, default 1
File systems mounted with "noatime,nodiratime,noacl", no inode access time updating, no access control lists
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_max_tw_buckets = 456000, 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.ipv4.tcp_max_syn_backlog = 8192, sets maximum queued connection requests before kernel drops them, default 1024
net.core.wmem_max = 10000000, maximum send socket buffer size, default 131071
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
fs.file-max = 254108, increases number of open file handles kernel allocates, default 4096

HTTPS Software Notes

Zeus tunes ($ZEUSHOME/web/global.cfg):
tuning!listen_queue_size 8192
tuning!so_wbuff_size 1048576
tuning!so_rbuff_size 0
tuning!maxaccept 2500

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Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

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

Client Notes

manager.ssl.rcp.alt.WIN32, alt.WIN32 client used
Registry tunes: (HKEY_LOCAL_MACHINESYSTEMCurrentControlSetServices\
- TcpipParametersMaxUserPort=0xfffe, sets maximum open ports to 65534
- TcpipParametersTcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default 240
- TcpipParametersMaxFreeTWTcbs=100000, sets maximum number of TIME_WAIT TCBs
- TcpipParametersTcpWindowSize=65535, sets TCP send/receive window size, default 8192

Other Notes

Tuning Disclosure: See above.
Dynamic API: HP-20020724-API.tgz
API configured with --ssl=yes