

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

Test Date: Feb-2005
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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

For more
Information
Contact

SPEC

info@spec.org
http://www.spec.org

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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_MACHINE\SYSTEM\CurrentControlSet\Services)
- Tcpip\Parameters\MaxUserPort=0xffff, sets maximum open ports to 65534
- Tcpip\Parameters\TcpTimedWaitDelay=60, sets TIME_WAIT parameter to 60 seconds (non-RFC 1122), default 240
- Tcpip\Parameters\MaxFreeTWTcbs=100000, sets maximum number of TIME_WAIT TCBS
- Tcpip\Parameters\TcpWindowSize=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