

SPECweb99_SSL Result

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Dell: PowerEdge 6650
Red Hat: Zeus 4.2r2

SPECweb99_SSL =2177

Test Date: Jul-2003
Tester: Dell

Hardware Avail: Jun-2003 OS Avail: Sep-2002 HTTPS Software Avail: Mar-2002 Sup. Software Avail: Jun-2003 SPEC license #: 55

Hardware

Vendor: Dell
Model: PowerEdge 6650
Processor: 2.8 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: 2MB L3
Memory: 16 GB
Disk Subsystem: 1 36GB, 4 18GB 15KRPM drives
Disk Controllers: Onboard SCSI
Other Hardware: Dell PowerConnect 5224 switch

Software

Operating System: Red Hat Linux 8.0
File System: ext2
Other Software: RHSA-2003-098
Intel e1000 5.1.11

HTTPS Software

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

Test Sponsor

Test Date: Jul-2003
Tested By: Dell
SPEC License: 55

Network

of Controllers: 1
Network Controllers: Intel PRO/1000 MT Dual Port Server Adapter
of Nets: 1
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: 7
Model: Dell PowerEdge 1650
Processor: 1.4GHz Pentium III
of Processors: 2
Memory: 256MB
Network Controller: Onboard Intel 82544EI
Operating System: Windows XP Professional
Compiler: Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS
4 disk software RAID0 stripe for file set and logs
Hyper-Threading enabled, Sequential Memory Access disabled

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
File systems mounted with "noatime,nodiratime", no inode access time updating
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_max_tw_buckets = 400000, 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

HTTPS Software Notes

global.cfg settings:
tuning!cbuff_size 65536, CGI buffer size, default 8192
tuning!chunk no, disable chunked encoding, default yes
tuning!clientfirst_optimise yes, accept connections only when client data available, default no

For more
Information
Contact

SPEC

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http://www.spec.org

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Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

tuning!keepalive_max 2100, 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!modules!stats!enabled no, disable statistics gathering, default yes
tuning!sendfile_minsize 1, smallest file to be sent with sendfile, default 32768
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 6607, SSL session cache size, default 199
modules!cgi!enabled yes, enable CGIs
modules!isapi!enabled yes, enable ISAPIs

Network Notes

e1000 parameter: TxIntDelay = 32, change transmit interrupt delay, default 64

Client Notes

alt.WIN32 client used

Registry tunes:

- 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 to 100,000
- Tcpip\Parameters\TcpWindowSize=65535, sets TCP send\receive window size, default 8192

Other Notes

Tuning Disclosure: See above

Kernel .config: Dell-20030818-1PE6650-config.txt

Dynamic API and compiler flags: HP-20020724-API.tar.gz

API configured with --locking=lockf --ssl=yes --64bit=no