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
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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

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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:
- 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 to 100,000
- TcpipParametersTcpWindowSize=65535, sets TCP send eceive 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