SPECweb99_SSL Result

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Verari Systems: QuatreX-64
Zeus Technology Ltd.: Web Server 4.2r4 (64-bit)

SPECweb99_SSL =4440

Test Date: May-2004
Tester: Advanced Micro Devices

Hardware Avail:	Jun-2004	OS Avail:	Nov-2003	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	Nov-2003	SPEC license #:	49

Hardware

Vendor:	Verari Systems
Model:	QuatreX-64
Processor:	AMD Opteron 850, 2.4 GHz
# Processors:	4 cores, 4 chips, 1 core/chip
Primary Cache:	64KBI+64KBD on chip
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	32 GB pc2700 DDR
Disk Subsystem:	3 36GB Ultra 320 SCSI
Disk Controllers:	Onboard LSI SCSI
Other Hardware:	4 Dell PowerConnect 5224

Software

Operating System:	SuSE Linux Enterprise Server 8 for AMD64 SP3
File System:	ext2
Other Software:	none

HTTPS Software

Vendor:	Zeus Technology Ltd.
HTTPS Software:	Web Server 4.2r4 (64-bit)
API:	Zeus PEPP 0.8 ISAPI used for dynamic content
Server Cache:	None
Log Mode:	Zeus Binary CLF

Test Sponsor

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Network

# of Controllers:	4
Network Controllers:	Intel Pro/1000 MT Server Adapters
# of Nets:	4
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:	20
Model:	Tyan Tiger/AMD Athlon MP
Processor:	AMD Athlon MP 2000+
# of Processors:	2
Memory:	512MB
Network Controller:	Intel Pro1000XT
Operating System:	Windows 2000 Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS, 1 disk for logs, 1 disk for web pages.

Operating System Notes

One NIC irq bound per CPU
ulimit -n 110490, sets number of open files, default 1024
Each NIC Transmit Queue length set to 20000 via ifconfig, default 100
log and fileset partitions mounted with 'noatime,nodiratime', no inode access time updating
net.ipv4.ip_forward = 0
net.ipv4.conf.all.rp_filter = 1, enables source route verification, default 0
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default 1
net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
net.core.rmem_max = 10000000, maximum receive socket buffer size, default 65535
net.core.rmem_default = 10000000, default receive socket buffer size, default 65535
net.core.wmem_max = 10000000, maximum send socket buffer size, default 65535
net.core.wmem_default = 10000000, default send socket buffer size, default 65535
net.core.optmem_max = 10000000, default 10240
net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
net.ipv4.tcp_rmem = 30000000 30000000 30000000, maximum TCP read-buffer space allocatable, default 4096 87380 174760
net.ipv4.tcp_wmem = 30000000 30000000 30000000, maximum TCP write-buffer space allocatable, default 4096 16384 131072
net.ipv4.tcp_mem=30000000 30000000 30000000, maximum TCP buffer space, default 31744 32256 32768
fs.file-max = 442961, maximum number of open files, default 1024

HTTPS Software Notes

Zeus Configuration:
tuning!unique_bind yes
tuning!cache_cooling_time 0
tuning!cache_files 282011

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Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

tuning!cache_flush_interval 86400
tuning!cache_small_file 90000
tuning!cache_large_file 1048576
tuning!cache_max_bytes 12884901888
tuning!cache_stat_expire 86400
tuning!cbuff_size 65536
tuning!clientfirst_optimise yes
tuning!keepalive yes
tuning!keepalive_max -1
tuning!keepalive_timeout 3600
tuning!listen_queue_size 8192
tuning!maxaccept 2048
tuning!modules!cgi!cleansize 0
tuning!sendfile no
tuning!sendfile_minsize 0
tuning!sendfile_maxsize 0
tuning!so_wbuff_size 1048576
tuning!softservers no
tuning!ssl_diskcache no
tuning!ssl_sessioncache_size 2617
tuning!ssl_cbuff_size 32840
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled no

HTTP API Notes

Zeus PEPP configured with command ./Configure --ssl=yes
Zeus PEPP compiled with default gcc (v3.2.2)

Client Notes

Clients require a Tyan Tiger motherboard and an ATX case.
Case uses a 300W ATX power supply and a 40GB ATA 133 IDE hard drive.
manager.ssl.rcp.alt.WIN32, alt.WIN32 client used
Client tuning via registry:
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 receive window size, default 8192.

Other Notes

Tuning Disclosure: See above.
Dynamic API: HP-20020724-API.tgz
Kernel config: AMD-20040501_ssl-config.tux