SPECweb99 Result

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Compaq Computer Corp.: Alphaserver ES45 2-cpu
Zeus Ltd: Zeus 4.0r1

SPECweb99 = 2598

Test Date: Nov-2001
Tester: Compaq

Hardware Avail:	Oct-2001	OS Avail:	Sep-2001	HTTP Software Avail:	Nov-2001	Sup. Software Avail:	Nov-2001	SPEC license #:	2

Hardware

Vendor:	Compaq Computer Corp.
Model:	Alphaserver ES45 2-cpu
Processor:	1000 MHz 21264B
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	64KBI+64KBD on chip
Secondary Cache:	8MB off chip
Other Cache:	none
Memory:	32 GB
Disk Subsystem:	1xBD018635C4 + 12xBB00911CA0(18&9GB)
Disk Controllers:	2 x QLOGIC ISP1040B/V2 FW SCSI
Other Hardware:	2 x ALTEON ACEswitch 180 GbE Switch

Software

Operating System:	Compaq Tru64 UNIX V5.1A Spiked
File System:	UFS & AdvFS
Other Software:	Compaq C V6.4-009

HTTP Software

Vendor:	Zeus Ltd
HTTP Software:	Zeus 4.0r1
API:	ISAPI
Server Cache:	none
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Nov-2001
Tested By:	Compaq
SPEC License:	2

Network

# of Controllers:	2
Network Controllers:	2 x DEGPA-SA
# 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:	Compaq DS20E
Processor:	667MHz 21264
# of Processors:	2
Memory:	1GB
Network Controller:	DEGPA-SA
Operating System:	Compaq Tru64 UNIX V5.1
Compiler:	Compaq C V6.3-027

Notes/Tuning Information

SUT Notes

Operating System Notes

Kernel (vmunix) tuning using Spike:

Spike is a tool that performs feedback-based code optimization on programs. To optimize the kernel a profile was taken using the Continuous Profiling Infrastructure (DCPI) tool while running a static HTTP workload. For details see the tuning disclosure.

OS Tuning parameters:

vm:
swapdevice=/dev/disk/dsk7c

vm_swap_eager = 0

proc:
max_per_proc_address_space = 0x40000000000
max_per_proc_data_size = 0x40000000000
max_proc_per_user = 2048
max_threads_per_user = 0
per_proc_address_space = 0x40000000000
per_proc_data_size = 0x40000000000

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

inet:
ipqmaxlen = 2000
ipqs = 16
tcbhashnum = 16
tcbhashsize = 8192

tcp_sendspace = 1048576

net:
netisrthreads=2
netisrwakeupthreshold = 96

socket:
somaxconn = 32765
sominconn = 32765
umc = 1

vfs:
name_cache_hash_size = 131071
namei_cache_valid_time = 16800

vnode_age=120:

alt:
minimal_isr=0
send_coal = 128

recv_ticks = 125000

advfs:
AdvfsSyncMmapPages=0 (use smooth sync)

HTTP Software Notes

Zeus Tuning
runningsites/<host>: bindaddr text 10.76.76.76,11.76.76.76
global.cfg:
tuning!bind_any no
tuning!cache_files 192461
tuning!cache_flush_interval 86400
tuning!cache_large_file 1048576
tuning!cache_max_bytes 0
tuning!cache_small_file 0
tuning!cache_stat_expire 86400
tuning!num_children 2
tuning!so_wbuff_size 1048576
tuning!softservers no
tuning!unique_bind yes
tuning!use_poll no

tuning!cache_cooling_time 0
tuning!cbuff_size 65536
tuning!keepalive yes
tuning!keepalive_max -1
tuning!modules!isapi!writeclient_limit 104857600
tuning!modules!nsapi!enabled no

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Notes/Tuning Information (Continued)

HTTP Software Notes (Continued)

tuning!modules!isapi!enabled no
tuning!modules!stats!enabled no
tuning!cgid!enabled no

Hardware Notes

Disk Configuration:
disk1: OS (/, /usr) [Controller 1]
disk2,13, http logging (striped /log rw,noatimes) [1,2]
disk3: URLroot (/www rw,noatimes) [2]
disk4-7, disk8-11 wwwdomain#file_set ro,noatimes [1,2]
disk12: swap [1]

Network Notes

Network Tuning: N/A

Client Notes

max-proc-per-user = 0
proc:
maxusers = 1024
max-threads-per-user = 1024
socket:
sominconn = 32765
somaxconn = 32765
inet:
ipport_userreserved = 65000
tcp_recvspace = 60000

Other Notes

Tuning Disclosure: Compaq-20010614.txt
Dynamic API: Compaq-ES45-20010614.tar.gz