SPECweb99_SSL Result

Hewlett-Packard: HP Integrity rx5670
Zeus Technology Limited: Zeus 4.2r2

SPECweb99_SSL =1914

Test Date: Jun-2003
Tester: Hewlett-Packard Company

Hardware Avail:	Jul-2003	OS Avail:	Sep-2003	HTTPS Software Avail:	Mar-2003	Sup. Software Avail:	Sep-2003	SPEC license #:	3

Hardware

Vendor:	Hewlett-Packard
Model:	HP Integrity rx5670
Processor:	1.5 GHz Intel Itanium 2 6M
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	256KB unified on chip
Other Cache:	6144KB unified on chip
Memory:	16 GB (16x1GB)
Disk Subsystem:	3x73GB (15K RPM) 1x36GB (15K RPM) 15x18GB(15K RPM) HP VA7100 disk array
Disk Controllers:	1xHP A6795A 2 Gb FC card
Other Hardware:	2 x Alteon 180e Switches

Software

Operating System:	HP-UX 11i v2
File System:	See SUT Notes
Other Software:	B3913DB C.05.36 HP aC++/C

HTTPS Software

Vendor:	Zeus Technology Limited
HTTPS Software:	Zeus 4.2r2
API:	ISAPI
Server Cache:	None
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Jun-2003
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SPEC License:	3

Network

# of Controllers:	2
Network Controllers:	HP A6847A PCI Gigabit Ethernet
# 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:	HP 9000/A500-5X
Processor:	550 MHz PA-8600
# of Processors:	2
Memory:	4 GB
Network Controller:	HP A4926A Gigabit Ethernet
Operating System:	HP-UX 11i
Compiler:	B3901BA B.11.11.04 HP C/ANSI C

Notes/Tuning Information

SUT Notes

All file systems are HP-UX HFS
1 (73 GB) disk used for OS
1 (73 GB) disk used for doc_root
1 (73 GB) disk used for the file_set which is mounted read-only
1 (36 GB) disk with largefiles, behind used for post.log
1 HP VA7100 disk array with dual controllers (A6188A) with high performance enabled for web log
web log file system is striped using 64K stripes over 10 LUNs and mounted with largefiles and behind
Bound each Zeus instance to the processor corresponding to its NIC
Processor binding is performed by: mpsched -c cpu# -p pid
Set page size attribute for zeus.web, zeus.cgi binaries and zeus.cgi in zeus-kit
chatr +pd 64K +pi 64K zeus.cgi
chatr +pd 64M +pi 64M zeus.web

Operating System Notes

HP-UX Tunable Parameters:
dbc_max_pct=40 Max Buffer Cache Size as Percent of RAM (50)
dbc_min_pct=40 Min bufer Cache Size as Percent of RAM (5)
maxfiles=60000 Soft File Limit per Process (60)
maxfiles_lim=60000 Hard File Limit per Process (1024)
nfile=120000 Max number of open files (790)
ninode=120000 Max number of inodes (444)
tcphashsz=16384 Relative Scaling Factor for TCP & IP Int. Tables(2048)
vps_ceiling=4096 Max System selected page size [KB] (16)
vps_pagesize=64 Default User page size [KB] (4)
fs_async=1 Enables asynchrous writes of file-system data structures Boolean (0)

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

vxfs_ifree_timelag=3600000 VxFS Free Inode minimum existence time (0)
scsi_max_qdepth=64 Maximum number of concurrent requests to a SCSI device (8)
create_fastlinks=1 Enables storage of symbolic links in HFS inode structures (Boolean) (0)
maxdsiz_64bit 274877906944 Maximum size of the data segment of a 64-bit process (bytes) (4294967296)

HTTPS Software Notes

Zeus Global Parameters in global.cfg:
tuning!cache_files 356750
tuning!cache_max_bytes 0
tuning!cache_small_file 0
tuning!cache_large_file 1048576
tuning!cache_stat_expire 86400
tuning!cache_flush_interval 86400
tuning!listen_queue_size 8192
tuning!multiple_accept yes
tuning!so_rbuff_size 0
tuning!so_wbuff_size 1048576
tuning!cbuff_size 65536
tuning!keepalive yes
tuning!keepalive_timeout 1200
tuning!keepalive_max -1
tuning!timeout 600
tuning!unique_bind yes
tuning!bind_any no
tuning!sendfile no
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!ssl_keepalive yes
tuning!ssl_sessioncache_size 5011
tuning!ssl_sessioncache_expiry 120
tuning!ssl_diskcache no
tuning!softservers no
tuning!use_poll no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled no
tuning!cache_cooling_time 0
tuning!maxaccept 2048
Zeus runningsite configuration:
modules!security!enabled yes
modules!cgi!enabled yes
modules!isapi!enabled yes

HTTP API Notes

Zeus PEPP Toolkit(0.8) used for SPECweb99_SSL dynamic content
post.log is in doc_root and is symbolically linked to /logs_web/post.log
./Configure --checkconfig=yes --locking=semop --ssl=yes --64bit=yes --sendfile=no
compiled with HP C/ANSI C developer's Bundle (B3901BA)
CFLAGS=+Ofaster +DD64 +DSitanium2
LDFLAGS = +DSitanium2,+pd,64k,+pi,64k

Network Notes

Networking Tunable Parameters:
tcp_xmit_hiwater_def=2000000 Max unsent data triggers flow control(32768)
tcp_conn_request_max=2048 Max outstanding connection reqs (20)
socket_caching_tcp=4096 Controls socket caching for TCP sockets (512)

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Notes/Tuning Information (Continued)

Network Notes (Continued)

Gigabit Tunable Parameters:

send_max_bufs=128 Number of sending buffers consumed to trigger interrupt (16)
recv_max_bufs=128 Number of receiving buffers consumed to trigger interrupt (16)
recv_coal_ticks=12000 Number of ticks to wait to trigger interrupt (0)
send_coal_ticks=5000 Number of ticks to wait to trigger interrupt (0)

Client Notes

Client code generated with ./configure --enable-posix-threads
HP-UX Tunable Parameters:
max_thread_proc=800 Number of threads per process (64)
maxusers=256 Value of MAXUSERS macro (32)
ncallout=5000 Increase number of pending timeouts
nkthread=8000 Maximum number of system-wide threads (499)
ninode=5000 Maximum number of inodes (444)
nfile=4096 Maximum number of open files (790)
maxswapchunks=2048 Maximum number of swap chunks (256)

Other Notes

Tuning Disclosure: HP-20030626.txt
Dynamic API: HP-20020723.-API.tar.gz