SPECweb99_SSL Result

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Hewlett-Packard: hp server rp7410
Zeus Technology Limited: Zeus 4.1r3

SPECweb99_SSL =2325

Test Date: Aug-2002
Tester: Hewlett-Packard Company

Hardware Avail:	OS Avail:	HTTPS Software Avail:	Sup. Software Avail:	SPEC license #:
Aug-2002	Mar-2002	Jul-2002	Aug-2002	3

Hardware

Vendor:	Hewlett-Packard
Model:	hp server rp7410
Processor:	PA8700 875Mhz
# Processors:	8 cores, 8 chips, 1 core/chip
Primary Cache:	768KBI+1536KBD on chip
Secondary Cache:	None
Other Cache:	None
Memory:	32 GB
Disk Subsystem:	2x18GB (10K rpm)
Disk Controllers:	1xA5158A FC Card, 2xSymbios SCSI Ultra 3
Other Hardware:	VA7100 Disk Array

Software

Operating System:	HP-UX 11i
File System:	See SUT Notes
Other Software:	B3913DB C.03.33.01 HP aC++ Compiler

HTTPS Software

Vendor:	Zeus Technology Limited
HTTPS Software:	Zeus 4.1r3
API:	ISAPI
Server Cache:	See Zeus parameters
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Aug-2002
Tested By:	Hewlett-Packard Company
SPEC License:	3

Network

# of Controllers:	8
Network Controllers:	HP A4926A PCI Gigabit Ethernet
# of Nets:	8
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/A500-7X
Processor:	750 Mhz PA-8700
# of Processors:	2
Memory:	4 GB
Network Controller:	HP A4926A PCI Gigabit Ethernet
Operating System:	HPUX 11i
Compiler:	B3901BA B.11.11.04 HP C/ANSI C

Notes/Tuning Information

SUT Notes

All filesystems are HP-UX HFS
1 (18 GB) disk used for OS
1 (18 GB) disk used for web server
1 (HP VA7100 Disk Array) used for fileset and logs
Bound each Zeus instance to the processor corresponding to its NIC
Processor binding is performed by: mpsched -c cpu# -p pid
chatr +pd 64M +pi 64M on zeus.web binary to set page sizes
chatr +pd 4K +pi 4K on zeus.cgi binary to set page sizes

Operating System Notes

HP-UX Internet Operating Environment with following patches:
PHNE_26728 - Cumulative STREAMS Patch
PHNE_25388 - Cumulative LAN Patch
PHNE_27063 - Cumulative ARPA Patch
PHNE_25233 - select(2) and poll(2) hang
PHKL_25389 - Core PM, vPar, Psets Cumulative Patch
PHNE_26939 - 1000Base-SX/T B.11.11.14 Cumulative Patch
PHKL_27278 - mmap io, VM-JFS ddlock, thread perf, user limit
HP-UX Tunable Parameters:
dbc_max_pct=45 Max Buffer Cache Size as Percent of RAM (50)
dbc_min_pct=45 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)
maxssiz_64bit=0x0000000180000000 Max Stack Size for 64-Bit Procs (0x00800000)
maxswapchunks=16000 Max number of swap chunks (256)

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

nfile=100000 Max number of open files (790)
ninode=100000 Max number of inodes (444)
nkthread=8000 Max number of kernel threads (499)
nproc=1000 Max number of processes (276)
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)

HTTPS Software Notes

Zeus Global Parameters:
tuning!cache_files 356750
tuning!cache_max_bytes 0
tuning!cache_small_file 8193
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_diskcache no
tuning!ssl_sessioncache_size 251
tuning!softservers no
tuning!use_poll no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled yes
tuning!cache_cooling_time 0
tuning!maxaccept 2048
security!enabled yes

HTTP API Notes

Zeus ISAPI interface used
Zeus PEPP Toolkit(0.8) used for SPECweb99_SSL dynamic content
./Configure --sendfile=no --checkconfig=yes --locking=semop --ssl=yes --64bit=yes

Network Notes

Networking Tunable Parameters:
tcp_xmit_hiwater_def=2000000 Max unsent data triggers flow control(32768)
tcp_conn_request_max=1024 Max outstanding connection reqs (20)
tcp_conn_strategy=1 Selects TCP connection strategy (0)

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Notes/Tuning Information (Continued)

Client Notes

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

Other Notes

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