SPECweb99_SSL Result

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Hewlett-Packard: hp server rx2600
Zeus Technology Limited: Zeus 4.2r1

SPECweb99_SSL =1230

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

Hardware Avail:	Sep-2002	OS Avail:	Aug-2002	HTTPS Software Avail:	Mar-2003	Sup. Software Avail:	Aug-2002	SPEC license #:	3

Hardware

Vendor:	Hewlett-Packard
Model:	hp server rx2600
Processor:	1 GHz Intel Itanium2
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	256KB unified on chip
Other Cache:	3072KB unified on chip
Memory:	8 GB (8x1GB)
Disk Subsystem:	2x36GB (10K RPM) 1x18GB (15K RPM)
Disk Controllers:	SCSI C896 UW SE (internal)
Other Hardware:	2xAlteon 180e Switches

Software

Operating System:	HP-UX 11i v1.6
File System:	See SUT Notes
Other Software:	B3913DB C.05.36 HP aC++/C

HTTPS Software

Vendor:	Zeus Technology Limited
HTTPS Software:	Zeus 4.2r1
API:	ISAPI
Server Cache:	None
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Feb-2003
Tested By:	Hewlett-Packard Company
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:	6
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

1 (36 GB 10K RPM) disk with vxfs used for OS
1 (36 GB 10K RPM) disk with hfs used for the file_set
1 (18 GB 15K RPM) disk with hfs with largefiles, behind used for logs
Largefiles is an option used when making the hfs file system. When this option is used, the maximum size for the files created on the file system is not limited to the 2 GB limit.
Behind is an option used when mounting the hfs file system. This enables asynchronous writes to disk.
Bound each Zeus instance to the processor corresponding to its NIC
Bound cgi instance to the processor corresponding to NIC with lighter load (See Client Notes)
Processor binding is performed by: mpsched -c cpu# -p pid
Set page size attribute for zeus.web and zeus.cgi binaries
chatr +pd 64k +pi 64k zeus.cgi
chatr +pd 64M +pi 64M zeus.web

Operating System Notes

HP-UX Tunable Parameters:
dbc_max_pct=30 Max Buffer Cache Size as Percent of RAM (50)
dbc_min_pct=30 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)
maxuprc=1000 Max number of user processes (75)
nfile=5000 Max number of open files (790)
ninode=60000 Max number of inodes (444)

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

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 0
tuning!cache_large_file 1048576
tuning!cache_stat_expire 86400
tuning!cache_flush_interval 86400
tuning!listen_queue_size 1024
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 256
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 yes
tuning!cache_cooling_time 0
tuning!maxaccept 1024
security!enabled yes

HTTP API Notes

Zeus ISAPI interface used
Zeus PEPP Toolkit(0.6) used for SPECweb99_SSL dynamic content
./Configure --sendfile=no --checkconfig=yes --locking=semop

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)

Client Notes

Client code generated with ./configure --enable-posix-threads
Use client speed setting in rc file to force lighter load on one NIC
i.e. CLIENTS=s1[9] s2[9] s3[9] s4[10] s5[10] s6[10]

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Notes/Tuning Information (Continued)

Client Notes (Continued)

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-20020708.txt
Dynamic API: HP-20010917-API.tar.gz