SPECweb99_SSL Result

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Hewlett-Packard Company: HP ProLiant BL20p G3
Zeus Technology Limited: Zeus V4.2r4 (64 bit)

SPECweb99_SSL =2394

Test Date: Jun-2005
Tester: Hewlett-Packard Company

Hardware Avail:	Jul-2005	OS Avail:	Aug-2004	HTTPS Software Avail:	Nov-2003	Sup. Software Avail:	Apr-2005	SPEC license #:	3

Hardware

Vendor:	Hewlett-Packard Company
Model:	HP ProLiant BL20p G3
Processor:	3.6GHz Intel Xeon
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+16KBD
Secondary Cache:	2MB L2
Other Cache:	none
Memory:	8GB (4x2GB PC3200 DDR2)
Disk Subsystem:	2x72.8GB Ultra320 15Krpm
Disk Controllers:	HP Smart Array 6i with 128MB BBWC
Other Hardware:	2xHP BladeSystem Patch Panel

Software

Operating System:	SuSE Linux Enterprise Server 9 (x86_64) SP1
File System:	ext2
Other Software:	NC7781 - BCM5700 v8.1.55 (04-08-2005) NC320i - BNX2 v1.1.15a (03-09-2005)

HTTPS Software

Vendor:	Zeus Technology Limited
HTTPS Software:	Zeus V4.2r4 (64 bit)
API:	Zeus PEPP 0.9pre1 ISAPI for dynamic content
Server Cache:	none
Log Mode:	Binary Common Log Format

Test Sponsor

Test Date:	Jun-2005
Tested By:	Hewlett-Packard Company
SPEC License:	3

Network

# of Controllers:	4
Network Controllers:	2xIntegrated NC7781, 2xIntegrated NC320i
# 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:	4
Model:	HP ProLiant DL360 G3
Processor:	3.06GHz 1MB L3 cache Intel Xeon
# of Processors:	2 cores, 2 chips, 1 core/chip
Memory:	1024MB
Network Controller:	Integrated NC7781
Operating System:	Windows Server 2003 Std. Edition
Compiler:	Mircosoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

Each drive in blade server connected to the HP SA-6i controller and setup as RAID 0
1. drive used for OS and access-log; 2. drive used for the file-set
1xHP BladeSystem p-Class enclosure
1xHP BladeSystem p-Class power subsystem

Operating System Notes

File system mounted with noacl,noatime,nodiratime - no access control lists, no inode access time updateing
irq_balancer daemon disabled, default enabled
Each NIC IRQ bound to a seperate logical CPU, default round-robin
Each NIC's TX queue length set to 40000, default 100
ulimit -n 12000, sets number of open files, default 1024
/proc/sys/net/ipv4/conf/all/rp_filter= 1 ,enables source route verification, default 0
/proc/sys/net/ipv4/tcp_max_tw_buckets= 456000 ,sets TCP time-wait buckets pool size, default 180000
/proc/sys/net/ipv4/tcp_rmem= 30000000 30000000 30000000 ,maximum TCP read-buffer space allocatable, default 4096 87380 174760
/proc/sys/net/ipv4/tcp_wmem= 30000000 30000000 30000000 ,maximum TCP write-buffer space allocatable, default 4096 16384 131072
/proc/sys/net/ipv4/tcp_mem= 30000000 30000000 30000000 ,maximum TCP buffer space allocatable, default 31744 32256 32768
/proc/sys/net/core/rmem_max= 10000000 ,maximum receive socket buffer size, default 65535
/proc/sys/net/core/rmem_default= 10000000 ,default receive socket buffer size, default 65535
/proc/sys/net/core/wmem_max= 10000000 ,maximum send socket buffer size, default 65535
/proc/sys/net/core/wmem_default= 10000000 ,default send socket buffer size, default 65535
/proc/sys/net/core/optmem_max= 10000000 ,maximum amount of option memory buffers, default 20480
/proc/sys/fs/file-max= 509059 ,maximum number of open files, default 1024
/proc/sys/net/ipv4/tcp_max_syn_backlog= 8192 ,sets length of per-socket backlog queue, default 1024
Timer IRQ bound to logical processor #3, default round-robin
Storage IRQ bound to logical processor #2, default round-robin
TSO turned off on all 4 NICs, default on

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Web Server Tunables ($ZEUSHOME/web/gloabl.cfg)
tuning!listen_queue_size 8192
tuning!so_wbuff_size 1048576
tuning!so_rbuff_size 0
tuning!maxaccept 2500
tuning!clientfirst_optimise yes
tuning!unique_bind no
tuning!cache_stat_expire 31536000
tuning!cache_max_bytes 0
tuning!cache_flush_interval 31536000
tuning!cache_files 282011
tuning!cache_cooling_time 0
tuning!sendfile yes
tuning!sendfile_minsize 1
tuning!softservers no
tuning!keepalive_timeout 30
tuning!keepalive_max -1
tuning!ssl_sessioncache_size 7507
tuning!cbuff_size 65536
tuning!isapi!enabled yes
tuning!modules!stats!enabled no
tuning!modules!cgi!enabled yes
tuning!modules!cgi!cleansize 0
tuning!modules!security!enabled yes
See HP-20030414-tunings.txt for a description of these Zeus tuning parameters

HTTP API Notes

Dynamic API: HP-20020724-API.tgz
API configured with --ssl=yes

Client Notes

The alternate performance neutral alt.Win32 client was used.
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

Server kernel: default SLES 9 SP1 (2.6.5-7.139-smp)