SPECweb99_SSL Result

Sun Microsystems: Sun Fire V490 (4-node cluster)
Sun Microsystems: Sun Java System Web Server 6.1 SP2

SPECweb99_SSL 10700

Test Date: Nov-2004
Tester: Sun Microsystems

Hardware Avail:	Sep-2004	OS Avail:	Apr-2004	HTTPS Software Avail:	Apr-2004	Sup. Software Avail:	Dec-2004	SPEC license #:	6

Hardware

Vendor: Sun Microsystems
Model: Sun Fire V490 (4-node cluster)
Processor: 1050MHz UltraSPARC IV
Processors:

Notes/Tuning Information

SUT Notes

Nodes used xntpd to synchronize to a central clock.

Operating System Notes

sq_max_size=0
set rlim_fd_max=260000
set rlim_fd_cur=260000
set segmap_percent=90
set tcp:tcp_conn_hash_size=262144
set ce:ce_bcopy_thresh=96
set ce:ce_dvma_thresh=95
set ce:ce_taskq_disable=1
set ce:ce_tx_ring_size=8192
set ce:ce_reclaim_pending=16
set ce:ce_no_tx_lb=1
set nca:nca_ppmax=3407872
set nca:nca_vpmax=3407872
set nca:nca_conn_hash_size=262144
set nca:nca_conn_req_max_q=10240
set nca:nca_conn_req_max_q0=10240
set nca:ncaurihash_sz=393209
set nca:ncavnodehash_sz=393209
set nca:nca_ppthresh=128
/usr/sbin/ndd -set /dev/ce instance 0,1,2,3,4,5
/usr/sbin/ndd -set /dev/ce rx_intr_time 500
/usr/sbin/ndd -set /dev/ce rx_intr_pkts 24
/platform/sun4u/kernel/drv/ce.conf: interrupts=1,2;
/usr/sbin/ndd -set /dev/nca nca_http_keep_alive_timeout 30000
/usr/sbin/ndd -set /dev/nca nca_max_cache_size 900000
/usr/sbin/ndd -set /dev/nca nca_use_segmap 1
/usr/sbin/ndd -set /dev/tcp tcp_time_wait_interval 60000
/usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q 8192
/usr/sbin/ndd -set /dev/tcp tcp_conn_req_max_q0 8192
/usr/sbin/ndd -set /dev/nca nca_segmap_min_size 4096
/etc/nca/nca.if: ce0 ce1 ce2 ce3 ce4 ce5, /etc/nca/ncakmod.conf: status=enabled
/etc/nca/ncalogd.conf: status=enabled, logd_file_size=1000000000
/etc/nca/ncalogd.conf: logd_path_name=/http_logs/log0 ... /http_logs/log5

HTTPS Software Notes

Sun Java System Web Server 6.1 SP2
On each node two unique instances of Sun Java System WS is started.
The first instance listening on port 80
The second instance listening on port 443
config/magnus.conf (one per instance):
RqThrottle 0
StackSize 262144
CGIWaitPid on
ListenQ 8192
GIStubIdleTimeout 10000
ThreadIncrement 10
ConnQueueSize 0
MaxKeepAliveConnections 0
KeepAliveTimeout 0

config/obj.conf (one per instance):

SPECweb99_SSL Result

Notes/Tuning Information (Continued)

HTTPS Software Notes (Continued)

Disable PathCheck for 'check-acl

config/nsfc.conf (one per instance):
FileCacheEnable=on
CopyFiles=off
TransmitFile=on
CacheFileContent=on
MaxAge=86400
MaxFiles=65536
MaxOpenFiles=65536
SmallFileSizeLimit=1000000
SmallFileSpace=1
MediumFileSizeLimit=1000001
MediumFileSpace=1

config/server.xml - webserver instance listening on port 80:
Disable ACLFILE
acceptorthreads=8
family=nca
blocking=on

config/server.xml - webserver instance listening on port 443:
Disable ACLFILE
acceptorthreads=8
family=nca
blocking=off
SSLPARAMS
security=on
ssl2=no
ssl3=yes
ssl3tlsciphers=+rsa_rc4_128_sha
tls=no
clientauth=no

HTTP API Notes

Dynamic API: SUN-20041108-API.tar.gz

CFLAGS: -c -x04 -DMCC_HTTPD -DXP_UNIX -DSPAPI20
IFLAGS: -I. -I$(INCLUDEDIR) -I$(INCLUDEDIR)/base -I$(INCLUDEDIR)/frame -I$(INCLUDEDIR)/nspr
LDFLAGS: -G
Flag descriptions in SUN-20030331-APIFlags.txt

Hardware Notes

1 Sun StorEdge 3510 FC Array with 12 x 73GB disks
file_set - 6 disk RAID0
post.log - 2 disk RAID0
access logs - 4 JBOD disks (1 per node)
Disk Configuration on each node:
OS, swap - 1 Internal FC-AL disk
webserver - 1 Internal FC-AL disk
file_set - SS3510 6 disk RAID0 mounted RW on post.log node and RO on 3 other nodes.
post.log - SS3510 2 disk RAID0 mounted RW on post.log node. Mounted via NFS on the 3 other nodes.
access log - SS3510 1 JBOD disk
UserPersonality, Custom.Ads - local to the post.log node. Mounted via NFS on 3 other nodes.

Network Notes

All clients can access all web server nodes.
post.log node: 6 networks, 5 networks with 1 client per network
1 network handling post.log and NFS activities

SPECweb99_SSL Result

Notes/Tuning Information (Continued)

Network Notes (Continued)

non post.log nodes: 6 networks with 1 client per network

Client Notes

set sq_max_size=0, set hires_tick=1
ndd -set /dev/tcp tcp_smallest_anon_port 2048
ndd -set /dev/tcp tcp_time_wait_interval 60000
Client code generated with: CFLAGS=-xO4 -xchip=ultra -xarch=v8plusa
./configure --enable-posix-threads --enable-gethostbyname_r --enable-pthread_scope_system --enable-rlimit --enable-safe-usleep=no

Other Notes

Tuning Disclosure: Sun-20030331.txt
Sun Java System Web Server 6.1 SP2: Tuning Guide: http://docs.sun.com