SPECweb99 Result

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Hewlett-Packard Company: ProLiant BL20p G2
Red Hat: RHCA 2.2

SPECweb99 = 4769

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

Hardware Avail:	May-2003	OS Avail:	Nov-2002	HTTP Software Avail:	Nov-2002	Sup. Software Avail:	Nov-2002	SPEC license #:	3

Hardware

Vendor:	Hewlett-Packard Company
Model:	ProLiant BL20p G2
Processor:	3060MHz Intel Xeon
# Processors:	2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache:	12KBI+8KBD on chip
Secondary Cache:	512KB
Other Cache:	None
Memory:	8 GB
Disk Subsystem:	2x36.4GB SCSI (15K rpm)(1 logical RAID 0 disk)
Disk Controllers:	HP Smart Array 5i+ Controller
Other Hardware:	Anritsu MultiFlow 5128 Switch

Software

Operating System:	Red Hat Linux 8.0
File System:	ext2
Other Software:	None

HTTP Software

Vendor:	Red Hat
HTTP Software:	RHCA 2.2
API:	RHCA user API
Server Cache:	None
Log Mode:	Binary CLF

Test Sponsor

Test Date:	May-2003
Tested By:	Hewlett-Packard Company
SPEC License:	3

Network

# of Controllers:	3
Network Controllers:	3 Integrated NC7781
# of Nets:	3
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:	10
Model:	Compaq Proliant DL380
Processor:	1.0GHz Intel Pentium III
# of Processors:	2
Memory:	128MB
Network Controller:	Alteon ACENIC 1000SX
Operating System:	Red Hat 7.3
Compiler:	gcc 2.96

Notes/Tuning Information

SUT Notes

1 partition for OS and logs
1 partition for fileset
Disk Controller Cache set to 25% for reads and 75% for writes

Operating System Notes

Tuning parameters:
ulimit -n 10000, set number of open files to 10000, default 1024
net.core.optmem_max=10000000, maximum amount of option memory buffers, default 10240
net.core.rmem_default=131071, default receive socket buffer size, default 65535
net.core.rmem_max=131071, maximum receive socket buffer size, default 131071
net.core.wmem_default=10000000, default send socket buffer size, default 65535
net.core.wmem_max=10000000, maximum send socket buffer size, default 131071
net.core.hot_list_length=300000, maximm number of skb-heads to be cached, default 128
net.core.netdev_max_backlog=300000, number of unprocessed input packets before kernel starts dropping them, default 300
net.ipv4.tcp_max_tw_buckets=2000000, set TCP time-wait buckets pool size, default 180000
net.ipv4.tcp_rmem=10000000 10000000 10000000, maximum TCP read-buffer space allocatable, default 4096 87380 174760
net.ipv4.tcp_wmem=10000000 10000000 10000000, maximum TCP write-buffer space allocatable, default 4096 16384 131072
net.ipv4.tcp_mem=10000000 10000000 10000000, maximum TCP buffer space allocatable, default 195584 196096 196608
net.ipv4.tcp_timestamps=0, turns TCP timestamp support off, default on
net.ipv4.ip_nonlocal_bind=1,allows processes to bind to non-local IP adresses
net.ipv4.tcp_sack=0, turn SACK support off, default on
net.ipv4.tcp_window_scaling=0, turn TCP window scaling support off, default on
File systems mounted with "noatime,nodiratime", no inode access time updating
NIC 1 bound to logical CPU 0 (Hyper-Threading enabled)
NIC 2 bound to logical CPU 1 (Hyper-Threading enabled)
NIC 3 bound to logical CPU 2 (Hyper-Threading enabled)
Disk Controller bound to logical CPU 3 (Hyper-Threading enabled)

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Notes/Tuning Information (Continued)

HTTP Software Notes

net.tux.cgiroot=/, cgi root check; default /var/www/tux/cgiroot/
net.tux.cgi_uid=99, userid for cgi scripts; default -1
net.tux.cgi_gid=99, groupid for cgi scripts; default -1
net.tux.mode_allowed=255, allowed file permission bits, default 4
net.tux.mode_forbidden=2, forbidden file permission bits, default 0
net.tux.documentroot=/web, document root for web server, default /var/www/tux
net.tux.logging=1, enable logging, default off
net.tux.threads=4, sets number of TUX threads, default 2
net.tux.max_backlog=3000,maximum per-listening-socket TCP backlog size, default 2048
net.tux.noid=1, suppress the Server id string, default 0
net.tux.generate_etags=0, don't generate ETag header, default 1
net.tux.generate_last_mod=0, don't generate Last-Modified header, default 0

HTTP API Notes

Compiled with gcc 3.2 20020903 (Red Hat Linux 8.0 3.2-7)
-fomit-frame-pointer -mcpu=i686 -march=i686 -O2 -Wall -fPIC
-fomit-frame-pointer -mcpu=i686 -march=i686 -O2 -Wall -shared
Flag descriptions in HP-20030317-APIFlags.txt

Network Notes

txqueuelen=20000, transmit queue length, default 100
Tx_Desc_Count=45, number of transmit descriptors, default 100
Rx_Desc_Count=45, number of recieve descriptors, default 200
NIC 1 & 2 each tied to a single TUX thread
NIC 3 tied to a two TUX threads

Client Notes

net.ipv4.ip_local_range=1024 65535
Network 1 clients at speeds of 452,452,452
Network 2 clients at speeds of 458,457,457
Network 3 clients at speeds of 512,512,512,512

Other Notes

Tuning Disclosure: See Above
Kernel config: HP-20030512-BL20pG2.config.txt
Dynameic API: HP-20030303-RHCA.tar.gz