

SPECweb99 Result

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Dell: PowerEdge 4600
Red Hat: Red Hat Content Accelerator 2

SPECweb99 = 4460

Test Date: Feb-2002
Tester: Dell

Hardware Avail: Feb-2002 OS Avail: Oct-2001 HTTP Software Avail: Jan-2002 Sup. Software Avail: Jan-2002 SPEC license #: 55

Hardware

Vendor: Dell
Model: PowerEdge 4600
Processor: 2.20 GHz Pentium Xeon
Processors: 2 cores, 2 chips, 1 core/chip (Hyper-Threading enabled)
Primary Cache: 12KBI+8KBD on chip
Secondary Cache: 512KB ATC
Other Cache: None
Memory: 12 GB
Disk Subsystem: 8 18GB 10KRPM drives
Disk Controllers: Onboard Adaptec 7899
Other Hardware: 4 Dell PowerConnect 5012,
4 Nortel ACEswitch 180

Software

Operating System: Red Hat Linux 7.2
File System: ext2
Other Software: RHA-2002-007, Intel 3.6.8 driver

HTTP Software

Vendor: Red Hat
HTTP Software: Red Hat Content Accelerator 2
API: RHCA API
Server Cache: None
Log Mode: Binary CLF

Test Sponsor

Test Date: Feb-2002
Tested By: Dell
SPEC License: 55

Network

of Controllers: 4
Network Controllers: Intel PRO/1000 XT
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: 20
Model: Dell Precision 410
Processor: 450MHz Pentium II
of Processors: 2
Memory: 128MB
Network Controller: 3Com 3C985B-SX
Operating System: Red Hat Linux 7.2
Compiler: gcc 2.96

Notes/Tuning Information

SUT Notes

- 1 disk for OS and logs
- 7 disk software RAID0 stripe for fileset

Operating System Notes

ulimit -n 10000, sets number of open files, default 1024
One NIC bound per logical CPU (Hyper-Threading enabled)
Each NIC's TX queue length set to 20000 via ifconfig, default 1000
File systems mounted with "noatime,nodiratime", no inode access time updating
net.ipv4.nonlocal_bind = 1, allows processes to bind to non-local IP addresses
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
net.ipv4.tcp_rmem = 1000000 1000000 1000000, sets min/default/max TCP read buffer, default 4096 87380 174760
net.ipv4.tcp_wmem = 1000000 1000000 1000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072
net.ipv4.tcp_mem = 1000000 1000000 1000000, sets min/pressure/max TCP buffer space, default 31744 32256 32768
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
net.core.hot_list_length = 300000, maximum number of skb-heads to be cached, default 128
net.core.rmem_max = 1000000, maximum receive socket buffer size, default 131071
net.core.wmem_max = 1000000, maximum send socket buffer size, default 131071
net.core.rmem_default = 1000000, default receive socket buffer size, default 65535
net.core.wmem_default = 1000000, default send socket buffer size, default 65535
net.core.wmem_default = 1000000, default send socket buffer size, default 65535
net.core.optmem_max = 1000000, maximum amount of option memory buffers, default 10240
net.core.netdev_max_backlog = 300000, number of unprocessed input packets before kernel starts dropping them, default 300
Kernel parameters:
idle=poll, idle threads poll reschedule flag, default is to use HLT instruction

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Notes/Tuning Information (Continued)

Operating System Notes (Continued)

acpimp=force, use ACPI tables for processor information, default MP table

HTTP Software Notes

One network bound per TUX thread

net.tux.logging = 1, turns on logging of requests, default 0

net.tux.cgiroot = /, cgi root check, default /var/www/tux/cgiroot/

net.tux.cgi_uid = 99, uid 'nobody' for cgi scripts; default -1

net.tux.cgi_gid = 99, gid 'nobody' for cgi scripts; default -1

net.tux.max_backlog = 3000, maximum per-listening-socket TCP backlog size, default 2048

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

net.tux.noid = 1, suppress the Server id string, default 0

RHCA 2 available as kernel 2.4.9-21 and tux 2.2.0-1 from <http://www.redhat.com/support/errata/RHSA-2002-007.html>

Client Notes

net.ipv4.ip_local_port_range = 1024 65535

Other Notes

Tuning Disclosure: See above.

Dynamic API and kernel config: Dell-20020204-RHCA.tar.gz