SPECweb99 Result

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Dell: PowerEdge 2500
Red Hat: TUX 2.0

SPECweb99 = 3222

Test Date: Mar-2001
Tester: Dell

Hardware Avail:	Apr-2001	OS Avail:	Sep-2000	HTTP Software Avail:	Jan-2001	Sup. Software Avail:	Jan-2001	SPEC license #:	55

Hardware

Vendor:	Dell
Model:	PowerEdge 2500
Processor:	1000MHz Pentium III
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	256KB ATC
Other Cache:	None
Memory:	4 GB
Disk Subsystem:	1 9GB 10K, 5 18gig 15K RPM drives
Disk Controllers:	Onboard Adaptec 7899
Other Hardware:	4 Alteon ACEswitch 180

Software

Operating System:	Red Hat Linux 7.0 Threaded Web Server Add-On
File System:	ext2
Other Software:	None

HTTP Software

Vendor:	Red Hat
HTTP Software:	TUX 2.0
API:	TUX user API
Server Cache:	None
Log Mode:	Binary CLF

Test Sponsor

Test Date:	Mar-2001
Tested By:	Dell
SPEC License:	55

Network

# of Controllers:	4
Network Controllers:	Alteon AceNIC 1000SX
# of Nets:	4
Type of Nets:	Gigabit Ethernet
Network Speed:	1Gb/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:	Alteon AceNIC 1000SX
Operating System:	Windows 2000 Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS and logs
5 disk software RAID1 mirror for fileset.

Operating System Notes

Two NIC IRQs bound per CPU.
Each NIC's TX queue length set to 10000 via ifconfig, default 1000
File systems mounted with "noatime,check=none"; no inode access time updating, no check on mount
net.ipv4.conf.all.rp_filter = 1, enables source route verification, default 0
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_sack = 0, turns SACK support off, default on
net.ipv4.tcp_window_scaling = 0, turn TCP window scaling support off, default on
net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
net.ipv4.tcp_rmem = 30000000 30000000 30000000, sets min/default/max TCP read buffer, default 4096 87380 174760
net.ipv4.tcp_wmem = 30000000 30000000 30000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072
net.ipv4.tcp_mem = 30000000 30000000 30000000, sets min/pressure/max TCP buffer space, default 31744 32256 32768
net.core.hot_list_length = 10000, maximum number of skb-heads to be cached, default 128
net.core.rmem_max = 10000000, maximum receive socket buffer size, default 131071
net.core.wmem_max = 10000000, maximum send socket buffer size, default 131071
net.core.rmem_default = 10000000, default receive socket buffer size, default 65535
net.core.wmem_default = 10000000, default send socket buffer size, default 65535
net.core.wmem_default = 10000000, default send socket buffer size, default 65535
net.core.optmem_max = 10000000, 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
See .config file for kernel build information

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Notes/Tuning Information (Continued)

HTTP Software Notes

Each TUX thread's listening address bound to 2 NICs' associated networks

net.tux.logging = 1, turns on logging of requests, default 0
net.tux.logentry_align_order = 0, sets alignment of log entry records in logfile, default 5
net.tux.mode_allowed = 255, allowed file-permission bits, default 00004
net.tux.mode_forbidden = 2, forbidden file-permission bits, default 00000

Client Notes

Tcpip/Parameters/MaxUserPort = 0xfffe, sets maximum open ports to 65534.