SPECweb99 Result

IBM: Netfinity 8500R
Red Hat: TUX 1.0

SPECweb99 = 2399

Test Date: Nov-2000
Tester: IBM

Hardware Avail:	Jun-2000	OS Avail:	Sep-2000	HTTP Software Avail:	Sep-2000	Sup. Software Avail:	Sep-2000	SPEC license #:	11

Hardware

Vendor:	IBM
Model:	Netfinity 8500R
Processor:	700 MHz Pentium III Xeon
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	2MB
Other Cache:	none
Memory:	8GB
Disk Subsystem:	5 X 9GB (Seagate ST39103LC)
Disk Controllers:	IBM ServeRaid 3H
Other Hardware:	2 X ALTEON ACEswitch 180 GbE Switch

Software

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

HTTP Software

Vendor:	Red Hat
HTTP Software:	TUX 1.0
API:	TUX user API
Server Cache:	none
Log Mode:	Binary CLF

Test Sponsor

Test Date:	Nov-2000
Tested By:	IBM
SPEC License:	11

Network

# of Controllers:	2
Network Controllers:	Alteon ACEnic PCI
# of Nets:	2
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:	10
Model:	Intellistation Z Pro
Processor:	450Mhz Pentium II Xeon
# of Processors:	2
Memory:	256MB
Network Controller:	Alteon ACEnic PCI
Operating System:	Windows 2000 Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 disk for OS and logfiles
4 disk RAID 0 for web pages

Operating System Notes

Tuning parameters:
- net.ipv4.ip_forward=1, default 0
- net.ipv4.conf.all.rp_filter = 1, enables source route verification, default 0
- net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default 1
- net.tcp_sack = 0, turns SACK support off, default 1
- net.ipv4.tcp_window_scaling = 0, turn TCP window scaling support off, default 1
- net.ipv4.tcp_max_tw_buckets = 2000000, sets TCP time-wait buckets pool size, default 180000
- net.ipv4.ip_local_port_range = 16384 65535, default 32768 61000
- net.core.rmem_max = 10485760, maximum receive socket buffer size, default 65535
- net.core.rmem_default = 10485760, default receive socket buffer size, default 65535
- net.core.wmem_max = 10485760, maximum send socket buffer size, default 65535
- net.core.wmem_default = 10485760, default send socket buffer size, default 65535
- fs.file-max = 40960, maximum number of open files, default 8192
- vm.bdflush = 100 5000 640 2560 150 30000 5000 1884 2 (see tux tuning and setup file)

Alteon NIC settings in /usr/src/linux/drivers/net/acenic.c
- tx_coal_tick = 300, default 400
- rx_coal_tick = 300, default 120

Network adapters affinitized 1 per CPU
See config file for kernel build information

SPECweb99 Result

Notes/Tuning Information (Continued)

HTTP Software Notes

TUX Configuration
- net.tux.threads = 2, sets number of TUX threads, default 2
- net.tux.logging = 1, turns on logging, default 0
- net.tux.mode_allowed = 255, allowed file-permission bits, default 00004
- net.tux.mode_forbidden = 2, forbidden file-permission bits, default 00000
- net.tux.max_cached_filesize = 100000000, maximum size of cached object, default 100000
- net.tux.serverport = 80
- net.tux.max_backlog = 3000, maximum per-listening-socket TCP backlog size, default 2048

HTTP API Notes

Dell Tux API from Dell-20000626.zip

Hardware Notes

1 disk for OS and logs, 4 disk RAID web pages