SPECweb99 Result

Angstrom Microsystems: Titan 64 Classic 4
Red Hat: Red Hat Content Accelerator 2

SPECweb99 = 10150
Test Date: Aug-2003
Tester: Advanced Micro Devices

Hardware Avail:	Jul-2003	OS Avail:	Oct-2001	HTTP Software Avail:	Jun-2002	Sup. Software Avail:	Jun-2002	SPEC license #:	49

Hardware

Vendor:	Angstrom Microsystems
Model:	Titan 64 Classic 4
Processor:	AMD Opteron 844, 1.8 GHz
# Processors:	4 cores, 4 chips, 1 core/chip
Primary Cache:	64KBI+64KBD
Secondary Cache:	1MB on chip
Other Cache:	none
Memory:	32 GB pc2100 DDR
Disk Subsystem:	3 Ultra320 SCSI
Disk Controllers:	Onboard LSI SCSI
Other Hardware:	1 Extreme Summit 7i Gigabit Switch

Software

Operating System:	Red Hat Linux 7.2
File System:	ext2
Other Software:	LSI mptlinux-2.03.011 Intel 4.2.17 driver, RHBA-2002-104

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:	Aug-2003
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Network

# of Controllers:	4
Network Controllers:	Intel Pro/1000 MT Server Adapter
# 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:	16
Model:	Tyan Tiger/AMD Athlon MP
Processor:	AMD Athlon MP 2000+
# of Processors:	2
Memory:	512MB
Network Controller:	Intel Pro1000XT
Operating System:	Windows 2000 Professional
Compiler:	Microsoft Visual C++ 6.0

Notes/Tuning Information

SUT Notes

1 U320 15K 18GB SCSI disk for OS, 1 U320 15K 18GB SCSI disk for logs, 1 U320 15K 36G SCSI for web pages.

Operating System Notes

ulimit -n 10000, sets number of open files, default 1024
One NIC irq bound per CPU
Each NIC’s TX queue length set to 20000 via ifconfig, default 100
File systems mounted with "noatime, nodiratime", no inode access time updating
net.ipv4.nonlocal_bind = 1, allows processes to bind to non-local IP adresses
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 = 10000000 10000000 10000000, sets min/default/max TCP read buffer, default 4096 87380 174760
net.ipv4.tcp_wmem = 10000000 10000000 10000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072
net.ipv4.tcp_mem = 10000000 10000000 10000000, 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 = 20000, 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.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
Kernel Parameters:
idle=poll, idle threads pool reschedule flag, default is to use HLT instruction
acpismp = force, use ACPI tables for processor information, default MP table

SPECweb99 Result

Notes/Tuning Information (Continued)

HTTP Software Notes

net.tux.logging = 1, turns on logging of requests, default 0
net.tux.cgiroot = /, cgi root check, default /var/www/tux/cgiroot/
net.tux.max_backlog = 3000, maximum per-listening-socket TCP backlog size, default 2048
One Network bound to each TUX thread.
net.tux.noid = 1, suppress the Server id string, default 0

HTTP API Notes

Compiled with gcc v2.96 (version included with OS)

Client Notes

Clients require a Tyan Tiger motherboard and an ATX 4hd capable case.
Case uses a 300W ATX power supply and a 40G ATA 133 IDE hard drive.

Other Notes

Tuning Disclosure: See above.
Dynamic API: Dell-20020204-RHCA.tar.gz
Kernel config: AMD-20030815-config.tux