

SPECweb99 Result

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Advanced Micro Devices: Tyan S2882/Opteron 250
Red Hat: Red Hat Content Accelerator 3.2

SPECweb99 = 8120

Test Date: Apr-2004
Tester: Advanced Micro Devices

Hardware Avail: May-2004 OS Avail: Oct-2003 HTTP Software Avail: Oct-2003 Sup. Software Avail: Oct-2003 SPEC license #: 49

Hardware

Vendor: Advanced Micro Devices
Model: Tyan S2882/Opteron 250
Processor: AMD Opteron 250, 2.4 GHz
Processors: 2 cores, 2 chips, 1 core/chip
Primary Cache: 64KBI+64KBD
Secondary Cache: 1MB on chip
Other Cache: None
Memory: 16 GB pc2700 DDR
Disk Subsystem: 5 36GB Ultra320 SCSI drives
Disk Controllers: LSI MegaRAID SCSI 320-2X
Other Hardware: 4: Dell PowerConnect 5224

Software

Operating System: Red Hat Enterprise Linux AS 3
File System: ext2
Other Software: None

HTTP Software

Vendor: Red Hat
HTTP Software: Red Hat Content Accelerator 3.2
API: RHCA API
Server Cache: None
Log Mode: Binary CLF

Test Sponsor

Test Date: Apr-2004
Tested By: Advanced Micro Devices
SPEC License: 49

Network

of Controllers: 4
Network Controllers: Intel Pro/1000 MT Server Adapters
of Nets: 4
Type of Nets: Gigabit Ethernet
Network Speed: 1 Gb/s
MSL (sec): 30 (Non RFC1122)
Time-Wait (sec): (Non RFC1122)
MTU: 1500

Clients

of Clients: 20
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 36GB disk for OS, 4 U320 15K 36G disks (RAID0 stripe) for web pages.
ACPI SRAT support disabled

Operating System Notes

ulimit -n 10000, sets number of open files, default 1024
Two NIC ports' IRQs bound per CPU; timer IRQ bound to CPU 0; LSI(web pages) IRQ bound to CPU1, default 0
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 addresses
net.ipv4.tcp_timestamps = 0, turns TCP timestamp support off, default on
net.ipv4.tcp_max_tw_buckets = 1500000, sets TCP time-wait buckets pool size, default 180000
net.ipv4.tcp_rmem = 3000000 3000000 3000000, sets min/default/max TCP read buffer, default 4096 87380 174760
net.ipv4.tcp_wmem = 3000000 3000000 3000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072
net.ipv4.tcp_mem = 3000000 3000000 3000000, sets min/pressure/max TCP buffer space, default 31744 32256 32768
net.ipv4.tcp_window_scaling = 0, turn TCP window scaling support off, default on
net.core.hot_list_length = 5000, 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
sys.vm.dcache_priority = 1000000, lowers # entries zapped from dcache each iteration, default 0
Kernel Parameters:
idle=poll, idle threads pool reschedule flag, default is to use HLT instruction

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Notes/Tuning Information (Continued)

HTTP Software Notes

Two networks 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.noid = 1, suppress the Server id string, default 0

net.tux.generate_etags = 0, do not generate ETag header, default 1

net.tux.generate_last_mod = 0, do not generate Last-Modified header, default 0

net.tux.max_connect = 50000, maximum # of simultaneous connections, default 1000

Client Notes

Clients require a Tyan Tiger motherboard and an ATX case.

Case uses a 300W ATX power supply and a 40GB ATA 133 IDE hard drive.

Other Notes

Tuning Disclosure: See above.

Dynamic API: Dell-20031027-RHCA.tgz

Kernel config: AMD-20040501-config.tux