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
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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 adresses
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 = 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.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