

# SPECweb99 Result

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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  
Tested By: Advanced Micro Devices  
SPEC License: 49

## 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 addresses  
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 = 1000000 1000000 1000000, sets min/default/max TCP read buffer, default 4096 87380 174760  
net.ipv4.tcp\_wmem = 1000000 1000000 1000000, sets min/pressure/max TCP write buffer, default 4096 16384 131072  
net.ipv4.tcp\_mem = 1000000 1000000 1000000, 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 = 1000000, maximum receive socket buffer size, default 131071  
net.core.wmem\_max = 1000000, maximum send socket buffer size, default 131071  
net.core.rmem\_default = 1000000, default receive socket buffer size, default 65535  
net.core.wmem\_default = 1000000, default send socket buffer size, default 65535  
net.core.optmem\_max = 1000000, 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

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## 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