

# SPECweb99 Result

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Dell: PowerEdge 2500  
Red Hat: TUX 2.0

SPECweb99 = 3435

Test Date: Aug-2001  
Tester: Dell

Hardware Avail: Aug-2001 OS Avail: Apr-2001 HTTP Software Avail: Apr-2001 Sup. Software Avail: Jun-2001 SPEC license #: 55

## Hardware

Vendor: Dell  
Model: PowerEdge 2500  
Processor: 1.13GHz Pentium III  
# Processors: 2 cores, 2 chips, 1 core/chip  
Primary Cache: 16KBI+16KBD on chip  
Secondary Cache: 512KB ATC  
Other Cache: None  
Memory: 4 GB  
Disk Subsystem: 8 18gig 15K RPM drives  
Disk Controllers: Onboard Adaptec 7899  
Other Hardware: 4 Alteon ACEswitch 180

## Software

Operating System: Red Hat Linux 7.1  
File System: ext2  
Other Software: None

## HTTP Software

Vendor: Red Hat  
HTTP Software: TUX 2.0  
API: TUX user API  
Server Cache: None  
Log Mode: Binary CLF

## Test Sponsor

Test Date: Aug-2001  
Tested By: Dell  
SPEC License: 55

## Network

# of Controllers: 4  
Network Controllers: Alteon AceNIC 1000SX  
# 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: 20  
Model: Dell Precision 410  
Processor: 450MHz Pentium II  
# of Processors: 2  
Memory: 128MB  
Network Controller: Alteon AceNIC 1000SX  
Operating System: Windows 2000 Professional  
Compiler: Microsoft Visual C++ 6.0

## Notes/Tuning Information

### SUT Notes

1 disk for OS and logs  
7 disk software RAID0 stripe for fileset

### Operating System Notes

ulimit -n 10000, sets number of open files, default 1024  
Two NIC IRQs bound per CPU  
Each NIC's TX queue length set to 20000 via ifconfig, default 1000  
File systems mounted with "noatime,check=none"; no inode access time updating, no check on mount  
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 = 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\_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 = 300000, 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.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  
See .config file for kernel build information  
Alteon NIC settings in drivers/net/acenic.c:  
DEF\_TX\_COAL = 300, default 400

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## Notes/Tuning Information (Continued)

### Operating System Notes (Continued)

DEF\_RX\_COAL = 300, default 120  
DEF\_TX\_MAX\_DESC = 64, default 60  
DEF\_RX\_MAX\_DESC = 32, default 25  
Kernel update patch (RHSA-2001-084)

### HTTP Software Notes

Each TUX thread's listening address bound to 2 NIC's associated networks  
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.max\_backlog = 3000, maximum per-listening-socket TCP backlog size, default 2048

### HTTP API Notes

TUX API from Compaq-20010709-ml370-tux.tar.gz

### Client Notes

Tcpip/Parameters/MaxUserPort = 0xffff, sets maximum open ports to 65534.