

# SPECweb99 Result

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Hewlett-Packard: HP 9000 Model L3000  
Zeus Technology Limited: Zeus 3.3.7

SPECweb99 = 1133

Test Date: Dec-2000  
Tester: Hewlett-Packard Company

Hardware Avail: Nov-2000 OS Avail: Feb-2000 HTTP Software Avail: Aug-2000 Sup. Software Avail: Aug-2000 SPEC license #: 3

## Hardware

Vendor: Hewlett-Packard  
Model: HP 9000 Model L3000  
Processor: PA-8600 550Mhz  
# Processors: 1 core, 1 chip, 1 core/chip  
Primary Cache: 512KBI+1024KBD on chip  
Secondary Cache: None  
Other Cache: None  
Memory: 16 GB  
Disk Subsystem: 1x18GB, 2x36GB (10K rpm)  
Disk Controllers: 1 HP FWD SCSI, 1 HP Ultra2 SCSI  
Other Hardware: None

## Software

Operating System: HP-UX 11.ACE (64-bit)  
File System: See Notes  
Other Software: HP A4926A PCI Gigabit Ethernet

## HTTP Software

Vendor: Zeus Technology Limited  
HTTP Software: Zeus 3.3.7  
API: ISAPI  
Server Cache: See Zeus parameters  
Log Mode: Binary Log Format

## Test Sponsor

Test Date: Dec-2000  
Tested By: Hewlett-Packard Company  
SPEC License: 3

## Network

# of Controllers: 2  
Network Controllers: HP A4926A PCI Gigabit Ethernet  
# of Nets: 1  
Type of Nets: Gigabit Ethernet  
Network Speed: 1000 Mbps  
MSL (sec): 30 (Non RFC1122)  
Time-Wait (sec): 60 (Non RFC1122)  
MTU: 1500

## Clients

# of Clients: 32  
Model: HP 9000/A180C  
Processor: 4400Mhz PA-8500  
# of Processors: 1  
Memory: 128MByte  
Network Controller: HP A5230A, PCI 100BaseT  
Operating System: HPUX 11.0 ACE  
Compiler: B3901BA B.11.01.08 HP C/ANSI C

## Notes/Tuning Information

### SUT Notes

Set LargePage attribute on all Zeus Binaries [chattr +pd 16M +pi 16M]

### Operating System Notes

HP-UX Patches  
PHNE\_20125 - NDD General Patch  
PHNE\_20316 - Cumulative Streams Patch  
PHNE\_21905 - LAN product cumulative patch  
PHNE\_21865 - 1000Base-SX/T cumulative patch  
PHCO\_22314 - libc cumulative patch  
HP-UX Tunable Parameters  
tphashsz=16384, ninode=100000, nfile=120000  
nproc=100 maxfiles=60000  
maxfiles\_lim=60000, dbc\_max\_pct=77, dbc\_min\_pct=77  
maxdsiz=0x18000000, maxswapchunks=4096  
vps\_pagesize=32, vps\_ceiling=65536

### HTTP Software Notes

Zeus Global Parameters:  
tuning!cache\_files 90000  
tuning!cache\_max\_bytes 0  
tuning!cache\_small\_file 0  
tuning!cache\_large\_file 1048576  
tuning!cache\_stat\_expire 86400  
tuning!cache\_flush\_interval 86400  
tuning!cache\_cooling 0  
tuning!listen\_queue\_size 8192  
tuning!multiple\_accept yes

For more  
Information  
Contact

SPEC

info@spec.org  
http://www.spec.org

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## Notes/Tuning Information (Continued)

### HTTP Software Notes (Continued)

```
tuning!so_rbuff_size 32768
tuning!so_wbuff_size 1048576
tuning!keepalive yes
tuning!keepalive_timeout 600
tuning!keepalive_max -1
tuning!timeout 600
tuning!unique_bind yes
tuning!bind_any no
tuning!sendfile yes
tuning!sendfile_reservefd 45001
tuning!sendfile_minsize 0
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!softservers no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled yes
tuning!modules!fastcgi!enabled yes
```

### HTTP API Notes

Zeus ISAPI interface used for most dynamic content  
FastCGI used as communication method to manage all the independent CGI processes

### Network Notes

1 HP Procurve 1600M Switches  
Networking Tuning parameters:

```
tcp_xmit_hiwater_def=2000000 (Default = 32K)
(Amount of unsent data that triggers write-side flow control)
tcp_conn_request_max=1024 (Default = 20)
(Maximum number of outstanding inbound connection requests.)
tcp_conn_strategy=1 (Default = 0)
(Selects tcp connection strategy.)
Gigabit Tuning parameters:
send_max_bufs=32, recv_max_bufs=12

recv_coal_ticks=10000,send_coal_ticks=1000
```

### Client Notes

ncallout 5000 (increase number of pending timeouts)  
max\_thread\_proc 800 (allow more threads per process)  
nkthread 2048 (maximum number of threads system-wide)