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

SPECweb99 = 2110
Test Date: Dec-2000
Tester: Hewlett-Packard Company

Hardware
Vendor: Hewlett-Packard
Model: HP 9000 Model L3000
Processor: PA-8600 550Mhz
# Processors: 2 cores, 2 chips, 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: 2
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 [cat +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
tcphashsz=16384, ninode=100000, nfile=120000
nproc=100 maxfiles=60000
maxfiles_lim=60000, dbc_max_pct=77, dbc_min_pct=77
maxdiz=0x18000000, maxswapchunks=4096
vps_pagesize=32, vps_ceiling=65536

HTTP Software Notes
Zeus Global Parameters:
tuning/cache_files 150000
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
HTTP Software Notes (Continued)

- `tuning!so_rbuff_size` 32768
- `tuning!so_wbuff_size` 1048576
- `tuning!keepalive` yes
- `tuning!keepalive_timeout` 1200
- `tuning!keepalive_max` -1
- `tuning!timeout` 1200
- `tuning!unique_bind` yes
- `tuning!bind_any` no
- `tuning!sendfile` yes
- `tuning!sendfile_reservedfd` 53001
- `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!isapi!enabled` yes
- `tuning!modules!fastcgi!enabled` yes

Starts 2 copies of Zeus and each binds to an unique IP address

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

- 2 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)