

SPECweb99 Result

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Hewlett-Packard Company : HP 9000 Model A500      ||      NC      SPECweb99
Zeus Technology Ltd.   : Zeus 3.3.6              ||
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SPEC has determined that this result was not in compliance with the SPECweb99 run and reporting rules. Specifically, the result did not meet the 3 month availability requirement in the SPECweb99 run rules due to a change in availability of the HP 9000 Model A500. Results for the same hardware and software configuration have been submitted to SPEC that address the availability issue.

PERFORMANCE

Iteration	Conforming Simultaneous Connections
1	NC
2	NC
3	NC
Median	NC

Availability Dates

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All Hardware           Aug-2000
HTTP Software         Apr-2000
Operating System      Mar-2000
Supplemental System   Apr-2000

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Hardware

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Vendor                 Hewlett-Packard Company
Model                 HP 9000 Model A500
Processor             440 MHz PA-8500
# Processors          1 core, 1 chip, 1 core/chip
Primary Cache         512KBI+1024KBD
Secondary Cache       None
Other Cache           None
Memory                8 GB
Disk Subsystem        2 A5574A (18GB)
Disk Controllers       Internal LVD SCSI
Other Hardware         None

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Software

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Operating System      HP-UX 11.ACE
File System           HFS
Other Software         None

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HTTP Software

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Vendor                 Zeus Technology Ltd.

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HTTP Software Zeus 3.3.6
API ISAPI
Server Cache See Notes
Log Mode Common Log Format

Test Sponsor

Test Date May-2000
Tested By HP, Cupertino CA
SPEC License 3

Network

of Controllers 1
Network Controllers HP A4926A PCI 1000Base-SX
of Nets 1
Type of Nets 1000Base-SX
Network Speed 1 Gb/s
MSL (sec) 30 (Non RFC1122)
Time-Wait (sec) 60 (Non RFC1122)
MTU 1500

Clients

of Clients 11
Model HP B180L
Processor PA-7300LC 180MHz
of Processors 1
Memory 128MB
Network Controller HP PCI 100BT
Operating System HP-UX 11.ACE
Compiler HP C/ANSI C (B3899BA)

Benchmark Configuration

Requested Connections 1032
Fileset Size (MB) 3420.88

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Notes/Tuning information

Operating System Notes

HP-UX Parameters:

ninode 8000 (in-core inodes)
nfile 35000 (in-core filedescriptors)
maxfiles 35000 (max descriptors per process)
maxfiles_lim 35000 (absolute max descriptors per process)
nproc 500 (absolute number of processes)
tcpshasz 16384 (hash table scaling factor for TCP connections)
dbc_min_pct 50 (use half of memory for buffer cache)
dbc_max_pct 50 (use half of memory for buffer cache)

Network Transport Parameters (nnd):

tcp_xmit_hiwater_def 1048576 (bump highwater mark)
tcp_conn_request_max 1024 (bump connection limits)
tcp_conn_strategy 1 (allocate memory assuming reuse)

Network Interface Parameters (gbeutil):

recv_coal_ticks 10000 (max of 0.1 seconds before inbound interrupt)
send_coal_ticks 1000 (max of 0.01 seconds before outbound interrupt)
recv_max_bufs 12 (max of 12 inbound buffers before interrupt)
send_max_bufs 32 (max of 32 outbound buffers before interrupt)

HTTP Software Notes

Zeus Tuning Values:

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cache_files      60000 (cache up to 60,000 files)
cache_max_bytes  0 (do not limit total size of cache)
cache_small_file 0 (keep any file no matter how small)
cache_large_file 1048576 (keep any file less than 1MB)
cache_stat_expire 864000 (check for file updates daily)
cache_flush_interval 864000 (flush cached files daily)
sendfile         yes (use the HP-UX sendfile system call)
sendfile_reservefd 30001 (keep lots of descriptors available for sendfile)
sendfile_minsize 0 (no file is too small for a sendfile)
listen_queue_size 8192 (allow more connections to queue)
cbuff_size       1048576 (use large buffer for cgi interface)
timeout          7200 (don't give up on a client easily)
keepalive_max    -1 (no limit on number of keepalive connections)
unique_bind      yes (dedicate one listener to each listed ip addr.)
bind_any         no (don't bind the listen socket to IN_ADDR_ANY)

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Zeus Site Configuration:

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modules!stats!enabled no (don't bother to measure statistics)
modules!nsapi!enabled no (don't need any NSAPI support)
modules!isapi!enabled yes (we do rely on the ISAPI features)
modules!fastcgi!enabled yes (support the FastCGI interface)

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Zeus Installation Notes:

Set LargePage attribute on all Zeus binaries [chatr +pi 16M +pd 16M]

HTTP API Notes

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

Software Notes

HP-UX System Patches:
PHNE_20125 ndd general patch
PHNE_20316 Cumulative STREAMS Patch

Network Notes

All Clients wired via 100BT to one HP ProCurve 1600
SUT wired to a 1000-SX module within the HP ProCurve 1600

Client Notes

Client's HP-UX Parameters:
ncallout 5000 (increase number of potential pending items)
max_thread_proc 800 (allow more threads per process)

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Test Run Details

Run Num	Conforming Connections	Percent Conform	Throughput ops/sec	Response msec	ops/sec/ loadgen	Kbits/ sec
1	NC	NC	NC	NC	NC	NC
2	NC	NC	NC	NC	NC	NC
=> 3	NC	NC	NC	NC	NC	NC