

SPECweb99 Result

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Hewlett-Packard : HP Integrity rx4640          ||      NC      SPECweb99
Zeus Technology Limited : Zeus 4.3r2         ||
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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 a dependency of the web server.

PERFORMANCE

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

Availability Dates

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All Hardware          Dec-2004
HTTP Software         Oct-2005
Operating System      Jul-2005
Supplemental System   Jul-2005

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Hardware

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Vendor                Hewlett-Packard
Model                 HP Integrity rx4640
Processor              1.6 GHz Intel Itanium2 9M
# Processors           4 cores, 4 chips, 1 core/chip
Primary Cache          16KBI + 16KBD on chip
Secondary Cache        256KB unified on chip
Other Cache            9216KB unified on chip
Memory                 64 GB (32x2GB)
Disk Subsystem         2x73GB(15K RPM)
Disk Controllers       1 SCSI C1010 Fast Wide LVD (Internal)
Other Hardware         8 x HP Procurve 2724 Switches

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Software

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Operating System      SuSE SLES 9 SP2
File System            See Notes
Other Software         gcc 3.3.3 from distro

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HTTP Software

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Vendor                Zeus Technology Limited
HTTP Software         Zeus 4.3r2
API                   ISAPI
Server Cache          none
Log Mode              Binary Log Format

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Test Sponsor

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Test Date             Jul-2005
Tested By             Hewlett-Packard Company
SPEC License          3

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Network

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# of Controllers      6
Network Controllers   A9900A PCI-X Gigabit Ethernet
# of Nets             8
Type of Nets          Gigabit Ethernet
Network Speed         1 Gb/s
MSL (sec)             30 (Non RFC1122)
Time-Wait (sec)       60 (Non RFC1122)
MTU                   1500

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Clients

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# of Clients          24
Model                 HP Integrity rx2600
Processor             1.0GHz Intel Itanium2
# of Processors       2
Memory                6GB
Network Controller    HP A6825A
Operating System      HPUX 11i V2

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Compiler B3901BA HP C/ANSI C

Benchmark Configuration

Requested Connections 13700
Fileset Size (MB) 43959.04

Notes/Tuning information

SUT Notes

Two 73GB 15K RPM SCSI
1x73GB disk partitioned for OS and logs
OS ReiserFS with defaults
Log filesystem ext2 with noatime,nodiratime - no inode access time updates, no access control lists
1x73GB disk used for file_set
file_set filesystem ext2 mounted noatime,nodiratime - no inode access time updates, no access control lists
Bound each Zeus process to the Processor corresponding to its NICs
Zeus CGI process bound to CPU 2, associated client loading adjusted accordingly
Processor binding is performed with taskset

Operating System Notes

sysctl tunes:
net.core.rmem_max=1048576, maximum receive socket buffer size (default 65535)
net.core.rmem_default=1048576, default receive socket buffer size (default 65535)
net.core.wmem_max=1048576, , maximum send socket buffer size (default 65535)
net.core.wmem_default=1048576, default send socket buffer size (default 65535)
net.ipv4.tcp_max_syn_backlog=20480, sets length of per-socket backlog queue (default 1024)
net.ipv4.tcp_syncookies=0, Disable TCP SYN Cookie Protection (default 1)
net.ipv4.tcp_timestamps=0, turns TCP timestamp support off (default 1)
net.ipv4.tcp_max_tw_buckets=2000000, sets TCP time-wait buckets pool size (default 180000)
net.core.netdev_max_backlog=20000, number of unprocessed input packets before kernel starts dropping them (default 300)
net.core.somaxconn=20480, maximum length of the listen queue (128)
sys.vm.max_map_count=131072, maximum number of active map areas (65536)
fs.file-max=2000000, maximum number of open files (default 1024)
ulimit -n 500000 (prior to launching web server), sets number of open files (default 1024)

HTTP Software Notes

Zeus Global Parameters:
tuning!modules!cgi!minuid 0
tuning!modules!cgi!mingid 0
tuning!bind_any no
tuning!cache_cooling_time 0
tuning!cache_files 569263
tuning!cache_flush_interval 180000
tuning!cache_large_file 1048576
tuning!cache_max_bytes 0
tuning!cache_small_file 4096
tuning!cache_stat_expire 180000
tuning!cbuff_size 65536
tuning!clientfirst_optimize yes
tuning!max_connections 20000
tuning!keepalive_max -1
tuning!keepalive_timeout 1200
tuning!keepalive yes
tuning!listen_queue_size 16384
tuning!modules!log!cache_size 131072
tuning!maxaccept 2048
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!modules!isapi!enabled yes
tuning!modules!nsapi!enabled no
tuning!modules!stats!enabled no
tuning!multiple_accept yes
tuning!so_nagle_off no
tuning!sendfile_maxsize 1048576
tuning!sendfile_minsize 1024
tuning!sendfile_reservefd 321912
tuning!sendfile yes
tuning!softservers no
tuning!so_rbuff_size 0
tuning!so_wbuff_size 1048576
tuning!unique_bind yes

HTTP API Notes

Zeus ISAPI interface used
Zeus PEPP Toolkit (0.9) used for SPECweb99 dynamic content
./Configure
compiled with gcc 3.3.3 from SuSE distro

Network Notes

Networking Tunable Parameters:
Ehttool used to disable TSO on all NICs (default enabled)
InterruptThrottleRate=700 (via modprobe) Set maximum interrupt rate for NIC (default dynamic)
RxDescriptors=512 (via modprobe) Number of receive descriptors allocated (default 256)
txqueuelen=20000 (via ifconfig) Sets transmit queue length (default 100)

Client Notes

Client code generated with ./configure --enable-posix-threads
HP-UX Tunable Parameters:
max_thread_proc=4096 Number of threads per process (64)

Other Notes

Tuning Disclosure: HP-20050901.txt
Dynamic API: HP-20050901-API.tgz

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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