SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

$SPECspeed®2017\_fp\_base =$ 292

H3C UniServer R4900 G7 (Intel Xeon 6746E)

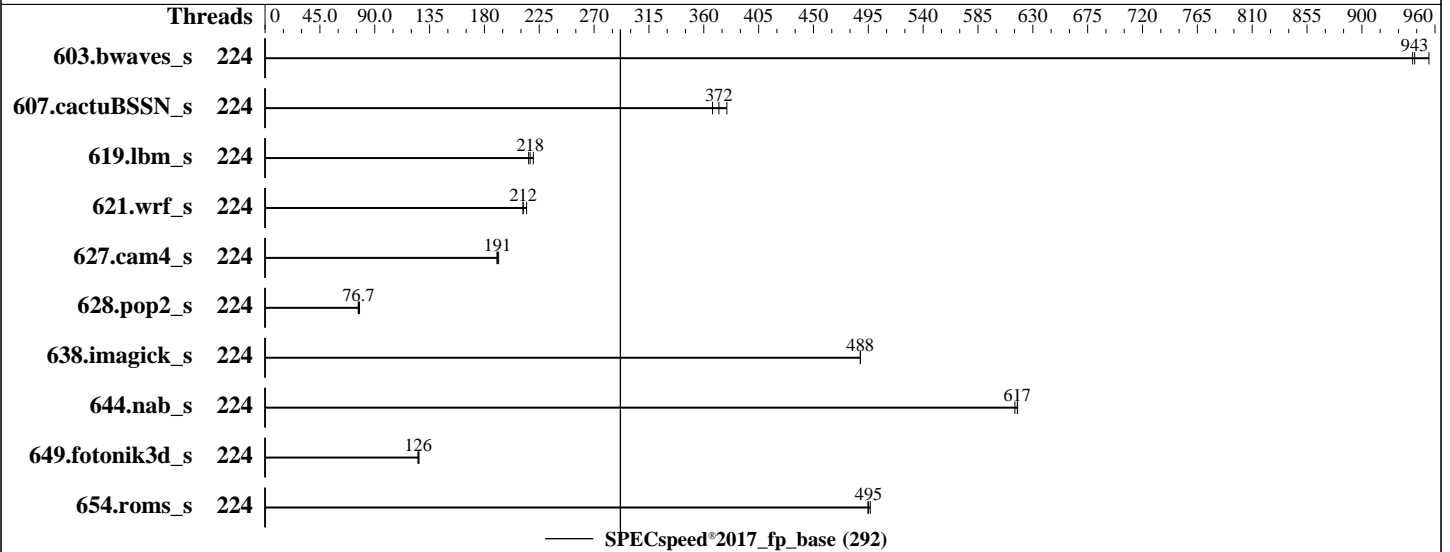$SPECspeed®2017\_fp\_peak =$ Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Threads	0	45.0	90.0	135	180	225	270	315	360	405	450	495	540	585	630	675	720	765	810	855	900	960

- **603.bwaves_s** 224 — 943
- **607.cactuBSSN_s** 224 — 372
- **619.lbm_s** 224 — 218
- **621.wrf_s** 224 — 212
- **627.cam4_s** 224 — 191
- **628.pop2_s** 224 — 76.7
- **638.imagick_s** 224 — 488
- **644.nab_s** 224 — 617
- **649.fotonik3d_s** 224 — 126
- **654.roms_s** 224 — 495

SPECspeed®2017_fp_base (292)

Hardware

CPU Name: Intel Xeon 6746E
 Max MHz: 2700
 Nominal: 2000
Enabled: 224 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 64 KB I + 32 KB D on chip per core
 L2: 4 MB I+D on chip per core
 L3: 96 MB I+D on chip per chip
 Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R, running at 5600)
Storage: 1 x 6.4 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.4 (Plow)
 5.14.0-427.13.1.el9_4.x86_64
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;
Parallel: Yes
Firmware: Version 7.00.02 released Sep-2024 BIOS
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS and OS set to prefer performance at the cost of
 additional power usage.

Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base =   292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	224	62.7	942	61.8	955	**62.5**	**943**							
607.cactuBSSN_s	224	44.0	379	45.4	367	**44.8**	**372**							
619.lbm_s	224	**24.1**	**218**	24.2	216	23.8	220							
621.wrf_s	224	**62.4**	**212**	61.6	215	62.5	212							
627.cam4_s	224	46.2	192	46.6	190	**46.5**	**191**							
628.pop2_s	224	153	77.5	155	76.5	**155**	**76.7**							
638.imagick_s	224	**29.5**	**488**	29.5	488	29.5	489							
644.nab_s	224	28.4	615	28.3	617	**28.3**	**617**							
649.fotonik3d_s	224	**72.6**	**126**	72.6	126	72.2	126							
654.roms_s	224	31.8	495	31.7	497	**31.8**	**495**							
SPECspeed®2017_fp_base =	**292**													
SPECspeed®2017_fp_peak =	**Not Run**													

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
 The numactl mechanism was used to bind copies to processors. The config file option 'submit'
 was used to generate numactl commands to bind each copy to a specific processor.
 For details, please see the config file.
```

Operating System Notes

```
 Stack size set to unlimited using "ulimit -s unlimited"
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/speccpu/lib/intel64:/home/speccpu/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

General Notes

```
 Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
 memory using Red Hat Enterprise Linux 8.4
 Transparent Huge Pages enabled by default
 Prior to runcpu invocation
 Filesystem page cache synced and cleared with:
 sync; echo 3>        /proc/sys/vm/drop_caches
 runcpu command invoked through numactl i.e.:
 numactl --interleave=all runcpu <etc>
 NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
 is mitigated in the system as tested and documented.
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
 is mitigated in the system as tested and documented.
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base =   292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066		**Test Date:**	Sep-2024
Test Sponsor:	New H3C Technologies Co., Ltd.	**Hardware Availability:**	Oct-2024
Tested by:	New H3C Technologies Co., Ltd.	**Software Availability:**	Apr-2024

General Notes (Continued)

```
is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
BIOS Settings:
LLC dead line alloc = Disabled
Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Performance

 Sysinfo program /home/speccpu/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Mon Sep 23 06:52:34 2024

 SUT (System Under Test) info as seen by some common utilities.

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -a
  2. w
  3. Username
  4. ulimit -a
  5. sysinfo process ancestry
  6. /proc/cpuinfo
  7. lscpu
  8. numactl --hardware
  9. /proc/meminfo
 10. who -r
 11. Systemd service manager version: systemd 252 (252-32.el9_4)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. tuned-adm active
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. BIOS
 ------------------------------------------------------------


 ------------------------------------------------------------
 1. uname -a
   Linux localhost.localdomain 5.14.0-427.13.1.el9_4.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 10 10:29:16 EDT
   2024 x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
    06:52:34 up 41 min,  1 user,  load average: 0.00, 0.00, 0.00
   USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
   root     pts/0     06:52   18.00s  1.37s  0.00s sh speed.sh


 ------------------------------------------------------------
 3. Username
```

SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Platform Notes (Continued)

```
    From environment variable $USER:  root


    -------------------------------------------------------------
 4. ulimit -a
    real-time non-blocking time  (microseconds, -R) unlimited
    core file size              (blocks, -c) 0
    data seg size               (kbytes, -d) unlimited
    scheduling priority               (-e) 0
    file size                   (blocks, -f) unlimited
    pending signals                   (-i) 4124004
    max locked memory           (kbytes, -l) 8192
    max memory size             (kbytes, -m) unlimited
    open files                        (-n) 1024
    pipe size                (512 bytes, -p) 8
    POSIX message queues         (bytes, -q) 819200
    real-time priority                (-r) 0
    stack size                  (kbytes, -s) unlimited
    cpu time                   (seconds, -t) unlimited
    max user processes                (-u) 4124004
    virtual memory              (kbytes, -v) unlimited
    file locks                        (-x) unlimited


    -------------------------------------------------------------
 5. sysinfo process ancestry
  /usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
  sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
  sshd: root [priv]
  sshd: root@pts/0
  -bash
  sh speed.sh
  runcpu --nobuild --action validate --define default-platform-flags -c
    ic2024.1-lin-sierraforest-speed-20240308.cfg --define cores=224 --tune base -o all --define smt-on
    --define drop_caches fpspeed
  runcpu --nobuild --action validate --define default-platform-flags --configfile
    ic2024.1-lin-sierraforest-speed-20240308.cfg --define cores=224 --tune base --output_format all --define
    smt-on --define drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed --nopreenv
    --note-preenv --logfile $SPEC/tmp/CPU2017.005/templogs/preenv.fpspeed.005.0.log --lognum 005.0
    --from_runcpu 2
  specperl $SPEC/bin/sysinfo
  $SPEC = /home/speccpu


    -------------------------------------------------------------
 6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6746E
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 175
    stepping        : 3
    microcode       : 0x13000211
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    cpu cores       : 112
    siblings        : 112
    2 physical ids (chips)
    224 processors (hardware threads)
    physical id 0: core ids 0-111
    physical id 1: core ids 0-111
    physical id 0: apicids
    0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
    ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
    32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
```

SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base =   292

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Platform Notes (Continued)

```
     4,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222
     physical id 1: apicids
     512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,5
     64,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,61
     6,618,620,622,624,626,628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668
     ,670,672,674,676,678,680,682,684,686,688,690,692,694,696,698,700,702,704,706,708,710,712,714,716,718,720,
     722,724,726,728,730,732,734
   Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
   virtualized systems.  Use the above data carefully.


   -------------------------------------------------------------
   7. lscpu

   From lscpu from util-linux 2.37.4:
     Architecture:                   x86_64
     CPU op-mode(s):                 32-bit, 64-bit
     Address sizes:                  52 bits physical, 48 bits virtual
     Byte Order:                     Little Endian
     CPU(s):                         224
     On-line CPU(s) list:            0-223
     Vendor ID:                      GenuineIntel
     BIOS Vendor ID:                 Intel(R) Corporation
     Model name:                     Intel(R) Xeon(R) 6746E
     BIOS Model name:                Intel(R) Xeon(R) 6746E
     CPU family:                     6
     Model:                          175
     Thread(s) per core:             1
     Core(s) per socket:             112
     Socket(s):                      2
     Stepping:                       3
     CPU(s) scaling MHz:             100%
     CPU max MHz:                    2700.0000
     CPU min MHz:                    800.0000
     BogoMIPS:                       4000.00
     Flags:                          fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                                     clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb
                                     rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl
                                     xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq
                                     dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm
                                     pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
                                     avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2
                                     cdp_l3 cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                                     flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2
                                     erms invpcid cqm rdt_a rdseed adx smap clflushopt clwb intel_pt sha_ni
                                     xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                                     cqm_mbm_local split_lock_detect avx_vnni lam wbnoinvd dtherm ida arat
                                     pln pts hwp hwp_act_window hwp_epp hwp_pkg_req vnmi umip pku ospke
                                     waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect cldemote movdiri
                                     movdir64b enqcmd fsrm md_clear serialize pconfig arch_lbr ibt flush_l1d
                                     arch_capabilities
     Virtualization:                 VT-x
     L1d cache:                      7 MiB (224 instances)
     L1i cache:                      14 MiB (224 instances)
     L2 cache:                       224 MiB (56 instances)
     L3 cache:                       192 MiB (2 instances)
     NUMA node(s):                   2
     NUMA node0 CPU(s):              0-111
     NUMA node1 CPU(s):              112-223
     Vulnerability Gather data sampling: Not affected
     Vulnerability Itlb multihit:        Not affected
```

(Continued on next page)

SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base =   292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Platform Notes (Continued)

```
  Vulnerability L1tf:                Not affected
  Vulnerability Mds:                 Not affected
  Vulnerability Meltdown:            Not affected
  Vulnerability Mmio stale data:     Not affected
  Vulnerability Retbleed:            Not affected
  Vulnerability Spec rstack overflow: Not affected
  Vulnerability Spec store bypass:   Mitigation; Speculative Store Bypass disabled via prctl
  Vulnerability Spectre v1:          Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:          Mitigation; Enhanced / Automatic IBRS, IBPB conditional, RSB filling,
                                     PBRSB-eIBRS Not affected
  Vulnerability Srbds:               Not affected
  Vulnerability Tsx async abort:     Not affected


  From lscpu --cache:
      NAME ONE-SIZE ALL-SIZE WAYS TYPE         LEVEL    SETS PHY-LINE COHERENCY-SIZE
      L1d      32K       7M     8 Data          1      64       1         64
      L1i      64K      14M     8 Instruction   1     128       1         64
      L2        4M     224M    16 Unified       2    4096       1         64
      L3       96M     192M    12 Unified       3  131072       1         64


  -----------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 2 nodes (0-1)
    node 0 cpus: 0-111
    node 0 size: 515010 MB
    node 0 free: 513376 MB
    node 1 cpus: 112-223
    node 1 size: 516054 MB
    node 1 free: 514707 MB
    node distances:
    node   0   1
      0:  10  21
      1:  21  10


  -----------------------------------------------------------
  9. /proc/meminfo
    MemTotal:       1055810472 kB


  -----------------------------------------------------------
  10. who -r
    run-level 3 Sep 23 06:12


  -----------------------------------------------------------
  11. Systemd service manager version: systemd 252 (252-32.el9_4)
    Default Target  Status
    multi-user      running


  -----------------------------------------------------------
  12. Services, from systemctl list-unit-files
    STATE           UNIT FILES
    enabled         ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
                    accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker firewalld
                    gdm getty@ insights-client-boot irqbalance iscsi-onboot iscsi-starter kdump libstoragemgmt
                    lm_sensors low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd
                    nis-domainname nvmefc-boot-connections ostree-remount pmcd pmie pmlogger
                    power-profiles-daemon qemu-guest-agent rhsmcertd rpcbind rsyslog rtkit-daemon
                    selinux-autorelabel-mark smartd sshd sssd switcheroo-control sysstat systemd-boot-update
                    systemd-network-generator tuned udisks2 upower vgauthd virtqemud vmtoolsd
    enabled-runtime systemd-remount-fs
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Platform Notes (Continued)

```
   disabled           arp-ethers autofs blk-availability brltty canberra-system-bootup canberra-system-shutdown
                      canberra-system-shutdown-reboot chrony-wait chronyd-restricted cni-dhcp console-getty
                      cpupower cups-browsed dbus-daemon debug-shell dnf-system-upgrade dnsmasq dovecot
                      fancontrol fcoe grafana-server gssproxy httpd httpd@ ibacm iprdump iprinit iprupdate ipsec
                      iscsi-init iscsid iscsiuio kpatch kvm_stat ledmon libvirt-guests libvirtd lldpad
                      man-db-restart-cache-update named named-chroot netavark-dhcp-proxy
                      netavark-firewalld-reload nfs-blkmap nfs-server nftables nmb numad nvmf-autoconnect
                      ostree-readonly-sysroot-migration ostree-state-overlay@ pesign pmfind pmie_farm
                      pmlogger_farm pmproxy podman podman-auto-update podman-clean-transient podman-kube@
                      podman-restart postfix powertop psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts
                      rpmdb-rebuild rrdcached saslauthd selinux-check-proper-disable serial-getty@ smb snmpd
                      snmptrapd spamassassin speech-dispatcherd srp_daemon srp_daemon_port@ sshd-keygen@
                      systemd-boot-check-no-failures systemd-nspawn@ systemd-pstore systemd-sysext target
                      targetclid tog-pegasus trace-cmd virtinterfaced virtlockd virtlogd virtnetworkd
                      virtnodedevd virtnwfilterd virtproxyd virtsecretd virtstoraged vsftpd wpa_supplicant
   indirect           iscsi pcscd spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh
                      sssd-sudo systemd-sysupdate systemd-sysupdate-reboot vsftpd@

  ----------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
   BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-427.13.1.el9_4.x86_64
   root=/dev/mapper/rhel-root
   ro
   crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
   resume=/dev/mapper/rhel-swap
   rd.lvm.lv=rhel/root
   rd.lvm.lv=rhel/swap
   rhgb
   quiet


  ----------------------------------------------------------
14. cpupower frequency-info
   analyzing CPU 51:
      current policy: frequency should be within 800 MHz and 2.70 GHz.
                      The governor "performance" may decide which speed to use
                      within this range.
      boost state support:
        Supported: yes
        Active: yes


  ----------------------------------------------------------
15. tuned-adm active
   Current active profile: throughput-performance


  ----------------------------------------------------------
16. sysctl
   kernel.numa_balancing             1
   kernel.randomize_va_space         2
   vm.compaction_proactiveness       20
   vm.dirty_background_bytes         0
   vm.dirty_background_ratio         10
   vm.dirty_bytes                    0
   vm.dirty_expire_centisecs         3000
   vm.dirty_ratio                    40
   vm.dirty_writeback_centisecs      500
   vm.dirtytime_expire_seconds       43200
   vm.extfrag_threshold              500
   vm.min_unmapped_ratio             1
   vm.nr_hugepages                   0
   vm.nr_hugepages_mempolicy         0
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066　　　　　　　　　　　　　　　　　　**Test Date:** Sep-2024
Test Sponsor: New H3C Technologies Co., Ltd.　　　　　　**Hardware Availability:** Oct-2024
Tested by: New H3C Technologies Co., Ltd.　　　　　　　**Software Availability:** Apr-2024

Platform Notes (Continued)

```
  vm.nr_overcommit_hugepages         0
  vm.swappiness                     10
  vm.watermark_boost_factor      15000
  vm.watermark_scale_factor         10
  vm.zone_reclaim_mode               0


  ------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage
  defrag           always defer defer+madvise [madvise] never
  enabled          [always] madvise never
  hpage_pmd_size   2097152
  shmem_enabled    always within_size advise [never] deny force


  ------------------------------------------------------------
18. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_shared           256
  max_ptes_swap              64
  pages_to_scan            4096
  scan_sleep_millisecs    10000


  ------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release     Red Hat Enterprise Linux 9.4 (Plow)
  redhat-release Red Hat Enterprise Linux release 9.4 (Plow)
  system-release Red Hat Enterprise Linux release 9.4 (Plow)


  ------------------------------------------------------------
20. Disk information
SPEC is set to: /home/speccpu
  Filesystem            Type  Size  Used Avail Use% Mounted on
  /dev/mapper/rhel-home xfs   3.5T  129G  3.3T   4% /home


  ------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
  Vendor:           New H3C Technologies Co., Ltd.
  Product:          H3C UniServer R4900 G7
  Serial:           210235A51GH249000023


  ------------------------------------------------------------
22. dmidecode
  Additional information from dmidecode 3.5 follows.  WARNING: Use caution when you interpret this section.
  The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately
  determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the
  "DMTF SMBIOS" standard.
  Memory:
    16x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400, configured at 5600



  ------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
  BIOS Vendor:      American Megatrends International, LLC.
  BIOS Version:     7.00.02
  BIOS Date:        09/14/2024
  BIOS Revision:    5.35
  Firmware Revision: 1.16
```

SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Compiler Version Notes

```
==============================================================================
C               | 619.lbm_s(base) 638.imagick_s(base) 644.nab_s(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C++, C, Fortran | 607.cactuBSSN_s(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran         | 603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran, C      | 621.wrf_s(base) 627.cam4_s(base) 628.pop2_s(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icx`

Fortran benchmarks:
`ifx`

Benchmarks using both Fortran and C:
`ifx icx`

Benchmarks using Fortran, C, and C++:
`icpx icx ifx`

Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsierraforest -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using both Fortran and C:
-w -m64 -std=c11 -Wl,-z,muldefs -xsierraforest -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, C, and C++:
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsierraforest -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-SPR-RevE.html

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6746E)

SPECspeed®2017_fp_base = 292

SPECspeed®2017_fp_peak = Not Run

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-SPR-RevE.xml

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2017 v1.1.9 on 2024-09-23 06:52:33-0400.
Report generated on 2024-10-09 14:03:46 by CPU2017 PDF formatter v6716.
Originally published on 2024-10-09.