SPEC CPU®2017 Floating Point Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Platinum 8558P)

$SPECrate^{®}2017\_fp\_base = \quad 1130$

$SPECrate^{®}2017\_fp\_peak = Not\ Run$
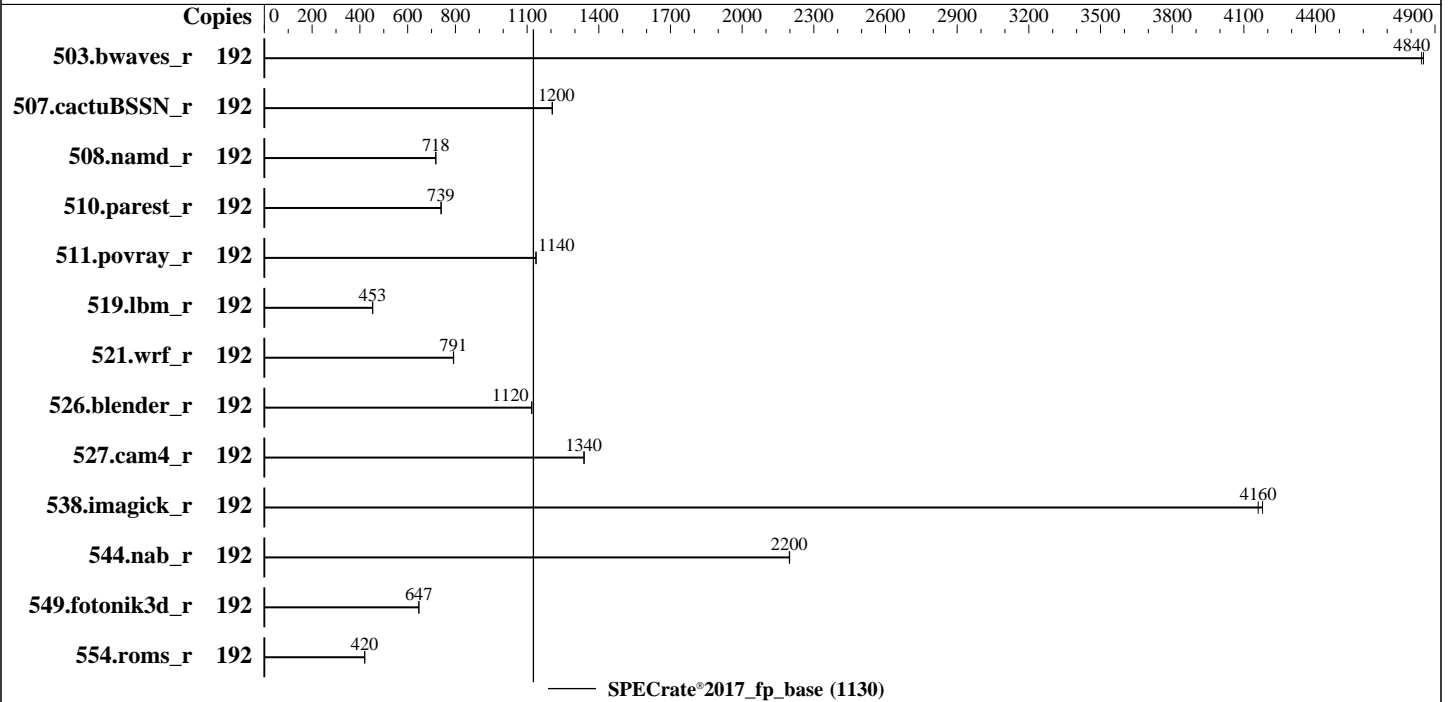
CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Nov-2024

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Benchmark	Copies	Result
503.bwaves_r	192	4840
507.cactuBSSN_r	192	1200
508.namd_r	192	718
510.parest_r	192	739
511.povray_r	192	1140
519.lbm_r	192	453
521.wrf_r	192	791
526.blender_r	192	1120
527.cam4_r	192	1340
538.imagick_r	192	4160
544.nab_r	192	2200
549.fotonik3d_r	192	647
554.roms_r	192	420

SPECrate®2017_fp_base (1130)

Hardware

CPU Name: Intel Xeon Platinum 8558P
Max MHz: 4000
Nominal: 2700
Enabled: 96 cores, 2 chips, 2 threads/core
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 260 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 4.8 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP5
5.14.21-150500.53-default
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: No
Firmware: Version 6.10.45 released Aug-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.

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Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
503.bwaves_r	192	397	4850	**397**	**4840**									
507.cactuBSSN_r	192	202	1210	**202**	**1200**									
508.namd_r	192	**254**	**718**	254	718									
510.parest_r	192	**679**	**739**	678	740									
511.povray_r	192	394	1140	**395**	**1140**									
519.lbm_r	192	446	454	**446**	**453**									
521.wrf_r	192	543	792	**543**	**791**									
526.blender_r	192	261	1120	**261**	**1120**									
527.cam4_r	192	251	1340	**251**	**1340**									
538.imagick_r	192	**115**	**4160**	114	4180									
544.nab_r	192	147	2200	**147**	**2200**									
549.fotonik3d_r	192	1156	647	**1157**	**647**									
554.roms_r	192	726	420	**726**	**420**									

SPECrate®2017_fp_base = **1130**

SPECrate®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:
LD_LIBRARY_PATH = "/home/speccpu/lib/intel64:/home/speccpu/je5.0.1-64"
MALLOC_CONF = "retain:true"
```

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.
```

(Continued on next page)

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General Notes (Continued)

```
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)
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:
 SNC = Enable SNC2 (2-clusters)
 Power Performance Tuning = BIOS Controls EPB
 ENERGY_PERF_BIAS_CFG mode = Performance
 Virtual NUMA = Enabled

 Sysinfo program /home/speccpu/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost Mon Nov  4 20:42:34 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 249 (249.16+suse.171.gdad0071f15)
 12. Failed units, from systemctl list-units --state=failed
 13. Services, from systemctl list-unit-files
 14. Linux kernel boot-time arguments, from /proc/cmdline
 15. cpupower frequency-info
 16. tuned-adm active
 17. sysctl
 18. /sys/kernel/mm/transparent_hugepage
 19. /sys/kernel/mm/transparent_hugepage/khugepaged
 20. OS release
 21. Disk information
 22. /sys/devices/virtual/dmi/id
 23. dmidecode
 24. BIOS
 ------------------------------------------------------------


 ------------------------------------------------------------
 1. uname -a
   Linux localhost 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043/lp)
   x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
    20:42:34 up 12:44,  2 users,  load average: 28.46, 131.41, 169.92
```

(Continued on next page)

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Platform Notes (Continued)

```
   USER     TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -               17:27   18.00s  1.25s  0.01s sh RATE.sh
   root     pts/0    172.16.27.225   20:41   42.00s  0.01s  0.01s -bash


   ----------------------------------------------------------
3. Username
  From environment variable $USER:  root


   ----------------------------------------------------------
4. ulimit -a
   core file size          (blocks, -c) unlimited
   data seg size           (kbytes, -d) unlimited
   scheduling priority             (-e) 0
   file size               (blocks, -f) unlimited
   pending signals                 (-i) 4124777
   max locked memory       (kbytes, -l) 64
   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) 4124777
   virtual memory          (kbytes, -v) unlimited
   file locks                      (-x) unlimited


   ----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 30
 login -- root
 -bash
 sh RATE.sh
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=192 -c
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=96 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base -o all fprate -n 2
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=192 --configfile
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=96 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base --output_format all --iterations 2
   --nopower --runmode rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.127/templogs/preenv.fprate.127.0.log --lognum 127.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/speccpu


   ----------------------------------------------------------
6. /proc/cpuinfo
   model name      : INTEL(R) XEON(R) PLATINUM 8558P
   vendor_id       : GenuineIntel
   cpu family      : 6
   model           : 207
   stepping        : 2
   microcode       : 0x21000200
   bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
   cpu cores       : 48
   siblings        : 96
   2 physical ids (chips)
   192 processors (hardware threads)
   physical id 0: core ids 0-47
   physical id 1: core ids 0-47
   physical id 0: apicids 0-95
```

(Continued on next page)

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Platform Notes (Continued)

```
    physical id 1: apicids 128-223
  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, 57 bits virtual
  Byte Order:               Little Endian
  CPU(s):                   192
  On-line CPU(s) list:      0-191
  Vendor ID:                GenuineIntel
  Model name:               INTEL(R) XEON(R) PLATINUM 8558P
  CPU family:               6
  Model:                    207
  Thread(s) per core:       2
  Core(s) per socket:       48
  Socket(s):                2
  Stepping:                 2
  CPU max MHz:              4000.0000
  CPU min MHz:              800.0000
  BogoMIPS:                 5400.00
  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
                            invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                            vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 hle avx2 smep
                            bmi2 erms invpcid rtm cqm rdt_a avx512f avx512dq rdseed adx smap
                            avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl
                            xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                            cqm_mbm_local avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp
                            hwp_act_window hwp_epp hwp_pkg_req hfi avx512vbmi umip pku ospke waitpkg
                            avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                            avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b
                            enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr avx512_fp16
                            amx_tile flush_l1d arch_capabilities
  Virtualization:           VT-x
  L1d cache:                4.5 MiB (96 instances)
  L1i cache:                3 MiB (96 instances)
  L2 cache:                 192 MiB (96 instances)
  L3 cache:                 520 MiB (2 instances)
  NUMA node(s):             8
  NUMA node0 CPU(s):        0-11,96-107
  NUMA node1 CPU(s):        12-23,108-119
  NUMA node2 CPU(s):        24-35,120-131
  NUMA node3 CPU(s):        36-47,132-143
  NUMA node4 CPU(s):        48-59,144-155
  NUMA node5 CPU(s):        60-71,156-167
  NUMA node6 CPU(s):        72-83,168-179
  NUMA node7 CPU(s):        84-95,180-191
  Vulnerability Itlb multihit:   Not affected
  Vulnerability L1tf:       Not affected
  Vulnerability Mds:        Not affected
```

(Continued on next page)

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Platform Notes (Continued)

```
  Vulnerability Meltdown:          Not affected
  Vulnerability Mmio stale data:   Not affected
  Vulnerability Retbleed:          Not affected
  Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
  Vulnerability Spectre v1:        Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:        Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW
                                   sequence
  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       48K     4.5M   12 Data           1     64        1             64
      L1i       32K       3M    8 Instruction    1     64        1             64
      L2         2M     192M   16 Unified        2   2048        1             64
      L3       260M     520M   20 Unified        3 212992        1             64

  ------------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 8 nodes (0-7)
    node 0 cpus: 0-11,96-107
    node 0 size: 129016 MB
    node 0 free: 125972 MB
    node 1 cpus: 12-23,108-119
    node 1 size: 128578 MB
    node 1 free: 125569 MB
    node 2 cpus: 24-35,120-131
    node 2 size: 128983 MB
    node 2 free: 126258 MB
    node 3 cpus: 36-47,132-143
    node 3 size: 129017 MB
    node 3 free: 126250 MB
    node 4 cpus: 48-59,144-155
    node 4 size: 129017 MB
    node 4 free: 126104 MB
    node 5 cpus: 60-71,156-167
    node 5 size: 129017 MB
    node 5 free: 125439 MB
    node 6 cpus: 72-83,168-179
    node 6 size: 129017 MB
    node 6 free: 126209 MB
    node 7 cpus: 84-95,180-191
    node 7 size: 128574 MB
    node 7 free: 125853 MB
    node distances:
    node   0   1   2   3   4   5   6   7
      0:  10  20  20  20  20  20  20  20
      1:  20  10  20  20  20  20  20  20
      2:  20  20  10  20  20  20  20  20
      3:  20  20  20  10  20  20  20  20
      4:  20  20  20  20  10  20  20  20
      5:  20  20  20  20  20  10  20  20
      6:  20  20  20  20  20  20  10  20
      7:  20  20  20  20  20  20  20  10

  ------------------------------------------------------------
  9. /proc/meminfo
    MemTotal:      1055974876 kB
```

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Platform Notes (Continued)

```
    ----------------------------------------------------------
    10. who -r
      run-level 3 Nov 4 07:58


    ----------------------------------------------------------
    11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
      Default Target  Status
      multi-user      degraded


    ----------------------------------------------------------
    12. Failed units, from systemctl list-units --state=failed
        UNIT          LOAD   ACTIVE SUB    DESCRIPTION
      * sep5.service loaded failed failed systemd script to load sep5 driver at boot time


    ----------------------------------------------------------
    13. Services, from systemctl list-unit-files
      STATE           UNIT FILES
      enabled         ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
                      bluetooth cron display-manager firewalld getty@ irqbalance issue-generator kbdsettings
                      kdump kdump-early klog lvm2-monitor nscd nvmefc-boot-connections postfix purge-kernels
                      rollback rsyslog sep5 smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4
                      wickedd-dhcp6 wickedd-nanny wpa_supplicant
      enabled-runtime systemd-remount-fs
      disabled        NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofs
                      autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                      chrony-wait chronyd console-getty cups cups-browsed debug-shell dmraid-activation dnsmasq
                      ebtables exchange-bmc-os-info fancontrol gpm grub2-once haveged haveged-switch-root ipmi
                      ipmievd irqbindall issue-add-ssh-keys kexec-load ksm kvm_stat lm_sensors lunmask
                      man-db-create multipathd nfs nfs-blkmap nmb nvmf-autoconnect openvpn@ ostree-remount
                      rpcbind rpmconfigcheck rsyncd rtkit-daemon serial-getty@ set_kthread_prio
                      smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd systemd-boot-check-no-failures
                      systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
                      udisks2 update-system-flatpaks upower vncserver@ wpa_supplicant@
      indirect        pcscd saned@ wickedd

    ----------------------------------------------------------
    14. Linux kernel boot-time arguments, from /proc/cmdline
      BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
      root=UUID=a88cec4e-8c93-48e1-b1c1-5874d40c9a64
      splash=silent
      resume=/dev/disk/by-uuid/88c758ac-d10b-493d-b755-89620eeac1b1
      mitigations=auto
      quiet
      security=apparmor
      crashkernel=404M,high
      crashkernel=72M,low


    ----------------------------------------------------------
    15. cpupower frequency-info
      analyzing CPU 0:
        current policy: frequency should be within 800 MHz and 4.00 GHz.
                        The governor "performance" may decide which speed to use
                        within this range.
        boost state support:
          Supported: yes
          Active: yes


    ----------------------------------------------------------
    16. tuned-adm active
      Current active profile: throughput-performance
```

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Platform Notes (Continued)

```
      --------------------------------------------------------------
      17. sysctl
      kernel.numa_balancing                0
      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                       20
      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
      vm.nr_overcommit_hugepages           0
      vm.swappiness                        10
      vm.watermark_boost_factor            15000
      vm.watermark_scale_factor            10
      vm.zone_reclaim_mode                 0


      --------------------------------------------------------------
      18. /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


      --------------------------------------------------------------
      19. /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


      --------------------------------------------------------------
      20. OS release
        From /etc/*-release /etc/*-version
        os-release SUSE Linux Enterprise Server 15 SP5


      --------------------------------------------------------------
      21. Disk information
      SPEC is set to: /home/speccpu
        Filesystem    Type  Size  Used Avail Use% Mounted on
        /dev/nvme0n1p3 xfs   4.8T  368G  4.5T   8% /home


      --------------------------------------------------------------
      22. /sys/devices/virtual/dmi/id
         Vendor:       New H3C Technologies Co., Ltd.
         Product:      H3C UniServer R4700 G6
         Product Family: Rack
         Serial:       210235A4FYH242000015


      --------------------------------------------------------------
      23. dmidecode
```

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Platform Notes (Continued)

```
   Additional information from dmidecode 3.4 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


  ----------------------------------------------------------
 24. BIOS
 (This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:      American Megatrends International, LLC.
   BIOS Version:     6.10.45
   BIOS Date:        08/23/2024
   BIOS Revision:    5.32
```

Compiler Version Notes

```
==============================================================================
C               | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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------------------------------------------------------------------------------


==============================================================================
C++             | 508.namd_r(base) 510.parest_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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------------------------------------------------------------------------------


==============================================================================
C++, C          | 511.povray_r(base) 526.blender_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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------------------------------------------------------------------------------


==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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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         | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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------------------------------------------------------------------------------
```

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Platinum 8558P)

SPECrate®2017_fp_base =   1130

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Nov-2024

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Compiler Version Notes (Continued)

```
==============================================================================
Fortran, C    | 521.wrf_r(base) 527.cam4_r(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`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Benchmarks using both Fortran and C:
`ifx icx`

Benchmarks using both C and C++:
`icpx icx`

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

Base Portability Flags

503.bwaves_r: `-DSPEC_LP64`
507.cactuBSSN_r: `-DSPEC_LP64`
508.namd_r: `-DSPEC_LP64`
510.parest_r: `-DSPEC_LP64`
511.povray_r: `-DSPEC_LP64`
519.lbm_r: `-DSPEC_LP64`
521.wrf_r: `-DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian`
526.blender_r: `-DSPEC_LP64 -DSPEC_LINUX -funsigned-char`
527.cam4_r: `-DSPEC_LP64 -DSPEC_CASE_FLAG`
538.imagick_r: `-DSPEC_LP64`
544.nab_r: `-DSPEC_LP64`
549.fotonik3d_r: `-DSPEC_LP64`
554.roms_r: `-DSPEC_LP64`

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

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Platinum 8558P)

SPECrate®2017_fp_base = 1130

SPECrate®2017_fp_peak = Not Run

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

Test Date: Nov-2024
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Base Optimization Flags

C benchmarks:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

C++ benchmarks:
```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

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

Benchmarks using both Fortran and C:
```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:
```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:
```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

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-RevG.html

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-RevG.xml

SPEC CPU®2017 Floating Point Rate Result
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New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Platinum 8558P)

SPECrate®2017_fp_base = 1130

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9066	**Test Date:** Nov-2024
Test Sponsor: New H3C Technologies Co., Ltd.	**Hardware Availability:** Oct-2023
Tested by: New H3C Technologies Co., Ltd.	**Software Availability:** Mar-2024

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

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Report generated on 2024-11-20 11:10:27 by CPU2017 PDF formatter v6716.
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