



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

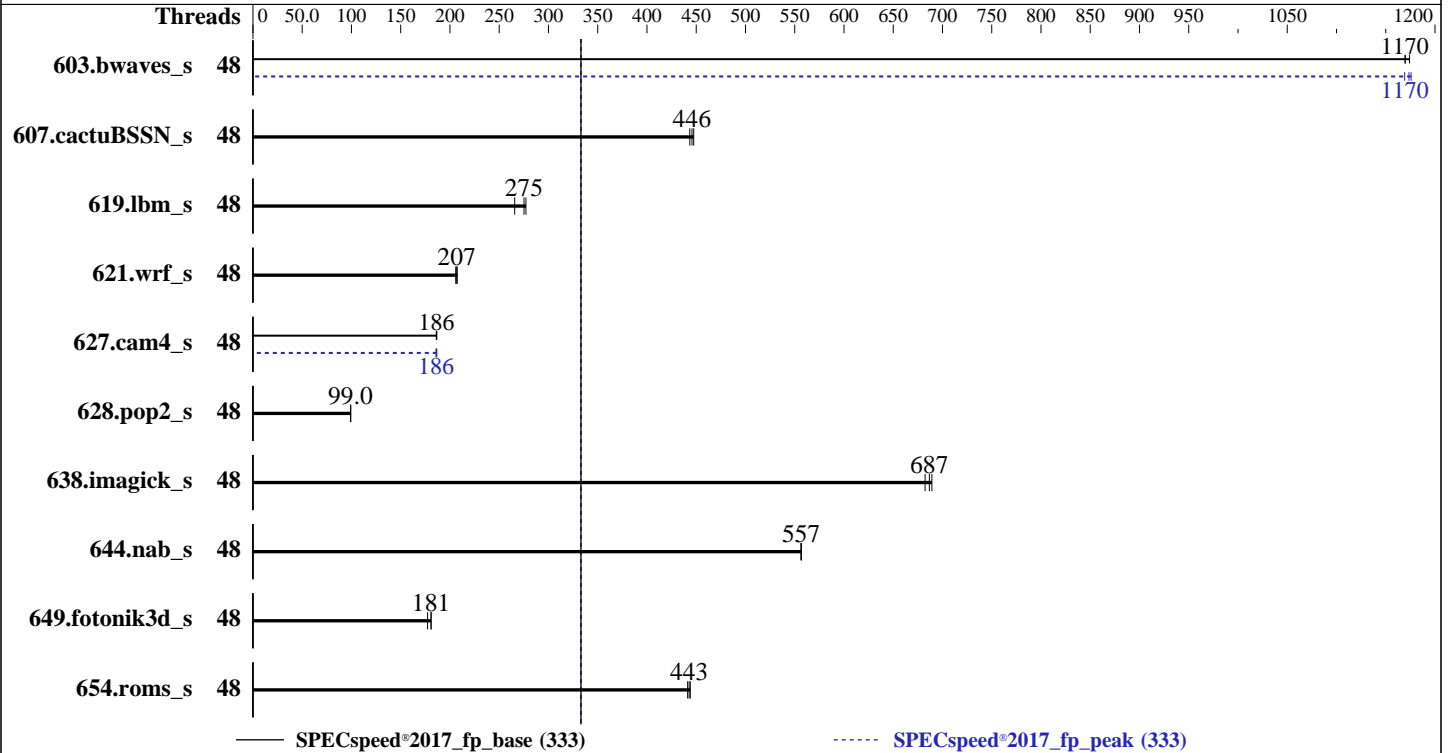
H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

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

Test Date: Apr-2025
Hardware Availability: Oct-2023
Software Availability: Mar-2024



Hardware

CPU Name: Intel Xeon Gold 6542Y
 Max MHz: 4100
 Nominal: 2900
 Enabled: 48 cores, 2 chips
 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: 60 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 5200)
 Storage: 1 x 960 GB SATA 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: Yes
 Firmware: Version 6.10.50 released Feb-2025 BIOS
 File System: btrfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.
H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333
SPECspeed®2017_fp_peak = 333

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

Test Date: Apr-2025
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	48	<u>50.4</u>	<u>1170</u>	50.4	1170	50.2	1170	48	50.2	1180	<u>50.3</u>	<u>1170</u>	50.5	1170
607.cactuBSSN_s	48	37.3	447	<u>37.4</u>	<u>446</u>	37.6	443	48	37.3	447	<u>37.4</u>	<u>446</u>	37.6	443
619.lbm_s	48	<u>19.0</u>	<u>275</u>	18.9	277	19.7	266	48	<u>19.0</u>	<u>275</u>	18.9	277	19.7	266
621.wrf_s	48	64.3	206	63.8	207	<u>63.9</u>	<u>207</u>	48	64.3	206	63.8	207	<u>63.9</u>	<u>207</u>
627.cam4_s	48	47.5	187	<u>47.6</u>	<u>186</u>	47.6	186	48	47.7	186	<u>47.6</u>	<u>186</u>	47.5	187
628.pop2_s	48	120	99.0	119	99.4	<u>120</u>	<u>99.0</u>	48	120	99.0	119	99.4	<u>120</u>	<u>99.0</u>
638.imagick_s	48	21.1	682	<u>21.0</u>	<u>687</u>	20.9	689	48	21.1	682	<u>21.0</u>	<u>687</u>	20.9	689
644.nab_s	48	<u>31.4</u>	<u>557</u>	31.4	556	31.4	557	48	<u>31.4</u>	<u>557</u>	31.4	556	31.4	557
649.fotonik3d_s	48	50.4	181	<u>50.4</u>	<u>181</u>	51.4	177	48	50.4	181	<u>50.4</u>	<u>181</u>	51.4	177
654.roms_s	48	35.5	444	<u>35.6</u>	<u>443</u>	35.7	441	48	35.5	444	<u>35.6</u>	<u>443</u>	35.7	441

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

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

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"
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 Redhat Enterprise Linux 8.0
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
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)
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:
Enable LP [Global] = Single LP
SNC = Disabled

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

Package C State = C6(Retention) state

LLC Prefetch = Enabled

BMC Settings:

Fan mode = powerful mode

Sysinfo program /home/speccpu/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Tue Apr 1 10:40:20 2025

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

```
2. w
10:40:20 up 21 min, 1 user, load average: 0.05, 0.02, 0.00
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1    -             10:22   12.00s 5.18s  0.02s sh speed.sh
```

```
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
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 333

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Date: Apr-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Oct-2023

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Mar-2024

Platform Notes (Continued)

```

pending signals                (-i) 4126972
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) 4126972
virtual memory                 (kbytes, -v) unlimited
file locks                    (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize 29
login -- root
-bash
sh speed.sh
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=48 --tune base,peak -o all --define
  drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
  ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=48 --tune base,peak --output_format all
  --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed --nopreenv
  --note-preenv --logfile $SPEC/tmp/CPU2017.076/templogs/preenv.fpspeed.076.0.log --lognum 076.0
  --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu

```

6. /proc/cpuinfo

```

model name      : INTEL(R) XEON(R) GOLD 6542Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 207
stepping      : 2
microcode     : 0x21000291
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores     : 24
siblings      : 24
2 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-23
physical id 1: core ids 0-23
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
physical id 1: apicids
128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174
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):                48

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 333

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Date: Apr-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Oct-2023

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Mar-2024

Platform Notes (Continued)

```

On-line CPU(s) list:      0-47
Vendor ID:                GenuineIntel
Model name:              INTEL(R) XEON(R) GOLD 6542Y
CPU family:              6
Model:                   207
Thread(s) per core:     1
Core(s) per socket:     24
Socket(s):               2
Stepping:                2
CPU max MHz:             4100.0000
CPU min MHz:             800.0000
BogoMIPS:                5800.00
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 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 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_lld arch_capabilities

L1d cache:               2.3 MiB (48 instances)
L1i cache:               1.5 MiB (48 instances)
L2 cache:                96 MiB (48 instances)
L3 cache:                120 MiB (2 instances)
NUMA node(s):           2
NUMA node0 CPU(s):     0-23
NUMA node1 CPU(s):     24-47
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:     Not affected
Vulnerability Mds:      Not affected
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, PBRSE-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	2.3M	12	Data	1	64	1	64
L1i	32K	1.5M	8	Instruction	1	64	1	64
L2	2M	96M	16	Unified	2	2048	1	64
L3	60M	120M	15	Unified	3	65536	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

```

node 0 cpus: 0-23
node 0 size: 515687 MB
node 0 free: 514154 MB
node 1 cpus: 24-47
node 1 size: 516077 MB
node 1 free: 515211 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10

```

```

9. /proc/meminfo
MemTotal:      1056528072 kB

```

```

10. who -r
run-level 3 Apr 1 10:20

```

```

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

```

```

12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings postfix
        purge-kernels rollback sshd systemd-pstore wickedd wickedd-auto4 wickedd-dhcp4
        wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled boot-sysctl ca-certificates chrony-wait chronyd console-getty cups cups-browsed
        debug-shell ebttables grub2-once haveged haveged-switch-root issue-add-ssh-keys kexec-load
        lunmask rpmconfigcheck serial-getty@ systemd-boot-check-no-failures
        systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
indirect pcsd wickedd

```

```

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=5b1bbac0-75ae-47d9-95db-594b94b8ab43
splash=silent
mitigations=auto
quiet
security=apparmor

```

```

14. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 4.10 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

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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             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

```

17. /sys/kernel/mm/transparent_hugepage

```

defrag      always defer defer+madvice [madvice] never
enabled     [always] madvice 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 SUSE Linux Enterprise Server 15 SP5

```

20. Disk information

```

SPEC is set to: /home/speccpu
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       btrfs 892G 104G 786G 12% /home

```

21. /sys/devices/virtual/dmi/id

```

Vendor:      New H3C Technologies Co., Ltd.
Product:     H3C UniServer R4700 G6
Product Family: Rack
Serial:      210235A4FYH242000020

```

22. dmidecode

Additional information from dmidecode 3.4 follows. WARNING: Use caution when you interpret this section.

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333

SPECspeed®2017_fp_peak = 333

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

Test Date: Apr-2025
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Platform Notes (Continued)

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 HMC94AGBRA181N 64 GB 2 rank 5600, configured at 5200

23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 6.10.50
BIOS Date: 02/28/2025
BIOS Revision: 5.32

Compiler Version Notes

=====
C | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
=====

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, peak)
=====

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, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
=====

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, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
=====

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.
H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333
SPECspeed®2017_fp_peak = 333

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

Test Date: Apr-2025
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Base Compiler Invocation (Continued)

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

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 -xsaphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsaphirerapids -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 -xsaphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.
H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_base = 333
SPECspeed®2017_fp_peak = 333

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

Test Date: Apr-2025
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512  
-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 -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int  
-mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte  
-auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Peak 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
```

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

```
619.lbm_s: basepeak = yes
```

```
638.imagick_s: basepeak = yes
```

```
644.nab_s: basepeak = yes
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 333

H3C UniServer R4700 G6 (Intel Xeon Gold 6542Y)

SPECspeed®2017_fp_peak = 333

CPU2017 License: 9066

Test Date: Apr-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Oct-2023

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Mar-2024

Peak Optimization Flags (Continued)

Fortran benchmarks:

```
603.bwaves_s: -w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids
-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
```

649.fotonik3d_s: basepeak = yes

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

```
627.cam4_s: -w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

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-intel-RevB.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-intel-RevB.xml

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 2025-03-31 22:40:20-0400.

Report generated on 2025-05-08 10:04:04 by CPU2017 PDF formatter v6716.

Originally published on 2025-05-06.