



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

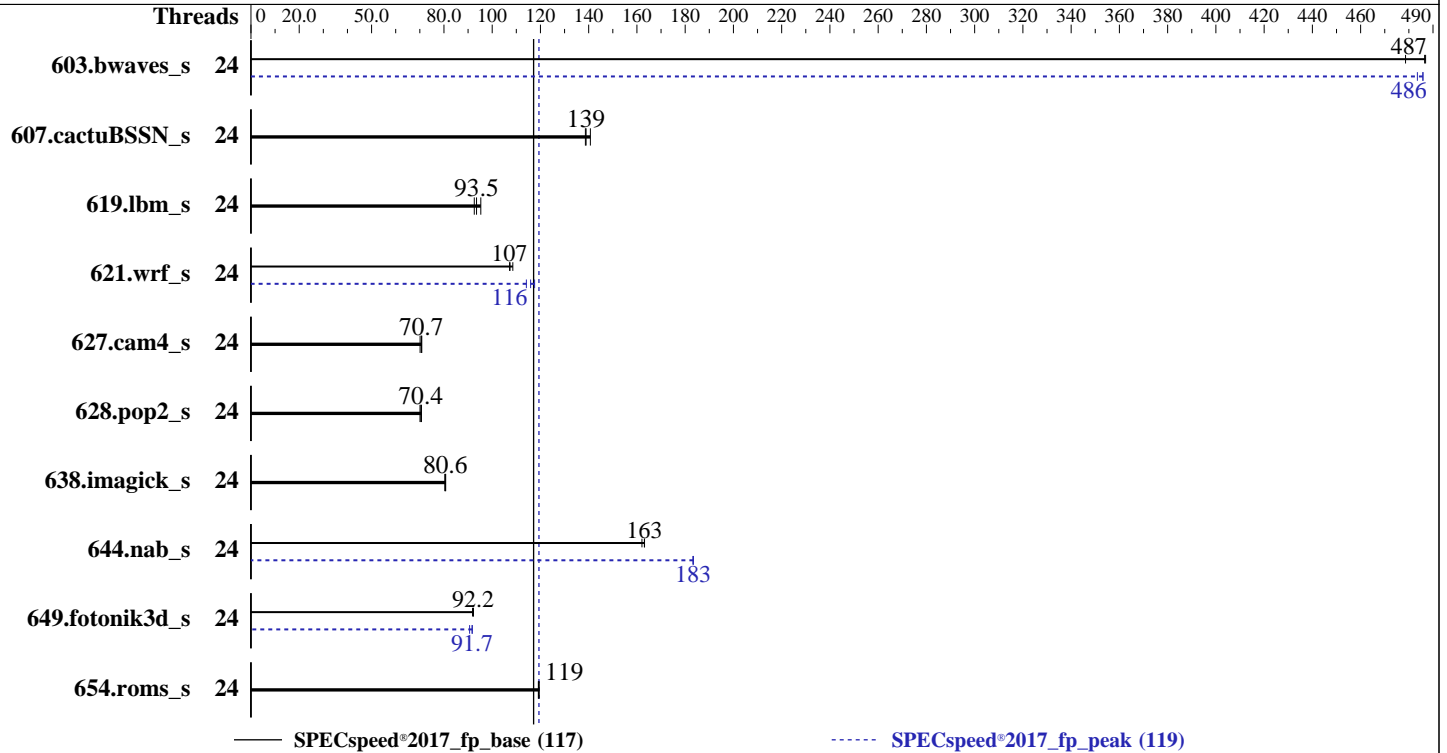
Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020



## Hardware

CPU Name: Intel Xeon Silver 4310  
 Max MHz: 3300  
 Nominal: 2100  
 Enabled: 24 cores, 2 chips  
 Orderable: 1,2 Chips  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1.25 MB I+D on chip per core  
 L3: 18 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R, running at 2666)  
 Storage: 6.4 TB SSD NVME  
 Other: None

## Software

OS: Red Hat Enterprise Linux release 8.2 (Ootpa) 4.18.0-193.el8.x86\_64  
 Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux;  
 Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;  
 C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux  
 Parallel: Yes  
 Firmware: Version 5.23 released Apr-2021 BIOS  
 File System: xfs  
 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 set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	24	123	479	<u>121</u>	<u>487</u>	121	487	24	<u>121</u>	<u>486</u>	122	484	121	486
607.cactuBSSN_s	24	<u>120</u>	<u>139</u>	118	141	120	139	24	<u>120</u>	<u>139</u>	118	141	120	139
619.lbm_s	24	<u>56.0</u>	<u>93.5</u>	55.0	95.3	56.6	92.6	24	<u>56.0</u>	<u>93.5</u>	55.0	95.3	56.6	92.6
621.wrf_s	24	<u>123</u>	<u>107</u>	123	107	122	109	24	112	118	<u>114</u>	<u>116</u>	116	114
627.cam4_s	24	<u>125</u>	<u>70.7</u>	125	70.8	126	70.1	24	<u>125</u>	<u>70.7</u>	125	70.8	126	70.1
628.pop2_s	24	168	70.7	169	70.1	<u>169</u>	<u>70.4</u>	24	168	70.7	169	70.1	<u>169</u>	<u>70.4</u>
638.imagick_s	24	180	80.4	179	80.7	<u>179</u>	<u>80.6</u>	24	180	80.4	179	80.7	<u>179</u>	<u>80.6</u>
644.nab_s	24	108	162	<u>107</u>	<u>163</u>	107	163	24	95.3	183	<u>95.3</u>	<u>183</u>	95.3	183
649.fotonik3d_s	24	99.2	91.9	<u>98.9</u>	<u>92.2</u>	98.9	92.2	24	<u>99.4</u>	<u>91.7</u>	99.4	91.7	101	90.6
654.roms_s	24	132	119	132	120	<u>132</u>	<u>119</u>	24	132	119	132	120	<u>132</u>	<u>119</u>

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

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"
MALLOCONF = "retain:true"
OMP_STACKSIZE = "192M"
```

## General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

SPECspeed®2017\_fp\_peak = 119

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## General Notes (Continued)

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

## Platform Notes

BIOS Settings:

Set Hyper-Threading to disabled

Set Patrol Scrub to disabled

Sysinfo program /home/speccpu/bin/sysinfo

Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d

running on localhost.localdomain Mon Jul 5 02:50:45 2021

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

For more information on this section, see

<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : Intel(R) Xeon(R) Silver 4310 CPU @ 2.10GHz

2 "physical id"s (chips)

24 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 12

siblings : 12

physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11

physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11

From lscpu from util-linux 2.32.1:

Architecture: x86\_64

CPU op-mode(s): 32-bit, 64-bit

Byte Order: Little Endian

CPU(s): 24

On-line CPU(s) list: 0-23

Thread(s) per core: 1

Core(s) per socket: 12

Socket(s): 2

NUMA node(s): 2

Vendor ID: GenuineIntel

CPU family: 6

Model: 106

Model name: Intel(R) Xeon(R) Silver 4310 CPU @ 2.10GHz

Stepping: 6

CPU MHz: 2839.847

CPU max MHz: 3300.0000

CPU min MHz: 800.0000

BogoMIPS: 4200.00

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Platform Notes (Continued)

```

Virtualization:      VT-x
L1d cache:          48K
L1i cache:          32K
L2 cache:           1280K
L3 cache:           18432K
NUMA node0 CPU(s): 0-11
NUMA node1 CPU(s): 12-23
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
aperfmpperf 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 invpcid_single ssbd
mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid 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 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp
hwp_pkg_req avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni
avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 18432 KB

```

From numactl --hardware

WARNING: a numactl 'node' might or might not correspond to a physical chip.

```

available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11
node 0 size: 515427 MB
node 0 free: 512738 MB
node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23
node 1 size: 516062 MB
node 1 free: 510039 MB
node distances:
node  0  1
 0:  10  20
 1:  20  10

```

From /proc/meminfo

```

MemTotal:      1056246172 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

/sbin/tuned-adm active

Current active profile: throughput-performance

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

SPECspeed®2017\_fp\_peak = 119

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Platform Notes (Continued)

/sys/devices/system/cpu/cpu\*/cpufreq/scaling\_governor has performance

From /etc/\*release\* /etc/\*version\*

os-release:

NAME="Red Hat Enterprise Linux"

VERSION="8.2 (Ootpa)"

ID="rhel"

ID\_LIKE="fedora"

VERSION\_ID="8.2"

PLATFORM\_ID="platform:el8"

PRETTY\_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"

ANSI\_COLOR="0;31"

redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)

system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:8.2:ga

uname -a:

Linux localhost.localdomain 4.18.0-193.el8.x86\_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020 x86\_64 x86\_64 x86\_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit):	Not affected
CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Not affected
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):	Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	No status reported
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

run-level 3 Jul 4 22:31 last=5

SPEC is set to: /home/speccpu

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	5.8T	131G	5.7T	3%	/home

From /sys/devices/virtual/dmi/id

Vendor: New H3C Technologies Co., Ltd.

Product: B5700 G5

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

SPECspeed®2017\_fp\_peak = 119

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Platform Notes (Continued)

Product Family: Rack

Serial: 210235A3W9H212000017

Additional information from dmidecode 3.2 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 HMAA8GR7CJR4N-XN 64 GB 2 rank 3200, configured at 2666

16x NO DIMM NO DIMM

BIOS:

BIOS Vendor: American Megatrends International, LLC.

BIOS Version: 5.23

BIOS Date: 04/23/2021

BIOS Revision: 5.21

(End of data from sysinfo program)

## Compiler Version Notes

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

```
-----  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----
```

```
=====  
C | 644.nab_s(peak)
```

```
-----  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----
```

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

```
-----  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECSpeed®2017\_fp\_base = 117

SPECSpeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Compiler Version Notes (Continued)

=====  
C | 644.nab\_s(peak)  
-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C, Fortran | 607.cactuBSSN\_s(base, peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
Fortran | 603.bwaves\_s(base, peak) 649.fotonik3d\_s(base, peak)  
654.roms\_s(base, peak)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 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 Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Base Compiler Invocation

C benchmarks:

icc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## 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:

-m64 -std=c11 -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC\_OPENMP  
-mbranches-within-32B-boundaries

Fortran benchmarks:

-m64 -Wl,-z,muldefs -DSPEC\_OPENMP -xCORE-AVX512 -ipo -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs  
-mbranches-within-32B-boundaries -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc

Benchmarks using both Fortran and C:

-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div

(Continued on next page)





# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

SPECspeed®2017\_fp\_peak = 119

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp  
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp  
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc
```

```
644.nab_s: icx
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
ifort icc
```

Benchmarks using Fortran, C, and C++:

```
icpc icc ifort
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

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

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

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

(Test Sponsor: New H3C Technologies Co., Ltd.)

SPECspeed®2017\_fp\_base = 117

H3C UniServer B5700 G5 (Intel Xeon Silver 4310)

SPECspeed®2017\_fp\_peak = 119

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2021

Hardware Availability: Apr-2021

Software Availability: Dec-2020

## Peak Optimization Flags (Continued)

```
644.nab_s: -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -fiopenmp
-DSPEC_OPENMP -qopt-mem-layout-trans=4
-fimf-accuracy-bits=14:sqrt
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

```
603.bwaves_s: -m64 -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-DSPEC_SUPPRESS_OPENMP -DSPEC_OPENMP -ipo -xCORE-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

649.fotonik3d\_s: Same as 603.bwaves\_s

654.roms\_s: basepeak = yes

Benchmarks using both Fortran and C:

```
621.wrf_s: -m64 -std=c11 -Wl,-z,muldefs -prof-gen(pass 1)
-prof-use(pass 2) -ipo -xCORE-AVX512 -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

627.cam4\_s: basepeak = yes

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-ic2021-official-linux64\\_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html)

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.0-CPX-RevC.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-CPX-RevC.html)

You can also download the XML flags sources by saving the following links:

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml)

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.0-CPX-RevC.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-CPX-RevC.xml)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**New H3C Technologies Co., Ltd.**

(Test Sponsor: New H3C Technologies Co., Ltd.)

**SPECspeed®2017\_fp\_base = 117**

**SPECspeed®2017\_fp\_peak = 119**

**H3C UniServer B5700 G5 (Intel Xeon Silver 4310)**

**CPU2017 License:** 9066

**Test Sponsor:** New H3C Technologies Co., Ltd.

**Tested by:** New H3C Technologies Co., Ltd.

**Test Date:** Jul-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Dec-2020

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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.8 on 2021-07-05 02:50:45-0400.

Report generated on 2021-07-21 15:42:01 by CPU2017 PDF formatter v6442.

Originally published on 2021-07-20.