



# SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

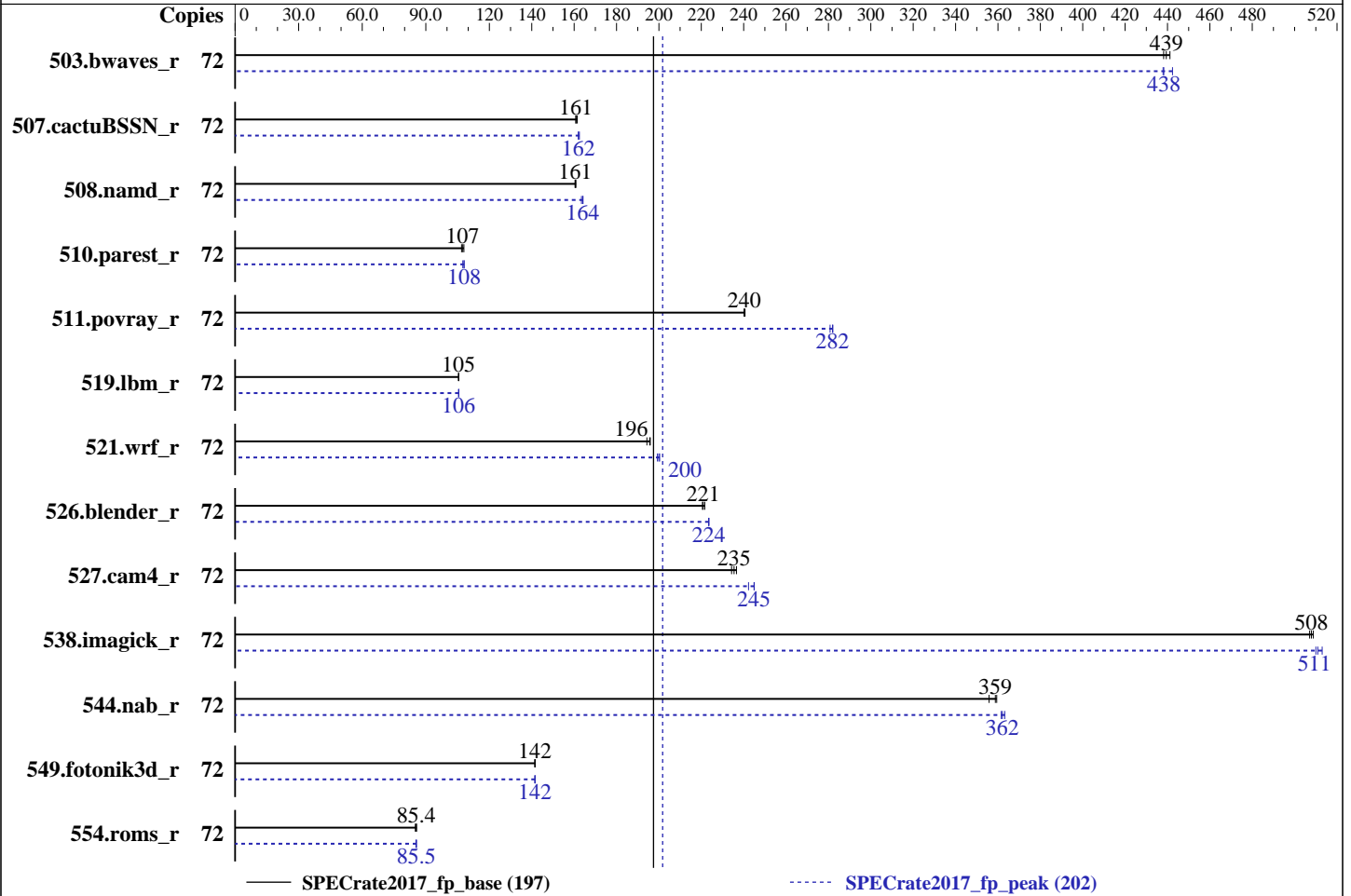
Test Date: Apr-2019

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Jul-2017

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Mar-2019



## Hardware

CPU Name: Intel Xeon Gold 6150  
 Max MHz.: 3700  
 Nominal: 2700  
 Enabled: 36 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 24.75 MB I+D on chip per chip  
 Other: None  
 Memory: 384 GB (12 x 32 GB 2Rx4 PC4-2666V-R)  
 Storage: 1 x 1 TB 7200RPM SATA HDD  
 Other: None

## Software

OS: Red Hat Enterprise Linux Server release 7.5 (Maipo)  
 3.10.0-957.el7.x86\_64  
 Compiler: C/C++: Version 19.0.1.144 of Intel C/C++ Compiler Build 20181018 for Linux;  
 Fortran: Version 19.0.1.144 of Intel Fortran Compiler Build 20181018 for Linux  
 Parallel: No  
 Firmware: Version 2.00.24 released Mar-2019 BIOS  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Results Table

| Benchmark       | Base   |             |             |             |            |            |            | Peak   |             |             |             |            |             |             |
|-----------------|--------|-------------|-------------|-------------|------------|------------|------------|--------|-------------|-------------|-------------|------------|-------------|-------------|
|                 | Copies | Seconds     | Ratio       | Seconds     | Ratio      | Seconds    | Ratio      | Copies | Seconds     | Ratio       | Seconds     | Ratio      | Seconds     | Ratio       |
| 503.bwaves_r    | 72     | <b>1643</b> | <b>439</b>  | 1637        | 441        | 1648       | 438        | 72     | 1649        | 438         | 1632        | 442        | <b>1647</b> | <b>438</b>  |
| 507.cactuBSSN_r | 72     | 565         | 161         | 567         | 161        | <b>567</b> | <b>161</b> | 72     | <b>562</b>  | <b>162</b>  | 561         | 162        | 563         | 162         |
| 508.namd_r      | 72     | 426         | 160         | <b>426</b>  | <b>161</b> | 425        | 161        | 72     | 418         | 163         | 417         | 164        | <b>417</b>  | <b>164</b>  |
| 510.parest_r    | 72     | 1763        | 107         | <b>1753</b> | <b>107</b> | 1744       | 108        | 72     | 1743        | 108         | <b>1743</b> | <b>108</b> | 1753        | 107         |
| 511.povray_r    | 72     | <b>700</b>  | <b>240</b>  | 699         | 241        | 700        | 240        | 72     | 599         | 281         | <b>596</b>  | <b>282</b> | 596         | 282         |
| 519.lbm_r       | 72     | 720         | 105         | <b>720</b>  | <b>105</b> | 719        | 106        | 72     | 719         | 106         | <b>719</b>  | <b>106</b> | 719         | 106         |
| 521.wrf_r       | 72     | 830         | 194         | 823         | 196        | <b>824</b> | <b>196</b> | 72     | 809         | 199         | 805         | 200        | <b>807</b>  | <b>200</b>  |
| 526.blender_r   | 72     | 497         | 221         | 495         | 222        | <b>496</b> | <b>221</b> | 72     | <b>491</b>  | <b>224</b>  | 491         | 224        | 491         | 224         |
| 527.cam4_r      | 72     | 537         | 234         | <b>535</b>  | <b>235</b> | 532        | 237        | 72     | 520         | 242         | 514         | 245        | <b>514</b>  | <b>245</b>  |
| 538.imagick_r   | 72     | 352         | 509         | 353         | 507        | <b>353</b> | <b>508</b> | 72     | 349         | 513         | 351         | 510        | <b>350</b>  | <b>511</b>  |
| 544.nab_r       | 72     | <b>338</b>  | <b>359</b>  | 337         | 359        | 341        | 356        | 72     | 335         | 362         | 334         | 363        | <b>335</b>  | <b>362</b>  |
| 549.fotonik3d_r | 72     | 1984        | 141         | <b>1982</b> | <b>142</b> | 1982       | 142        | 72     | <b>1982</b> | <b>142</b>  | 1982        | 142        | 1983        | 141         |
| 554.roms_r      | 72     | <b>1339</b> | <b>85.4</b> | 1345        | 85.0       | 1336       | 85.7       | 72     | <b>1337</b> | <b>85.6</b> | 1341        | 85.3       | <b>1338</b> | <b>85.5</b> |

SPECrate2017\_fp\_base = 197

SPECrate2017\_fp\_peak = 202

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"

## General Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/speccpu/lib/ia32:/home/speccpu/lib/intel64"

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.5  
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>

Yes: 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)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## 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.

## Platform Notes

BIOS Settings:

Set SNC to Enabled  
Set IMC Interleaving to 1-way Interleave  
Set Autonomous Core C-State to Enabled  
Set Stale Atos to Enabled  
Set LLC Deadline Alloc to Disabled  
Set Intel VT for Directed I/O (VT-d) to Disabled  
Set XPT Prefetcher to Enabled

sysinfo program /home/speccpu/bin/sysinfo  
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9  
running on localhost.localdomain Wed Apr 3 00:11:27 2019

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) Gold 6150 CPU @ 2.70GHz  
2 "physical id"s (chips)  
72 "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 : 18
siblings  : 36
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
```

From lscpu:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                72
On-line CPU(s) list:   0-71
Thread(s) per core:    2
Core(s) per socket:    18
Socket(s):              2
NUMA node(s):          4
Vendor ID:              GenuineIntel
CPU family:             6
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Date: Apr-2019

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Jul-2017

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Mar-2019

## Platform Notes (Continued)

```

Model: 85
Model name: Intel(R) Xeon(R) Gold 6150 CPU @ 2.70GHz
Stepping: 4
CPU MHz: 2475.054
CPU max MHz: 3700.0000
CPU min MHz: 1200.0000
BogoMIPS: 5400.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 25344K
NUMA node0 CPU(s): 0-2,5,6,9,10,14,15,36-38,41,42,45,46,50,51
NUMA node1 CPU(s): 3,4,7,8,11-13,16,17,39,40,43,44,47-49,52,53
NUMA node2 CPU(s): 18-20,23,24,27,28,32,33,54-56,59,60,63,64,68,69
NUMA node3 CPU(s): 21,22,25,26,29-31,34,35,57,58,61,62,65-67,70,71
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
aperfperf eagerfpu 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 epb cat_l3 cdp_l3 intel_pt ssbd mba
ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle
avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq rdseed adx smap
clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc
cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln pts hwp hwp_act_window
hwp_epp hwp_pkg_req pku ospke spec_ctrl intel_stibp flush_lld

```

```

/proc/cpuinfo cache data
cache size : 25344 KB

```

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

```

available: 4 nodes (0-3)
node 0 cpus: 0 1 2 5 6 9 10 14 15 36 37 38 41 42 45 46 50 51
node 0 size: 96920 MB
node 0 free: 77122 MB
node 1 cpus: 3 4 7 8 11 12 13 16 17 39 40 43 44 47 48 49 52 53
node 1 size: 98304 MB
node 1 free: 88316 MB
node 2 cpus: 18 19 20 23 24 27 28 32 33 54 55 56 59 60 63 64 68 69
node 2 size: 98304 MB
node 2 free: 88408 MB
node 3 cpus: 21 22 25 26 29 30 31 34 35 57 58 61 62 65 66 67 70 71
node 3 size: 98304 MB
node 3 free: 88386 MB
node distances:

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Platform Notes (Continued)

|      |    |    |    |    |
|------|----|----|----|----|
| node | 0  | 1  | 2  | 3  |
| 0:   | 10 | 11 | 21 | 21 |
| 1:   | 11 | 10 | 21 | 21 |
| 2:   | 21 | 21 | 10 | 11 |
| 3:   | 21 | 21 | 11 | 10 |

From /proc/meminfo

```
MemTotal:      394623072 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

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

```
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.5 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VARIANT="Server"
  VARIANT_ID="server"
  VERSION_ID="7.5"
  PRETTY_NAME="OpenShift Enterprise"
redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.5:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51 UTC 2018
x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

```
CVE-2017-5754 (Meltdown):      Mitigation: PTI
CVE-2017-5753 (Spectre variant 1): Mitigation: Load fences, __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS (kernel)
```

run-level 3 Apr 2 15:00

SPEC is set to: /home/speccpu

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|------------|------|------|------|-------|------|------------|
| /dev/sda2  | xfs  | 293G | 51G  | 243G  | 18%  | /home      |

Additional information from dmidecode 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.

```
BIOS American Megatrends Inc. 2.00.24 03/08/2019
Memory:
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Platform Notes (Continued)

12x Micron 36ASF4G72PZ-2G6D1 32 GB 2 rank 2666  
12x NO DIMM NO DIMM

(End of data from sysinfo program)

## Compiler Version Notes

=====  
CC 519.lbm\_r(base) 538.imagick\_r(base, peak) 544.nab\_r(base, peak)  
-----

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
-----

=====  
CC 519.lbm\_r(peak)  
-----

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
-----

=====  
CXXC 508.namd\_r(base) 510.parest\_r(base, peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
-----

=====  
CXXC 508.namd\_r(peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
-----

=====  
CC 511.povray\_r(base) 526.blender\_r(base, peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
-----

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Compiler Version Notes (Continued)

Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
CC 511.povray\_r(peak)

-----  
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
FC 507.cactuBSSN\_r(base, peak)

-----  
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
FC 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak) 554.roms\_r(base)

-----  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
FC 554.roms\_r(peak)

-----  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
CC 521.wrf\_r(base) 527.cam4\_r(base)

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Compiler Version Notes (Continued)

```
-----
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
 64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
-----
```

```
=====
CC 521.wrf_r(peak) 527.cam4_r(peak)
-----
```

```
-----
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
 64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
-----
```

## Base Compiler Invocation

C benchmarks:

```
icc -m64 -std=c11
```

C++ benchmarks:

```
icpc -m64
```

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:

```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

## Base Portability Flags

```
503.bwaves_r: -DSPEC_LP64
```

(Continued on next page)





# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Base Portability Flags (Continued)

```

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

```

## Base Optimization Flags

### C benchmarks:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

```

### C++ benchmarks:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

```

### Fortran benchmarks:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

```

### Benchmarks using both Fortran and C:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

```

### Benchmarks using both C and C++:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

```

### Benchmarks using Fortran, C, and C++:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

```



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Peak Compiler Invocation

C benchmarks:

```
icc -m64 -std=c11
```

C++ benchmarks:

```
icpc -m64
```

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:

```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
519.lbm_r: -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
```

```
538.imagick_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4
```

```
544.nab_r: Same as 538.imagick_r
```

C++ benchmarks:

```
508.namd_r: -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
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2019

Hardware Availability: Jul-2017

Software Availability: Mar-2019

## Peak Optimization Flags (Continued)

```
510.parest_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

Fortran benchmarks:

```
503.bwaves_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte
```

549.fotonik3d\_r: Same as 503.bwaves\_r

```
554.roms_r: -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 -auto -nostandard-realloc-lhs
-align array32byte
```

Benchmarks using both Fortran and C:

```
-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 -auto -nostandard-realloc-lhs
-align array32byte
```

Benchmarks using both C and C++:

```
511.povray_r: -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
```

```
526.blender_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte
```

The flags files that were used to format this result can be browsed at

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.3-SKL-RevD.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.3-SKL-RevD.html)  
<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.html>

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

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.3-SKL-RevD.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.3-SKL-RevD.xml)  
<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.xml>



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 197

H3C UniServer R4900 G3 (Intel Xeon Gold 6150)

SPECrate2017\_fp\_peak = 202

**CPU2017 License:** 9066

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

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

**Test Date:** Apr-2019

**Hardware Availability:** Jul-2017

**Software Availability:** Mar-2019

SPEC is a registered trademark 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 CPU2017 v1.0.5 on 2019-04-02 12:11:26-0400.

Report generated on 2019-04-30 17:36:32 by CPU2017 PDF formatter v6067.

Originally published on 2019-04-30.