



# SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

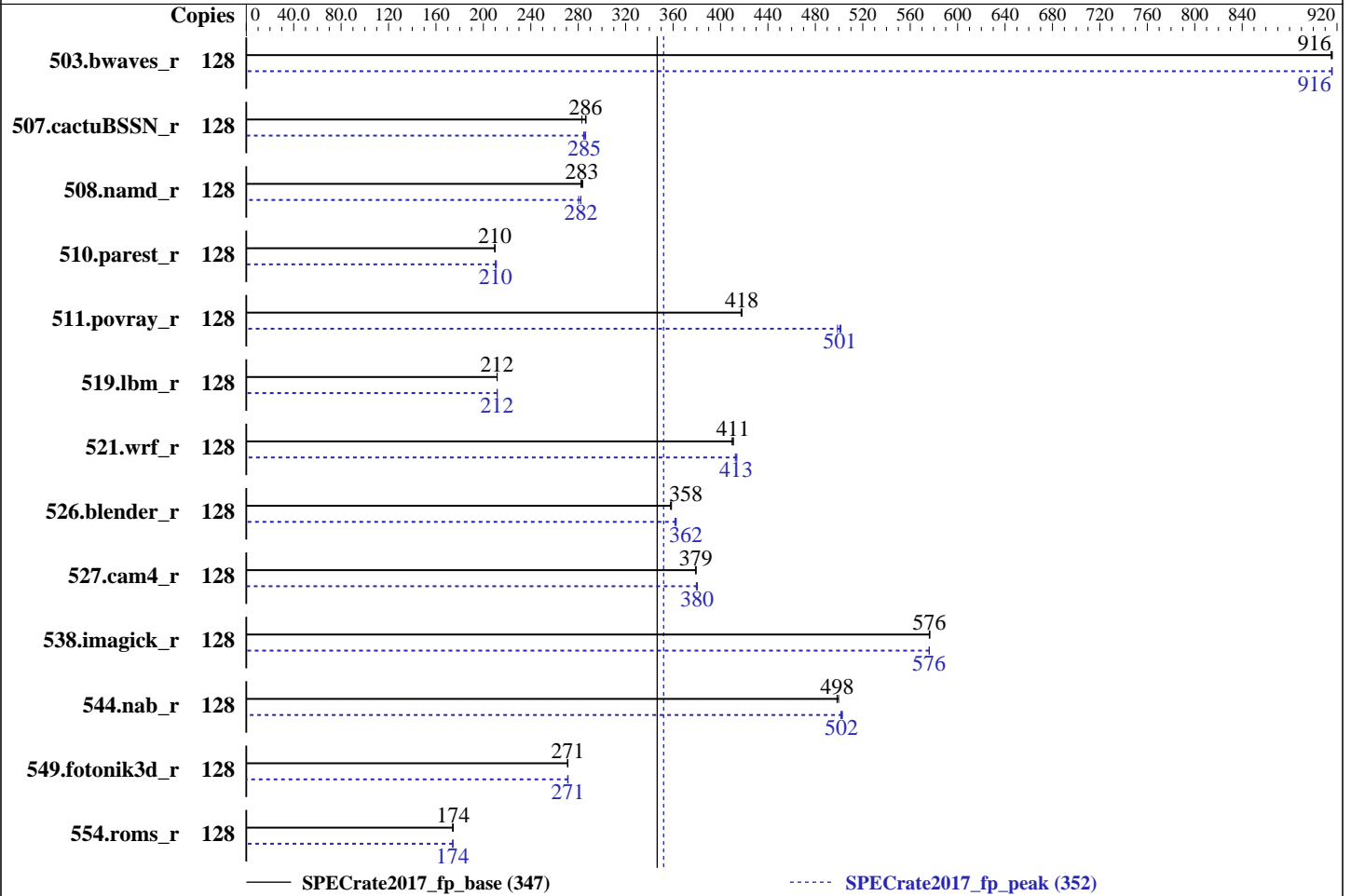
Test Date: Jul-2018

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Sep-2017

Tested by: New H3C Technologies Co., Ltd.

Software Availability: May-2018



### Hardware

CPU Name: Intel Xeon Gold 6142  
 Max MHz.: 3700  
 Nominal: 2600  
 Enabled: 64 cores, 4 chips, 2 threads/core  
 Orderable: 1,2,3,4 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 22 MB I+D on chip per chip  
 Other: None  
 Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)  
 Storage: 1 x 600 GB SAS HDD, 10000 RPM  
 Other: None

### Software

OS: Red Hat Enterprise Linux Server release 7.5 (Maipo)  
 3.10.0-862.3.2.el7.x86\_64  
 Compiler: C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux;  
 Fortran: Version 18.0.0.128 of Intel Fortran Compiler for Linux  
 Parallel: No  
 Firmware: INSYDE Corp. BIOS Version 1.00.16 released May-2018  
 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 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Results Table

| Benchmark       | Base   |             |            |             |            |             |            | Peak   |             |            |            |            |             |            |
|-----------------|--------|-------------|------------|-------------|------------|-------------|------------|--------|-------------|------------|------------|------------|-------------|------------|
|                 | Copies | Seconds     | Ratio      | Seconds     | Ratio      | Seconds     | Ratio      | Copies | Seconds     | Ratio      | Seconds    | Ratio      | Seconds     | Ratio      |
| 503.bwaves_r    | 128    | 1403        | 915        | 1401        | 916        | <b>1402</b> | <b>916</b> | 128    | 1402        | 916        | 1401       | 916        | <b>1402</b> | <b>916</b> |
| 507.cactuBSSN_r | 128    | <b>566</b>  | <b>286</b> | 572         | 283        | 565         | 287        | 128    | <b>568</b>  | <b>285</b> | 566        | 286        | 569         | 285        |
| 508.namd_r      | 128    | 429         | 284        | <b>430</b>  | <b>283</b> | 431         | 282        | 128    | 431         | 282        | <b>431</b> | <b>282</b> | 434         | 280        |
| 510.parest_r    | 128    | 1598        | 210        | <b>1598</b> | <b>210</b> | 1595        | 210        | 128    | <b>1593</b> | <b>210</b> | 1587       | 211        | 1594        | 210        |
| 511.povray_r    | 128    | <b>715</b>  | <b>418</b> | 715         | 418        | 716         | 417        | 128    | 596         | 502        | <b>597</b> | <b>501</b> | 599         | 499        |
| 519.lbm_r       | 128    | 638         | 212        | 638         | 212        | <b>638</b>  | <b>212</b> | 128    | 638         | 212        | <b>638</b> | <b>212</b> | 637         | 212        |
| 521.wrf_r       | 128    | <b>698</b>  | <b>411</b> | 700         | 410        | 698         | 411        | 128    | <b>694</b>  | <b>413</b> | 693        | 414        | 695         | 412        |
| 526.blender_r   | 128    | 545         | 358        | 544         | 359        | <b>544</b>  | <b>358</b> | 128    | 539         | 362        | <b>538</b> | <b>362</b> | 538         | 363        |
| 527.cam4_r      | 128    | 590         | 379        | 591         | 379        | <b>590</b>  | <b>379</b> | 128    | 590         | 380        | <b>589</b> | <b>380</b> | 588         | 380        |
| 538.imagick_r   | 128    | 553         | 576        | <b>552</b>  | <b>576</b> | 552         | 577        | 128    | 553         | 576        | 553        | 576        | <b>553</b>  | <b>576</b> |
| 544.nab_r       | 128    | 431         | 500        | <b>432</b>  | <b>498</b> | 432         | 498        | 128    | 428         | 503        | <b>429</b> | <b>502</b> | 429         | 502        |
| 549.fotonik3d_r | 128    | <b>1839</b> | <b>271</b> | 1839        | 271        | 1842        | 271        | 128    | <b>1839</b> | <b>271</b> | 1838       | 271        | 1840        | 271        |
| 554.roms_r      | 128    | 1169        | 174        | 1165        | 175        | <b>1166</b> | <b>174</b> | 128    | 1168        | 174        | 1167       | 174        | <b>1168</b> | <b>174</b> |

SPECrate2017\_fp\_base = 347

SPECrate2017\_fp\_peak = 352

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:/home/speccpu/je5.0.1-32:/home/speccpu/je5.0.1-64"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.4

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>
```

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## General Notes (Continued)

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.

## Platform Notes

BIOS configuration:

Set Sub NUMA Cluster to Enabled

Set IMC Interleaving to 1-Way Interleave

Set Power Supply Mode to Performance

Set Workload Configuration to NUMA

Set Patrol Scrub to Disabled

Set XPT Prefetcher to Enabled

Set Trusted Execution Technology to Enabled

Set DCA to Enabled

Sysinfo program /home/speccpu/bin/sysinfo

Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f

running on localhost.localdomain Wed Jul 11 12:15:50 2018

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 6142 CPU @ 2.60GHz

4 "physical id"s (chips)

128 "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 : 16

siblings : 32

physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

From lscpu:

Architecture: x86\_64

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

Byte Order: Little Endian

CPU(s): 128

On-line CPU(s) list: 0-127

Thread(s) per core: 2

Core(s) per socket: 16

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Platform Notes (Continued)

```

Socket(s): 4
NUMA node(s): 8
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz
Stepping: 4
CPU MHz: 2218.029
CPU max MHz: 3700.0000
CPU min MHz: 1000.0000
BogoMIPS: 5200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 22528K
NUMA node0 CPU(s): 0-3,8-11,64-67,72-75
NUMA node1 CPU(s): 4-7,12-15,68-71,76-79
NUMA node2 CPU(s): 16-19,24-27,80-83,88-91
NUMA node3 CPU(s): 20-23,28-31,84-87,92-95
NUMA node4 CPU(s): 32-35,40-43,96-99,104-107
NUMA node5 CPU(s): 36-39,44-47,100-103,108-111
NUMA node6 CPU(s): 48-51,56-59,112-115,120-123
NUMA node7 CPU(s): 52-55,60-63,116-119,124-127
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
aperfmpperf 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 fl16c rdrand lahf_lm abm 3dnowprefetch epb cat_l3 cdp_l3 intel_ppin
intel_pt mba 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 ibpb ibrs stibp dtherm ida arat pln pts hwp
hwp_act_window hwp_epp hwp_pkg_req pku ospke spec_ctrl intel_stibp

```

```

/proc/cpuinfo cache data
cache size : 22528 KB

```

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0 1 2 3 8 9 10 11 64 65 66 67 72 73 74 75
node 0 size: 96653 MB
node 0 free: 78178 MB
node 1 cpus: 4 5 6 7 12 13 14 15 68 69 70 71 76 77 78 79
node 1 size: 98304 MB

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Platform Notes (Continued)

```

node 1 free: 89632 MB
node 2 cpus: 16 17 18 19 24 25 26 27 80 81 82 83 88 89 90 91
node 2 size: 98304 MB
node 2 free: 89610 MB
node 3 cpus: 20 21 22 23 28 29 30 31 84 85 86 87 92 93 94 95
node 3 size: 98304 MB
node 3 free: 89426 MB
node 4 cpus: 32 33 34 35 40 41 42 43 96 97 98 99 104 105 106 107
node 4 size: 98304 MB
node 4 free: 89155 MB
node 5 cpus: 36 37 38 39 44 45 46 47 100 101 102 103 108 109 110 111
node 5 size: 98304 MB
node 5 free: 89677 MB
node 6 cpus: 48 49 50 51 56 57 58 59 112 113 114 115 120 121 122 123
node 6 size: 98304 MB
node 6 free: 89617 MB
node 7 cpus: 52 53 54 55 60 61 62 63 116 117 118 119 124 125 126 127
node 7 size: 98304 MB
node 7 free: 89654 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

```

From /proc/meminfo

```

MemTotal:      790694952 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="Red Hat Enterprise Linux Server 7.5 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Platform Notes (Continued)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:7.5:ga:server

uname -a:

Linux localhost.localdomain 3.10.0-862.3.2.el7.x86\_64 #1 SMP Mon May 21 23:36:36 UTC 2018 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Jul 11 01:08

SPEC is set to: /home/speccpu

| Filesystem            | Type | Size | Used | Avail | Use% | Mounted on |
|-----------------------|------|------|------|-------|------|------------|
| /dev/mapper/rhel-home | xfs  | 504G | 68G  | 436G  | 14%  | /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 INSYDE Corp. 1.00.16P00 05/30/2018

Memory:

48x Hynix HMA82GR7AFR8N-VK 16 GB 2 rank 2666

(End of data from sysinfo program)

## Compiler Version Notes

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

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 519.lbm\_r(peak) 544.nab\_r(peak)  
-----

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

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

icpc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----  
=====

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Compiler Version Notes (Continued)

CXXC 508.namd\_r(peak) 510.parest\_r(peak)

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

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

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

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

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

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

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

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

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Compiler Version Notes (Continued)

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

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

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

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

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

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

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

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

(Continued on next page)





# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Base Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## 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

## Base Optimization Flags

C benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3 -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=3 -nostandard-realloc-lhs  
-align array32byte

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

**CPU2017 License:** 9066

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

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

**Test Date:** Jul-2018

**Hardware Availability:** Sep-2017

**Software Availability:** May-2018

## Base Optimization Flags (Continued)

Benchmarks using both C and C++:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3 -nostandard-realloc-lhs  
-align array32byte
```

## Base Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using both C and C++:

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

Benchmarks using Fortran, C, and C++:

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

## Peak Compiler Invocation

C benchmarks:

```
icc
```

C++ benchmarks:

```
icpc
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
ifort icc
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## 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=3

538.imagick\_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3

544.nab\_r: Same as 519.lbm\_r

C++ benchmarks:

-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

Fortran benchmarks:

503.bwaves\_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3  
-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=3 -nostandard-realloc-lhs  
-align array32byte

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Jul-2018

Hardware Availability: Sep-2017

Software Availability: May-2018

## Peak Optimization Flags (Continued)

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=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C 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=3
```

Benchmarks using Fortran, C, 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=3 -nostandard-realloc-lhs -align array32byte
```

## Peak Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using both C and C++:

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

Benchmarks using Fortran, C, and C++:

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

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.html>

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.3-SKL-RevC.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.3-SKL-RevC.html)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate2017\_fp\_base = 347

H3C UniServer R6900 G3 (Intel Xeon Gold 6142)

SPECrate2017\_fp\_peak = 352

**CPU2017 License:** 9066

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

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

**Test Date:** Jul-2018

**Hardware Availability:** Sep-2017

**Software Availability:** May-2018

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml>

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-V1.3-SKL-RevC.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.3-SKL-RevC.xml)

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 v1.0.2 on 2018-07-11 00:15:49-0400.

Report generated on 2018-10-31 18:32:54 by CPU2017 PDF formatter v6067.

Originally published on 2018-08-07.