SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base =   276

SPECrate2017_fp_peak =   283
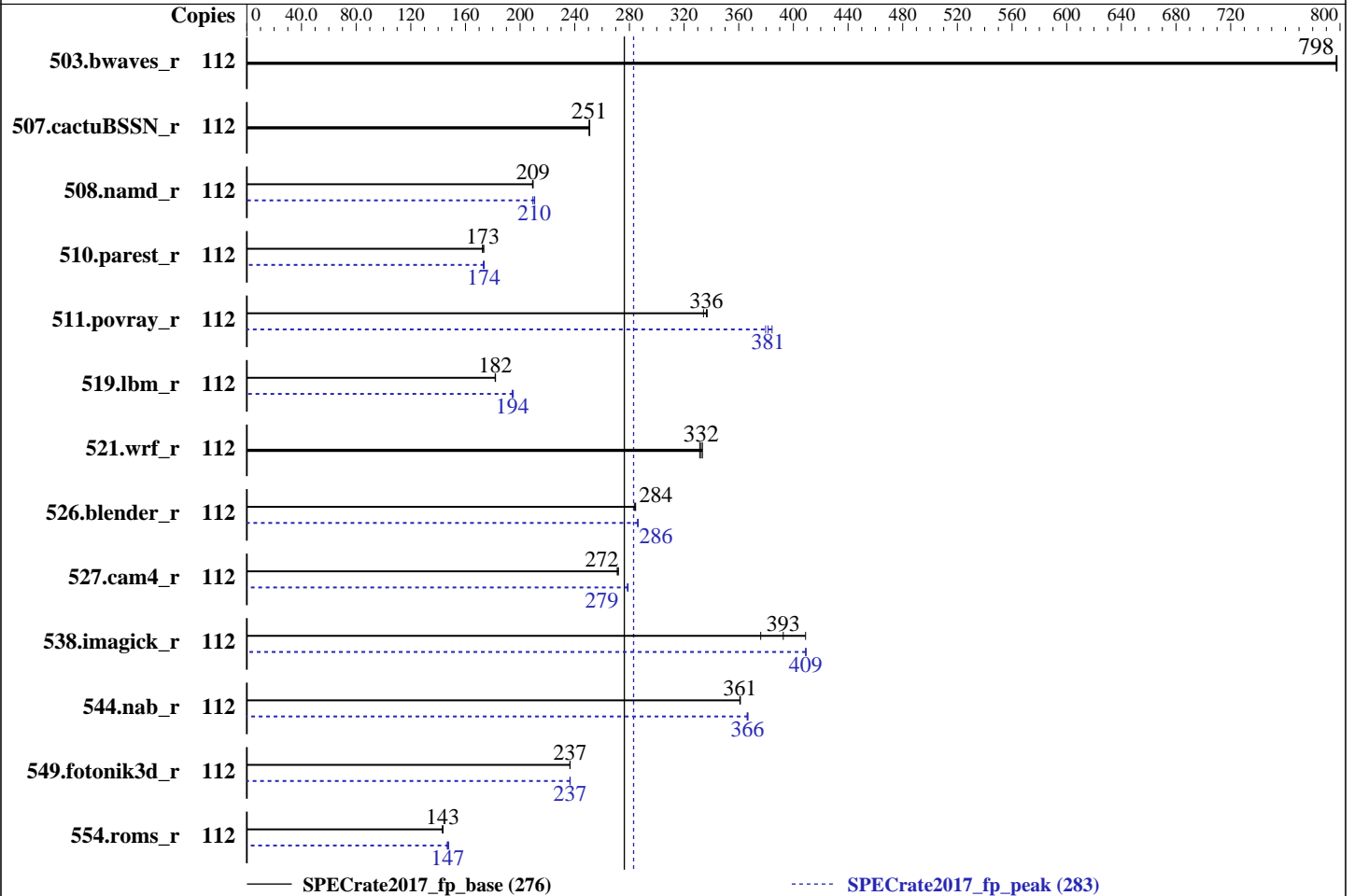
CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: Jun-2018

Hardware Availability: Jul-2017

Software Availability: Jan-2018

Copies		
503.bwaves_r	112	798
507.cactuBSSN_r	112	251
508.namd_r	112	209 / 210
510.parest_r	112	173 / 174
511.povray_r	112	336 / 381
519.lbm_r	112	182 / 194
521.wrf_r	112	332
526.blender_r	112	284 / 286
527.cam4_r	112	272 / 279
538.imagick_r	112	393 / 409
544.nab_r	112	361 / 366
549.fotonik3d_r	112	237 / 237
554.roms_r	112	143 / 147

—— **SPECrate2017_fp_base (276)**   ----- **SPECrate2017_fp_peak (283)**

Hardware

CPU Name: Intel Xeon Gold 5120
 Max MHz.: 3200
 Nominal: 2200
Enabled: 56 cores, 4 chips, 2 threads/core
Orderable: 2,4 chips
Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 19.25 MB I+D on chip per chip
 Other: None
Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-2666V-R, running at 2400)
Storage: 1 x 1200 GB SAS, 10000 RPM
Other: None

Software

OS: Red Hat Enterprise Linux Server release 7.3 (Maipo)
 3.10.0-693.11.6.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: Version 0.84 Released Mar-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

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	112	1408	798	1409	797	**1408**	**798**	112	1408	798	1409	797	**1408**	**798**
507.cactuBSSN_r	112	566	251	**566**	**251**	565	251	112	566	251	**566**	**251**	565	251
508.namd_r	112	509	209	**508**	**209**	508	209	112	508	209	505	211	**506**	**210**
510.parest_r	112	**1696**	**173**	1689	173	1699	172	112	1693	173	**1688**	**174**	1686	174
511.povray_r	112	776	337	783	334	**778**	**336**	112	689	380	680	384	**686**	**381**
519.lbm_r	112	650	182	649	182	**649**	**182**	112	605	195	**607**	**194**	608	194
521.wrf_r	112	752	333	757	331	**755**	**332**	112	752	333	757	331	**755**	**332**
526.blender_r	112	599	285	**600**	**284**	601	284	112	596	286	**596**	**286**	596	286
527.cam4_r	112	723	271	**721**	**272**	720	272	112	703	278	**703**	**279**	702	279
538.imagick_r	112	**710**	**393**	741	376	681	409	112	**681**	**409**	681	409	681	409
544.nab_r	112	**522**	**361**	522	361	522	361	112	515	366	**514**	**366**	514	367
549.fotonik3d_r	112	**1845**	**237**	1845	237	1846	236	112	**1845**	**237**	1844	237	1846	236
554.roms_r	112	**1241**	**143**	1240	143	1244	143	112	1204	148	**1210**	**147**	1214	147

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

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 = "/spec/lib/ia32:/spec/lib/intel64:/spec/je5.0.1-32:/spec/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

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-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:
Power Policy Set to Performance
SNC Set to Enabled
IMC Interleaving Set to 1-way Interleave
XPT Prefetch Set to Enabled
Sysinfo program /spec/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
running on localhost.localdomain Tue Jun 19 12:53:43 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 5120 CPU @ 2.20GHz
      4  "physical id"s (chips)
      112 "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 : 14
      siblings  : 28
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
      physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
      physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

From lscpu:
      Architecture:         x86_64
      CPU op-mode(s):       32-bit, 64-bit
      Byte Order:           Little Endian
      CPU(s):               112
      On-line CPU(s) list:  0-111
      Thread(s) per core:   2
      Core(s) per socket:   14
      Socket(s):            4
      NUMA node(s):         8
      Vendor ID:            GenuineIntel
      CPU family:           6
```

(Continued on next page)

Huawei

SPECrate2017_fp_base = 276

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Platform Notes (Continued)

```
        Model:                85
        Model name:           Intel(R) Xeon(R) Gold 5120 CPU @ 2.20GHz
        Stepping:             4
        CPU MHz:              2200.000
        BogoMIPS:             4406.69
        Virtualization:       VT-x
        L1d cache:            32K
        L1i cache:            32K
        L2 cache:             1024K
        L3 cache:             19712K
        NUMA node0 CPU(s):    0-3,7-9,56-59,63-65
        NUMA node1 CPU(s):    4-6,10-13,60-62,66-69
        NUMA node2 CPU(s):    14-17,21-23,70-73,77-79
        NUMA node3 CPU(s):    18-20,24-27,74-76,80-83
        NUMA node4 CPU(s):    28-31,35-37,84-87,91-93
        NUMA node5 CPU(s):    32-34,38-41,88-90,94-97
        NUMA node6 CPU(s):    42-45,49-51,98-101,105-107
        NUMA node7 CPU(s):    46-48,52-55,102-104,108-111

  /proc/cpuinfo cache data
     cache size : 19712 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 7 8 9 56 57 58 59 63 64 65
    node 0 size: 194969 MB
    node 0 free: 189837 MB
    node 1 cpus: 4 5 6 10 11 12 13 60 61 62 66 67 68 69
    node 1 size: 196608 MB
    node 1 free: 191905 MB
    node 2 cpus: 14 15 16 17 21 22 23 70 71 72 73 77 78 79
    node 2 size: 196608 MB
    node 2 free: 191892 MB
    node 3 cpus: 18 19 20 24 25 26 27 74 75 76 80 81 82 83
    node 3 size: 196608 MB
    node 3 free: 191375 MB
    node 4 cpus: 28 29 30 31 35 36 37 84 85 86 87 91 92 93
    node 4 size: 196608 MB
    node 4 free: 191928 MB
    node 5 cpus: 32 33 34 38 39 40 41 88 89 90 94 95 96 97
    node 5 size: 196608 MB
    node 5 free: 191861 MB
    node 6 cpus: 42 43 44 45 49 50 51 98 99 100 101 105 106 107
    node 6 size: 196608 MB
    node 6 free: 191822 MB
    node 7 cpus: 46 47 48 52 53 54 55 102 103 104 108 109 110 111
```

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Platform Notes (Continued)

```
   node 7 size: 196608 MB
   node 7 free: 191911 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:       1583345532 kB
    HugePages_Total:        0
    Hugepagesize:       2048 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux Server"
       VERSION="7.3 (Maipo)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="7.3"
       PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
       ANSI_COLOR="0;31"
       CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
    redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
    system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

 uname -a:
    Linux localhost.localdomain 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Dec 28 14:23:39 EST
    2017 x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Jun 19 02:07

 SPEC is set to: /spec
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda4       xfs   400G   22G  378G   6% /

 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. 0.84 03/26/2018
```

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Platform Notes (Continued)

```
     Memory:
       48x Samsung M393A4K40BB2-CTD 32 GB 2 rank 2666, configured at 2400

    (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.
------------------------------------------------------------------------------


==============================================================================
  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)
```

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------
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.
------------------------------------------------------------------------------


==============================================================================
 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
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base =   276

SPECrate2017_fp_peak =   283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Compiler Version Notes (Continued)

```
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`

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`

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Base Portability Flags (Continued)

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-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3`

C++ benchmarks:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3`

Fortran benchmarks:
`-xCORE-AVX2 -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-AVX2 -ipo -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++:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3`

Benchmarks using Fortran, C, and C++:
`-xCORE-AVX2 -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`

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)
https://www.spec.org/

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: Jun-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Base Other Flags (Continued)

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
```

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:

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: Jun-2018

Hardware Availability: Jul-2017

Software Availability: Jan-2018

Peak Optimization Flags (Continued)

519.lbm_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3

538.imagick_r: -xCORE-AVX2 -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-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3
-nostandard-realloc-lhs -align array32byte

554.roms_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -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:

521.wrf_r: basepeak = yes

527.cam4_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -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-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei CH242 V5 (Intel Xeon Gold 5120)

SPECrate2017_fp_base = 276

SPECrate2017_fp_peak = 283

CPU2017 License: 3175		**Test Date:**	Jun-2018
Test Sponsor:	Huawei	**Hardware Availability:**	Jul-2017
Tested by:	Huawei	**Software Availability:**	Jan-2018

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/Huawei-Platform-Settings-SKL-V1.9-revC.html
```

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/Huawei-Platform-Settings-SKL-V1.9-revC.xml
```

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

Tested with SPEC CPU2017 v1.0.2 on 2018-06-19 12:53:42-0400.
Report generated on 2018-10-31 18:34:09 by CPU2017 PDF formatter v6067.
Originally published on 2018-07-27.