SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

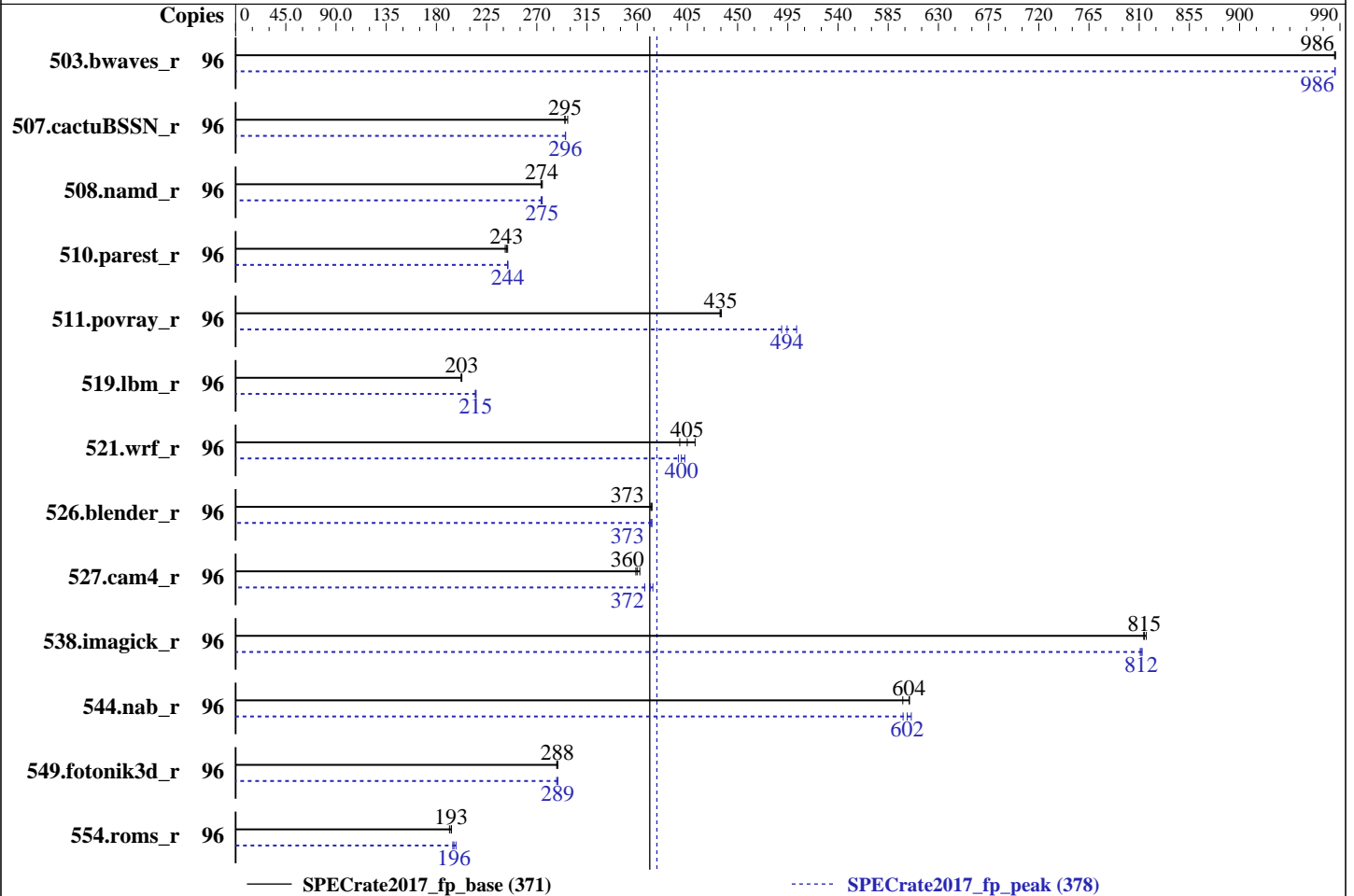**SPECrate2017_fp_peak = 378**

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

Copies		
503.bwaves_r	96	base 986 / peak 986
507.cactuBSSN_r	96	base 295 / peak 296
508.namd_r	96	base 274 / peak 275
510.parest_r	96	base 243 / peak 244
511.povray_r	96	base 435 / peak 494
519.lbm_r	96	base 203 / peak 215
521.wrf_r	96	base 405 / peak 400
526.blender_r	96	base 373 / peak 373
527.cam4_r	96	base 360 / peak 372
538.imagick_r	96	base 815 / peak 812
544.nab_r	96	base 604 / peak 602
549.fotonik3d_r	96	base 288 / peak 289
554.roms_r	96	base 193 / peak 196

——— SPECrate2017_fp_base (371)   ‑‑‑‑‑ SPECrate2017_fp_peak (378)

Hardware

CPU Name: Intel Xeon Gold 6146
 Max MHz.: 4200
 Nominal: 3200
Enabled: 48 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: 24.75 MB I+D on chip per chip
 Other: None
Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-2666V-R)
Storage: 1 x 900 GB SAS HDD 10K RPM, RAID 0
Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP2
 4.4.120-92.70-default
Compiler: C/C++: Version 18.0.2.199 of Intel C/C++
 Compiler for Linux;
 Fortran: Version 18.0.2.199 of Intel Fortran
 Compiler for Linux
Parallel: No
Firmware: Version 8.92 released May-2018
File System: btrfs
System State: Run level 5 (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 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base =   371

SPECrate2017_fp_peak =   378

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: May-2018

Hardware Availability: May-2018

Software Availability: Mar-2018

Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	96	976	986	**977**	**986**	977	985	96	977	985	977	986	**977**	**986**
507.cactuBSSN_r	96	408	298	**412**	**295**	412	295	96	411	296	**411**	**296**	411	296
508.namd_r	96	332	275	**332**	**274**	333	274	96	333	274	332	275	**332**	**275**
510.parest_r	96	**1034**	**243**	1039	242	1030	244	96	1029	244	1030	244	**1030**	**244**
511.povray_r	96	515	435	516	434	**516**	**435**	96	458	489	**453**	**494**	446	503
519.lbm_r	96	501	202	**499**	**203**	499	203	96	**470**	**215**	471	215	469	216
521.wrf_r	96	522	412	540	398	**531**	**405**	96	534	403	542	397	**538**	**400**
526.blender_r	96	**392**	**373**	392	373	393	372	96	**392**	**373**	392	373	393	372
527.cam4_r	96	463	362	**466**	**360**	468	359	96	449	374	458	367	**452**	**372**
538.imagick_r	96	**293**	**815**	292	816	293	814	96	**294**	**812**	294	813	294	811
544.nab_r	96	267	604	270	598	**268**	**604**	96	267	606	**268**	**602**	270	598
549.fotonik3d_r	96	1300	288	**1297**	**288**	1295	289	96	**1296**	**289**	1300	288	1295	289
554.roms_r	96	789	193	796	192	**789**	**193**	96	772	198	**779**	**196**	784	195

SPECrate2017_fp_base =	**371**
SPECrate2017_fp_peak =	**378**

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"
Numa balancing was disabled using "echo 0 > /proc/sys/kernel/numa_balancing"

General Notes

Environment variables set by runcpu before the start of the run:

LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/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>

(Continued on next page)

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

General Notes (Continued)

```
Yes: 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.
```

Platform Notes

```
 BIOS configuration:
 Sub NUMA Cluster (SNC) set to enabled
 IMC (Integrated memory controller) Interleaving set to 1 way interleave
 Xtended Prediction Table (XPT) Prefetch set to Enable
 Memory Patrol Scrub set to Disable
 Last Level Cache (LLC) Prefetch set to Disable
 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
 running on linux-tk4l Sat Nov 17 20:02:39 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 6146 CPU @ 3.20GHz
       4  "physical id"s (chips)
       96 "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  : 24
       physical 0: cores 0 1 2 3 4 9 10 16 18 19 25 26
       physical 1: cores 0 1 2 3 8 9 10 11 18 19 24 27
       physical 2: cores 0 1 3 9 11 16 17 18 19 24 26 27
       physical 3: cores 0 1 2 3 4 9 10 16 18 19 25 26

 From lscpu:
      Architecture:          x86_64
      CPU op-mode(s):        32-bit, 64-bit
      Byte Order:            Little Endian
      CPU(s):                96
      On-line CPU(s) list:   0-95
      Thread(s) per core:    2
      Core(s) per socket:    12
      Socket(s):             4
```

(Continued on next page)

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: May-2018

Hardware Availability: May-2018

Software Availability: Mar-2018

Platform Notes (Continued)

```
        NUMA node(s):           8
        Vendor ID:              GenuineIntel
        CPU family:             6
        Model:                  85
        Model name:             Intel(R) Xeon(R) Gold 6146 CPU @ 3.20GHz
        Stepping:               4
        CPU MHz:                3201.000
        CPU max MHz:            3201.0000
        CPU min MHz:            1200.0000
        BogoMIPS:               6399.99
        Virtualization:         VT-x
        L1d cache:              32K
        L1i cache:              32K
        L2 cache:               1024K
        L3 cache:               25344K
        NUMA node0 CPU(s):      0-2,5,7,10,48-50,53,55,58
        NUMA node1 CPU(s):      3,4,6,8,9,11,51,52,54,56,57,59
        NUMA node2 CPU(s):      12-14,16,17,22,60-62,64,65,70
        NUMA node3 CPU(s):      15,18-21,23,63,66-69,71
        NUMA node4 CPU(s):      24,25,27,29,30,33,72,73,75,77,78,81
        NUMA node5 CPU(s):      26,28,31,32,34,35,74,76,79,80,82,83
        NUMA node6 CPU(s):      36-38,41,43,46,84-86,89,91,94
        NUMA node7 CPU(s):      39,40,42,44,45,47,87,88,90,92,93,95
        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
    aperfmperf eagerfpu pni pclmulqdq dtes64 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 ida arat epb invpcid_single pln pts dtherm
    intel_pt rsb_ctxsw spec_ctrl stibp retpoline kaiser tpr_shadow vnmi flexpriority ept
    vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx avx512f
    avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec
    xgetbv1 cqm_llc cqm_occup_llc

 /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: 8 nodes (0-7)
    node 0 cpus: 0 1 2 5 7 10 48 49 50 53 55 58
    node 0 size: 191788 MB
    node 0 free: 190429 MB
    node 1 cpus: 3 4 6 8 9 11 51 52 54 56 57 59
    node 1 size: 193524 MB
    node 1 free: 192938 MB
    node 2 cpus: 12 13 14 16 17 22 60 61 62 64 65 70
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

Huawei

SPECrate2017_fp_base = 371

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

Platform Notes (Continued)

```
   node 2 size: 193524 MB
   node 2 free: 192547 MB
   node 3 cpus: 15 18 19 20 21 23 63 66 67 68 69 71
   node 3 size: 193524 MB
   node 3 free: 192981 MB
   node 4 cpus: 24 25 27 29 30 33 72 73 75 77 78 81
   node 4 size: 193524 MB
   node 4 free: 192990 MB
   node 5 cpus: 26 28 31 32 34 35 74 76 79 80 82 83
   node 5 size: 193524 MB
   node 5 free: 193031 MB
   node 6 cpus: 36 37 38 41 43 46 84 85 86 89 91 94
   node 6 size: 193524 MB
   node 6 free: 193051 MB
   node 7 cpus: 39 40 42 44 45 47 87 88 90 92 93 95
   node 7 size: 193361 MB
   node 7 free: 192891 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:       1583407100 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 12 SP2

 From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 12 (x86_64)
       VERSION = 12
       PATCHLEVEL = 2
       # This file is deprecated and will be removed in a future service pack or release.
       # Please check /etc/os-release for details about this release.
    os-release:
       NAME="SLES"
       VERSION="12-SP2"
       VERSION_ID="12.2"
```

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

Platform Notes (Continued)

```
        PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
        ID="sles"
        ANSI_COLOR="0;32"
        CPE_NAME="cpe:/o:suse:sles:12:sp2"

  uname -a:
     Linux linux-tk4l 4.4.120-92.70-default #1 SMP Wed Mar 14 15:59:43 UTC 2018 (52a83de)
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 5 Nov 16 16:23

  SPEC is set to: /home/cpu2017
     Filesystem      Type   Size  Used Avail Use% Mounted on
     /dev/sda4       btrfs  748G   43G  703G   6% /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. 8.92 05/02/2018
    Memory:
     48x Samsung M393A4K40BB2-CTD 32 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, peak)
------------------------------------------------------------------------------
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
  CC   519.lbm_r(peak)
------------------------------------------------------------------------------
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
  CXXC 508.namd_r(base) 510.parest_r(base, peak)
------------------------------------------------------------------------------
icpc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
```

SPEC CPU2017 Floating Point Rate Result

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

Compiler Version Notes (Continued)

```
--------------------------------------------------------------------------------

==============================================================================
CXXC 508.namd_r(peak)
------------------------------------------------------------------------------
icpc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 CC  511.povray_r(base) 526.blender_r(base, peak)
------------------------------------------------------------------------------
icpc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
CC   511.povray_r(peak)
------------------------------------------------------------------------------
icpc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 FC  507.cactuBSSN_r(base, peak)
------------------------------------------------------------------------------
icpc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 FC  503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base)
------------------------------------------------------------------------------
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 FC   554.roms_r(peak)
```

(Continued on next page)

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

SPEC CPU2017 Floating Point Rate Result

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: May-2018

Hardware Availability: May-2018

Software Availability: Mar-2018

Compiler Version Notes (Continued)

```
--------------------------------------------------------------------------
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
 CC  521.wrf_r(base) 527.cam4_r(base)
--------------------------------------------------------------------------
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
CC   521.wrf_r(peak) 527.cam4_r(peak)
--------------------------------------------------------------------------
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 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
```

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

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-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 -auto -nostandard-realloc-lhs

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -auto -nostandard-realloc-lhs

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 -auto -nostandard-realloc-lhs

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 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

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
```

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
```

SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

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

Test Date: May-2018
Hardware Availability: May-2018
Software Availability: Mar-2018

Peak Optimization Flags

C benchmarks:

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 538.imagick_r

C++ benchmarks:

508.namd_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

510.parest_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3

Fortran benchmarks:

503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -auto
-nostandard-realloc-lhs

549.fotonik3d_r: Same as 503.bwaves_r

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 -auto -nostandard-realloc-lhs

Benchmarks using both Fortran 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 -auto -nostandard-realloc-lhs

Benchmarks using both C and C++:

511.povray_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

526.blender_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3

(Continued on next page)

SPEC CPU2017 Floating Point Rate Result

Huawei

Huawei 5885H V5 (Intel Xeon Gold 6146)

SPECrate2017_fp_base = 371

SPECrate2017_fp_peak = 378

CPU2017 License:	3175	**Test Date:**	May-2018
Test Sponsor:	Huawei	**Hardware Availability:**	May-2018
Tested by:	Huawei	**Software Availability:**	Mar-2018

Peak Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -auto -nostandard-realloc-lhs
```

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-V1.7.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-V1.7.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 2018-11-17 07:02:38-0500.
Report generated on 2018-12-11 14:54:21 by CPU2017 PDF formatter v6067.
Originally published on 2018-12-11.