## SPEC CPU®2017 Floating Point Rate Result

**Inspur Corporation**

**Inspur NF5280M5 (Intel Xeon Gold 6230N)**

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
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<tbody>
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<td>Test Sponsor:</td>
<td>Inspur Corporation</td>
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<tr>
<td>Tested by:</td>
<td>Inspur Corporation</td>
</tr>
<tr>
<td>Test Date:</td>
<td>Jul-2020</td>
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<tr>
<td>Hardware Availability:</td>
<td>Apr-2019</td>
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<tr>
<td>Software Availability:</td>
<td>Apr-2020</td>
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</table>

**SPECrate®2017_fp_base = 231**

**SPECrate®2017_fp_peak = 244**

### Hardware

- **CPU Name:** Intel Xeon Gold 6230N
- **Max MHz:** 3500
- **Nominal:** 2300
- **Enabled:** 40 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:** 27.5 MB I+D on chip per core
- **Memory:** 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)
- **Storage:** 1 x 2 TB NVME SSD
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux release 8.1 (Ootpa) 4.18.0-147.el8.x86_64
- **Compiler:** C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux;
  Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 for Linux
- **Parallel:** No
- **Firmware:** Version 4.1.7 released Apr-2019
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **Other:** jemalloc memory allocator V5.0.1
- **Power Management:** BIOS and OS set to prefer performance at the cost of additional power usage

---

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<tr>
<th>Benchmark</th>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
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<tr>
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<td>508.namd_r</td>
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<td>526.blender_r</td>
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Spec CPU®2017 Floating Point Rate Result

Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

SPECrate®2017_fp_base = 231

SPECrate®2017_fp_peak = 244

Results Table

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</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Notes

The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler. The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux

The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux

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"

SCALING_GOVERNOR set to Performance

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/je5.0.1-64"
MALLOCP_CONF = "retain:true"
SPEC CPU®2017 Floating Point Rate Result

Inspur Corporation

Spec CPU 2017 Floating Point Rate Result

Inspur Corporation
Inspur NF5280M5 (Intel Xeon Gold 6230N)

SPECrate®2017_fp_base = 231
SPECrate®2017_fp_peak = 244

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Redhat Enterprise Linux 8.0
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
  sync; echo 3>/proc/sys/vm/drop_caches
runcpu command invoked through numactl i.e.:
  numactl --interleave=all runcpu <etc>

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.

jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5,
and the system compiler gcc 4.8.5;
sources available from jemalloc.net or

Platform Notes

BIOS configuration:
  ENERGY_PERF_BIAS_CFG mode set to Performance
  Hardware Prefetch set to Disable
  VT Support set to Disable
  C1E Support set to Disable
  IMC (Integrated memory controller) Interleaving set to 1-way
  Sub NUMA Cluster (SNC) set to Enable

Sysinfo program /home/CPU2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f808a3d7edbe6e46a485a0011
running on localhost.localdomain Fri Jun 22 15:54:14 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 6230N CPU @ 2.30GHz
  2 "physical id"s (chips)
  80 "processors"
  cores, siblings (Caution: counting these is hw and system dependent. The following
  excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
Insipr Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_fp_base = 231
SPECrate®2017_fp_peak = 244

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation

Test Date: Jul-2020
Hardware Availability: Apr-2019
Software Availability: Apr-2020

Platform Notes (Continued)

cpu cores : 20
siblings : 40
physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28

From lsccpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 80
On-line CPU(s) list: 0-79
Thread(s) per core: 2
Core(s) per socket: 20
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6230N CPU @ 2.30GHz
Stepping: 7
CPU MHz: 2900.040
CPU max MHz: 3500.0000
CPU min MHz: 1000.0000
BogoMIPS: 4600.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 28160K
NUMA node0 CPU(s): 0-2,5,6,10-12,15,16,40-42,45,46,50-52,55,56
NUMA node1 CPU(s): 3,4,7-9,13,14,17-19,43,44,47-49,53,54,57-59
NUMA node2 CPU(s): 20-22,25,26,30-32,35,36,60-62,65,66,67,70-72,75,76
NUMA node3 CPU(s): 23,24,27-29,33,34,37-39,63,64,67-69,73,74,77-79
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 pdeldgb rdtscp
  lm    constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
  aperfmperf 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 cpuid_fault epb cat_13 cdp_13 invpcid_single ssbd
  mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmi flexpriority ept vpid fsgsbase
  tsc_adjust bmi1 hle avx2 smep bmi2 erts invpcid rtm cqm mpx rdt_a avx512f avx512dq
  rdseed adx smap cldflushopt clwb intel_pt avx512cd avx512bw avx512vl xsaveopt xsavec
  xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local dtherm ida arat pln
  pts pku ospke avx512_vnni md_clear flush_l1d arch_capabilities

/proc/cpuinfo cache data
  cache size : 28160 KB

(Continued on next page)
Inspur Corporation

Insper NF5280M5 (Intel Xeon Gold 6230N)

SPECrate®2017_fp_base = 231
SPECrate®2017_fp_peak = 244

Platform Notes (Continued)

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 10 11 12 15 16 40 41 42 45 46 50 51 52 55 56
node 0 size: 192103 MB
node 0 free: 180967 MB
node 1 cpus: 3 4 7 8 9 13 14 17 18 19 43 44 47 48 49 53 54 57 58 59
node 1 size: 193531 MB
node 1 free: 184661 MB
node 2 cpus: 20 21 22 25 26 30 31 32 35 36 60 61 62 65 66 70 71 72 75 76
node 2 size: 193531 MB
node 2 free: 184591 MB
node 3 cpus: 23 24 27 28 29 33 34 37 38 39 63 64 67 68 69 73 74 77 78 79
node 3 size: 193505 MB
node 3 free: 184683 MB
node distances:
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: 791217268 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
    NAME="Red Hat Enterprise Linux"
    VERSION="8.1 (Ootpa)"
    ID=rhel
    ID_LIKE="fedora"
    VERSION_ID="8.1"
    PLATFORM_ID="platform:el8"
    PRETTY_NAME="Red Hat Enterprise Linux 8.1 (Ootpa)"
    ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.1 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.1 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.1:ga

uname -a:
Linux localhost.localdomain 4.18.0-147.el8.x86_64 #1 SMP Thu Sep 26 15:52:44 UTC 2019
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

(Continued on next page)
# SPEC CPU®2017 Floating Point Rate Result

## Inspur Corporation

**Insur NF5280M5 (Intel Xeon Gold 6230N)**

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<th>SPECrate®2017_fp_peak</th>
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**CPU2017 License:** 3358  
**Test Sponsor:** Inspur Corporation  
**Tested by:** Inspur Corporation  
**Test Date:** Jul-2020  
**Hardware Availability:** Apr-2019  
**Software Availability:** Apr-2020

### Platform Notes (Continued)

- **CVE-2018-3620 (L1 Terminal Fault):** Not affected  
- **Microarchitectural Data Sampling:** Not affected  
- **CVE-2017-5754 (Meltdown):** Not affected  
- **CVE-2018-3639 (Speculative Store Bypass):** Mitigation: Speculative Store Bypass disabled via prctl and seccomp  
- **CVE-2017-5753 (Spectre variant 1):** Mitigation: usercopy/swapgs barriers and __user pointer sanitation  
- **CVE-2017-5715 (Spectre variant 2):** Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

**run-level 3 Jun 22 07:11**

**SPEC is set to:** /home/CPU2017  
**Filesystem**  
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<tr>
<th>Type</th>
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<td>1.8T</td>
<td>86G</td>
<td>1.7T</td>
<td>5%</td>
<td>/home</td>
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**From /sys/devices/virtual/dmi/id**  
- **BIOS:** American Megatrends Inc. 4.1.7 04/19/2019  
- **Vendor:** Inspur  
- **Product:** NF5280M5  
- **Serial:** 217453240

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.

**Memory:**  
- 24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933

(End of data from sysinfo program)

### Compiler Version Notes

```
C   | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(base, peak)  

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
```

```
C++ | 508.namd_r(base, peak) 510.parest_r(base, peak)  

(Continued on next page)```
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

SPECrater®2017_fp_base = 231
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CPU2017 License: 3358
Test Sponsor: Inspur Corporation
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Compiler Version Notes (Continued)

Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
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<td>Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306</td>
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<td>Copyright (C) 1985-2020 Intel Corporation. All rights reserved.</td>
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<td>Intel(R) C Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306</td>
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Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation

SPECrater®2017_fp_base = 231
SPECrater®2017_fp_peak = 244

Test Date: Jul-2020
Hardware Availability: Apr-2019
Software Availability: Apr-2020

Compiler Version Notes (Continued)

==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
==============================================================================
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
==============================================================================
Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                 | 554.roms_r(base, peak)
==============================================================================
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
==============================================================================
Fortran, C      | 521.wrf_r(base) 527.cam4_r(base, peak)
==============================================================================
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
==============================================================================
Fortran, C      | 521.wrf_r(peak)
==============================================================================
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
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Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
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(Continued on next page)
**Compiler Version Notes (Continued)**

```
Fortran, C      | 521.wrf_r(base) 527.cam4_r(base, peak)
----------------- 
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.1.1.217 Build 20200306  
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Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1 
NextGen Build 20200304 
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--------------------------------------------------------------------- 
Fortran, C      | 521.wrf_r(peak)
----------------- 
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.1.1.217 Build 20200306  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved. 
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, 
Version 19.1.1.217 Build 20200306 
Copyright (C) 1985-2020 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
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation

SPECrate®2017_fp_peak = 244
SPECrate®2017_fp_base = 231

Test Date: Jul-2020
Hardware Availability: Apr-2019
Software Availability: Apr-2020

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_CASE_FLAG
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:
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -gopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -gopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -O3 -ipo -no-prec-div -gopt-prefetch
-ffinite-math-only -gopt-multiple-gather-scatter-by-shuffles
-gopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using both Fortran and C:
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -gopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-gopt-prefetch -ffinite-math-only
-gopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs

(Continued on next page)
## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):
- `-align array32byte` `-auto` `-mbranches-within-32B-boundaries`
- `-L/usr/local/jemalloc64-5.0.1/lib` `-ljemalloc`

Benchmarks using both C and C++:
- `-m64` `-qnextgen` `-std=c11`
- `-W1` `-plugin-opt=-x86-branches-within-32B-boundaries` `-W1` `-z` `-muldefs`
- `-fuse-ld=gold` `-xCORE-AVX512` `-Ofast` `-ffast-math` `-flto` `-mfpmath=sse`
- `-funroll-loops` `-qopt-mem-layout-trans=4`
- `-L/usr/local/jemalloc64-5.0.1/lib` `-ljemalloc`

Benchmarks using Fortran, C, and C++:
- `-m64` `-qnextgen` `-std=c11`
- `-W1` `-plugin-opt=-x86-branches-within-32B-boundaries` `-W1` `-z` `-muldefs`
- `-fuse-ld=gold` `-xCORE-AVX512` `-Ofast` `-ffast-math` `-flto` `-mfpmath=sse`
- `-funroll-loops` `-qopt-mem-layout-trans=4` `-O3` `-ipo` `-no-prec-div`
- `-qopt-prefetch` `-ffinite-math-only`
- `-qopt-multiple-gather-scatter-by-shuffles` `-nostandard-realloc-lhs`
- `-align array32byte` `-auto` `-mbranches-within-32B-boundaries`
- `-L/usr/local/jemalloc64-5.0.1/lib` `-ljemalloc`

## 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`
### Inspur Corporation

**Inspur NF5280M5 (Intel Xeon Gold 6230N)**

**SPEC CPU®2017 Floating Point Rate Result**

<table>
<thead>
<tr>
<th>Test Sponsor:</th>
<th>Inspur Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Inspur Corporation</td>
</tr>
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**CPU2017 License:** 3358  
**Test Date:** Jul-2020  
**Hardware Availability:** Apr-2019  
**Software Availability:** Apr-2020

### SPECrate®2017_fp_base = 231

### SPECrate®2017_fp_peak = 244

---

**Peak Portability Flags**

Same as Base Portability Flags

---

**Peak Optimization Flags**

**C benchmarks:**

519.lbm_r: basepeak = yes

538.imagick_r: basepeak = yes

544.nab_r: basepeak = yes

**C++ benchmarks:**

508.namd_r: basepeak = yes

510.parest_r: -m64 -qnextgen

- Wl, -plugin-opt=-x86-branches-within-32B-boundaries
- Wl, -z, muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast
- ffast-math -flto -mfpmath=sse -funroll-loops
- qopt-mem-layout-trans=4 -L/usr/local/jemalloc64-5.0.1/lib
- ljemalloc

**Fortran benchmarks:**

503.bwaves_r: -m64 -Wl, -plugin-opt=-x86-branches-within-32B-boundaries

- Wl, -z, muldefs -fuse-ld=gold -xCORE-AVX512 -O3 -ipo

- no-prec-div -qopt-prefetch -ffinite-math-only

- qopt-multiple-gather-scatter-by-shuffles

- qopt-mem-layout-trans=4 -nostandard-realloc-lhs

- align array32byte -auto -mbranches-within-32B-boundaries

- L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

549.fotonik3d_r: basepeak = yes

554.roms_r: Same as 503.bwaves_r

**Benchmarks using both Fortran and C:**

521.wrf_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3

-ipo -no-prec-div -qopt-prefetch -ffinite-math-only

- qopt-multiple-gather-scatter-by-shuffles

- qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries

- nostandard-realloc-lhs -align array32byte -auto

(Continued on next page)
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6230N)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_fp_base = 231
SPECrate®2017_fp_peak = 244

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation
Test Date: Jul-2020
Hardware Availability: Apr-2019
Software Availability: Apr-2020

Peak Optimization Flags (Continued)

521.wrf_r (continued):
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

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

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-V1.9.xml

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