Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

**SPECrater®2017_fp_base = 246**

**SPECrater®2017_fp_peak = 261**

| Copies | 0 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 |
|--------|---|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 503.bwaves_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 352 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 507.cactuBSSN_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 194 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 508.namd_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 124 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 510.parest_r | 48 |     |     |     |     |     |     |     |     |     |     |     | 147 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 511.povray_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 305 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 519.lbm_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 121 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 521.wrf_r | 48 |     |     |     |     |     |     |     |     |     |     |     | 228 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 526.blender_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 259 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 527.cam4_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 265 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 538.imagick_r | 96 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 544.nab_r | 96 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 549.fotonik3d_r | 96 |     |     |     |     |     |     |     |     |     |     |     | 158 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 554.roms_r | 96 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

**SPECrater®2017_fp_base (246)**

**SPECrater®2017_fp_peak (261)**

**Hardware**
- **CPU Name:** Intel Xeon Gold 6252
- **Max MHz:** 3700
- **Nominal:** 2100
- **Enabled:** 48 cores, 2 chips, 2 threads/core
- **Orderable:** 1,2 chips
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **Cache L2:** 1 MB I+D on chip per core
- **Cache L3:** 35.75 MB I+D on chip per chip
- **Other:** None
- **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 8.0 (Ootpa)
  4.18.0-80.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 5 (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
# SPEC CPU®2017 Floating Point Rate Result

**Inspur Corporation**

**Inspur NF5280M5 (Intel Xeon Gold 6252)**

**SPECr**\textsuperscript{2}017\textsubscript{fp}_{base} = 246

**SPECr**\textsuperscript{2}017\textsubscript{fp}_{peak} = 261

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>96</td>
<td>1945</td>
<td>90.3</td>
<td>1947</td>
<td>90.3</td>
<td>1947</td>
<td>90.3</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>96</td>
<td>346</td>
<td>41.4</td>
<td>345</td>
<td>41.3</td>
<td>345</td>
<td>41.3</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>96</td>
<td>470</td>
<td>194</td>
<td>471</td>
<td>194</td>
<td>471</td>
<td>194</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>96</td>
<td>2023</td>
<td>124</td>
<td>2024</td>
<td>124</td>
<td>2024</td>
<td>124</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>96</td>
<td>734</td>
<td>305</td>
<td>734</td>
<td>305</td>
<td>734</td>
<td>305</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>96</td>
<td>836</td>
<td>121</td>
<td>831</td>
<td>120</td>
<td>831</td>
<td>120</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>96</td>
<td>950</td>
<td>226</td>
<td>944</td>
<td>228</td>
<td>942</td>
<td>228</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>96</td>
<td>565</td>
<td>259</td>
<td>565</td>
<td>259</td>
<td>565</td>
<td>259</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>96</td>
<td>634</td>
<td>265</td>
<td>631</td>
<td>266</td>
<td>631</td>
<td>266</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>96</td>
<td>322</td>
<td>741</td>
<td>323</td>
<td>740</td>
<td>323</td>
<td>740</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>96</td>
<td>372</td>
<td>435</td>
<td>371</td>
<td>435</td>
<td>370</td>
<td>436</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>96</td>
<td>2356</td>
<td>159</td>
<td>2364</td>
<td>158</td>
<td>2366</td>
<td>158</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>96</td>
<td>1562</td>
<td>97.6</td>
<td>1564</td>
<td>97.5</td>
<td>1546</td>
<td>97.2</td>
</tr>
</tbody>
</table>

**SPECr**\textsuperscript{2}017\textsubscript{fp}_{base} = 246

**SPECr**\textsuperscript{2}017\textsubscript{fp}_{peak} = 261

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"
MALLOC_CONF = "retain:true"
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPEC®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_fp_base = 246
SPECrate®2017_fp_peak = 261

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 295195f888a3d7edbe6e46a485a0011
running on localhost.localdomain Sat Jun 20 17:08:50 2020

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 6252 CPU @ 2.10GHz
  2 "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.)

(Continued on next page)
Platform Notes (Continued)

cpu cores : 24
siblings : 48
physical 0: cores  0  1  2  3  4  5  8  9  10  11  12  13  16  17  18  19  20  21  24  25  26  27  28  29
physical 1: cores  0  1  2  3  4  5  8  9  10  11  12  13  16  17  18  19  20  21  24  25  26  27  28  29

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: 24
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6252 CPU @ 2.10GHz
Stepping: 5
CPU MHz: 2800.000
CPU max MHz: 3700.0000
CPU min MHz: 1000.0000
BogoMIPS: 4200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 33792K
NUMA node0 CPU(s): 0-2,6-8,12-14,18-20,48-50,54-56,60-62,66-68
NUMA node1 CPU(s): 3-5,9-11,15-17,21-23,51-53,57-59,63-65,69-71
NUMA node2 CPU(s): 24-26,30-32,36-38,42-44,72-74,78-80,84-86,90-92
NUMA node3 CPU(s): 27-29,33-35,39-41,45-47,75-77,81-83,87-89,93-95
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 pdelpgb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl nonstop_tsc cpuid
aerpmpref perf pni pclmulqdq dtes64 ms_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtr pdcm
pcid dca ssse4_1 ssse4_2 x2apic movbit popcnt tsc_deadline_timer aes xsave avx f16c
rdstring lahf_lm abm 3dnowprefetch cpuid_fault epb cat_13 cdp_13 invpcid_single ssbd
mba ibrs ibp stibp tpr_shadow vnm flexpriority ept vptf fsqsbase ts_adjust bm1
hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq rdseed adx smap
clfushopt clwb intel_pt avx512cd avx512bw avx512vl xsavesopt xsavec xgetbv1 xsave
vmm_ltc qcm_occup_ltc qcm_msb_total qcm_msb_local dtherm ida arat pln pts pku ospke
flush_l1d arch_capabilities

/proc/cpuinfo cache data
  cache size : 33792 KB

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

Inspur Corporation
Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrater®2017_fp_base = 246
SPECrater®2017_fp_peak = 261

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

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

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 6 7 8 12 13 14 18 19 20 48 49 50 54 55 56 60 61 62 66 67 68
node 0 size: 191846 MB
node 0 free: 179555 MB
node 1 cpus: 3 4 5 9 10 11 15 16 17 21 22 23 51 52 53 57 58 59 63 64 65 69 70 71
node 1 size: 193531 MB
node 1 free: 183646 MB
node 2 cpus: 24 25 26 30 31 32 36 37 38 42 43 44 72 73 74 78 79 80 84 85 86 90 91 92
node 2 size: 193531 MB
node 2 free: 183613 MB
node 3 cpus: 27 28 29 33 34 35 39 40 41 45 46 47 75 76 77 81 82 83 87 88 89 93 94 95
node 3 size: 193506 MB
node 3 free: 183608 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:       790952856 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
  os-release:
    NAME="Red Hat Enterprise Linux"
    VERSION="8.0 (Ootpa)"
    ID="rhel"
    ID_LIKE="fedora"
    VERSION_ID="8.0"
    PLATFORM_ID="platform:el8"
    PRETTY_NAME="Red Hat Enterprise Linux 8.0 (Ootpa)"
    ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.0 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.0 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.0:ga

uname -a:
Linux localhost.localdomain 4.18.0-80.el8.x86_64 #1 SMP Wed Mar 13 12:02:46 UTC 2019
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

(Continued on next page)
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPEC CPU®2017 Floating Point Rate Result

SPECrate®2017_fp_base = 246
SPECrate®2017_fp_peak = 261

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

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

Platform Notes (Continued)

CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: No status reported
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: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full generic retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling

run-level 5 Jun 20 08:07
SPEC is set to: /home/CPU2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 1.8T 67G 1.7T 4% /home
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 Hynix HMAA4GR7A8N-WM 32 GB 2 rank 2933

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
| 519.1bm_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.

==============================================================================
| 508.namd_r(base, peak) 510.parest_r(base, peak) |

(Continued on next page)
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_fp_base = 246
SPECrate®2017_fp_peak = 261

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

Compiler Version Notes (Continued)

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++, C | 511.povray_r(base) 526.blender_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.

==============================================================================
C++, C | 511.povray_r(peak)
-----------------------------------------------------------------------------

Intel(R) C++ 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 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================
C++, C | 511.povray_r(base) 526.blender_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.

==============================================================================
C++, C | 511.povray_r(peak)
-----------------------------------------------------------------------------

Intel(R) C++ 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 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrater®2017 fp_base = 246
SPECrater®2017 fp_peak = 261

CPU2017 License: 3358
Test Sponsor: Inspur Corporation
Tested by: Inspur Corporation
Test Date: Jun-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, 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.

(Continued on next page)
Inspur Corporation
Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrate®2017_fp_base = 246
SPECrate®2017_fp_peak = 261

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

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

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
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, 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
SPEC CPU®2017 Floating Point Rate Result

Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrater®2017_fp_base = 246
SPECrater®2017_fp_peak = 261

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

Test Date: Jun-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.purest_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:
-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 -qopt-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 -fused-linker -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:
-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

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 -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs

(Continued on next page)
Inspur Corporation

Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrater®2017_fp_base = 246
SPECrater®2017_fp_peak = 261

---

**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`
- `-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`

Benchmarks using Fortran, C, 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` `-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`
SPEC CPU®2017 Floating Point Rate Result

Inspur Corporation
Inspur NF5280M5 (Intel Xeon Gold 6252)

SPECrate®2017_fp_base = 246  
SPECrate®2017_fp_peak = 261

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

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
-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

Fortran benchmarks:
503.bwaves_r: -m64 -W1,-plugin-opt=-x86-branches-within-32B-boundaries
-W1,-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)
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

SPEC CPU and SPECrate are registered trademarks 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.

Tested with SPEC CPU®2017 v1.1.0 on 2020-06-20 17:08:50-0400.
Originally published on 2020-07-07.