



# SPEC® CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 199

### Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

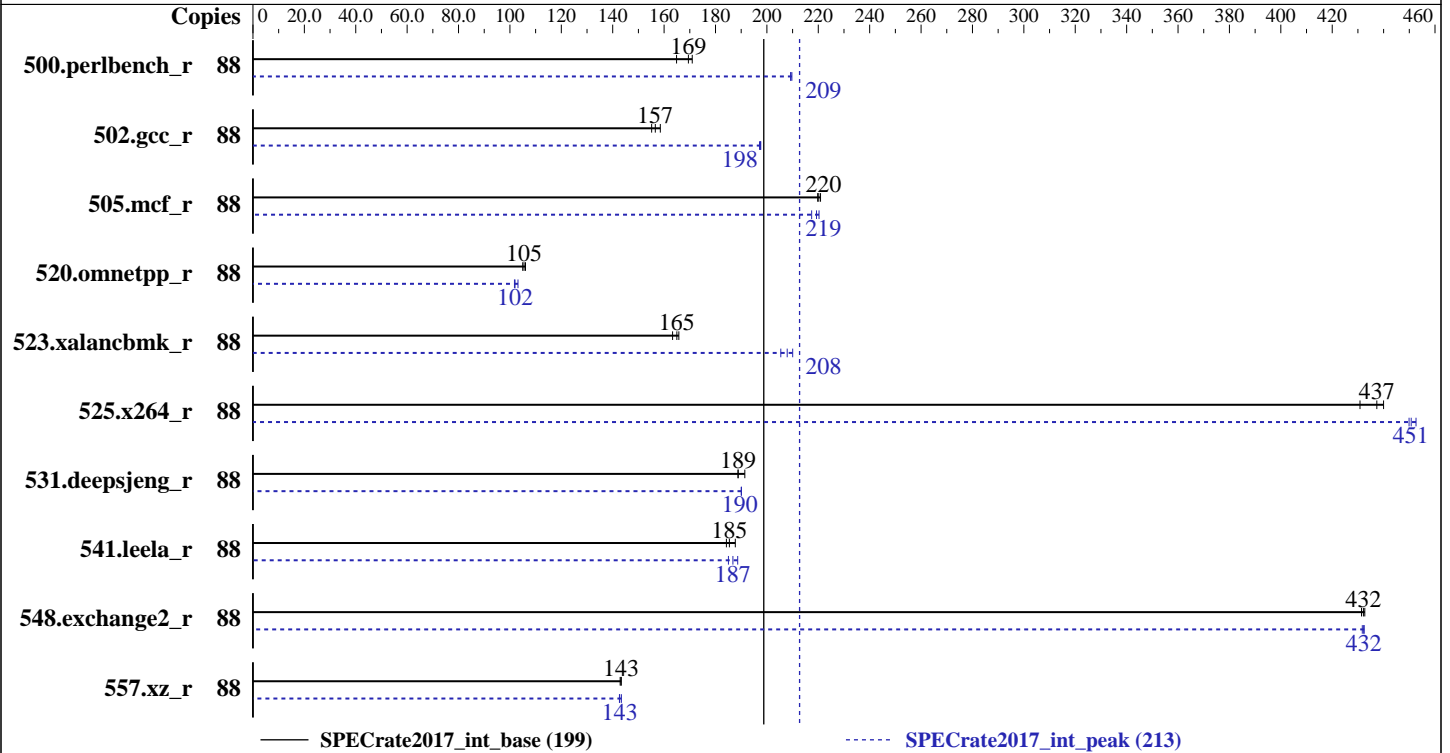
Test Date: Jan-2019

Test Sponsor: Inspur Corporation

Hardware Availability: Dec-2018

Tested by: Inspur Corporation

Software Availability: Jul-2018



### Hardware

CPU Name: Intel Xeon Gold 6152  
 Max MHz.: 3700  
 Nominal: 2100  
 Enabled: 44 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: 30.25 MB I+D on chip per chip  
 Other: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2666V-R)  
 Storage: 1 x 200 GB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP2  
 4.4.120-92.70-default  
 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 4.0.8 released Dec-2018  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc: jemalloc memory allocator library  
 V5.0.1



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 199

## Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

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

Test Date: Jan-2019  
Hardware Availability: Dec-2018  
Software Availability: Jul-2018

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	88	820	171	<b>827</b>	<b>169</b>	850	165	88	668	210	<b>669</b>	<b>209</b>	670	209
502.gcc_r	88	786	159	803	155	<b>796</b>	<b>157</b>	88	631	198	632	197	<b>631</b>	<b>198</b>
505.mcf_r	88	644	221	<b>646</b>	<b>220</b>	647	220	88	654	217	646	220	<b>648</b>	<b>219</b>
520.omnetpp_r	88	1089	106	<b>1094</b>	<b>105</b>	1100	105	88	1119	103	<b>1132</b>	<b>102</b>	1135	102
523.xalancbmk_r	88	561	166	<b>563</b>	<b>165</b>	569	163	88	442	210	<b>447</b>	<b>208</b>	452	205
525.x264_r	88	358	431	<b>352</b>	<b>437</b>	350	440	88	<b>342</b>	<b>451</b>	340	453	342	450
531.deepsjeng_r	88	527	191	534	189	<b>534</b>	<b>189</b>	88	<b>531</b>	<b>190</b>	531	190	530	190
541.leela_r	88	791	184	<b>786</b>	<b>185</b>	776	188	88	<b>780</b>	<b>187</b>	773	189	788	185
548.exchange2_r	88	533	433	534	431	<b>534</b>	<b>432</b>	88	533	432	<b>533</b>	<b>432</b>	534	432
557.xz_r	88	665	143	<b>663</b>	<b>143</b>	663	143	88	<b>666</b>	<b>143</b>	666	143	663	143

SPECrate2017\_int\_base = 199

SPECrate2017\_int\_peak = 213

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

### Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

### Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

### General Notes

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

LD\_LIBRARY\_PATH = "/home/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>
```

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.

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

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

**Test Date:** Jan-2019  
**Hardware Availability:** Dec-2018  
**Software Availability:** Jul-2018

## General Notes (Continued)

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: configured and built at default for 32bit (i686) and 64bit (x86\_64) targets;  
jemalloc: built with the RedHat Enterprise 7.4, and the system compiler gcc 4.8.5;  
jemalloc: sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

## Platform Notes

BIOS and OS configuration:  
SCALING\_GOVNOR set to Performance  
Hardware Prefetch set to Disable  
VT Support set to Disable  
ClE 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: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on linux-obz8 Sun Jan 6 00:38:42 2019

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 6152 CPU @ 2.10GHz  
2 "physical id"s (chips)  
88 "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 : 22  
siblings : 44  
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28  
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 88  
On-line CPU(s) list: 0-87  
Thread(s) per core: 2

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 199

## Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

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

**Test Date:** Jan-2019  
**Hardware Availability:** Dec-2018  
**Software Availability:** Jul-2018

### Platform Notes (Continued)

```

Core(s) per socket:      22
Socket(s):               2
NUMA node(s):           2
Vendor ID:               GenuineIntel
CPU family:              6
Model:                   85
Model name:              Intel(R) Xeon(R) Gold 6152 CPU @ 2.10GHz
Stepping:                4
CPU MHz:                 2799.976
CPU max MHz:             3700.0000
CPU min MHz:             1000.0000
BogoMIPS:                4190.12
Virtualization:          VT-x
L1d cache:               32K
L1i cache:               32K
L2 cache:                1024K
L3 cache:                30976K
NUMA node0 CPU(s):      0-21,44-65
NUMA node1 CPU(s):      22-43,66-87
Flags:                   fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpperf eagerfpu pni pclmulqdq dtes64 ds_cpl vmx smx est tm2 sse3 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
hwp hwp_act_window hwp_epp hwp_pkg_req 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 : 30976 KB
```

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 44 45 46 47 48 49
50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
node 0 size: 128261 MB
node 0 free: 106213 MB
node 1 cpus: 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 66 67 68
69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87
node 1 size: 128883 MB
node 1 free: 110568 MB
node distances:
node  0  1
0:   10  21

```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 199

## Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

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

**Test Date:** Jan-2019  
**Hardware Availability:** Dec-2018  
**Software Availability:** Jul-2018

### Platform Notes (Continued)

1: 21 10

From /proc/meminfo

MemTotal: 263317284 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"  
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-obz8 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 3 Jan 5 13:26 last=5

SPEC is set to: /home/CPU2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xf	145G	54G	91G	38%	/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 Inspur 4.0.8 12/15/2018

Memory:

16x Micron 18ASF2G72PZ-2G6D1 16 GB 1 rank 2666  
8x NO DIMM NO DIMM

(End of data from sysinfo program)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Jan-2019

Hardware Availability: Dec-2018

Software Availability: Jul-2018

## Compiler Version Notes

```
=====
CC 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
    525.x264_r(base, peak) 557.xz_r(base, peak)
-----
```

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

```
=====
CC 500.perlbench_r(peak) 502.gcc_r(peak)
-----
```

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

```
=====
CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
    541.leela_r(base)
-----
```

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

```
=====
CXXC 520.omnetpp_r(peak) 523.xalancbmk_r(peak) 531.deepsjeng_r(peak)
    541.leela_r(peak)
-----
```

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

```
=====
FC 548.exchange2_r(base, peak)
-----
```

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

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Jan-2019

Hardware Availability: Dec-2018

Software Availability: Jul-2018

## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

## Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

## Base Optimization Flags

C benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc
```

C++ benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc
```

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

## Base Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Jan-2019

Hardware Availability: Dec-2018

Software Availability: Jul-2018

## Base Other Flags (Continued)

Fortran benchmarks:

-m64

## Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Peak Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -D_FILE_OFFSET_BITS=64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

## Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3
-fno-strict-overflow -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

```
502.gcc_r: -L/opt/intel/compilers_and_libraries_2018/linux/lib/ia32
-Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3
-L/usr/local/je5.0.1-32/lib -ljemalloc
```

(Continued on next page)





# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Jan-2019

Hardware Availability: Dec-2018

Software Availability: Jul-2018

## Peak Optimization Flags (Continued)

505.mcf\_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib  
-ljemalloc

525.x264\_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -fno-alias  
-L/usr/local/je5.0.1-64/lib -ljemalloc

557.xz\_r: Same as 505.mcf\_r

C++ benchmarks:

520.omnetpp\_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3  
-L/usr/local/je5.0.1-64/lib -ljemalloc

523.xalancbmk\_r: -L/opt/intel/compilers\_and\_libraries\_2018/linux/lib/ia32  
-Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3  
-L/usr/local/je5.0.1-32/lib -ljemalloc

531.deepsjeng\_r: Same as 520.omnetpp\_r

541.leela\_r: Same as 520.omnetpp\_r

Fortran benchmarks:

-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte  
-L/usr/local/je5.0.1-64/lib -ljemalloc

## Peak Other Flags

C benchmarks (except as noted below):

-m64 -std=c11

502.gcc\_r: -m32 -std=c11

C++ benchmarks (except as noted below):

-m64

523.xalancbmk\_r: -m32

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 199

Inspur NF5270M5 (Intel Xeon Gold 6152)

SPECrate2017\_int\_peak = 213

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Jan-2019

Hardware Availability: Dec-2018

Software Availability: Jul-2018

## Peak Other Flags (Continued)

Fortran benchmarks:

-m64

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/Inspur-Platform-Settings-V1.1-SKL.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/Inspur-Platform-Settings-V1.1-SKL.xml>

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU2017 v1.0.2 on 2019-01-06 00:38:41-0500.

Report generated on 2019-02-05 13:47:00 by CPU2017 PDF formatter v6067.

Originally published on 2019-02-05.