



# SPEC® CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Inspur Corporation

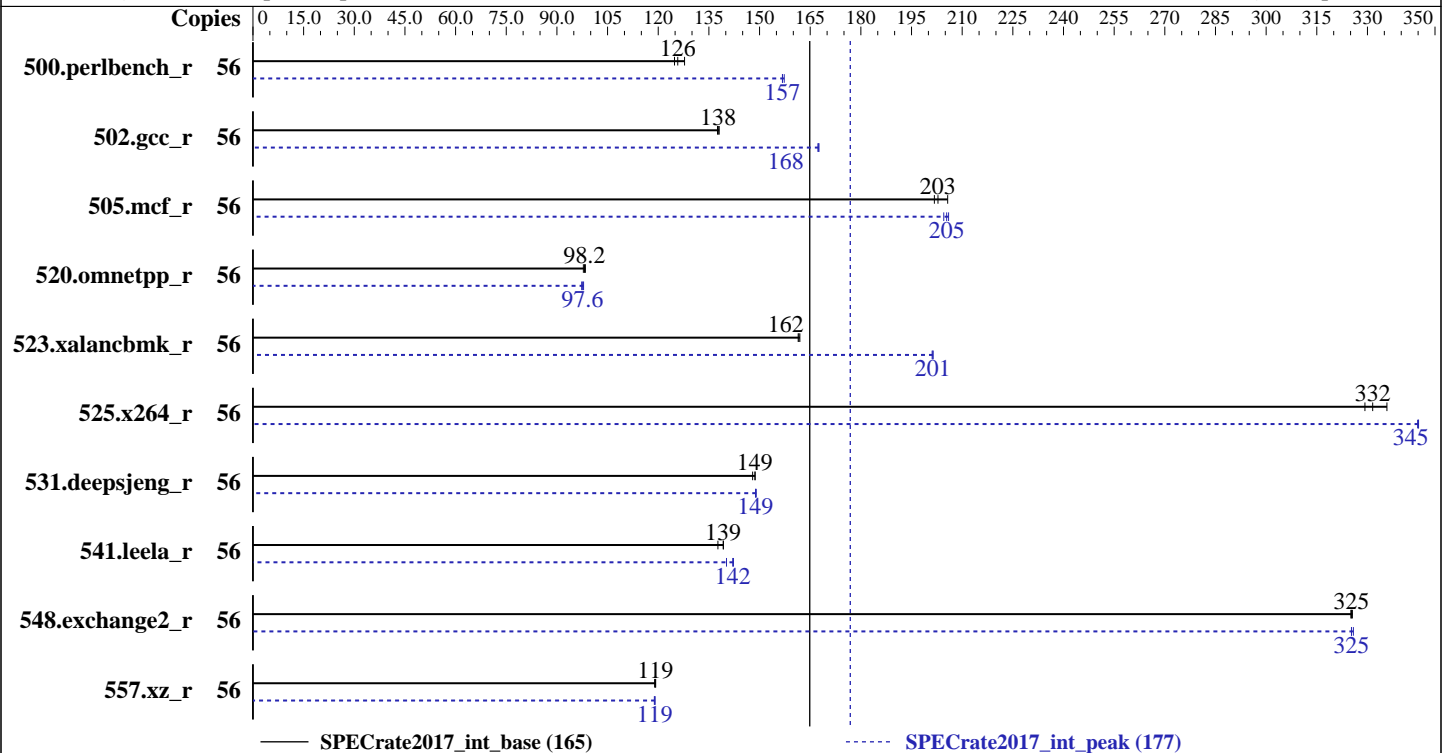
SPECrate2017\_int\_base = 165

### Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

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

Test Date: Sep-2017  
Hardware Availability: Aug-2017  
Software Availability: Sep-2017



### Hardware

CPU Name: Intel Xeon Gold 6132  
Max MHz.: 3700  
Nominal: 2600  
Enabled: 28 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: 19.25 MB I+D on chip per chip  
Other: None  
Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2666V-R)  
Storage: 1 x 450 GB SATA SSD  
Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP2  
4.4.21-69-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 3.0.4 released Sep-2017  
File System: xfs  
System State: Run level 5 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other: jemalloc: jemalloc memory allocator library  
V5.0.1;  
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  
releases



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 165

## Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

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

Test Date: Sep-2017  
Hardware Availability: Aug-2017  
Software Availability: Sep-2017

### Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	56	698	128	714	125	<b>709</b>	<b>126</b>	56	569	157	567	157	<b>569</b>	<b>157</b>
502.gcc_r	56	<b>575</b>	<b>138</b>	576	138	574	138	56	474	167	<b>473</b>	<b>168</b>	473	168
505.mcf_r	56	<b>446</b>	<b>203</b>	449	202	440	206	56	439	206	<b>441</b>	<b>205</b>	442	205
520.omnetpp_r	56	746	98.4	751	97.8	<b>748</b>	<b>98.2</b>	56	751	97.9	755	97.3	<b>753</b>	<b>97.6</b>
523.xalancbmk_r	56	365	162	366	161	<b>366</b>	<b>162</b>	56	294	201	<b>294</b>	<b>201</b>	294	201
525.x264_r	56	298	329	<b>296</b>	<b>332</b>	292	336	56	284	345	284	345	<b>284</b>	<b>345</b>
531.deepsjeng_r	56	434	148	<b>432</b>	<b>149</b>	432	149	56	<b>431</b>	<b>149</b>	431	149	431	149
541.leela_r	56	666	139	<b>666</b>	<b>139</b>	674	138	56	<b>653</b>	<b>142</b>	661	140	652	142
548.exchange2_r	56	<b>451</b>	<b>325</b>	451	326	451	325	56	451	325	450	326	<b>451</b>	<b>325</b>
557.xz_r	56	507	119	509	119	<b>508</b>	<b>119</b>	56	508	119	509	119	<b>508</b>	<b>119</b>

SPECrate2017\_int\_base = 165

SPECrate2017\_int\_peak = 177

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>

### Platform Notes

BIOS and OS configuration:  
SCALING\_GOVERNOR set to Performance

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Sep-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

## Platform Notes (Continued)

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 Clusteri¼^SNci¼%set to Enable  
 Sysinfo program /home/CPU2017/bin/sysinfo  
 Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
 running on linux-d87k Fri Sep 1 13:13:22 2017

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 6132 CPU @ 2.60GHz

2 "physical id"s (chips)

56 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 14

siblings : 28

physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

From lscpu:

Architecture: x86\_64

CPU op-mode(s): 32-bit, 64-bit

Byte Order: Little Endian

CPU(s): 56

On-line CPU(s) list: 0-55

Thread(s) per core: 2

Core(s) per socket: 14

Socket(s): 2

NUMA node(s): 4

Vendor ID: GenuineIntel

CPU family: 6

Model: 85

Model name: Intel(R) Xeon(R) Gold 6132 CPU @ 2.60GHz

Stepping: 4

CPU MHz: 3299.887

CPU max MHz: 3700.0000

CPU min MHz: 1000.0000

BogoMIPS: 5187.79

Virtualization: VT-x

L1d cache: 32K

L1i cache: 32K

L2 cache: 1024K

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECrate2017\_int\_base = 165

## Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

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

**Test Date:** Sep-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

```

L3 cache:                19712K
NUMA node0 CPU(s):      0-3,7-9,28-31,35-37
NUMA node1 CPU(s):      4-6,10-13,32-34,38-41
NUMA node2 CPU(s):      14-17,21-23,42-45,49-51
NUMA node3 CPU(s):      18-20,24-27,46-48,52-55
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 ssse3 sdbg fma cx16
xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx fl6c rdrand lahf_lm abm 3dnowprefetch ida arat epb pln pts dtherm hwp
hwp_act_window hwp_epp hwp_pkg_req intel_pt 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 : 19712 KB
```

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 3 7 8 9 28 29 30 31 35 36 37
node 0 size: 192026 MB
node 0 free: 191236 MB
node 1 cpus: 4 5 6 10 11 12 13 32 33 34 38 39 40 41
node 1 size: 193528 MB
node 1 free: 192900 MB
node 2 cpus: 14 15 16 17 21 22 23 42 43 44 45 49 50 51
node 2 size: 193528 MB
node 2 free: 192913 MB
node 3 cpus: 18 19 20 24 25 26 27 46 47 48 52 53 54 55
node 3 size: 193390 MB
node 3 free: 192816 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:          791014084 kB
HugePages_Total:      0
Hugepagesize:       2048 kB

```

```
/usr/bin/lsb_release -d
```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

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

**Test Date:** Sep-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

## Platform Notes (Continued)

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-d87k 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67)  
x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 5 Sep 1 13:10

SPEC is set to: /home/CPU2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xf	345G	24G	322G	7%	/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 3.0.4 09/15/2017

Memory:

24x Samsung M393A4K40CB2-CTD 32 GB 2 rank 2666

(End of data from sysinfo program)

## 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.

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

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

**Test Date:** Sep-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

## Compiler Version Notes (Continued)

=====  
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

Fortran benchmarks:  
ifort



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Sep-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

## 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
```

Fortran benchmarks:

```
-m64
```



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Sep-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

## 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
```

```
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
```

(Continued on next page)





# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Sep-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

## Peak Optimization Flags (Continued)

525.x264\_r (continued):

```
-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

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-V1.0-HSW.html>



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Inspur Corporation

SPECrate2017\_int\_base = 165

Inspur NF5280M5 (Intel Xeon Gold 6132)

SPECrate2017\_int\_peak = 177

**CPU2017 License:** 3358

**Test Sponsor:** Inspur Corporation

**Tested by:** Inspur Corporation

**Test Date:** Sep-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Sep-2017

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-V1.0-HSW.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 2017-09-01 13:13:21-0400.

Report generated on 2018-10-31 15:00:59 by CPU2017 PDF formatter v6067.

Originally published on 2017-12-12.