

# SPEC® CPU2017 Floating Point Rate Result

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**My Corporation**

(Test Sponsor: Intel Corporation)

SPECrate2017\_fp\_base = 0.7233

SPECrate2017\_fp\_peak = Not Run

**CPU2017 License:** 13

**Test Sponsor:** Intel Corporation

**Tested by:** Intel Corporation

**Test Date:** May-2020

**Hardware Availability:**

**Software Availability:** Sep-2017

Copies	0	0.0400	0.0900	0.130	0.170	0.210	0.250	0.290	0.330	0.370	0.410	0.450	0.490	0.530	0.570	0.610	0.650	0.730
503.bwaves_r																		
507.cactuBSSN_r																		
508.namd_r	1																	0.723
510.parest_r																		
511.povray_r																		
519.lbm_r																		
521.wrf_r																		
526.blender_r																		
527.cam4_r																		
538.imagick_r																		
544.nab_r																		
549.fotonik3d_r																		
554.roms_r																		

SPECrate2017\_fp\_base (0.7233)

## Hardware

CPU Name: Genuine Intel 0000  
Max MHz.:  
Nominal:  
Enabled: cores, 1 chip, threads/core  
Orderable:  
Cache L1:  
L2:  
L3:  
Other:  
Memory: 15.428 GB fixme: If using DDR3, format is:  
'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'  
Storage: 391 GB add more disk info here  
Other:

## Software

OS: Fedora release 32 (Thirty Two)  
5.7.0-0.rc6.1.1.cet.fc32.x86\_64  
Compiler: C/C++: Version 8.1.0 of GNU C/C++  
Compiler for Linux;  
Fortran: Version 8.1.0 of GNU Fortran  
Compiler for Linux  
Parallel: No  
Firmware: --  
File System: ext4  
System State: Run level 3 (add definition here)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: --

## Errors

'reportable' flag not set during run  
527.cam4\_r (base) did not have enough runs!  
554.roms\_r (base) did not have enough runs!  
549.fotonik3d\_r (base) did not have enough runs!  
511.povray\_r (base) did not have enough runs!  
544.nab\_r (base) did not have enough runs!  
521.wrf\_r (base) did not have enough runs!

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## Errors (Continued)

508.namd\_r (base) did not have enough runs!  
510.parest\_r (base) did not have enough runs!  
503.bwaves\_r (base) did not have enough runs!  
519.lbm\_r (base) did not have enough runs!  
538.imagick\_r (base) did not have enough runs!  
526.blender\_r (base) did not have enough runs!  
507.cactuBSSN\_r (base) did not have enough runs!

Unknown flags were used! See

<https://www.spec.org/cpu2017/Docs/runcpu.html#flagsurl>  
for information about how to get rid of this error.

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r														
507.cactuBSSN_r														
508.namd_r	1	<u>1313</u>	<u>0.723</u>											
510.parest_r														
511.povray_r														
519.lbm_r														
521.wrf_r														
526.blender_r														
527.cam4_r														
538.imagick_r														
544.nab_r														
549.fotonik3d_r														
554.roms_r														

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

## 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:

KMP\_AFFINITY = "granularity=fine,compact"

LD\_LIBRARY\_PATH = "/home/ucsd/SpectreSandboxing/spec2017/lib/ia32:/home/ucsd/SpectreSandboxing/spec2017/lib/intel64"

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## General Notes (Continued)

OMP\_STACKSIZE = "192M"

Binaries compiled on a system with Intel(R) Core(TM) i9-7900X CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.5  
Transparent Huge Pages enabled by default

## Platform Notes

Sysinfo program /home/ucsd/SpectreSandboxing/spec2017/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bccc91c0f  
running on tigerlake1-ravi Sat May 30 15:55:00 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 : Genuine Intel(R) CPU 0000 @ 2.30GHz

1 "physical id"s (chips)

8 "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 : 4

siblings : 8

physical 0: cores 0 1 2 3

From lscpu:

Architecture:

x86\_64

CPU op-mode(s):

32-bit, 64-bit

Byte Order:

Little Endian

Address sizes:

39 bits physical, 48 bits virtual

CPU(s):

8

On-line CPU(s) list:

0-7

Thread(s) per core:

2

Core(s) per socket:

4

Socket(s):

1

NUMA node(s):

1

Vendor ID:

GenuineIntel

CPU family:

6

Model:

140

Model name:

Genuine Intel(R) CPU 0000 @ 2.30GHz

Stepping:

0

CPU MHz:

1795.416

CPU max MHz:

4200.0000

CPU min MHz:

400.0000

BogoMIPS:

4608.00

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## Platform Notes (Continued)

Virtualization: VT-x  
L1d cache: 192 KiB  
L1i cache: 128 KiB  
L2 cache: 5 MiB  
L3 cache: 12 MiB  
NUMA node0 CPU(s): 0-7  
Vulnerability Itlb multihit: KVM: Mitigation: Split huge pages  
Vulnerability L1tf: Not affected  
Vulnerability Mds: Vulnerable: Clear CPU buffers attempted, no microcode; SMT vulnerable  
Vulnerability Meltdown: Not affected  
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp  
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling  
Vulnerability Tsx async abort: Not affected  
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dtes 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 cpuid aperfmperf tsc\_known\_freq pni pclmulqdq dtes64 monitor ds\_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4\_1 sse4\_2 x2apic movbe popcnt tsc\_deadline\_timer aes xsave avx f16c rdrand lahf\_lm abm 3dnowprefetch cpuid\_fault epb invpcid\_single ssbd ibrs ibpb stibp ibrs\_enhanced tpr\_shadow vnmi flexpriority ept vpid ept\_ad fsrbase tsc\_adjust bmi1 avx2 smep bmi2 erms invpcid avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel\_pt avx512cd sha\_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts hwp hwp\_notify hwp\_act\_window hwp\_epp hwp\_pkg\_req avx512vbmi umip pku ospke avx512\_vbmi2 shstk gfni vaes vpclmulqdq avx512\_vnni avx512\_bitalg tme avx512\_vpopcntdq rdpid movdiri movdir64b fsrm avx512\_vp2intersect ibt flush\_lld arch\_capabilities

/proc/cpuinfo cache data  
cache size : 12288 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

From /proc/meminfo  
MemTotal: 16177588 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

From /etc/\*release\* /etc/\*version\*  
fedora-release: Fedora release 32 (Thirty Two)  
os-release:  
NAME=Fedora

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## Platform Notes (Continued)

VERSION="32 (Workstation Edition)"

ID=fedora

VERSION\_ID=32

VERSION\_CODENAME=""

PLATFORM\_ID="platform:f32"

PRETTY\_NAME="Fedora 32 (Workstation Edition)"

ANSI\_COLOR="0;34"

redhat-release: Fedora release 32 (Thirty Two)

system-release: Fedora release 32 (Thirty Two)

system-release-cpe: cpe:/o:fedoraproject:fedora:32

uname -a:

Linux tigerlakel-ravi 5.7.0-0.rc6.1.1.cet.fc32.x86\_64 #1 SMP Mon May 18 17:21:34 PDT 2020 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 May 28 23:18

SPEC is set to: /home/ucsd/SpectreSandboxing/spec2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/fedora_localhost--live-home	ext4	391G	128G	243G	35%	/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.

(End of data from sysinfo program)

## Compiler Version Notes

=====

CXXC 508 namd\_r(base)

-----

clang version 10.0.0 (<https://github.com/llvm/llvm-project>  
d32170dbd5b0a54436537b6b75beaf44324e0c28)

Target: wasm32-unknown-wasi

Thread model: posix

InstalledDir: /opt/wasi-sdk/bin

-----

## Base Unknown Flags

508.namd\_r: "/opt/wasi-sdk/bin/clang --sysroot  
/opt/wasi-sdk/share/wasi-sysroot -Wl,--export-all -lstdc++  
-I/opt/wasi-sdk/lib/clang/10.0.0/include/ARRAY(0x847a9a8)

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## Base Unknown Flags (Continued)

508.namd\_r (continued):

```
"/opt/wasi-sdk/bin/clang --sysroot
/opt/wasi-sdk/share/wasi-sysroot -Wl,--export-all -lstdc++
-I/opt/wasi-sdk/lib/clang/10.0.0/include/ARRAY(0x83c9900)
"-fno-exceptionsARRAY(0x847d838)
```

## Base Runtime Environment

C++ benchmarks:

508.namd\_r: No flags used

## Base Compiler Invocation

C++ benchmarks:

508.namd\_r: No flags used

## Base Portability Flags

508.namd\_r: -DSPEC\_LP64

## Base Optimization Flags

C++ benchmarks:

508.namd\_r: No flags used

## Base Other Flags

C++ benchmarks:

508.namd\_r: No flags used

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

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