

# SPEC® CPU2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

(Test Sponsor: Red Hat, Inc.)

~~SPECSspeed2017\_fp\_base = 11.8~~

~~SPECSspeed2017\_fp\_peak = 13.5~~

CPU2017 License: 0002991

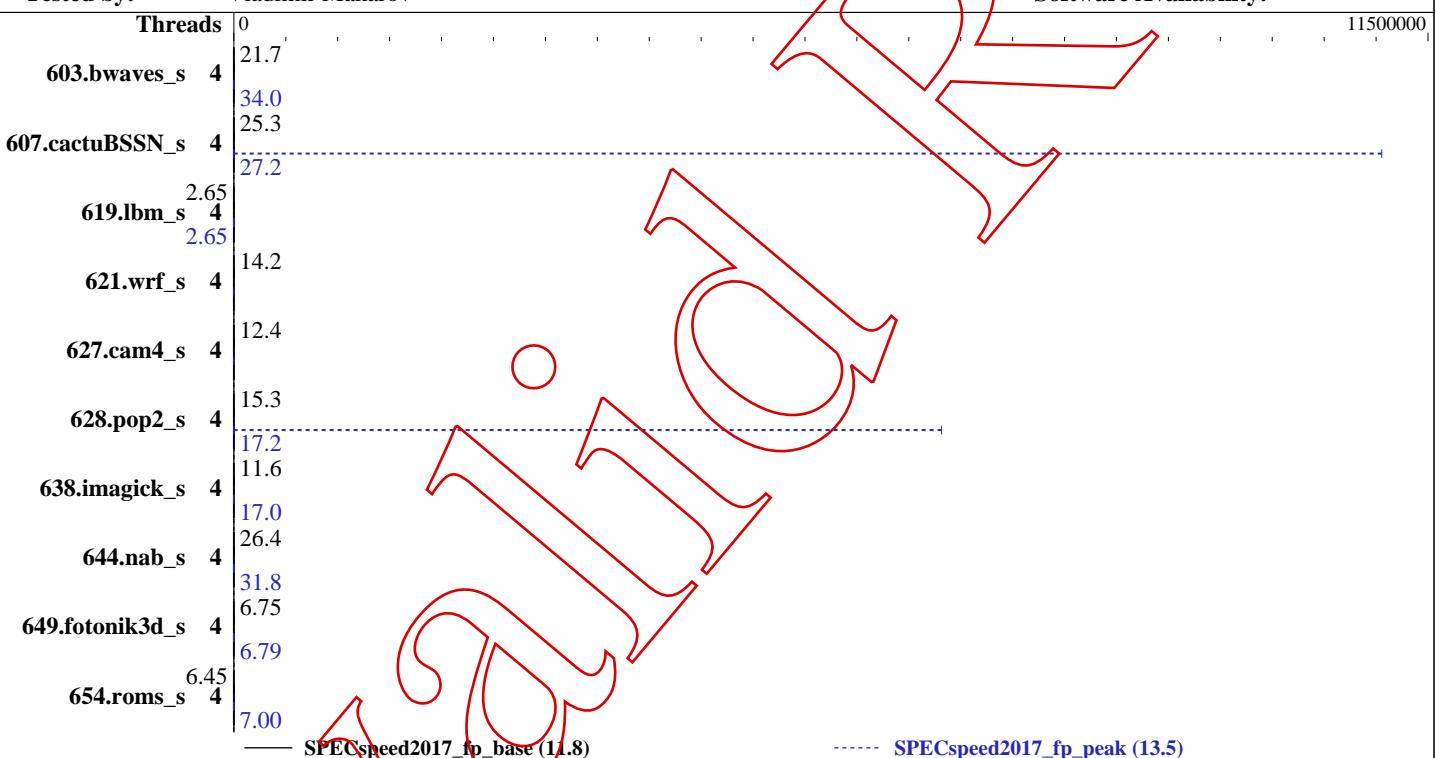
Test Sponsor: Red Hat, Inc.

Tested by: Vladimir Makarov

~~Test Date: Jun-2021~~

~~Hardware Availability: Now~~

~~Software Availability:~~



Hardware		Software	
CPU Name:	Intel(R) Core(TM) i7-8700K CPU @ 3.70GHz	OS:	Linux 4.17.3-200.fc28.x86_64 4.17.3-200.fc28.x86_64
Max MHz.:		Compiler:	gcc version 12.0.0 20210615 (experimental) (GCC)
Nominal:	3397.520	Parallel:	Yes
Enabled:	6 cores, 1 chip, threads/core	Firmware:	
Orderable:		File System:	ext4
Cache L1:		System State:	multiuser
L2:	12288 KB	Base Pointers:	64-bit
L3:		Peak Pointers:	64-bit
Other:		Other:	
Memory:	16300620 KB		
Storage:	'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'		
Other:	192 GB add more disk info here		

## Errors

- 'reportable' flag not set during run
- 627.cam4\_s (peak) did not have enough runs!
- 621.wrf\_s (peak) did not have enough runs!
- 607.cactusBSSN\_s (peak) had invalid runs!
- 628.pop2\_s (peak) had invalid runs!

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## Errors (Continued)

627.cam4\_s (peak) had invalid runs!

621.wrf\_s (peak) had invalid runs!

Run of 607.cactuBSSN\_s (peak) was not valid; status is RE

Run of 621.wrf\_s (peak) was not valid; status is CE

Run of 627.cam4\_s (peak) was not valid; status is CE

Run of 628.pop2\_s (peak) was not valid; status is RE

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					
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	4	2720	21.7	2724	21.7	<u>2724</u>	<u>21.7</u>	4	1729	34.1	1835	32.2
607.cactuBSSN_s	4	657	25.4	<u>658</u>	<u>25.3</u>	659	25.3	4	610	27.3	0.00151	0.00
619.lbm_s	4	1976	2.65	<u>1976</u>	<u>2.65</u>	1976	2.65	4	1974	2.65	2075	2.52
621.wrf_s	4	933	14.2	<u>934</u>	<u>14.2</u>	935	14.2	1	0.00	0.00		
627.cam4_s	4	<u>717</u>	<u>12.4</u>	717	12.4	717	12.4	1	0.00	0.00		
628.pop2_s	4	<u>773</u>	<u>15.3</u>	774	15.3	773	15.4	4	691	17.2	0.00174	0.00
638.imagick_s	4	1249	11.6	1244	11.6	<u>1244</u>	<u>11.6</u>	4	<u>848</u>	<u>17.0</u>	851	17.0
644.nab_s	4	661	26.4	663	26.4	<u>661</u>	<u>26.4</u>	4	551	31.7	549	31.8
649.fotonik3d_s	4	1350	6.75	<u>1350</u>	<u>6.75</u>	1349	6.76	4	1343	6.79	<u>1343</u>	<u>6.79</u>
654.roms_s	4	<u>2440</u>	<u>6.45</u>	2442	6.45	2424	6.50	4	2348	6.71	2249	7.00

~~SPECspeed2017\_fp\_base = 11.8~~

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

## General Notes

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

```
LD_LIBRARY_PATH = "/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/lib64:/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/lib::/usr/lib64:/lib64"
OMP_STACKSIZE = "120M"
```

## Platform Notes

Sysinfo program /notnfs/vmakarov/spec2017/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on ton8 Tue Jun 15 13:31:45 2021

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>

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## Platform Notes (Continued)

From /proc/cpuinfo

```
model name : Intel(R) Core(TM) i7-8700K CPU @ 3.70GHz
  1 "physical id"s (chips)
  6 "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 : 6
  siblings : 6
  physical 0: cores 0 1 2 3 4 5
```

From lscpu:

```
Architecture:          x86_64
CPU op-mode(s):       32-bit, 64-bit
Byte Order:           Little Endian
CPU(s):               6
On-line CPU(s) list: 0-5
Thread(s) per core:  1
Core(s) per socket:  6
Socket(s):            1
NUMA node(s):         1
Vendor ID:            GenuineIntel
CPU family:           6
Model:                158
Model name:           Intel(R) Core(TM) i7-8700K CPU @ 3.70GHz
Stepping:              10
CPU MHz:              4693.694
CPU max MHz:          4700.0000
CPU min MHz:          800.0000
BogoMIPS:              7392.00
Virtualization:       VT-x
L1d cache:             32K
L1i cache:             32K
L2 cache:              256K
L3 cache:              12288K
NUMA node0 CPU(s):    0-5
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 cpuid
                      aperfmpf perf 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 invpcid_single pti
                      ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle
                      avx2 smep bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt intel_pt xsaveopt
                      xsavec xgetbv1 xsaves dtherm ida arat pln pts hwp hwp_notify hwp_act_window hwp_epp
```

/proc/cpuinfo cache data

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~~Software Availability:~~

## Platform Notes (Continued)

cache size : 12288 KB

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

From /proc/meminfo

MemTotal: 16300620 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

From /etc/\*release\* /etc/\*version\*

fedora-release: Fedora release 28 (Twenty Eight)

os-release:

NAME=Fedora

VERSION="28 (Workstation Edition)"

ID=fedora

VERSION\_ID=28

PLATFORM\_ID="platform:f28"

PRETTY\_NAME="Fedora 28 (Workstation Edition)"

ANSI\_COLOR="0;34"

CPE\_NAME="cpe:/o:fedoraproject:fedora:28"

redhat-release: Fedora release 28 (Twenty Eight)

system-release: Fedora release 28 (Twenty Eight)

system-release-cpe: cpe:/o:fedoraproject:fedora:28

uname -a:

Linux ton8 4.17.3-200.fc28.x86\_64 #1 SMP Tue Jun 26 14:17:07 UTC 2018 x86\_64 x86\_64  
x86\_64 GNU/Linux

SPEC is set to: /notnfs/vmakarov/spec2017

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/fedora-home ext4 192G 51G 132G 28% /notnfs

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

=====

FC 607.cactusBSSN\_s(base, peak)

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~~Software Availability:~~

## Compiler Version Notes (Continued)

Using built-in specs.

```
COLLECT_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/bin/g++  
COLLECT_LTO_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/libexec/gcc/x86_64-pc-linux-gnu/12.0.0/lto-wrapper  
Target: x86_64-pc-linux-gnu  
Configured with:  
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib  
gcc version 12.0.0 20210615 (experimental) (GCC)

Using built-in specs.

```
COLLECT_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/bin/gcc  
COLLECT_LTO_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/libexec/gcc/x86_64-pc-linux-gnu/12.0.0/lto-wrapper  
Target: x86_64-pc-linux-gnu  
Configured with:  
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib  
gcc version 12.0.0 20210615 (experimental) (GCC)

Using built-in specs.

```
COLLECT_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/bin/gfortran  
COLLECT_LTO_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/libexec/gcc/x86_64-pc-linux-gnu/12.0.0/lto-wrapper  
Target: x86_64-pc-linux-gnu  
Configured with:  
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib  
gcc version 12.0.0 20210615 (experimental) (GCC)

=====

CC 619.lbm\_s(base, peak) 638.imagick\_s(base, peak) 644.nab\_s(base, peak)

Using built-in specs.

```
COLLECT_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/bin/gcc  
COLLECT_LTO_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8/libexec/gcc/x86_64-pc-linux-gnu/12.0.0/lto-wrapper
```

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~~Software Availability:~~

## Compiler Version Notes (Continued)

Target: x86\_64-pc-linux-gnu

Configured with:

```
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 12.0.0 20210615 (experimental) (GCC)

---

```
=====  
FC 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base,  
peak)
```

---

Using built-in specs.

COLLECT\_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/bin/gfortran

COLLECT\_LTO\_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/libexec/gcc/x86\_64-pc-linux-gnu/12.0.0/lto-wrapper

Target: x86\_64-pc-linux-gnu

Configured with:

```
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 12.0.0 20210615 (experimental) (GCC)

---

```
=====  
CC 621.wrf_s(base) 627.cam4_s(base) 628.pop2_s(base, peak)
```

---

Using built-in specs.

COLLECT\_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/bin/gfortran

COLLECT\_LTO\_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/libexec/gcc/x86\_64-pc-linux-gnu/12.0.0/lto-wrapper

Target: x86\_64-pc-linux-gnu

Configured with:

```
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 12.0.0 20210615 (experimental) (GCC)

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## Compiler Version Notes (Continued)

Using built-in specs.

COLLECT\_GCC=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/bin/gcc

COLLECT\_LTO\_WRAPPER=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86\_64/inst.ton8/libexec/gcc/x86\_64-pc-linux-gnu/12.0.0/lto-wrapper

Target: x86\_64-pc-linux-gnu

Configured with:

```
/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src/configure  
--prefix=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/inst.ton8  
--srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src  
--disable-bootstrap --disable-libcilkrt --enable-checking=release  
--enable-languages=c,c++,fortran
```

Thread model: posix

Supported LTO compression algorithms: zlib  
gcc version 12.0.0 20210615 (experimental) (GCC)

## Base Unknown Flags

603.bwaves\_s: "-fallow-argument-mismatchARRAY(0x90aae20)  
"-fallow-argument-mismatchARRAY(0x909d7f8)

607.cactuBSSN\_s: "-fcommonARRAY(0x909f548) "-fcommonARRAY(0x90ab630)  
"-fallow-argument-mismatchARRAY(0x910a9f8)  
"-fcommonARRAY(0x910df48)

619.lbm\_s: "-fcommonARRAY(0x90933c0) "-fcommonARRAY(0x90987a8)

621.wrf\_s: "-fallow-argument-mismatchARRAY(0x90b4398)  
"-fcommonARRAY(0x910af38)  
"-fallow-argument-mismatchARRAY(0x9118560)

627.cam4\_s: "-fallow-argument-mismatchARRAY(0x90c4748)  
"-fcommonARRAY(0x9231c58)  
"-fallow-argument-mismatchARRAY(0x911b868)

628.pop2\_s: "-fallow-argument-mismatchARRAY(0x9230da8)  
"-fcommonARRAY(0x922f9e8)  
"-fallow-argument-mismatchARRAY(0x92305b0)

638.imagick\_s: "-fcommonARRAY(0x910d858) "-fcommonARRAY(0x9231928)

644.nab\_s: "-fcommonARRAY(0x9232bb0) "-fcommonARRAY(0x91b2810)

649.fotonik3d\_s: "-fallow-argument-mismatchARRAY(0x9098778)  
"-fallow-argument-mismatchARRAY(0x91b2db0)

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## Base Unknown Flags (Continued)

654.roms\_s: "-fallow-argument-mismatchARRAY(0x9232f70)  
"-fallow-argument-mismatchARRAY(0x924b560)

## Peak Unknown Flags

603.bwaves\_s: "-fallow-argument-mismatchARRAY(0x90aae20)  
"-fallow-argument-mismatchARRAY(0x909c7f8)

607.cactuBSSN\_s: "-fcommonARRAY(0x909f548) "-fcommonARRAY(0x90ab630)  
"-fallow-argument-mismatchARRAY(0x910a9f8)  
"-fcommonARRAY(0x910df48)

619.lbm\_s: "-fcommonARRAY(0x90933c0) "-fcommonARRAY(0x90987a8)

621.wrf\_s: "-fallow-argument-mismatchARRAY(0x90b4398)  
"-fcommonARRAY(0x910af38)  
"-fallow-argument-mismatchARRAY(0x9118560)

627.cam4\_s: "-fallow-argument-mismatchARRAY(0x90c4748)  
"-fcommonARRAY(0x9291c58)  
"-fallow-argument-mismatchARRAY(0x911b868)

628.pop2\_s: "-fallow-argument-mismatchARRAY(0x9230da8)  
"-fcommonARRAY(0x922f9e8)  
"-fallow-argument-mismatchARRAY(0x92305b0)

638.imagick\_s: "-fcommonARRAY(0x910d858) "-fcommonARRAY(0x9231928)

644.nab\_s: "-fcommonARRAY(0x9232bb0) "-fcommonARRAY(0x91b2810)

649.fotonik3d\_s: "-fallow-argument-mismatchARRAY(0x9098778)  
"-fallow-argument-mismatchARRAY(0x91b2db0)

654.roms\_s: "-fallow-argument-mismatchARRAY(0x9232f70)  
"-fallow-argument-mismatchARRAY(0x924b560)

603.bwaves\_s: "-fallow-argument-mismatchARRAY(0x9230a48)  
"-fallow-argument-mismatchARRAY(0x9247b88)  
"-ftoARRAY(0x928fa98)

607.cactuBSSN\_s: "-fcommonARRAY(0x924d578) "-fcommonARRAY(0x927bbd0)  
"-fallow-argument-mismatchARRAY(0x9287ec8)  
"-fcommonARRAY(0x92ab620) "-ftoARRAY(0x92a6078)

(Continued on next page)

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~~Software Availability:~~

## Peak Unknown Flags (Continued)

619.lbm\_s: "-fcommonARRAY(0x924bd10) "-fcommonARRAY(0x928ea38)  
"-fltoARRAY(0x92ab698)

628.pop2\_s: "-fallow-argument-mismatchARRAY(0x92848f0)  
"-fcommonARRAY(0x9294e30)  
"-fallow-argument-mismatchARRAY(0x9294f20)  
"-fltoARRAY(0x92abad0)

638.imagick\_s: "-fcommonARRAY(0x92ada28) "-fcommonARRAY(0x929eca0)  
"-fltoARRAY(0x92ad518)

644.nab\_s: "-fcommonARRAY(0x928e438) "-fcommonARRAY(0x92ab7a0)  
"-fltoARRAY(0x92b17d8)

649.fotonik3d\_s: "-fallow-argument-mismatchARRAY(0x92ab1a0)  
"-fallow-argument-mismatchARRAY(0x92ab980)  
"-fltoARRAY(0x92b22e8)

654.roms\_s: "-fallow-argument-mismatchARRAY(0x92ab4b8)  
"-fallow-argument-mismatchARRAY(0x9284a58)  
"-fltoARRAY(0x92b44d0)

## Base Compiler Invocation

C benchmarks:  
gcc

Fortran benchmarks:  
gfortran

Benchmarks using both Fortran and C:  
gfortran gcc

Benchmarks using Fortran, C, and C++:  
g++ gcc gfortran

## Base Portability Flags

603.bwaves\_s: -DSPEC\_LP64

607.cactusBSSN\_s: -DSPEC\_LP64

619.lbm\_s: -DSPEC\_LP64

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# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

(Test Sponsor: Red Hat, Inc.)

SPECspeed2017\_fp\_base = 11.8

SPECspeed2017\_fp\_peak = 13.5

CPU2017 License: 0002991

Test Sponsor: Red Hat, Inc.

Tested by: Vladimir Makarov

Test Date: Jun-2021

Hardware Availability: Now

Software Availability:

## Base Portability Flags (Continued)

621.wrf\_s: -DSPEC\_CASE\_FLAG -fconvert=big-endian -DSPEC\_LP64

627.cam4\_s: -DSPEC\_CASE\_FLAG -DSPEC\_LP64

628.pop2\_s: -DSPEC\_CASE\_FLAG -fconvert=big-endian -DSPEC\_LP64

638.imagick\_s: -DSPEC\_LP64

644.nab\_s: -DSPEC\_LP64

649.fotonik3d\_s: -DSPEC\_LP64

654.roms\_s: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-O2 -mtune=generic -fopenmp -DSPEC\_OPENMP

Fortran benchmarks:

-O2 -mtune=generic -DSPEC\_OPENMP -fopenmp

Benchmarks using both Fortran and C:

-O2 -mtune=generic -DSPEC\_OPENMP -fopenmp

Benchmarks using Fortran, C, and C++:

-O2 -mtune=generic -fopenmp -DSPEC\_OPENMP

## Peak Runtime Environment

Benchmarks using both Fortran and C:

628.pop2\_s: No flags used

## Peak Compiler Invocation

C benchmarks:

gcc

Fortran benchmarks:

gfortran

Benchmarks using both Fortran and C:

628.pop2\_s: gfortran gcc

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## Peak Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:

g++ gcc gfortran

## Peak Portability Flags

603.bwaves\_s: -DSPEC\_LP64  
607.cactusBSSN\_s: -DSPEC\_LP64  
619.lbm\_s: -DSPEC\_LP64  
628.pop2\_s: -DSPEC\_CASE\_FLAG -fconvert=big-endian -DSPEC\_LP64  
638.imagick\_s: -DSPEC\_LP64  
644.nab\_s: -DSPEC\_LP64  
649.fotonik3d\_s: -DSPEC\_LP64  
654.roms\_s: -DSPEC\_LP64

## Peak Optimization Flags

C benchmarks:

-Ofast -mtune=corei7 -march=core-avx2 -fopenmp -DSPEC\_OPENMP

Fortran benchmarks:

603.bwaves\_s: -Ofast -mtune=corei7 -march=core-avx2 -DSPEC\_OPENMP  
-fopenmp -fno-stack-arrays

649.fotonik3d\_s: -Ofast -mtune=corei7 -march=core-avx2 -DSPEC\_OPENMP  
-fopenmp

654.roms\_s: Same as 649.fotonik3d\_s

Benchmarks using both Fortran and C:

628.pop2\_s: -Ofast -mtune=corei7 -march=core-avx2 -DSPEC\_OPENMP  
-fopenmp

Benchmarks using Fortran, C, and C++:

-Ofast -mtune=corei7 -march=core-avx2 -fopenmp -DSPEC\_OPENMP

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## Peak Other Flags

Benchmarks using both Fortran and C:

628.pop2\_s: 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).

Tested with SPEC CPU2017 v1.0.1 on 2021-06-15 13:31:45-0400.

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