SPEC® CPU2017 Floating Point Speed Result

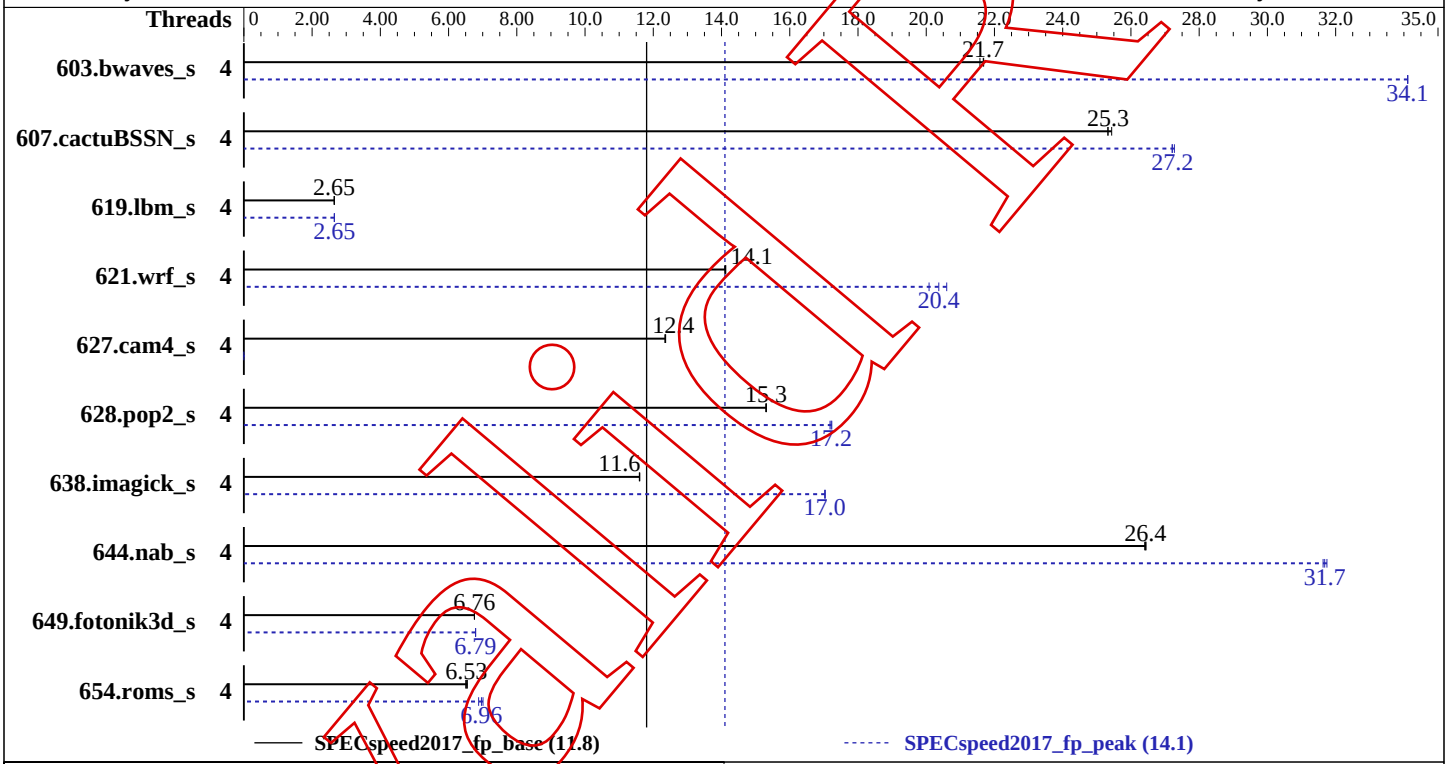
(Test Sponsor: Red Hat, Inc.)

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

CPU2017 License: 0002991
Test Sponsor: Red Hat, Inc.
Tested by: Vladimir Makarov

Test Date: Jun-2021
Hardware Availability: Now
Software Availability:



Hardware

CPU Name: Intel(R) Core(TM) i7-8700K CPU @ 3.70GHz
Max MHz.:
Nominal: 4700.818
Enabled: 6 cores, 1 chip, threads/core
Orderable:
Cache L1:
L2: 12288 KB
L3:
Other:
Memory: 16300620 kB
'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'
Storage: 192 GB add more disk info here
Other:

Software

OS: Linux 4.17.3-200.fc28.x86_64
4.17.3-200.fc28.x86_64
Compiler: gcc version 12.0.0 20210620 (experimental) (GCC)
Parallel: Yes
Firmware:
File System: ext4
System State: multiuser
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other:

Errors

'reportable' flag not set during run
627.cam4_s (peak) did not have enough runs!
627.cam4_s (peak) had invalid runs!
Run of 627.cam4_s (peak) was not valid; status is CE
Unknown flags were used! See

(Continued on next page)

SPEC CPU2017 Floating Point Speed Result

(Test Sponsor: Red Hat, Inc.)

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

CPU2017 License: 0002991
Test Sponsor: Red Hat, Inc.
Tested by: Vladimir Makarov

Test Date: Jun-2021
Hardware Availability: Now
Software Availability:

Errors (Continued)

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	Seconds	Ratio
603.bwaves_s	4	**2722**	**21.7**	2735	21.6	2721	21.7	4	1730	34.1	**1730**	**34.1**	1729	34.1
607.cactuBSSN_s	4	**658**	**25.3**	658	25.3	655	25.4	4	611	27.3	**613**	**27.2**	613	27.2
619.lbm_s	4	1977	2.65	**1977**	**2.65**	1976	2.65	4	**1974**	**2.65**	1975	2.65	1974	2.65
621.wrf_s	4	**937**	**14.1**	938	14.1	936	14.1	4	642	20.6	659	20.1	**649**	**20.4**
627.cam4_s	4	718	12.3	**718**	**12.4**	717	12.4	1	0.00	0.00				
628.pop2_s	4	**775**	**15.3**	775	15.3	776	15.3	4	**690**	**17.2**	691	17.2	689	17.2
638.imagick_s	4	**1244**	**11.6**	1243	11.6	1245	11.6	4	847	17.0	**847**	**17.0**	847	17.0
644.nab_s	4	661	26.4	**661**	**26.4**	662	26.4	4	**552**	**31.7**	552	31.6	550	31.7
649.fotonik3d_s	4	1349	6.76	1349	6.76	**1349**	**6.76**	4	1342	6.79	1342	6.79	**1342**	**6.79**
654.roms_s	4	**2411**	**6.53**	2404	6.55	2421	6.50	4	2288	6.88	**2261**	**6.96**	2246	7.01

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

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/:/usr/lib/:/lib64"
OMP_STACKSIZE = "120M"

Platform Notes

```
Sysinfo program /notnfs/vmakarov/spec2017/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
running on ton8 Sun Jun 20 13:06:38 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

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.)
```

(Continued on next page)

Platform Notes (Continued)

```
       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:             4674.377
     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
     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 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
   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
```

(Continued on next page)

Platform Notes (Continued)

```
    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.cactuBSSN_s(base, peak)
------------------------------------------------------------------------------
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
```

(Continued on next page)

Compiler Version Notes (Continued)

```
  --srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src
  --disable-bootstrap --disable-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (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-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (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-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (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
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-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
```

(Continued on next page)

Compiler Version Notes (Continued)

```
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (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-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (experimental) (GCC)
------------------------------------------------------------------------------

==============================================================================
 CC  621.wrf_s(base, peak) 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-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (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
```

(Continued on next page)

Compiler Version Notes (Continued)

```
  --srcdir=/notnfs/vmakarov/perf/sbox/gcc/local.spec2017.x86_64/src
  --disable-bootstrap --disable-libcilkrts --enable-checking=release
  --enable-languages=c,c++,fortran
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 12.0.0 20210620 (experimental) (GCC)
------------------------------------------------------------------------------
```

Base Unknown Flags

603.bwaves_s: "-fallow-argument-mismatchARRAY(0x92bad58)
"-fallow-argument-mismatchARRAY(0x92d4038)

607.cactuBSSN_s: "-fcommonARRAY(0x92d34f8) "-fcommonARRAY(0x931dbd0)
"-fallow-argument-mismatchARRAY(0x931e4e8)
"-fcommonARRAY(0x931dd38)

619.lbm_s: "-fcommonARRAY(0x9319220) "-fcommonARRAY(0x92c26e0)

621.wrf_s: "-fallow-argument-mismatchARRAY(0x92bc4a8)
"-fcommonARRAY(0x931e308)
"-fallow-argument-mismatchARRAY(0x9338a00)

627.cam4_s: "-fallow-argument-mismatchARRAY(0x9314f58)
"-fcommonARRAY(0x945c8f0)
"-fallow-argument-mismatchARRAY(0x93388f8)

628.pop2_s: "-fallow-argument-mismatchARRAY(0x945ba40)
"-fcommonARRAY(0x945aeb8)
"-fallow-argument-mismatchARRAY(0x945b248)

638.imagick_s: "-fcommonARRAY(0x9320a10) "-fcommonARRAY(0x945c5c0)

644.nab_s: "-fcommonARRAY(0x945d848) "-fcommonARRAY(0x945e308)

649.fotonik3d_s: "-fallow-argument-mismatchARRAY(0x92f0ac8)
"-fallow-argument-mismatchARRAY(0x933c598)

654.roms_s: "-fallow-argument-mismatchARRAY(0x945dc08)
"-fallow-argument-mismatchARRAY(0x93ca3f0)

(Test Sponsor: Red Hat, Inc.)

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

CPU2017 License: 0002991
Test Sponsor: Red Hat, Inc.
Tested by: Vladimir Makarov

Test Date: Jun-2021
Hardware Availability: Now
Software Availability:

Peak Unknown Flags

603.bwaves_s: "-fallow-argument-mismatchARRAY(0x92bad58) "-fallow-argument-mismatchARRAY(0x92d4038)

607.cactuBSSN_s: "-fcommonARRAY(0x92d34f8) "-fcommonARRAY(0x931dbd0) "-fallow-argument-mismatchARRAY(0x931e4e8) "-fcommonARRAY(0x931dd38)

619.lbm_s: "-fcommonARRAY(0x9319220) "-fcommonARRAY(0x92c26e0)

621.wrf_s: "-fallow-argument-mismatchARRAY(0x92bc4a8) "-fcommonARRAY(0x931e308) "-fallow-argument-mismatchARRAY(0x9338a00)

627.cam4_s: "-fallow-argument-mismatchARRAY(0x9314f58) "-fcommonARRAY(0x945c8f0) "-fallow-argument-mismatchARRAY(0x93388f8)

628.pop2_s: "-fallow-argument-mismatchARRAY(0x945ba40) "-fcommonARRAY(0x945aeb8) "-fallow-argument-mismatchARRAY(0x945b248)

638.imagick_s: "-fcommonARRAY(0x9320a10) "-fcommonARRAY(0x945c5c0)

644.nab_s: "-fcommonARRAY(0x945d848) "-fcommonARRAY(0x945e308)

649.fotonik3d_s: "-fallow-argument-mismatchARRAY(0x92f0ac8) "-fallow-argument-mismatchARRAY(0x933c598)

654.roms_s: "-fallow-argument-mismatchARRAY(0x945dc08) "-fallow-argument-mismatchARRAY(0x93ca3f0)

603.bwaves_s: "-fallow-argument-mismatchARRAY(0x945b6e0) "-fallow-argument-mismatchARRAY(0x94639b8) "-fltoARRAY(0x94bdeb8)

607.cactuBSSN_s: "-fcommonARRAY(0x93d5ed8) "-fcommonARRAY(0x94beca0) "-fallow-argument-mismatchARRAY(0x94bec28) "-fcommonARRAY(0x94bade0) "-fltoARRAY(0x94a9c48)

619.lbm_s: "-fcommonARRAY(0x93d4ed8) "-fcommonARRAY(0x94baf78) "-fltoARRAY(0x94bb500)

621.wrf_s: "-fallow-argument-mismatchARRAY(0x94b20f8) "-fcommonARRAY(0x94a9978) "-fallow-argument-mismatchARRAY(0x94b0c38) "-fltoARRAY(0x94bb938)

(Continued on next page)

(Test Sponsor: Red Hat, Inc.)

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

CPU2017 License: 0002991
Test Sponsor: Red Hat, Inc.
Tested by: Vladimir Makarov

Test Date: Jun-2021
Hardware Availability: Now
Software Availability:

Peak Unknown Flags (Continued)

628.pop2_s: "-fallow-argument-mismatchARRAY(0x94b6550)
"-fcommonARRAY(0x93d6160)
"-fallow-argument-mismatchARRAY(0x94bb9e0)
"-fltoARRAY(0x94bf7f8)

638.imagick_s: "-fcommonARRAY(0x94bb038) "-fcommonARRAY(0x94bb560)
"-fltoARRAY(0x94c5510)

644.nab_s: "-fcommonARRAY(0x945b1a0) "-fcommonARRAY(0x94bb800)
"-fltoARRAY(0x94c6498)

649.fotonik3d_s: "-fallow-argument-mismatchARRAY(0x94be170)
"-fallow-argument-mismatchARRAY(0x94bbab8)
"-fltoARRAY(0x94c6fa8)

654.roms_s: "-fallow-argument-mismatchARRAY(0x94a9c30)
"-fallow-argument-mismatchARRAY(0x94c5780)
"-fltoARRAY(0x94c7ae0)

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.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_CASE_FLAG -fconvert=big-endian -DSPEC_LP64

(Continued on next page)

(Test Sponsor: Red Hat, Inc.)

SPECspeed2017_fp_base = 11.8

SPECspeed2017_fp_peak = 14.1

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)

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 Compiler Invocation

C benchmarks:
`gcc`

Fortran benchmarks:
`gfortran`

Benchmarks using both Fortran and C (except as noted below):
`gfortran gcc`

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

Peak Portability Flags

603.bwaves_s: `-DSPEC_LP64`
607.cactuBSSN_s: `-DSPEC_LP64`

(Continued on next page)

Peak Portability Flags (Continued)

619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_CASE_FLAG -fconvert=big-endian -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:

621.wrf_s: -Ofast -mtune=corei7 -march=core-avx2 -DSPEC_OPENMP -fopenmp

628.pop2_s: Same as 621.wrf_s

Benchmarks using Fortran, C, and C++:
-Ofast -mtune=corei7 -march=core-avx2 -fopenmp -DSPEC_OPENMP