SPEC CPU®2017 Floating Point Rate Result

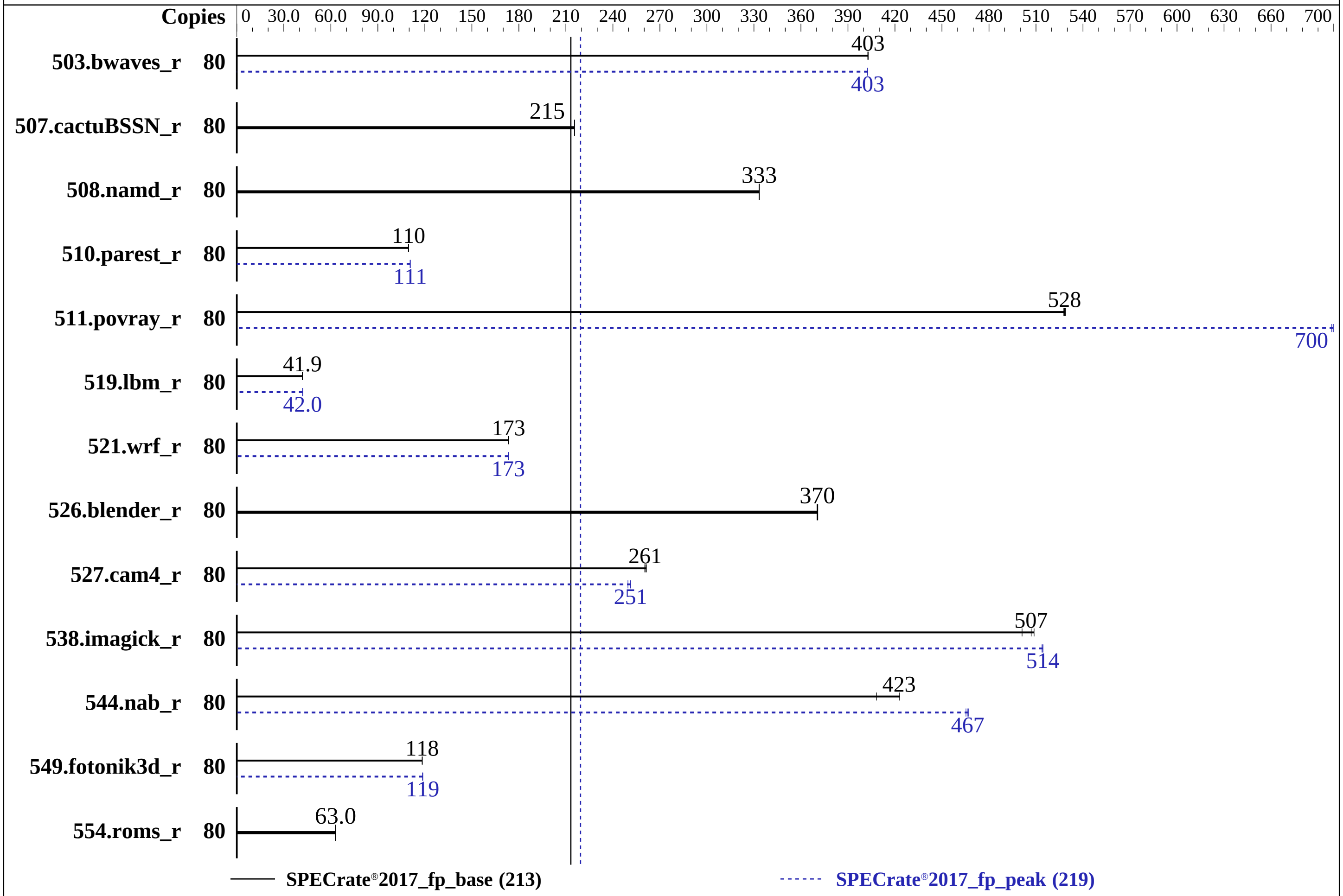
GIGA-BYTE TECHNOLOGY CO., LTD.

R152-P30-00 (Ampere Altra Q80-33 3.0GHz)

SPECrate®2017_fp_base = 213

SPECrate®2017_fp_peak = 219

CPU2017 License:	9082	**Test Date:**	Jul-2021
Test Sponsor:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Hardware Availability:**	Jun-2021
Tested by:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Software Availability:**	Jun-2021



Hardware

CPU Name:	Ampere Altra Q80-33
Max MHz:	3300
Nominal:	3000
Enabled:	80 cores, 1 chip
Orderable:	1 chips
Cache L1:	64 KB I + 64 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	32 MB I+D on chip per chip
Other:	None
Memory:	256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R)
Storage:	819 GB, NVME, M.2, PCIe Gen3
Other:	None

Software

OS:	CentOS Linux release 8.4.2105 4.18.0-305.7.1.el8_4.aarch64
Compiler:	C/C++/Fortran: Version 10.2.1 of Ampere GCC
Parallel:	No
Firmware:	Version F16e released Jun-2021
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	Jemalloc memory allocator library v5.2.1
Power Management:	OS set to prefer performance at the cost of additional power usage

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

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
503.bwaves_r	80	**1992**	**403**	1991	403	1992	403	80	1993	403	1992	403	**1993**	**403**
507.cactuBSSN_r	80	**470**	**215**	470	215	470	215	80	**470**	**215**	470	215	470	215
508.namd_r	80	228	334	**228**	**333**	228	333	80	228	334	**228**	**333**	228	333
510.parest_r	80	1912	109	1909	110	**1909**	**110**	80	1889	111	**1892**	**111**	1892	111
511.povray_r	80	**354**	**528**	354	527	353	529	80	267	700	**267**	**700**	267	698
519.lbm_r	80	2015	41.8	**2015**	**41.9**	2014	41.9	80	2007	42.0	**2007**	**42.0**	2008	42.0
521.wrf_r	80	1032	174	**1033**	**173**	1033	173	80	1035	173	**1034**	**173**	1033	173
526.blender_r	80	329	371	329	370	**329**	**370**	80	329	371	329	370	**329**	**370**
527.cam4_r	80	535	261	537	260	**537**	**261**	80	557	251	561	250	**557**	**251**
538.imagick_r	80	397	501	**392**	**507**	391	509	80	387	514	**387**	**514**	387	514
544.nab_r	80	318	423	**319**	**423**	330	408	80	**289**	**467**	288	467	289	465
549.fotonik3d_r	80	2636	118	**2635**	**118**	2633	118	80	2631	119	**2628**	**119**	2627	119
554.roms_r	80	**2018**	**63.0**	2017	63.0	2018	63.0	80	**2018**	**63.0**	2017	63.0	2018	63.0

SPECrate®2017_fp_base = 213

SPECrate®2017_fp_peak = 219

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

Compiler Notes

```
Binaries were compiled on a system with 2x Ampere Altra Q80-33 CPU
chips + 256 GB Memory using CentOS 8.4

Ampere GCC 10.2.1 is available via
https://github.com/AmpereComputing/ampere-gcc/releases
```

Submit Notes

```
The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
```

Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size
Set dirty_ratio=8 to limit dirty cache to 8% of memory
i.e. echo 8 | sudo tee /proc/sys/vm/dirty_ratio
Set swappiness=1 to swap only if necessary
i.e. echo 1 | sudo tee /proc/sys/vm/swappiness
Set zone_reclaim_mode=1 to free local node memory and avoid remote memory
i.e. echo 1 | sudo tee /proc/sys/vm/zone_reclaim_mode
Set drop_caches=3 to reset caches before invoking runcpu
i.e. echo 3 | sudo tee /proc/sys/vm/drop_caches
Set numa_balancing=0 to disable automatic numa balancing
```

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Operating System Notes (Continued)

```
i.e. echo 0 | sudo tee /proc/sys/kernel/numa_balancing
Switch off all ktune and tuned settings
i.e. sudo tuned-adm off
Transparent huge pages set to 'never'
i.e. sudo bash -c "echo never > /sys/kernel/mm/transparent_hugepage/enabled"

runcpu command invoked through numactl i.e.
  numactl --interleave=0-3 runcpu
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
     "/home/amptest/ampere_spec2017/jemalloc/install/lib:/home/amptest/ampere
     _spec2017/gcc/install/lib64/:/home/amptest/ampere_spec2017/gcc/install/l
     ib/:/home/ampere_spec2017/gcc/install/lib64:/home/ampere_spec2017/jemall
     oc/install/lib:"
```

General Notes

```
Jemalloc v5.2.1 is available via
https://github.com/jemalloc/jemalloc/releases/download/5.2.1/jemalloc-5.2.1.tar.bz2
It was built on CentOS 8.3 using Version 10.2.1 of Ampere GCC with configure options
--prefix=/home/amptest/jemalloc/install --with-lg-quantum=3

NA:  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.
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.
NA:  The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
     is mitigated in the system as tested and documented.
```

Platform Notes

```
BIOS Settings:
Chipset > ANC Mode > Quadrant

 Sysinfo program /home/ampere_spec2017/spec2017/bin/sysinfo
 Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
 running on localhost.localdomain Sat Jul  3 08:15:03 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
```

(Continued on next page)

Platform Notes (Continued)

```
From /proc/cpuinfo
*
* Did not identify cpu model.  If you would
* like to write your own sysinfo program, see
* www.spec.org/cpu2017/config.html#sysinfo
*
*
* 0 "physical id" tags found.  Perhaps this is an older system,
* or a virtualized system.  Not attempting to guess how to
* count chips/cores for this system.
*
      80 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The following
   excerpts from /proc/cpuinfo might not be reliable.  Use with caution.)

From lscpu:
     Architecture:        aarch64
     Byte Order:          Little Endian
     CPU(s):              80
     On-line CPU(s) list: 0-79
     Thread(s) per core:  1
     Core(s) per socket:  80
     Socket(s):           1
     NUMA node(s):        4
     Vendor ID:           ARM
     BIOS Vendor ID:      Ampere(R)
     Model:               1
     Model name:          Neoverse-N1
     BIOS Model name:     Ampere(R) Altra(R) Processor
     Stepping:            r3p1
     CPU max MHz:         3300.0000
     CPU min MHz:         1000.0000
     BogoMIPS:            50.00
     L1d cache:           64K
     L1i cache:           64K
     L2 cache:            1024K
     NUMA node0 CPU(s):   0-19
     NUMA node1 CPU(s):   20-39
     NUMA node2 CPU(s):   40-59
     NUMA node3 CPU(s):   60-79
     Flags:              fp asimd evtstrm aes pmull sha1 sha2 crc32 atomics fphp asimdhp
     cpuid asimdrdm lrcpc dcpop asimddp ssbs

From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
physical chip.
  available: 4 nodes (0-3)
```

(Continued on next page)

Platform Notes (Continued)

```
    node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
    node 0 size: 64534 MB
    node 0 free: 63633 MB
    node 1 cpus: 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
    node 1 size: 65459 MB
    node 1 free: 64761 MB
    node 2 cpus: 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59
    node 2 size: 65420 MB
    node 2 free: 64932 MB
    node 3 cpus: 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79
    node 3 size: 65426 MB
    node 3 free: 64832 MB
    node distances:
    node   0   1   2   3
      0:  10  11  11  12
      1:  11  10  12  11
      2:  11  12  10  11
      3:  12  11  11  10

  From /proc/meminfo
     MemTotal:       267100096 kB
     HugePages_Total:       0
     Hugepagesize:     524288 kB

  /sbin/tuned-adm active
      No current active profile.

  /sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
     performance

  From /etc/*release* /etc/*version*
     centos-release: CentOS Linux release 8.4.2105
     centos-release-upstream: Derived from Red Hat Enterprise Linux 8.4
     os-release:
        NAME="CentOS Linux"
        VERSION="8"
        ID="centos"
        ID_LIKE="rhel fedora"
        VERSION_ID="8"
        PLATFORM_ID="platform:el8"
        PRETTY_NAME="CentOS Linux 8"
        ANSI_COLOR="0;31"
     redhat-release: CentOS Linux release 8.4.2105
     system-release: CentOS Linux release 8.4.2105
     system-release-cpe: cpe:/o:centos:centos:8

  uname -a:
```

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Platform Notes (Continued)

```
   Linux localhost.localdomain 4.18.0-305.7.1.el8_4.aarch64 #1 SMP Tue Jun 29 21:32:00
   UTC 2021 aarch64 aarch64 aarch64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit):                         Not affected
CVE-2018-3620 (L1 Terminal Fault):                      Not affected
Microarchitectural Data Sampling:                       Not affected
CVE-2017-5754 (Meltdown):                               Not affected
CVE-2018-3639 (Speculative Store Bypass):               Mitigation: Speculative Store
                                                        Bypass disabled via prctl
CVE-2017-5753 (Spectre variant 1):                      Mitigation: __user pointer
                                                        sanitization
CVE-2017-5715 (Spectre variant 2):                      Not affected
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort):                Not affected

run-level 3 Jul 2 11:44

SPEC is set to: /home/ampere_spec2017/spec2017
   Filesystem          Type  Size  Used Avail Use% Mounted on
   /dev/mapper/cl-home xfs   819G   56G  764G   7% /home

From /sys/devices/virtual/dmi/id
    Vendor:         GIGABYTE
    Product:        R152-P30-00
    Product Family: Server
    Serial:         01234567890123456789AB

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.
  Memory:
    8x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200

BIOS:
   BIOS Vendor:       GIGABYTE
   BIOS Version:      F16e (SCP: 1.06.20210615)
   BIOS Date:         06/30/2021
   BIOS Revision:     5.15
   Firmware Revision: 1.6

(End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
                | 544.nab_r(base, peak)
------------------------------------------------------------------------------
gcc (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)
------------------------------------------------------------------------------
g++ (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++, C          | 511.povray_r(base, peak) 526.blender_r(base, peak)
------------------------------------------------------------------------------
g++ (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
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Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
------------------------------------------------------------------------------
g++ (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
gcc (Ampere Computing Build 11923 20201215) 10.2.1 20201216
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GNU Fortran (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

(Continued on next page)

Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------

==============================================================================
Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                | 554.roms_r(base, peak)
------------------------------------------------------------------------------
GNU Fortran (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
Fortran, C      | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
------------------------------------------------------------------------------
GNU Fortran (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
gcc (Ampere Computing Build 11923 20201215) 10.2.1 20201216
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`gcc`

C++ benchmarks:
`g++`

Fortran benchmarks:
`gfortran`

Benchmarks using both Fortran and C:
`gfortran gcc`

Benchmarks using both C and C++:
`g++ gcc`

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

Base Portability Flags

503.bwaves_r: `-DSPEC_LP64`
507.cactuBSSN_r: `-DSPEC_LP64`
508.namd_r: `-DSPEC_LP64`
510.parest_r: `-DSPEC_LP64`
511.povray_r: `-DSPEC_LP64`
519.lbm_r: `-DSPEC_LP64`
521.wrf_r: `-DSPEC_CASE_FLAG -fconvert=big-endian -DSPEC_LP64`
526.blender_r: `-funsigned-char -DSPEC_LINUX -DSPEC_LP64`
527.cam4_r: `-DSPEC_CASE_FLAG -DSPEC_LP64`
538.imagick_r: `-DSPEC_LP64`
544.nab_r: `-DSPEC_LP64`
549.fotonik3d_r: `-DSPEC_LP64`
554.roms_r: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
```
-mabi=lp64 -std=c99 -L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast
-mcpu=neoverse-n1 -flto -fno-strict-aliasing -ljemalloc
```

C++ benchmarks:
```
-mabi=lp64 -std=c++03 -L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast
-mcpu=neoverse-n1 -flto -ljemalloc
```

Fortran benchmarks:
```
-mabi=lp64 -L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast
-mcpu=neoverse-n1 -flto -fno-stack-arrays -ljemalloc
```

Benchmarks using both Fortran and C:
```
-mabi=lp64 -std=c99 -L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast
-mcpu=neoverse-n1 -flto -fno-stack-arrays -fno-strict-aliasing
-ljemalloc
```

Benchmarks using both C and C++:
```
-mabi=lp64 -std=c++03 -std=c99
-L/home/amptest/ampere_spec2017/gcc/install/lib64
```

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Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):
`-L/home/amptest/ampere_spec2017/gcc/install/lib`
`-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast`
`-mcpu=neoverse-n1 -flto -fno-strict-aliasing -ljemalloc`

Benchmarks using Fortran, C, and C++:
`-mabi=lp64 -std=c++03 -std=c99`
`-L/home/amptest/ampere_spec2017/gcc/install/lib64`
`-L/home/amptest/ampere_spec2017/gcc/install/lib`
`-L/home/amptest/ampere_spec2017/jemalloc/install/lib -g -Ofast`
`-mcpu=neoverse-n1 -flto -fno-stack-arrays -fno-strict-aliasing`
`-ljemalloc`

Base Other Flags

C benchmarks:
`-Wl,-Map,mapfile`

C++ benchmarks:
`-Wl,-Map,mapfile`

Fortran benchmarks:
`-fallow-argument-mismatch -Wl,-Map,mapfile`

Benchmarks using both Fortran and C:
`-fallow-argument-mismatch -Wl,-Map,mapfile`

Benchmarks using both C and C++:
`-Wl,-Map,mapfile`

Benchmarks using Fortran, C, and C++:
`-fallow-argument-mismatch -Wl,-Map,mapfile`

Peak Compiler Invocation

C benchmarks:
`gcc`

C++ benchmarks:
`g++`

(Continued on next page)

Peak Compiler Invocation (Continued)

Fortran benchmarks:
`gfortran`

Benchmarks using both Fortran and C:
`gfortran gcc`

Benchmarks using both C and C++:
`g++ gcc`

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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
```
-mabi=lp64 -std=c99 -L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib -fprofile-generate
-fprofile-use -g -Ofast -mcpu=neoverse-n1 -funroll-loops -flto=32
--param early-inlining-insns=96 --param max-inline-insns-auto=64
--param inline-unit-growth=96 -ljemalloc
```

C++ benchmarks:

508.namd_r: `basepeak = yes`

510.parest_r:
```
-mabi=lp64 -std=c++03
-L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib
-fprofile-generate -fprofile-use -g -Ofast
-mcpu=neoverse-n1 -funroll-loops -flto=32
--param early-inlining-insns=256
--param max-inline-insns-auto=128
--param inline-unit-growth=256 -ffinite-loops -ljemalloc
```

Fortran benchmarks:

(Continued on next page)

Peak Optimization Flags (Continued)

503.bwaves_r: -mabi=lp64
-L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib
-fprofile-generate -fprofile-use -g -Ofast
-mcpu=neoverse-n1 -funroll-loops -flto=32
-fno-stack-arrays -ljemalloc

549.fotonik3d_r: Same as 503.bwaves_r

554.roms_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf_r: -mabi=lp64 -std=c99
-L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib
-fprofile-generate -fprofile-use -g -Ofast
-mcpu=neoverse-n1 -funroll-loops -flto=32
--param early-inlining-insns=96
--param max-inline-insns-auto=64
--param inline-unit-growth=96 -fno-stack-arrays -ljemalloc

527.cam4_r: -mabi=lp64 -std=c99
-L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib
-fprofile-generate -fprofile-use -g -Ofast
-mcpu=neoverse-n1 -funroll-loops -flto=32
--param early-inlining-insns=96
--param max-inline-insns-auto=64
--param inline-unit-growth=96 -fno-stack-arrays
-fno-strict-aliasing -ljemalloc

Benchmarks using both C and C++:

511.povray_r: -mabi=lp64 -std=c++03 -std=c99
-L/home/amptest/ampere_spec2017/gcc/install/lib64
-L/home/amptest/ampere_spec2017/gcc/install/lib
-L/home/amptest/ampere_spec2017/jemalloc/install/lib
-fprofile-generate -fprofile-use -g -Ofast
-mcpu=neoverse-n1 -funroll-loops -flto=32
--param early-inlining-insns=96
--param max-inline-insns-auto=64
--param inline-unit-growth=96

(Continued on next page)

Peak Optimization Flags (Continued)

511.povray_r (continued):
`--param early-inlining-insns=256`
`--param max-inline-insns-auto=128`
`--param inline-unit-growth=256 -ffinite-loops`
`-fno-strict-aliasing -ljemalloc`

526.blender_r: `basepeak = yes`

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-w -Wl,-Map,mapfile`

C++ benchmarks:
`-Wl,-Map,mapfile`

Fortran benchmarks (except as noted below):
`-Wl,-Map,mapfile`

554.roms_r: `-fallow-argument-mismatch -Wl,-Map,mapfile`

Benchmarks using both Fortran and C:

521.wrf_r: `-w -fallow-argument-mismatch -Wl,-Map,mapfile`

527.cam4_r: `-fallow-argument-mismatch -Wl,-Map,mapfile`

Benchmarks using both C and C++:
`-Wl,-Map,mapfile`

Benchmarks using Fortran, C, and C++:
`-fallow-argument-mismatch -Wl,-Map,mapfile`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/gcc.2021-07-21.html
http://www.spec.org/cpu2017/flags/GIGA-BYTE-platform-settings-Altra-rev.2.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/gcc.2021-07-21.xml
http://www.spec.org/cpu2017/flags/GIGA-BYTE-platform-settings-Altra-rev.2.xml

Tested with SPEC CPU®2017 v1.1.5 on 2021-07-03 08:15:02-0400.
Report generated on 2021-09-17 12:26:06 by CPU2017 PS formatter v6442.
Originally published on 2021-09-17.