SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

<table>
<thead>
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<th>Copies</th>
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<tbody>
<tr>
<td>503.bwaves_r</td>
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<tr>
<td>507.cactuBSSN_r</td>
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<td>508.namd_r</td>
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<td>510.parest_r</td>
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<td>521.wrf_r</td>
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<td>527.cam4_r</td>
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<td>538.imagick_r</td>
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<td>549.fotonik3d_r</td>
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<tr>
<td>554.roms_r</td>
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</tbody>
</table>

### Hardware
- **CPU Name:** AMD EPYC 9274F
- **Max MHz:** 4300
- **Nominal:** 4050
- **Enabled:** 24 cores, 1 chip, 2 threads/core
- **Orderable:** 1 chip
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 1 MB I+D on chip per core
- **L3:** 256 MB I+D on chip per chip, 32 MB shared / 3 cores

### Software
- **OS:** Red Hat Enterprise Linux 9.0 (Plow)
- **Compiler:** C/C++/Fortran: Version 4.0.0 of AOCC
- **Parallel:** No
- **Firmware:** HPE BIOS Version v1.12 11/24/2022 released
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit

(Continued on next page)
SPE has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

### Results Table

<table>
<thead>
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<th>Ratio</th>
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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

### Compiler Notes

The AMD64 AOCC Compiler Suite is available at http://developer.amd.com/amd-aocc/

### Submit Notes

The config file option 'submit' was used. 'numactl' was used to bind copies to the cores. See the configuration file for details.
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Operating System Notes

'unlimit -s unlimited' was used to set environment stack size limit
'unlimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty_ratio=8' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.
To free node-local memory and avoid remote memory usage' 'sysctl -w vm.zone_reclaim_mode=1' run as root.
To clear filesystem caches, 'sync; sysctl -w vm.dirty_background_ratio=3' run as root.
To prevent address space layout randomization (ASLR) to reduce run-to-run variability, 'sysctl -w kernel.randomize_va_space=0' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017_rate/amd_rate_aocc400_genoa_B_lib/lib:/home/cpu2017_rate/amd_rate_aocc400_genoa_B_lib/lib32:
MALLOC_CONF = "retain:true"

General Notes

Compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) 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.
Yes: 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.

Platform Notes

BIOS Configuration
Workload Profile set to General Throughput Compute
Determinism Control Set to Manual
Performance Determinism Set to Power Deterministic
Last-Level Cache (LLC) as NUMA Node set to Enabled

(Continued on next page)
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Platform Notes (Continued)

NUMA memory domains per socket set to Four memory domains per socket
ACPI CST C2 Latency set to 18 microseconds
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
Power Regulator set to OS Control Mode

The system ROM used for this result contains microcode version 0xa10110e for the AMD EPYC 9nn4X family of processors. The reference code GENESA version used in this ROM is version GenoaPI 1.0.0.1-L6

Sysinfo program /home/cpu2017_rate/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ecf0915b5891ef046aca64f64d
running on localhost.localdomain Thu Apr 23 05:31:17 2022

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 : AMD EPYC 9274F 24-Core Processor
  1 "physical id"s (chips)
  48 "processors" (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
  cpu cores : 24
  siblings  : 48
  physical 0: cores 0 1 2 4 5 6 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30
  
From lscpu from util-linux 2.37.4:
Architecture:                    x86_64
CPU op-mode(s):                  32-bit, 64-bit
Address sizes:                   52 bits physical, 57 bits virtual
Byte Order:                      Little Endian
CPU(s):                          48
On-line CPU(s) list:             0-47
Vendor ID:                       AuthenticAMD
CPU family:                      25
Model:                           17
Thread(s) per core:              2
Core(s) per socket:              24
Socket(s):                       1
Stepping:                        1
Frequency boost:                 enabled
CPU max MHz:                     4303.1250
CPU min MHz:                     1500.0000
BogoMIPS:                        8087.97
Flags:                           fpu vme de pse tsc msr pae mce cx8 apic sep mtrr
                                  pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr opt

(Continued on next page)
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SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Platform Notes (Continued)

WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0 1 2 24 25 26
node 0 size: 96520 MB
node 0 free: 96220 MB
node 1 cpus: 12 13 14 36 37 38
node 1 size: 96766 MB
node 1 free: 96337 MB
node 2 cpus: 6 7 8 30 31 32
node 2 size: 96766 MB
node 2 free: 96546 MB
node 3 cpus: 18 19 20 42 43 44
node 3 size: 96730 MB
node 3 free: 96481 MB
node 4 cpus: 9 10 11 33 34 35
node 4 size: 96766 MB
node 4 free: 96554 MB
node 5 cpus: 21 22 23 45 46 47
node 5 size: 96766 MB
node 5 free: 96555 MB
node 6 cpus: 15 16 17 39 40 41
node 6 size: 96718 MB
node 6 free: 96525 MB
node distances:

From /proc/meminfo
MemTotal: 792372448 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
/sbin/tuned-adm active
Current active profile: throughput-performance
/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance
From /etc/*release* /etc/*version*
NAME="Red Hat Enterprise Linux"

(Continued on next page)
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Platform Notes (Continued)

VERSION="9.0 (Plow)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="9.0"
PLATFORM_ID="platform:el9"
PRETTY_NAME="Red Hat Enterprise Linux 9.0 (Plow)"
ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 9.0 (Plow)
system-release: Red Hat Enterprise Linux release 9.0 (Plow)
system-release-cpe: cpe:/o:redhat:enterprise_linux:9::baseos
uname -a:
Linux localhost.localdomain 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64 x86_64 x86_64 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-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Retpolines, IBPB: conditional, IBRS_FW, STIBF: always-on, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-1135 (TSX Asynchronous Abort): Not affected
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Platform Notes (Continued)

BIOS:
  BIOS Vendor: HPE
  BIOS Version: 1.12
  BIOS Date: 11/24/2022
  BIOS Revision: 1.12
  Firmware Revision: 1.10

(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)
-----------------------------------------------
AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)
-----------------------------------------------
AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

C++, C          | 511.povray_r(base, peak) 526.blender_r(base, peak)
-----------------------------------------------
AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

C++, C, Fortran | 507.cactuBSSN_r(base, peak)
-----------------------------------------------
AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

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SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Compiler Version Notes (Continued)

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)

Fortran, C     | 521.wrf_r(base, peak) 527.cam4_r(base, peak)

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Benchmarks using both Fortran and C:
flang clang

(Continued on next page)
Non-Compliant

SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Base Compiler Invocation (Continued)

Benchmarks using both C and C++:
clang++ clang

Benchmarks using Fortran, C, and C++:
clang++ clang flang

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 -Mbyteswapio -DSPEC_LP64
526.blender_r: -funsigned-char -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:
-m64 -flto -Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3
-Wl,-mlllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather -O3
-march=znver4 -fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mlllvm -unroll-threshold=50 -mlllvm -inline-threshold=1000
-fremap-arrays -fstrip-mining -mlllvm -reduce-array-computations=3
-zopt -lamdlibm -lamdalloc -lflang

(Continued on next page)
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

**Base Optimization Flags (Continued)**

C++ benchmarks:
- `-m64 -flto -Wl,-mllvm -Wl,-align-all-no fallback-thru-blocks=6`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -march=znver4`
- `-fveclib=AMDLIBM -ffast-math -mllvm -unroll-loops=threshold=100`
- `-finline-aggressive -mllvm -loop-unschedule-threshold=200000`
- `-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lmdalloc -lflang`

Fortran benchmarks:
- `-m64 -flto -Wl,-mllvm -Wl,-align-all-no fallback-thru-blocks=6`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mllvm -Wl,-enable-X86-prefetching -O3 -march=znver4`
- `-fveclib=AMDLIBM -ffast-math -Kieee -Mrecursive -funroll-loops`
- `-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3`
- `-fepilog-vectorization-of-inductions -zopt -lamdlibm -lmdalloc -lflang`

Benchmarks using both Fortran and C++:
- `-m64 -flto -Wl,-mllvm -Wl,-align-all-no fallback-thru-blocks=6`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -march=znver4`
- `-fveclib=AMDLIBM -ffast-math -fstruct-layout=7`
- `-mllvm -unroll-threshold=50 -mllvm -lmdalloc -lm -lsr-in-nested-loop`
- `-fepilog-vectorization-of-inductions -lamdlibm -lmdalloc -lflang`

Benchmarks using both C and C++:
- `-m64 -flto -Wl,-mllvm -Wl,-align-all-no fallback-thru-blocks=6`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -march=znver4`
- `-fveclib=AMDLIBM -ffast-math -fstruct-layout=7`
- `-mllvm -unroll-threshold=50 -mllvm -lmdalloc -lsr-in-nested-loop`
- `-fepilog-vectorization-of-inductions -lamdlibm -lmdalloc -lflang`

(Continued on next page)
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:
- `-m64` -flto -Wl,-mlllvm -Wl,-align-all-nofast-thru-blocks=6
- `-Wl,-mlllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mlllvm -Wl,-x86-use-vzeroupper=false -O3 -march=znver4`
- `-fvecclib=AMDLIBM -ffast-math -fstruct-layout=7`
- `-mlllvm -unroll-threshold=50 -mlllvm -inline-threshold=1000`
- `-fremap-arrays -fstrip-mining -mlllvm -reduce-array-computations=3`
- `-zopt -mlllvm -unroll-threshold=100 -flto -aggressive`
- `-mlllvm -loop-unswitch-threshold=200000 -Kieee -Mrecursive`
- `-funroll-loops -mlllvm -lsr-in-nested-loop`
- `-fepilog-vectorization-of-reductions lamdlibm -ldmalloc -lflang`

Base Other Flags

C benchmarks:
- `-Wno-unused-command-line-argument`

C++ benchmarks:
- `-Wno-unused-command-line-argument`

Fortran benchmarks:
- `-Wno-unused-command-line-argument`

Both Fortran and C:
- `-Wno-unused-command-line-argument`

Benchmarks using both C and C++:
- `-Wno-unused-command-line-argument`

Benchmarks using Fortran, C, and C++:
- `-Wno-unused-command-line-argument`
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

### Peak Compiler Invocation

C benchmarks:
- clang

C++ benchmarks:
- clang++

Fortran benchmarks:
- flang

Benchmarks using both Fortran and C:
- flang clang

Benchmarks using both C and C++:
- clang++ clang

Benchmarks using Fortran, C, and C++:
- clang++ clang flang

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

C benchmarks:

```
519.ibm_f -m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math
-fstruct-layout=7 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdaloc
```

(Continued on next page)
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

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Peak Optimization Flags (Continued)

538.imagick_r: Same as 519.lbm_r

544.nab_r: -m64 -flto -Wl,-mlllvm -Wl,-ldist-scalar-expand
-ffast-math -fstruct-layeq=7
-mlllvm -unroll-threshold=50 -fstrip-mining -mllvm -unroll-threshold=100
-mlllvm -reduce-array-computations=3 -zopt -lamdlib
-lamdalloc

C++ benchmarks:

508.namd_r: -m64 -flto -Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3
-Wl,-mlllvm -Wl,-x86-use-vzeroupper=false -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math
-finline-aggressive -mlllvm -unroll-threshold=100
-mlllvm -reduce-array-computations=3 -zopt -lamdlib
-lamdalloc

Fortran benchmarks:

503.bwaves_r: -m64 -flto -Wl,-mlllvm -Wl,-enable-X86-prefetching -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -Mrecursive
-mlllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlib
-lamdalloc -lflang

Non-Compliant
SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Peak Optimization Flags (Continued)

549. fotonik3d_r (continued):
-Wl,-mllvm -Wl,-enable-X86-prefetching -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -Kieee
-Mrecursive -mllvm -reduce-array-computations
-fepilog-vectorization-of-inductions -fvector-transform
-fscalar-transform -lamdlibm -lamdalloc -lflang

554. roms_r: Same as 503.bwaves_r

Benchmarks using both Fortran and C:

521. wrf_r: -m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-march=znver4 -fveclib=AMDLIBM -ffast-math
-fstruct-layout=7 -flto -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=100
-mllvm -reduce-array-computations=3 -zopt -Mrecursive
-fepilog-vectorization-of-inductions -fvector-transform -lamdlibm -lamdalloc
-lflang

527. cam4_r: basepeak = yes

Benchmarks using both C and C++:

511. povray_r: -m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -03 -march=znver4
-fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -mllvm -reduce-array-computations=3 -zopt
-mllvm -unroll-threshold=100 -finline-aggressive
-mllvm -loop-unswitch-threshold=200000 -lamdlibm
-lamdalloc

526. blender_r: -m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast

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SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

Peak Optimization Flags (Continued)

526.blender_r (continued):
- march=znver4 -fveclib=AMDLIBM -ffast-math
- fstruct-layout=7 -mlvm -unroll-threshold=
- fremap-arrays -fstrip-mining
- mlvm -inline-threshold=1000
- mlvm -reduce-array-computations=3 -zopt
- finline-aggressive -mlvm -unroll-threshold=100 -lamdlibm
- lamdalloc

Benchmarks using Fortran, C, and C++:
507.cactuBSSN_r: basepeak = yes

Peak Other Flags

C benchmarks:
- Wno-unused-command-line-argument

C++ benchmarks:
- Wno-unused-command-line-argument

Fortran benchmarks:
- Wno-unuses-command-line-argument

Benchmarks using both Fortran and C:
- Wno-unused-command-line-argument

Benchmarks using both C and C++:
- Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:
- Wno-unused-command-line-argument
 SPEC has determined that this result does not comply with the SPEC CPU 2017 run and reporting rules. Specifically, the test sponsor notified SPEC that the results were measured on an unsupported configuration.

The flags files that were used to format this result can be browsed at:
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-Genoa-rev2.1.html
http://www.spec.org/cpu2017/flags/aocc400-flags.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-Genoa-rev2.1.xml
http://www.spec.org/cpu2017/flags/aocc400-flags.xml