**SPEC CPU®2017 Floating Point Rate Result**

**Dell Inc.**

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

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**CPU2017 License:** 6573  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Nov-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

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**Hardware**

- **CPU Name:** AMD EPYC 9474F  
- **Max MHz:** 4100  
- **Nominal:** 3600  
- **Enabled:** 48 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 / 6 cores  
- **Memory:** 768 GB (12 x 64 GB 2Rx4 PC5-4800B-R)  
- **Storage:** 125 GB on tmpfs  
- **Other:** None

**Software**

- **OS:** Ubuntu 22.04.1 LTS  
- **Compiler:** C/C++/Fortran: Version 4.0.0 of AOCC  
- **Parallel:** No  
- **Firmware:** Version 0.5.3 released Nov-2022  
- **File System:** tmpfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** Not Applicable  
- **Other:** None  
- **Power Management:** BIOS and OS set to prefer performance at the cost of additional power usage.
### Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

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#### SPECrate®2017_fp_base = 569

#### SPECrate®2017_fp_peak = Not Run

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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.

### Operating System Notes

'ulimit -s unlimited' was used to set environment stack size limit
'ulimit -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.

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

SPECraten2017_fp_base = 569
SPECraten2017_fp_peak = Not Run

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Operating System Notes (Continued)

To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
To disable address space layout randomization (ASLR) to reduce run-to-run variability, 'sysctl -w kernel.randomize_va_space=0' run as root.

To enable Transparent Hugepages (THP) for all allocations, 'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/mnt/ramdisk/cpu2017-1.1.8-aocc400-B1b/amd_rate_aocc400_genoa_B_lib/lib:
"/mnt/ramdisk/cpu2017-1.1.8-aocc400-B1b/amd_rate_aocc400_genoa_B_lib/lib
32:"

MALLOC_CONF = "retain:true"

General Notes

Binaries were 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.

Benchmark run from a 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G tmpfs /mnt/ramdisk"

Platform Notes

BIOS settings:
- DRAM Refresh Delay : Performance
- DIMM Self Healing on
- Uncorrectable Memory Error : Disabled
- Virtualization Technology : Disabled
- L1 Stride Prefetcher: : Disabled
- NUMA Nodes per Socket: 4
- L3 Cache as NUMA Domain: Enabled

(Continued on next page)
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Platform Notes (Continued)

System Profile : Custom
Memory Patrol Scrub : Disabled
PCI ASPM L1 Link
  Power Management : Disabled
Determinism Slider : Power Determinism

Sysinfo program /mnt/ramdisk/cpu2017-1.1.8-aocc400-B1b/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acaf64d
running on amd-sut Fri Nov 18 04:09:13 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 9474F 48-Core Processor
  1 "physical id"s (chips)
  96 "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 : 48
  siblings : 96
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
          32 33 34 35 36 37 40 41 42 43 44 45 48 49 50 51 52 53 56 57 58 59 60 61

From lscpu from util-linux 2.37.2:

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): 96
On-line CPU(s) list: 0-95
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9474F 48-Core Processor
CPU family: 25
Model: 17
Thread(s) per core: 2
Core(s) per socket: 48
Socket(s): 1
Stepping: 1
Frequency boost: enabled
CPU max MHz: 4114.0000
CPU min MHz: 400.0000
BogoMIPS: 7201.39
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
        pdpe1gb rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid

(Continued on next page)
### Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

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**Platform Notes (Continued)**

aperfmpfr ap rapl pncl pcmcluodq monitor sse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe...

- **Vulnerability Itlb multihit:** Not affected
- **Vulnerability L1tf:** Not affected
- **Vulnerability Mds:** Not affected
- **Vulnerability Meltdown:** Not affected
- **Vulnerability Mmio stale data:** Not affected
- **Vulnerability Retbleed:** 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; Retpolines, IBFB conditional, IBRS_FW, STIBP always-on, RSB filling
- **Vulnerability Srbd:** Not affected
- **Vulnerability Txs async abort:** Not affected

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(Continued on next page)
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**CPU2017 License:** 6573  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Nov-2022</th>
</tr>
</thead>
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<tr>
<td>Hardware Availability:</td>
<td>Feb-2023</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Nov-2022</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

```
/platform/cpuinfo cache data
  cache size : 1024 KB

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0 1 2 3 4 5 48 49 50 51 52 53
node 0 size: 96311 MB
node 0 free: 95731 MB
node 1 cpus: 24 25 26 27 28 29 72 73 74 75 76 77
node 1 size: 96763 MB
node 1 free: 96187 MB
node 2 cpus: 12 13 14 15 16 17 60 61 62 63 64 65
node 2 size: 96729 MB
node 2 free: 92669 MB
node 3 cpus: 36 37 38 39 40 41 84 85 86 87 88 89
node 3 size: 96763 MB
node 3 free: 96180 MB
node 4 cpus: 18 19 20 21 22 23 66 67 68 69 70 71
node 4 size: 96764 MB
node 4 free: 96211 MB
node 5 cpus: 42 43 44 45 46 47 90 91 92 93 94 95
node 5 size: 96763 MB
node 5 free: 96218 MB
node 6 cpus: 6 7 8 9 10 11 54 55 56 57 58 59
node 6 size: 96764 MB
node 6 free: 96219 MB
node 7 cpus: 30 31 32 33 34 35 78 79 80 81 82 83
node 7 size: 96723 MB
node 7 free: 96153 MB
node distances:
  node 0 1 2 3 4 5 6 7
  0: 10 11 12 12 12 12 12 12
  1: 11 10 12 12 12 12 12 12
  2: 12 12 10 11 12 12 12 12
  3: 12 12 11 10 12 12 12 12
  4: 12 12 12 12 10 11 12 12
  5: 12 12 12 12 11 10 12 12
  6: 12 12 12 12 12 12 10 11
  7: 12 12 12 12 12 12 11 10

From /proc/meminfo
  MemTotal: 792152172 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB
```

(Continued on next page)
Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

\[
\begin{array}{|l|}
\hline
\text{CPU2017 License:} & 6573 \\
\text{Test Sponsor:} & Dell Inc. \\
\text{Tested by:} & Dell Inc. \\
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\end{array}
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\end{array}
\]

SPECrate\textsuperscript{\textregistered}2017\_fp\_base = 569

SPECrate\textsuperscript{\textregistered}2017\_fp\_peak = Not Run

Platform Notes (Continued)

/sbin/tuned-adm active
Current active profile: latency-performance

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

/usr/bin/lsb_release -d
Ubuntu 22.04.1 LTS

From /etc/*release* /etc/*version*
debian_version: bookworm/sid
os-release:
  PRETTY_NAME="Ubuntu 22.04.1 LTS"
  NAME="Ubuntu"
  VERSION_ID="22.04"
  VERSION="22.04.1 LTS (Jammy Jellyfish)"
  VERSION_CODENAME=jammy
  ID=ubuntu
  IDLIKE=debian
  HOME_URL="https://www.ubuntu.com/"

uname -a:
  Linux amd-sut 5.15.0-46-generic #49-Ubuntu SMP Thu Aug 4 18:03:25 UTC 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-2017-5754 (Meltdown): Not affected
- mmio_stale_data: Not affected
- retbleed: Not affected
- CVE-2018-3639 (Speculative Store Bypass):
  Mitigation: Speculative Store Bypass disabled via prctl and seccomp
- CVE-2017-5753 (Spectre variant 1):
  Mitigation: usertcopy/swapgs barriers and __user pointer sanitation
- CVE-2017-5715 (Spectre variant 2):
  Mitigation: Retpolines, IBPB:
  conditional, IBRS_FW, STIBP:
  always-on, RSB filling
- CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
- CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Nov 18 02:28

(Continued on next page)
Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

SPECrated®2017_fp_base = 569
SPECrated®2017_fp_peak = Not Run

CPU2017 License: 6573
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: Nov-2022
Hardware Availability: Feb-2023
Software Availability: Nov-2022

Platform Notes (Continued)

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-aocc400-B1b
Filesystem Type Size Used Avail Use% Mounted on
tmpfs tmpfs 125G 3.4G 122G 3% /mnt/ramdisk

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R7615
Product Family: PowerEdge
Serial: RDB5031

Additional information from dmidecode 3.3 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:
12x 802C0000802C MTC40F2046S1RC48BA1 64 GB 2 rank 4800

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 0.5.3
BIOS Date: 11/10/2022
BIOS Revision: 0.5

(End of data from sysinfo program)

Compiler Version Notes

C               | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
AME 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) 510.parest_r(base)
AME 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

(Continued on next page)
Dell Inc.  
PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)  

Test Sponsor: Dell Inc.  
Hardware Availability: Feb-2023  
Software Availability: Nov-2022

Compiler Version Notes (Continued)

==============================================================================
C++, C          | 511.povray_r(base) 526.blender_r(base)  
---
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  
---
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  
---
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)  
---
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  
---
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  
---
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) 549.fotonik3d_r(base) 554.roms_r(base)  
---
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  
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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  
==============================================================================
Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)  

| SPECrate®2017_fp_base = 569 |
| SPECrate®2017_fp_peak = Not Run |

CPU2017 License: 6573  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.  

Test Date: Nov-2022  
Hardware Availability: Feb-2023  
Software Availability: Nov-2022

Compiler Version Notes (Continued)

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

Base 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

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

(Continued on next page)
Spec CPU®2017 Floating Point Rate Result

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Dell Inc.

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor) SPECrate®2017_fp_base = 569
SPECrate®2017_fp_peak = Not Run

CPU2017 License: 6573
Test Sponsor: Dell Inc.
Test Date: Nov-2022

Tested by: Dell Inc.
Hardware Availability: Feb-2023
Software Availability: Nov-2022

Base Portability Flags (Continued)

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,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather -O3
-march=znver4 -fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3
-zopt -lamdlibm -lamdalloc -lflang

C++ benchmarks:
-m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-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-threshold=100
-finline-aggressive -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

Fortran benchmarks:
-m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-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 -lsrc-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang

Benchmarks using both Fortran and C:
-m64 -flto -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching -O3 -march=znver4
-fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3
-zopt -Kieee -Mrecursive -funroll-loops -mllvm -lsrc-in-nested-loop

(Continued on next page)
Dell Inc. PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)  

**SPECrate®2017**  
**SPECrate®2017**  

**SPECrater®2017_fp_base =** 569  
**SPECrate®2017_fp_peak =** Not Run  

**CPU2017 License:** 6573  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  

**Test Date:** Nov-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

---

**Base Optimization Flags (Continued)**

Benchmarks using both Fortran and C (continued):
- `-fepilog-vectorization-of-inductions`  
- `-lamdlibm`  
- `-lamdalloc`  
- `-lflang`

Benchmarks using both C and C++:
- `-m64`  
- `-flto`  
- `-Wl,-align-all-nofallthru-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 -inline-threshold=1000`  
- `-fremap-arrays`  
- `-fstrip-mining`  
- `-mllvm -reduce-array-computations=3`  
- `-zopt`  
- `-mllvm -unroll-threshold=100`  
- `-finline-aggressive`  
- `-mllvm -loop-unschotch-threshold=200000`  
- `-lamdlibm`  
- `-lamdalloc`  
- `-lflang`

Benchmarks using Fortran, C, and C++:
- `-m64`  
- `-flto`  
- `-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 -inline-threshold=1000`  
- `-fremap-arrays`  
- `-fstrip-mining`  
- `-mllvm -reduce-array-computations=3`  
- `-zopt`  
- `-mllvm -unroll-threshold=100`  
- `-finline-aggressive`  
- `-mllvm -loop-unschotch-threshold=200000`  
- `-Kieee`  
- `-Mrecursive`  
- `-funroll-loops`  
- `-mllvm`  
- `-lsr-in-nested-loop`  
- `-fepilog-vectorization-of-inductions`  
- `-lamdlibm`  
- `-lamdalloc`  
- `-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`

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 CPU®2017 Floating Point Rate Result

**Dell Inc.**

PowerEdge R7615 (AMD EPYC 9474F 48-Core Processor)

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<tbody>
<tr>
<td>SPECrate®2017_fp_peak</td>
<td>Not Run</td>
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</tbody>
</table>

**CPU2017 License:** 6573  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.

**Test Date:** Nov-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

The flags files that were used to format this result can be browsed at


You can also download the XML flags sources by saving the following links:


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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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