SPEC CPU®2026 Floating Point Rate Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

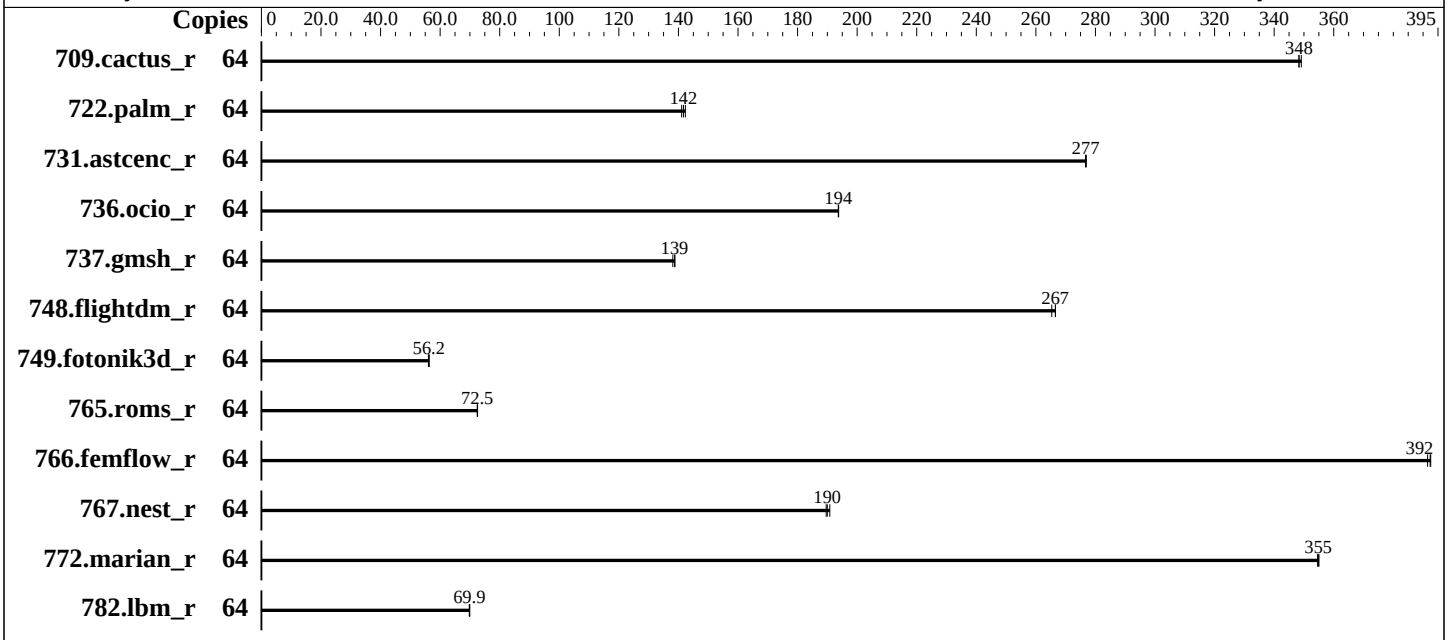
ProLiant DL145 Gen11
(2.30 GHz, AMD EPYC 8534P)

SPECrate®2026_fp_base = 173

SPECrate®2026_fp_peak = 173

CPU2026 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Feb-2026
Hardware Availability: Oct-2024
Software Availability: Jan-2026



Hardware

CPU Name:	AMD EPYC 8534P
Max MHz:	3100
Nominal:	2300
Enabled:	64 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:	128 MB I+D on chip per chip, 16 MB shared / 8 cores
Other:	None
Memory:	768 GB (6 x 128 GB 4Rx4 PC5-4800B-R)
Storage:	1 x 480 GB NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04.3 LTS Kernel 6.8.0-90-generic
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	HPE BIOS Version v2.10 released Jan-2026
File System:	ext4
System State:	Run level 5 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None
Power Management:	BIOS set to prefer performance at cost of additional power usage

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	64	157	349	**158**	**348**	158	348	64	157	349	**158**	**348**	158	348
722.palm_r	64	599	141	594	142	**596**	**142**	64	599	141	594	142	**596**	**142**
731.astcenc_r	64	194	277	194	277	**194**	**277**	64	194	277	194	277	**194**	**277**
736.ocio_r	64	289	194	**289**	**194**	289	194	64	289	194	**289**	**194**	289	194
737.gmsh_r	64	213	138	**212**	**139**	212	139	64	213	138	**212**	**139**	212	139
748.flightdm_r	64	173	265	172	267	**172**	**267**	64	173	265	172	267	**172**	**267**
749.fotonik3d_r	64	**1315**	**56.2**	1319	56.1	1314	56.3	64	**1315**	**56.2**	1319	56.1	1314	56.3
765.roms_r	64	1391	72.5	**1390**	**72.5**	1389	72.6	64	1391	72.5	**1390**	**72.5**	1389	72.6
766.femflow_r	64	240	392	**239**	**392**	239	393	64	240	392	**239**	**392**	239	393
767.nest_r	64	266	191	268	190	**267**	**190**	64	266	191	268	190	**267**	**190**
772.marian_r	64	285	355	**285**	**355**	285	355	64	285	355	**285**	**355**	285	355
782.lbm_r	64	526	69.8	**525**	**69.9**	524	69.9	64	526	69.8	**525**	**69.9**	524	69.9

SPECrate®2026_fp_base = 173

SPECrate®2026_fp_peak = 173

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.
To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
```

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Operating System Notes (Continued)

```
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/enabled' and
'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 =
     "/home/cpu2026_new/amd_rate_aocc510_znver5_A_lib/lib:/home/cpu2026_new/a
     md_rate_aocc510_znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB
Memory using Ubuntu 24.04
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 Configurations : Parameters are selected in the order shown below
Workload Profile set to General Throughput Compute
Determinism Control set to Manual
 Performance Determinism set to Power Deterministic
AMD Periodic Directory Rinse Tuning set to Cache-Bound
Memory Patrol Scrubbing set to Disabled
NUMA memory domains per socket set to Two memory domains per socket
ACPI CST C2 Latency set to 18 microseconds
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
  L2 HW Prefetcher set to Disabled

 Sysinfo program /home/cpu2026_new/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on admin1 Sun Feb  1 10:27:52 2026
```

(Continued on next page)

Platform Notes (Continued)

```
SUT (System Under Test) info as seen by some common utilities.

------------------------------------------------------------
Table of contents
------------------------------------------------------------
 1. uname -srvm
 2. w
 3. Username
 4. ulimit -a
 5. sysinfo process ancestry
 6. /proc/cpuinfo
 7. lscpu
 8. numactl --hardware
 9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. uname -srvm
  Linux 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64

------------------------------------------------------------
2. w
   10:27:52 up 12 min,  3 users,  load average: 0.13, 0.03, 0.01
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  admin1            172.16.0.100     10:22   12:37   0.00s  0.02s sshd: admin1 [priv]
  admin1   tty1     -                10:22    5:44   0.06s  0.01s -bash
  admin1            172.16.0.100     10:17   12:37   0.00s  0.01s sshd: admin1 [priv]

------------------------------------------------------------
3. Username
  From environment variable $USER:  root
  From the command 'logname':       admin1
```

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Platform Notes (Continued)

```
------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        unlimited
  coredump(blocks)     0
  memory(kbytes)       unlimited
  locked memory(kbytes) 2097152
  process              3094461
  nofiles              1024
  vmemory(kbytes)      unlimited
  locks                unlimited
  rtprio               0

------------------------------------------------------------
5. sysinfo process ancestry
 /sbin/init
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: admin1 [priv]
 sshd: admin1@pts/0
 -bash
 sudo -i
 sudo -i
 -bash
 /bin/bash ./fprate.sh
 sudo ./run_fprate.py
 sudo ./run_fprate.py
 python3 ./run_fprate.py
 /bin/bash ./amd_rate_aocc510_znver5_A1.sh
 runcpu --config amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 fprate
 runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
   --runmode rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.001/templogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026_new

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 8534P 64-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 25
    model           : 160
    stepping        : 2
    microcode       : 0xaa0021c
    bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso vmscape
    TLB size        : 3584 4K pages
```

(Continued on next page)

Platform Notes (Continued)

```
     cpu cores       : 64
     siblings        : 128
     1 physical ids (chips)
     128 processors (hardware threads)
     physical id 0: core ids 0-63
     physical id 0: apicids 0-127
   Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
    virtualized systems.  Use the above data carefully.

 ------------------------------------------------------------
 7. lscpu

 From lscpu from util-linux 2.39.3:
   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):                               128
   On-line CPU(s) list:                  0-127
   Vendor ID:                            AuthenticAMD
   BIOS Vendor ID:                       Advanced Micro Devices, Inc.
   Model name:                           AMD EPYC 8534P 64-Core Processor
   BIOS Model name:                    AMD EPYC 8534P 64-Core Processor                CPU @ 2.3GHz
   BIOS CPU family:                      107
   CPU family:                           25
   Model:                                160
   Thread(s) per core:                   2
   Core(s) per socket:                   64
   Socket(s):                            1
   Stepping:                             2
   BogoMIPS:                             4593.24
   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 amd_lbr_v2 nopl nonstop_tsc cpuid
                                 extd_apicid aperfmperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
                                    sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm
                                 cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
                                    osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
                                  perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
                                  ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase bmi1 avx2 smep bmi2
                                  erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
                                   clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
                                   xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
                                    user_shstk avx512_bf16 clzero irperf xsaveerptr rdpru wbnoinvd
                                 amd_ppin cppc amd_ibpb_ret arat npt lbrv svm_lock nrip_save tsc_scale
                                   vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic
                                   v_vmsave_vmload vgif x2avic v_spec_ctrl vnmi avx512vbmi umip pku
```

(Continued on next page)

Platform Notes (Continued)

```
                                    ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
                                   avx512_vpopcntdq la57 rdpid overflow_recov succor smca fsrm flush_l1d
                                            debug_swap ibpb_exit_to_user
  Virtualization:                           AMD-V
  L1d cache:                                2 MiB (64 instances)
  L1i cache:                                2 MiB (64 instances)
  L2 cache:                                 64 MiB (64 instances)
  L3 cache:                                 128 MiB (8 instances)
  NUMA node(s):                             2
  NUMA node0 CPU(s):                        0-31,64-95
  NUMA node1 CPU(s):                        32-63,96-127
  Vulnerability Gather data sampling:       Not affected
  Vulnerability Itlb multihit:              Not affected
  Vulnerability L1tf:                       Not affected
  Vulnerability Mds:                        Not affected
  Vulnerability Meltdown:                   Not affected
  Vulnerability Mmio stale data:            Not affected
  Vulnerability Reg file data sampling:     Not affected
  Vulnerability Retbleed:                   Not affected
  Vulnerability Spec rstack overflow:       Mitigation; Safe RET
  Vulnerability Spec store bypass:      Mitigation; Speculative Store Bypass disabled via prctl
  Vulnerability Spectre v1:           Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:             Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
                                     always-on; RSB filling; PBRSB-eIBRS Not affected; BHI Not affected
  Vulnerability Srbds:                      Not affected
  Vulnerability Tsx async abort:            Not affected
  Vulnerability Vmscape:                    Mitigation; IBPB before exit to userspace

From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL  SETS PHY-LINE COHERENCY-SIZE
     L1d       32K       2M    8 Data            1    64        1             64
     L1i       32K       2M    8 Instruction     1    64        1             64
     L2         1M      64M    8 Unified         2  2048        1             64
     L3        16M     128M   16 Unified         3 16384        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-31,64-95
  node 0 size: 386734 MB
  node 0 free: 385716 MB
  node 1 cpus: 32-63,96-127
  node 1 size: 386960 MB
  node 1 free: 386077 MB
  node distances:
  node   0   1
```

(Continued on next page)

Platform Notes (Continued)

```
    0:  10  12
    1:  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       792263900 kB

------------------------------------------------------------
10. who -r
  run-level 5 Feb 1 10:15

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
  Default Target  Status
  graphical       running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init
                   cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager
                     grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd
                   networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb
                     snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore
                     systemd-resolved thermald tuned ua-reboot-cmds ubuntu-advantage udisks2 ufw
                     unattended-upgrades vgauth
  enabled-runtime    netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled           console-getty debug-shell iscsid nftables rsync serial-getty@ ssh
                     systemd-boot-check-no-failures systemd-confext systemd-network-generator
                   systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code
                   systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy
                   systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysext
                     systemd-time-wait-sync systemd-timesyncd upower
  indirect           systemd-sysupdate systemd-sysupdate-reboot uuidd
  masked           cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.8.0-90-generic
  root=UUID=61dfa28b-3b9d-4547-a60d-5242374593a9
  ro

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 110:
    Unable to determine current policy
    boost state support:
```

(Continued on next page)

Platform Notes (Continued)

```
      Supported: yes
      Active: yes
      Boost States: 0
      Total States: 3
      Pstate-P0:  2300MHz

------------------------------------------------------------
15. tuned-adm active
  Current active profile: balanced

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing               1
  kernel.randomize_va_space           0
  vm.compaction_proactiveness        20
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio          10
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                      8
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                       1
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                1

------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage
  defrag          [always] defer defer+madvise madvise never
  enabled         [always] madvise never
  hpage_pmd_size  2097152
  shmem_enabled   always within_size advise [never] deny force

------------------------------------------------------------
18. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_shared           256
  max_ptes_swap              64
  pages_to_scan            4096
```

(Continued on next page)

Platform Notes (Continued)

```
   scan_sleep_millisecs    10000

 ------------------------------------------------------------
 19. OS release
   From /etc/*-release /etc/*-version
   os-release Ubuntu 24.04.3 LTS

 ------------------------------------------------------------
 20. Disk information
 SPEC is set to: /home/cpu2026_new
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      ext4  438G   39G  378G  10% /

 ------------------------------------------------------------
 21. /sys/devices/virtual/dmi/id
     Vendor:          HPE
     Product:         ProLiant DL145 Gen11
     Product Family: ProLiant
     Serial:          41600016J0A1

 ------------------------------------------------------------
 22. dmidecode
   Additional information from dmidecode 3.5 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:
      1x Hynix HMCT04MEERA129N 128 GB 4 rank 4800
      1x Hynix HMCT04MEERA131N 128 GB 4 rank 4800
      4x Hynix HMCT04MEERA133N 128 GB 4 rank 4800


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       HPE
    BIOS Version:      2.10
    BIOS Date:         01/27/2026
    BIOS Revision:     2.10
    Firmware Revision: 1.66
```

Compiler Version Notes

```
==============================================================================
C       | 782.lbm_r(base)
------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
C++     | 731.astcenc_r(base) 736.ocio_r(base) 748.flightdm_r(base)
        | 766.femflow_r(base) 767.nest_r(base) 772.marian_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
C++, C  | 709.cactus_r(base) 737.gmsh_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
Fortran | 722.palm_r(base) 749.fotonik3d_r(base) 765.roms_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Fortran benchmarks:
`flang`

(Continued on next page)

Base Compiler Invocation (Continued)

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

Base Portability Flags

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.astcenc_r: -DSPEC_LP64
736.ocio_r: -fno-finite-math-only -DSPEC_LP64
737.gmsh_r: -fno-fast-math -DSPEC_LP64
748.flightdm_r: -fno-reciprocal-math -DSPEC_LP64
749.fotonik3d_r: -DSPEC_LP64
765.roms_r: -DSPEC_LP64
766.femflow_r: -DSPEC_LP64
767.nest_r: -fno-finite-math-only -DSPEC_LP64
772.marian_r: -DSPEC_LP64
782.lbm_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -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 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

Fortran benchmarks:
-m64 -Mstandard -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang

Benchmarks using both C and C++:
-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -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
-mllvm -loop-unswitch-threshold=200000 -lamdlibm -lamdalloc -lflang

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

731.astcenc_r: basepeak = yes

736.ocio_r: basepeak = yes

748.flightdm_r: basepeak = yes

766.femflow_r: basepeak = yes

767.nest_r: basepeak = yes

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

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Peak Optimization Flags (Continued)

749.fotonik3d_r: `basepeak = yes`

765.roms_r: `basepeak = yes`

Benchmarks using both C and C++:

709.cactus_r: `basepeak = yes`

737.gmsh_r: `basepeak = yes`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Siena-rev1.2.html`
`http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Siena-rev1.2.xml`
`http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml`

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

Tested with SPEC CPU®2026 v0.902.0 on 2026-02-01 05:27:51-0500.
Report generated on 2026-08-11 15:16:46 by CPU2026 PDF formatter (unknown).
Originally published on 2026-05-05.