SPEC CPU®2026 Floating Point Rate Result

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Supermicro

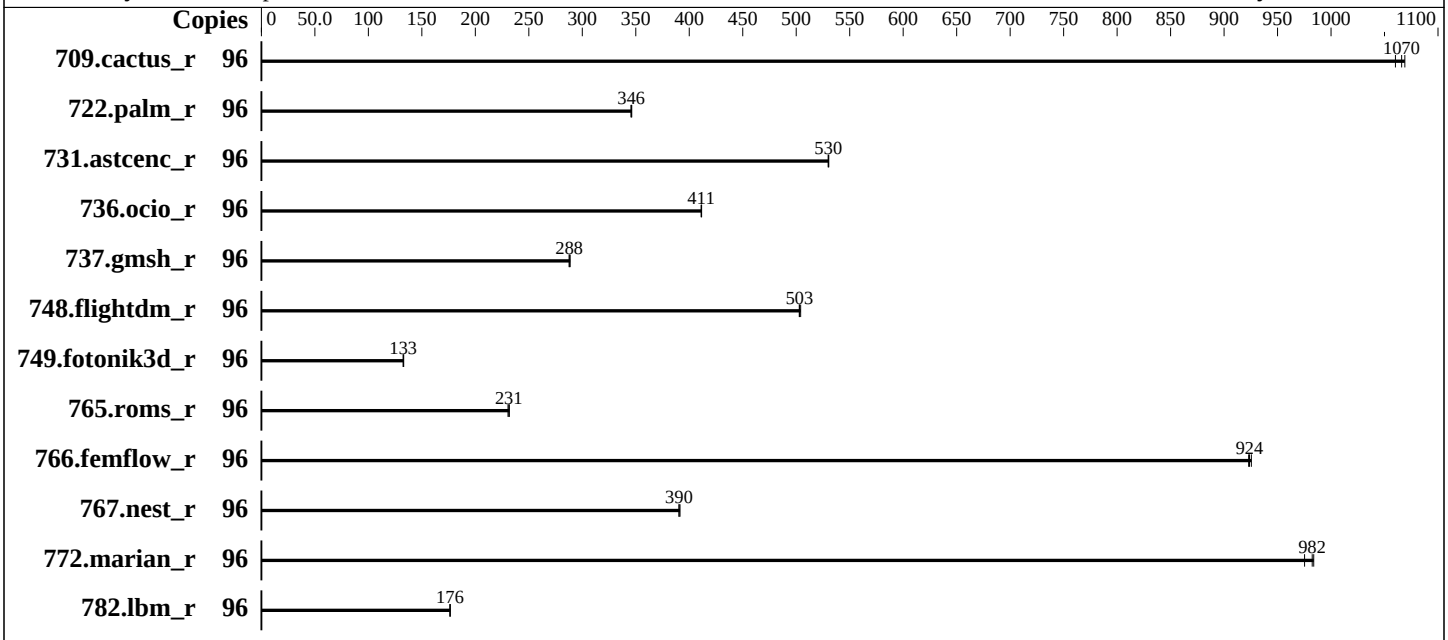
CloudDC A+ Server AS -1116CS-TN
(H14SHM , AMD EPYC 9655)

SPECrate®2026_fp_base = 410

SPECrate®2026_fp_peak = 410

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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



Hardware

CPU Name:	AMD EPYC 9655
Max MHz:	4500
Nominal:	2600
Enabled:	96 cores, 1 chip
Orderable:	1 chip
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	384 MB I+D on chip per chip, 32 MB shared / 8 cores
Other:	None
Memory:	768 GB (12 x 64 GB 2Rx4 PC5-6400B-R)
Storage:	1 x 480 GB NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04.3 LTS 6.8.0-94-generic
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Version 1.5a released Aug-2025
File System:	ext4
System State:	Run level 5 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None
Power Management:	BIOS and OS set to prefer performance at the 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	96	77.7	1060	**77.3**	**1070**	77.1	1070	96	77.7	1060	**77.3**	**1070**	77.1	1070
722.palm_r	96	367	346	**366**	**346**	366	346	96	367	346	**366**	**346**	366	346
731.astcenc_r	96	152	530	152	530	**152**	**530**	96	152	530	152	530	**152**	**530**
736.ocio_r	96	204	412	**204**	**411**	204	411	96	204	412	**204**	**411**	204	411
737.gmsh_r	96	153	289	153	288	**153**	**288**	96	153	289	153	288	**153**	**288**
748.flightdm_r	96	**137**	**503**	136	504	137	503	96	**137**	**503**	136	504	137	503
749.fotonik3d_r	96	837	133	834	133	**836**	**133**	96	837	133	834	133	**836**	**133**
765.roms_r	96	652	232	**654**	**231**	656	231	96	652	232	**654**	**231**	656	231
766.femflow_r	96	152	926	**152**	**924**	153	923	96	152	926	**152**	**924**	153	923
767.nest_r	96	**195**	**390**	195	391	195	390	96	**195**	**390**	195	391	195	390
772.marian_r	96	154	984	**154**	**982**	155	975	96	154	984	**154**	**982**	155	975
782.lbm_r	96	312	176	312	176	**312**	**176**	96	312	176	312	176	**312**	**176**

SPECrate®2026_fp_base = 410

SPECrate®2026_fp_peak = 410

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.
```

(Continued on next page)

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 =
     "/spec/speccpu2026rc2bsub/amd_rate_aocc510_znver5_A_lib/lib:/spec/speccp
     u2026rc2bsub/amd_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
```

Platform Notes

```
 BIOS settings:
 SEV Control = Disabled
 SMEE = Disabled
 Memory Target Speed = DDR6400
 Determinism Control = Manual
 Determinism Enable = Power
 TDP control = Manual
 TDP = 400
 Package Power Limit Control = Manual
 Package Power Limit = 400
 TSME = Disabled
 NUMA nodes per socket = NPS4
 SMT Control = Disabled

 Sysinfo program /spec/speccpu2026rc2bsub/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on smc2349turin-os Mon Feb  2 02:57:49 2026

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

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

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

------------------------------------------------------------
1. uname -srvm
  Linux 6.8.0-94-generic #96-Ubuntu SMP PREEMPT_DYNAMIC Fri Jan  9 20:36:55 UTC 2026 x86_64

------------------------------------------------------------
2. w
   02:57:49 up 16 min,  3 users,  load average: 0.00, 0.00, 0.00
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root             10.23.196.148    02:54   16:25   0.00s  0.06s sshd: root@notty
  root             10.23.196.148    02:54   16:25   0.00s  0.10s sshd: root@pts/0
  root     tty1     -               02:50    7:01   0.11s   ?    -bash

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        unlimited
  coredump(blocks)     0
```

(Continued on next page)

Platform Notes (Continued)

```
   memory(kbytes)       unlimited
   locked memory(kbytes) 2097152
   process              3093949
   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: root@pts/0
 -bash
 screen -S cpu
 SCREEN -S cpu
 /bin/bash
 python3 ./run_amd_rate_aocc510_znver5_A1.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 = /spec/speccpu2026rc2bsub

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9655 96-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 2
    stepping        : 1
    microcode       : 0xb002147
    bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
    TLB size        : 192 4K pages
    cpu cores       : 96
    siblings        : 96
    1 physical ids (chips)
    96 processors (hardware threads)
   physical id 0: core ids 0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183
   physical id 0: apicids 0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
   virtualized systems.  Use the above data carefully.

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


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Platform Notes (Continued)

```
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):                                  96
  On-line CPU(s) list:                     0-95
  Vendor ID:                               AuthenticAMD
  BIOS Vendor ID:                          Advanced Micro Devices, Inc.
  Model name:                              AMD EPYC 9655 96-Core Processor
  BIOS Model name:                         AMD EPYC 9655 96-Core Processor                Unknown CPU @ 2.6GHz
  BIOS CPU family:                         107
  CPU family:                              26
  Model:                                   2
  Thread(s) per core:                      1
  Core(s) per socket:                      96
  Socket(s):                               1
  Stepping:                                1
  Frequency boost:                         enabled
  CPU(s) scaling MHz:                      101%
  CPU max MHz:                             2600.0000
  CPU min MHz:                             1500.0000
  BogoMIPS:                                5200.23
  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 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
                                           cmp_legacy 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 tsc_adjust 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 avx_vnni 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 ospke avx512_vbmi2 gfni vaes vpclmulqdq
                                           avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
                                           movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
                                           flush_l1d debug_swap
  L1d cache:                               4.5 MiB (96 instances)
  L1i cache:                               3 MiB (96 instances)
  L2 cache:                                96 MiB (96 instances)
```

(Continued on next page)

Platform Notes (Continued)

```
  L3 cache:                              384 MiB (12 instances)
  NUMA node(s):                          4
  NUMA node0 CPU(s):                     0-23
  NUMA node1 CPU(s):                     24-47
  NUMA node2 CPU(s):                     48-71
  NUMA node3 CPU(s):                     72-95
  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:    Not affected
  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
                                         disabled; RSB filling; PBRSB-eIBRS Not affected; BHI Not affected
  Vulnerability Srbds:                   Not affected
  Vulnerability Tsx async abort:         Not affected
  Vulnerability Vmscape:                 Not affected

From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL  SETS PHY-LINE COHERENCY-SIZE
     L1d       48K     4.5M   12 Data            1    64        1             64
     L1i       32K       3M    8 Instruction     1    64        1             64
     L2         1M      96M   16 Unified         2  1024        1             64
     L3        32M     384M   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0-23
  node 0 size: 193043 MB
  node 0 free: 192226 MB
  node 1 cpus: 24-47
  node 1 size: 193527 MB
  node 1 free: 192625 MB
  node 2 cpus: 48-71
  node 2 size: 193527 MB
  node 2 free: 192993 MB
  node 3 cpus: 72-95
  node 3 size: 193466 MB
  node 3 free: 192848 MB
  node distances:
```

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Platform Notes (Continued)

```
  node   0   1   2   3
    0:  10  12  12  12
    1:  12  10  12  12
    2:  12  12  10  12
    3:  12  12  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       792130700 kB

------------------------------------------------------------
10. who -r
  run-level 5 Feb 2 02:41

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.10)
  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 nvmefc-boot-connections nvmf-autoconnect open-iscsi open-vm-tools
                   pollinate rsyslog secureboot-db setvtrgb snapd sysstat systemd-networkd
                   systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd thermald
                   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 ipmievd 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 upower
  generated        openipmi
  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=/vmlinuz-6.8.0-94-generic
  root=/dev/mapper/ubuntu--vg-ubuntu--lv
  ro

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

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Platform Notes (Continued)

```
14. cpupower frequency-info
  analyzing CPU 72:
    current policy: frequency should be within 1.50 GHz and 2.60 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes
      Boost States: 0
      Total States: 3
      Pstate-P0:  2600MHz

------------------------------------------------------------
15. 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

------------------------------------------------------------
16. /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

------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_shared           256
```

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Platform Notes (Continued)

```
   max_ptes_swap              64
   pages_to_scan            4096
   scan_sleep_millisecs    10000

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

 ------------------------------------------------------------
 19. Disk information
 SPEC is set to: /spec/speccpu2026rc2bsub
   Filesystem                     Type  Size  Used Avail Use% Mounted on
   /dev/mapper/ubuntu--vg-ubuntu--lv ext4  437G   25G  393G   6% /

 ------------------------------------------------------------
 20. /sys/devices/virtual/dmi/id
     Vendor:          Supermicro
     Product:         AS -1116CS-TN
     Product Family:  SMC H14
     Serial:          S931316X4B12349

 ------------------------------------------------------------
 21. 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:
      12x SK Hynix HMCG94AHBRA277N 64 GB 2 rank 6400


 ------------------------------------------------------------
 22. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       American Megatrends International, LLC.
    BIOS Version:      1.5a
    BIOS Date:         08/11/2025
    BIOS Revision:     5.35
```

Compiler Version Notes

```
==============================================================================
C       | 782.lbm_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
```

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Compiler Version Notes (Continued)

```
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`

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
-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
```

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Base Optimization Flags (Continued)

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

749.fotonik3d_r: basepeak = yes

765.roms_r: basepeak = yes

Benchmarks using both C and C++:

709.cactus_r: basepeak = yes

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Peak Optimization Flags (Continued)

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/aocc-flags.2026-05-04.html`
`http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-Turin-revG.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml`
`http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-Turin-revG.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 21:57:49-0500.
Report generated on 2026-08-11 15:15:14 by CPU2026 PDF formatter (unknown).
Originally published on 2026-05-05.