SPEC CPU®2026 Floating Point Rate Result

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Supermicro

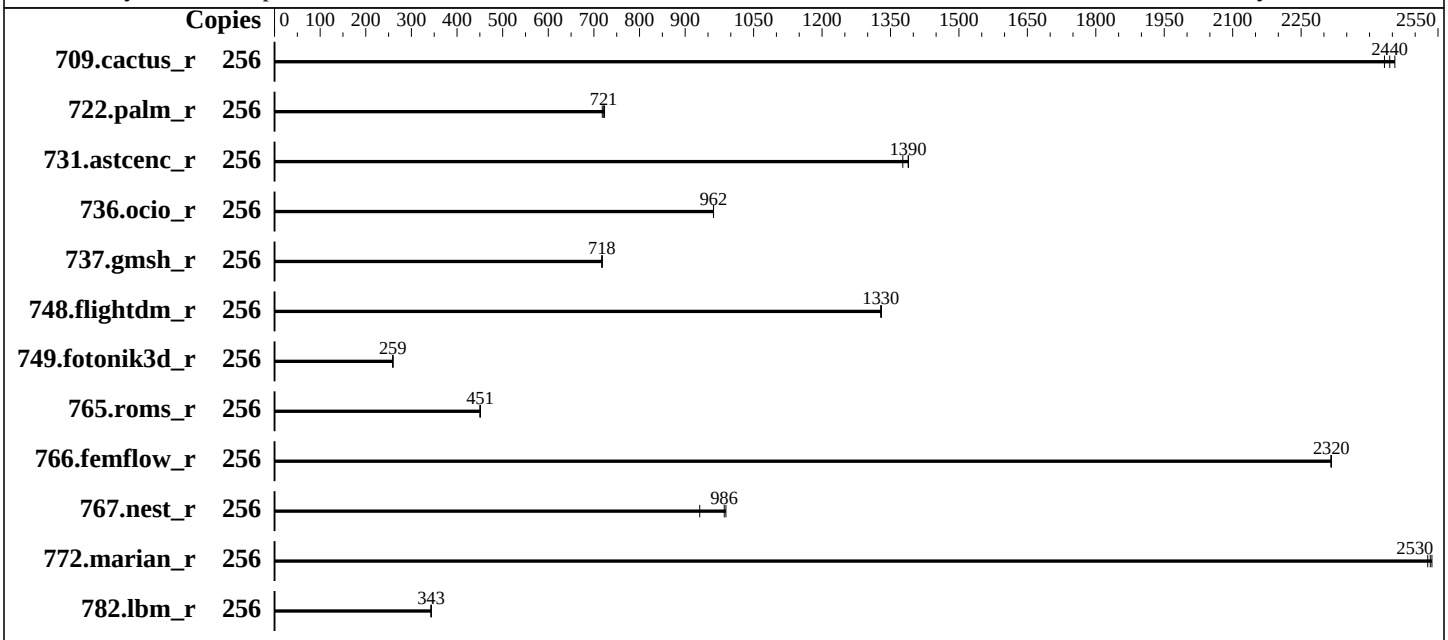
Hyper A+ Server AS -2126HS-TN
(H14DSH , AMD EPYC 9755)

SPECrate®2026_fp_base = 947

SPECrate®2026_fp_peak = 947

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 9755
Max MHz:	4100
Nominal:	2700
Enabled:	256 cores, 2 chips
Orderable:	2 chips
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	512 MB I+D on chip per chip, 32 MB shared / 8 cores
Other:	None
Memory:	2304 GB (24 x 96 GB 2Rx4 PC5-6400B-R)
Storage:	1 x 3.84 TB NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04.3 LTS 6.8.0-90-generic
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Version 1.5 released May-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	256	89.5	2460	90.3	2430	**89.9**	**2440**	256	89.5	2460	90.3	2430	**89.9**	**2440**
722.palm_r	256	**468**	**721**	470	718	467	723	256	**468**	**721**	470	718	467	723
731.astcenc_r	256	156	1380	155	1390	**155**	**1390**	256	156	1380	155	1390	**155**	**1390**
736.ocio_r	256	233	962	233	962	**233**	**962**	256	233	962	233	962	**233**	**962**
737.gmsh_r	256	**164**	**718**	164	718	164	717	256	**164**	**718**	164	718	164	717
748.flightdm_r	256	138	1330	138	1330	**138**	**1330**	256	138	1330	138	1330	**138**	**1330**
749.fotonik3d_r	256	**1141**	**259**	1141	259	1142	259	256	**1141**	**259**	1141	259	1142	259
765.roms_r	256	894	451	**894**	**451**	895	450	256	894	451	**894**	**451**	895	450
766.femflow_r	256	162	2320	162	2320	**162**	**2320**	256	162	2320	162	2320	**162**	**2320**
767.nest_r	256	**206**	**986**	205	989	218	932	256	**206**	**986**	205	989	218	932
772.marian_r	256	160	2530	**160**	**2530**	159	2540	256	160	2530	**160**	**2530**	159	2540
782.lbm_r	256	**427**	**343**	428	343	427	343	256	**427**	**343**	428	343	427	343

SPECrate®2026_fp_base = 947

SPECrate®2026_fp_peak = 947

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 = 500
 Package Power Limit Control = Manual
 Package Power Limit = 500
 TSME = Disabled
 NUMA nodes per socket = NPS4
 SMT Control = Disabled

 Sysinfo program /spec/speccpu2026rc2bsub/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on smc9694turin-u24-os Mon Feb  2 03:33:28 2026

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

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

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Platform Notes (Continued)

```
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 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 (255.4-1ubuntu8.10)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
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15. sysctl
16. /sys/kernel/mm/transparent_hugepage
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 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64

------------------------------------------------------------
2. w
   03:33:28 up 20 min,  3 users,  load average: 0.07, 0.02, 0.00
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root             10.23.196.148    03:29   20:23   0.00s  0.06s sshd: root@notty
  root             10.23.196.148    03:29   20:23   0.00s  0.10s sshd: root@pts/0
  root     tty1     -               03:28    4:48   0.07s   ?    -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              9286752
   nofiles              1024
   vmemory(kbytes)      unlimited
   locks                unlimited
   rtprio               0

------------------------------------------------------------
5. sysinfo process ancestry
 /sbin/init
 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 9755 128-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       : 128
    siblings        : 128
    2 physical ids (chips)
    256 processors (hardware threads)
    physical id 0: core ids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 1: core ids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 0: apicids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 1: apicids
   256-263,272-279,288-295,304-311,320-327,336-343,352-359,368-375,384-391,400-407,416-423,432-439,448-455,4
```

(Continued on next page)

Platform Notes (Continued)

```
     64-471,480-487,496-503
  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):                                  256
   On-line CPU(s) list:                     0-255
   Vendor ID:                               AuthenticAMD
   BIOS Vendor ID:                          Advanced Micro Devices, Inc.
   Model name:                              AMD EPYC 9755 128-Core Processor
  BIOS Model name:                    AMD EPYC 9755 128-Core Processor             Unknown CPU @ 2.7GHz
   BIOS CPU family:                         107
   CPU family:                              26
   Model:                                   2
   Thread(s) per core:                      1
   Core(s) per socket:                      128
   Socket(s):                               2
   Stepping:                                1
   Frequency boost:                         enabled
   CPU(s) scaling MHz:                      96%
   CPU max MHz:                             2700.0000
   CPU min MHz:                             1500.0000
   BogoMIPS:                                5399.81
   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
```

(Continued on next page)

Platform Notes (Continued)

```
                                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:                    12 MiB (256 instances)
  L1i cache:                    8 MiB (256 instances)
  L2 cache:                     256 MiB (256 instances)
  L3 cache:                     1 GiB (32 instances)
  NUMA node(s):                 8
  NUMA node0 CPU(s):            0-31
  NUMA node1 CPU(s):            32-63
  NUMA node2 CPU(s):            64-95
  NUMA node3 CPU(s):            96-127
  NUMA node4 CPU(s):            128-159
  NUMA node5 CPU(s):            160-191
  NUMA node6 CPU(s):            192-223
  NUMA node7 CPU(s):            224-255
  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      12M   12 Data            1    64        1             64
     L1i       32K       8M    8 Instruction     1    64        1             64
     L2         1M     256M   16 Unified         2  1024        1             64
     L3        32M       1G   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 8 nodes (0-7)
  node 0 cpus: 0-31
  node 0 size: 289846 MB
  node 0 free: 289190 MB
```

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Platform Notes (Continued)

```
   node 1 cpus: 32-63
   node 1 size: 290292 MB
   node 1 free: 289341 MB
   node 2 cpus: 64-95
   node 2 size: 290249 MB
   node 2 free: 289720 MB
   node 3 cpus: 96-127
   node 3 size: 290292 MB
   node 3 free: 289786 MB
   node 4 cpus: 128-159
   node 4 size: 290292 MB
   node 4 free: 289778 MB
   node 5 cpus: 160-191
   node 5 size: 290292 MB
   node 5 free: 289788 MB
   node 6 cpus: 192-223
   node 6 size: 290292 MB
   node 6 free: 289752 MB
   node 7 cpus: 224-255
   node 7 size: 290205 MB
   node 7 free: 289250 MB
   node distances:
   node   0   1   2   3   4   5   6   7
     0:  10  12  12  12  32  32  32  32
     1:  12  10  12  12  32  32  32  32
     2:  12  12  10  12  32  32  32  32
     3:  12  12  12  10  32  32  32  32
     4:  32  32  32  32  10  12  12  12
     5:  32  32  32  32  12  10  12  12
     6:  32  32  32  32  12  12  10  12
     7:  32  32  32  32  12  12  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       2377488368 kB

------------------------------------------------------------
10. who -r
  run-level 5 Feb 2 03:13

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.10)
  Default Target  Status
  graphical       running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
```

(Continued on next page)

Platform Notes (Continued)

```
   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 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
   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=365b48f2-b036-433d-970b-b75b18c86cd8
  ro

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 90:
    current policy: frequency should be within 1.50 GHz and 2.70 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:  2700MHz

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

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Platform Notes (Continued)

```
  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
  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/nvme6n1p1 ext4  3.5T   14G  3.5T   1% /spec

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         Supermicro
    Product:        AS -2126HS-TN
    Product Family: SMC H14
    Serial:         S920464X4819694
```

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Platform Notes (Continued)

```
------------------------------------------------------------
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:
    24x Samsung M321RYGA0PB2-CCPWC 96 GB 2 rank 6400


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      1.5
   BIOS Date:         05/12/2025
   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)
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
```

(Continued on next page)

Compiler Version Notes (Continued)

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

==============================================================================
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
```

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:

(Continued on next page)

Peak Optimization Flags (Continued)

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

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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