SPEC CPU®2026 Floating Point Rate Result

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Dell Inc.

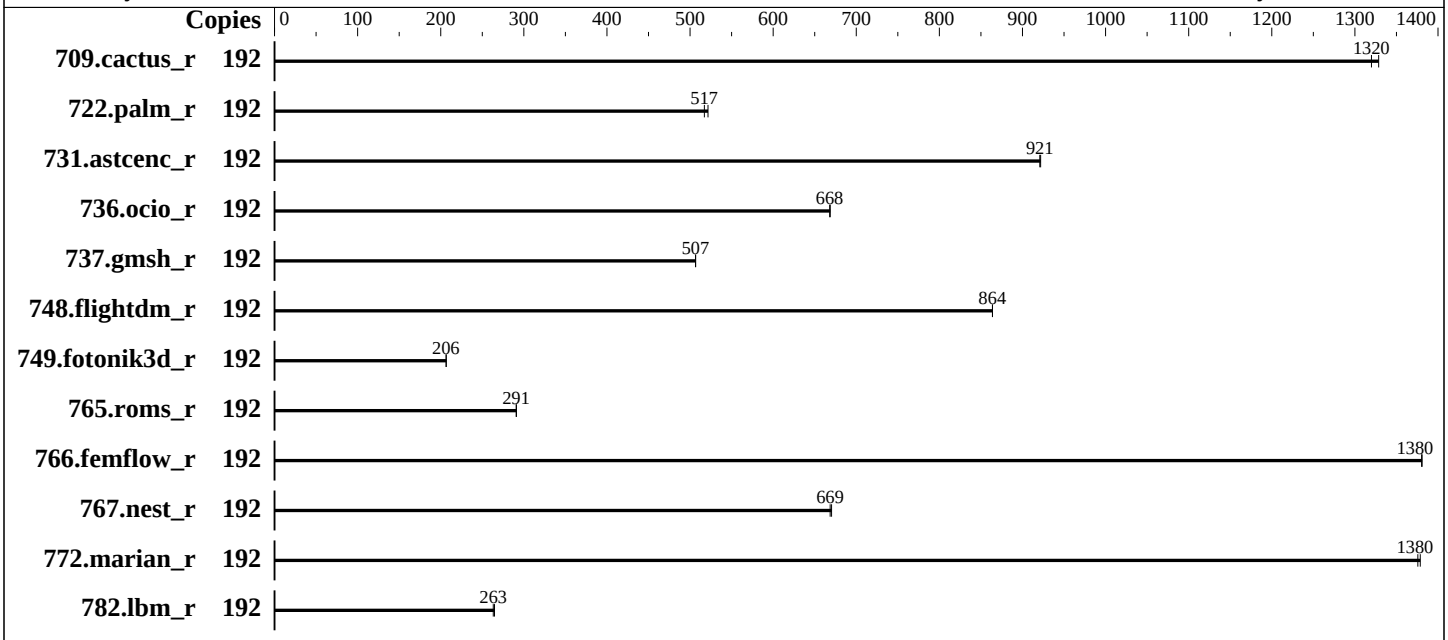
PowerEdge R7625 (AMD EPYC 9654 96-Core Processor)

SPECrate®2026_fp_base = 627

SPECrate®2026_fp_peak = 627

CPU2026 License: 6573
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: Feb-2026
Hardware Availability: Nov-2022
Software Availability: Jan-2026



Hardware

CPU Name:	AMD EPYC 9654
Max MHz:	3700
Nominal:	2400
Enabled:	192 cores, 2 chips
Orderable:	1,2 chips
Cache L1:	32 KB I + 32 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:	2304 GB (24 x 96 GB 2Rx4 PC5-5600B-R, running at 4800)
Storage:	120 GB on tmpfs
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04 LTS 6.8.0-44-generic
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Version 1.15.3 released Oct-2025
File System:	tmpfs
System State:	Run level 5 (graphical multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None
Power Management:	BIOS 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	192	**125**	**1320**	124	1330			192	**125**	**1320**	124	1330		
722.palm_r	192	**490**	**517**	486	522			192	**490**	**517**	486	522		
731.astcenc_r	192	**175**	**921**	175	922			192	**175**	**921**	175	922		
736.ocio_r	192	251	669	**252**	**668**			192	251	669	**252**	**668**		
737.gmsh_r	192	174	507	**174**	**507**			192	174	507	**174**	**507**		
748.flightdm_r	192	159	864	**159**	**864**			192	159	864	**159**	**864**		
749.fotonik3d_r	192	**1075**	**206**	1074	207			192	**1075**	**206**	1074	207		
765.roms_r	192	1039	291	**1040**	**291**			192	1039	291	**1040**	**291**		
766.femflow_r	192	**204**	**1380**	204	1380			192	**204**	**1380**	204	1380		
767.nest_r	192	227	670	**228**	**669**			192	227	670	**228**	**669**		
772.marian_r	192	220	1380	**220**	**1380**			192	220	1380	**220**	**1380**		
782.lbm_r	192	**418**	**263**	416	265			192	**418**	**263**	416	265		

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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.
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 =
     "/mnt/ramdisk/cpu2026rc2/amd_rate_aocc510_znver5_A_lib/lib:/mnt/ramdisk/
     cpu2026rc2/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

Benchmark run from a 120 GB ramdisk created with the cmd: "mount -t tmpfs -o size=120G tmpfs /mnt/ramdisk"
```

Platform Notes

```
 BIOS Settings:
                  Logical Processor : Disabled
          Virtualization Technology : Disabled
              NUMA Nodes Per Socket : 4

                      System Profile : Custom
                             C-States : Disabled
                 Memory Patrol Scrub : Disabled
  PCI ASPM L1 Link Power Management : Disabled
                  Determinism Slider : Power Determinism
                  Dram Refresh Delay : Performance
                 DIMM Self Healing -
      on Uncorrectable Memory Error : Disabled

 Sysinfo program /mnt/ramdisk/cpu2026rc2/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on H27JNZ3-R7625 Sun Feb  8 02:15:02 2026

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

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Platform Notes (Continued)

```
------------------------------------------------------------
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. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
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 6.8.0-44-generic #44-Ubuntu SMP PREEMPT_DYNAMIC Tue Aug 13 13:35:26 UTC 2024 x86_64

------------------------------------------------------------
2. w
   02:15:02 up 11 min,  1 user,  load average: 0.44, 0.56, 0.66
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
 root     tty1     -              02:13   54.00s  4.51s  2.34s /bin/bash ./amd_rate_aocc510_znver5_A1.sh

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

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

(Continued on next page)

Platform Notes (Continued)

```
   coredump(blocks)     0
   memory(kbytes)       unlimited
   locked memory(kbytes) 2097152
   process              9286958
   nofiles              1024
   vmemory(kbytes)      unlimited
   locks                unlimited
   rtprio               0

------------------------------------------------------------
5. sysinfo process ancestry
 /sbin/init
 /bin/login -p --
 -bash
 /bin/bash /home/DellFiles/bin/DELL_rate.sh
 /bin/bash /home/DellFiles/bin/dell-run-main.sh rate
 /bin/bash /home/DellFiles/bin/dell-run-main.sh rate
 /bin/bash /home/DellFiles/bin/AMD/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format
    html,pdf,txt
 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 2 --define
    DL-VERS=6.4_T17 --output_format html,pdf,txt fprate
 runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 2 --define
    DL-VERS=6.4_T17 --output_format html,pdf,txt --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 = /mnt/ramdisk/cpu2026rc2

------------------------------------------------------------
6. /proc/cpuinfo
     model name      : AMD EPYC 9654 96-Core Processor
     vendor_id       : AuthenticAMD
     cpu family      : 25
     model           : 17
     stepping        : 1
     microcode       : 0xa101158
     bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
     TLB size        : 3584 4K pages
     cpu cores       : 96
     siblings        : 96
     2 physical ids (chips)
     192 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 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
    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
```

(Continued on next page)

Platform Notes (Continued)

```
     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
  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):                               192
   On-line CPU(s) list:                  0-191
   Vendor ID:                            AuthenticAMD
   BIOS Vendor ID:                       AMD
   Model name:                           AMD EPYC 9654 96-Core Processor
   BIOS Model name:                    AMD EPYC 9654 96-Core Processor                 CPU @ 2.4GHz
   BIOS CPU family:                      107
   CPU family:                           25
   Model:                                17
   Thread(s) per core:                   1
   Core(s) per socket:                   96
   Socket(s):                            2
   Stepping:                             1
   Frequency boost:                      enabled
   CPU(s) scaling MHz:                   42%
   CPU max MHz:                          3707.8120
   CPU min MHz:                          1500.0000
   BogoMIPS:                             4799.98
   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 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 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
```

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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
  L1d cache:                                6 MiB (192 instances)
  L1i cache:                                6 MiB (192 instances)
  L2 cache:                                 192 MiB (192 instances)
  L3 cache:                                 768 MiB (24 instances)
  NUMA node(s):                             8
  NUMA node0 CPU(s):                        0-23
  NUMA node1 CPU(s):                        24-47
  NUMA node2 CPU(s):                        48-71
  NUMA node3 CPU(s):                        72-95
  NUMA node4 CPU(s):                        96-119
  NUMA node5 CPU(s):                        120-143
  NUMA node6 CPU(s):                        144-167
  NUMA node7 CPU(s):                        168-191
  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
                                    disabled; RSB filling; PBRSB-eIBRS Not affected; BHI Not affected
  Vulnerability Srbds:                      Not affected
  Vulnerability Tsx async abort:            Not affected

From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL  SETS PHY-LINE COHERENCY-SIZE
     L1d       32K       6M    8 Data            1    64        1             64
     L1i       32K       6M    8 Instruction     1    64        1             64
     L2         1M     192M    8 Unified         2  2048        1             64
     L3        32M     768M   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: 0-23
  node 0 size: 289838 MB
  node 0 free: 289335 MB
  node 1 cpus: 24-47
```

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Platform Notes (Continued)

```
   node 1 size: 290294 MB
   node 1 free: 289564 MB
   node 2 cpus: 48-71
   node 2 size: 290250 MB
   node 2 free: 274695 MB
   node 3 cpus: 72-95
   node 3 size: 290278 MB
   node 3 free: 289894 MB
   node 4 cpus: 96-119
   node 4 size: 290294 MB
   node 4 free: 289853 MB
   node 5 cpus: 120-143
   node 5 size: 290294 MB
   node 5 free: 289903 MB
   node 6 cpus: 144-167
   node 6 size: 290294 MB
   node 6 free: 289744 MB
   node 7 cpus: 168-191
   node 7 size: 290267 MB
   node 7 free: 289851 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:       2377534052 kB

------------------------------------------------------------
10. who -r
  run-level 5 Feb 8 02:03

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

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
```

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Platform Notes (Continued)

```
  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 lm-sensors lvm2-monitor multipathd
                   networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb
                   sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved
                   systemd-timesyncd thermald ua-reboot-cmds ubuntu-advantage udisks2 ufw 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-6.8.0-44-generic
  root=UUID=8458ae54-58cc-4621-9289-b1d743fde503
  ro

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 148:
    current policy: frequency should be within 1.50 GHz and 2.40 GHz.
                    The governor "schedutil" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes
      Boost States: 0
      Total States: 3
      Pstate-P0:  2400MHz

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

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Platform Notes (Continued)

```
  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 LTS

------------------------------------------------------------
19. Disk information
SPEC is set to: /mnt/ramdisk/cpu2026rc2
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  120G   11G  110G   9% /mnt/ramdisk

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         Dell Inc.
    Product:        PowerEdge R7625
    Product Family: PowerEdge
    Serial:         H27JNZ3

------------------------------------------------------------
21. dmidecode
```

(Continued on next page)

Platform Notes (Continued)

```
  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 802C0000802C MTC40F204WS1RC56BB1 96 GB 2 rank 5600, configured at 4800


 ------------------------------------------------------------
 22. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Dell Inc.
    BIOS Version:      1.15.3
    BIOS Date:         10/29/2025
    BIOS Revision:     1.15
```

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/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.8.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/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.8.xml`

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