SPEC CPU®2026 Floating Point Rate Result

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Dell Inc.

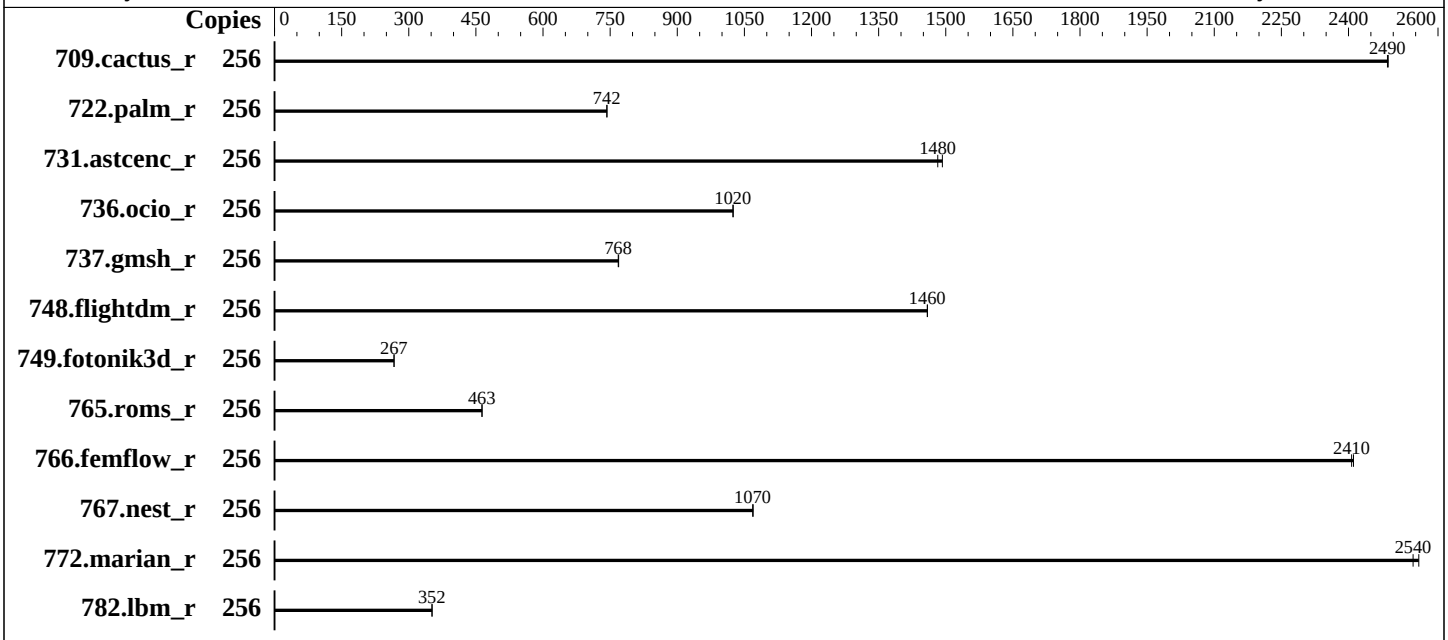
PowerEdge M7725 (AMD EPYC 9755 128-Core Processor)

SPECrate®2026_fp_base = 991

SPECrate®2026_fp_peak = 991

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

Test Date: Feb-2026
Hardware Availability: Jan-2025
Software Availability: Jan-2026



Hardware

CPU Name:	AMD EPYC 9755
Max MHz:	4100
Nominal:	2700
Enabled:	256 cores, 2 chips
Orderable:	1,2 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:	1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
Storage:	150 GB on tmpfs
Cooling:	DLC
Other:	None

Software

OS:	Ubuntu 24.04.1 LTS 6.8.0-57-generic
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Version 1.5.3 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 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	**88.3**	**2490**	88.3	2490			256	**88.3**	**2490**	88.3	2490		
722.palm_r	256	**455**	**742**	455	743			256	**455**	**742**	455	743		
731.astcenc_r	256	144	1490	**145**	**1480**			256	144	1490	**145**	**1480**		
736.ocio_r	256	**219**	**1020**	219	1030			256	**219**	**1020**	219	1030		
737.gmsh_r	256	**153**	**768**	153	769			256	**153**	**768**	153	769		
748.flightdm_r	256	126	1460	**126**	**1460**			256	126	1460	**126**	**1460**		
749.fotonik3d_r	256	1108	267	**1108**	**267**			256	1108	267	**1108**	**267**		
765.roms_r	256	869	464	**870**	**463**			256	869	464	**870**	**463**		
766.femflow_r	256	**156**	**2410**	156	2410			256	**156**	**2410**	156	2410		
767.nest_r	256	**190**	**1070**	190	1070			256	**190**	**1070**	190	1070		
772.marian_r	256	**159**	**2540**	158	2560			256	**159**	**2540**	158	2560		
782.lbm_r	256	**417**	**352**	416	352			256	**417**	**352**	416	352		

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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 150 GB ramdisk created with the cmd: "mount -t tmpfs -o size=150G tmpfs /mnt/ramdisk"
```

Platform Notes

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

                     System Profile : Custom
               CPU Power Management : Maximum Performance
                           C-States : Disabled
                Memory Patrol Scrub : Disabled
  PCI ASPM L1 Link Power Management : Disabled
    Periodic Directory Rinse Tuning : Blended
                Determinism Control : Manual
                 Determinism Slider : Power Determinism
                     Optimizer Mode : Enabled
                Adaptive Allocation : Enabled
                 Dram Refresh Delay : Performance

 Sysinfo program /mnt/ramdisk/cpu2026rc2/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on M772501-M7725 Sat Feb  7 01:49:44 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 (255.4-1ubuntu8.4)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent_hugepage
19. /sys/kernel/mm/transparent_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. uname -srvm
  Linux 6.8.0-57-generic #59-Ubuntu SMP PREEMPT_DYNAMIC Sat Mar 15 17:40:59 UTC 2025 x86_64

------------------------------------------------------------
2. w
   01:49:44 up 16 min,  1 user,  load average: 0.29, 0.08, 0.02
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
 root     tty1     -              01:39   39.00s  2.26s  1.12s /bin/bash ./amd_rate_aocc510_znver5_A1.sh

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

------------------------------------------------------------
4. ulimit -a
```

(Continued on next page)

Platform Notes (Continued)

```
   time(seconds)        unlimited
   file(blocks)         unlimited
   data(kbytes)         unlimited
   stack(kbytes)        unlimited
   coredump(blocks)     0
   memory(kbytes)       unlimited
   locked memory(kbytes) 2097152
   process              6189139
   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=7.0_T01 --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=7.0_T01 --output_format html,pdf,txt fprate
 runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 2 --define
   DL-VERS=7.0_T01 --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 9755 128-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 2
    stepping        : 1
    microcode       : 0xb00215a
    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)
```

(Continued on next page)

Platform Notes (Continued)

```
     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
     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:                        AMD
   Model name:                            AMD EPYC 9755 128-Core Processor
   BIOS Model name:                     AMD EPYC 9755 128-Core Processor                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
   BogoMIPS:                              5391.50
   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
```

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Platform Notes (Continued)

```
                                smep bmi2 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 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

 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
```

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Platform Notes (Continued)

```
------------------------------------------------------------
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: 192768 MB
  node 0 free: 191985 MB
  node 1 cpus: 32-63
  node 1 size: 193520 MB
  node 1 free: 193040 MB
  node 2 cpus: 64-95
  node 2 size: 193520 MB
  node 2 free: 193146 MB
  node 3 cpus: 96-127
  node 3 size: 193504 MB
  node 3 free: 193051 MB
  node 4 cpus: 128-159
  node 4 size: 193520 MB
  node 4 free: 179700 MB
  node 5 cpus: 160-191
  node 5 size: 193520 MB
  node 5 free: 193117 MB
  node 6 cpus: 192-223
  node 6 size: 193520 MB
  node 6 free: 193112 MB
  node 7 cpus: 224-255
  node 7 size: 193481 MB
  node 7 free: 193015 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:       1584495840 kB

------------------------------------------------------------
10. who -r
  run-level 5 Feb 7 01:33
```


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Platform Notes (Continued)

```
------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.4)
  Default Target  Status
  graphical       degraded

------------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT                LOAD   ACTIVE SUB    DESCRIPTION
  * cxl-monitor.service loaded failed failed CXL Monitor Daemon
  Legend: LOAD   -> Reflects whether the unit definition was properly loaded.
          ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
          SUB    -> The low-level unit activation state, values depend on unit type.
  1 loaded units listed.

------------------------------------------------------------
13. 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 cxl-monitor 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 tuned 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

------------------------------------------------------------
14. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/vmlinuz-6.8.0-57-generic
  root=/dev/mapper/ubuntu--vg-ubuntu--lv
  ro

------------------------------------------------------------
15. cpupower frequency-info
  analyzing CPU 53:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes
```

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Platform Notes (Continued)

```
      Boost States: 0
      Total States: 3
      Pstate-P0:  2700MHz

------------------------------------------------------------
16. tuned-adm active
  Current active profile: throughput-performance

------------------------------------------------------------
17. 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

------------------------------------------------------------
18. /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

------------------------------------------------------------
19. /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
```

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Platform Notes (Continued)

```
------------------------------------------------------------
20. OS release
  From /etc/*-release /etc/*-version
  os-release Ubuntu 24.04.1 LTS

------------------------------------------------------------
21. Disk information
SPEC is set to: /mnt/ramdisk/cpu2026rc2
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  150G   11G  140G   7% /mnt/ramdisk

------------------------------------------------------------
22. /sys/devices/virtual/dmi/id
    Vendor:         Dell Inc.
    Product:        PowerEdge M7725
    Product Family: PowerEdge
    Serial:         M772501

------------------------------------------------------------
23. 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 80CE000080CE M321R8GA0PB1-CCPQC 64 GB 2 rank 6400
    23x 80CE000080CE M321R8GA0PB2-CCPKC 64 GB 2 rank 6400


------------------------------------------------------------
24. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       Dell Inc.
   BIOS Version:      1.5.3
   BIOS Date:         10/29/2025
   BIOS Revision:     1.5
```

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
```

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Compiler Version Notes (Continued)

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

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

(Continued on next page)

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/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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