# SPEC CPU®2026 Floating Point Rate Result

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## Dell Inc.

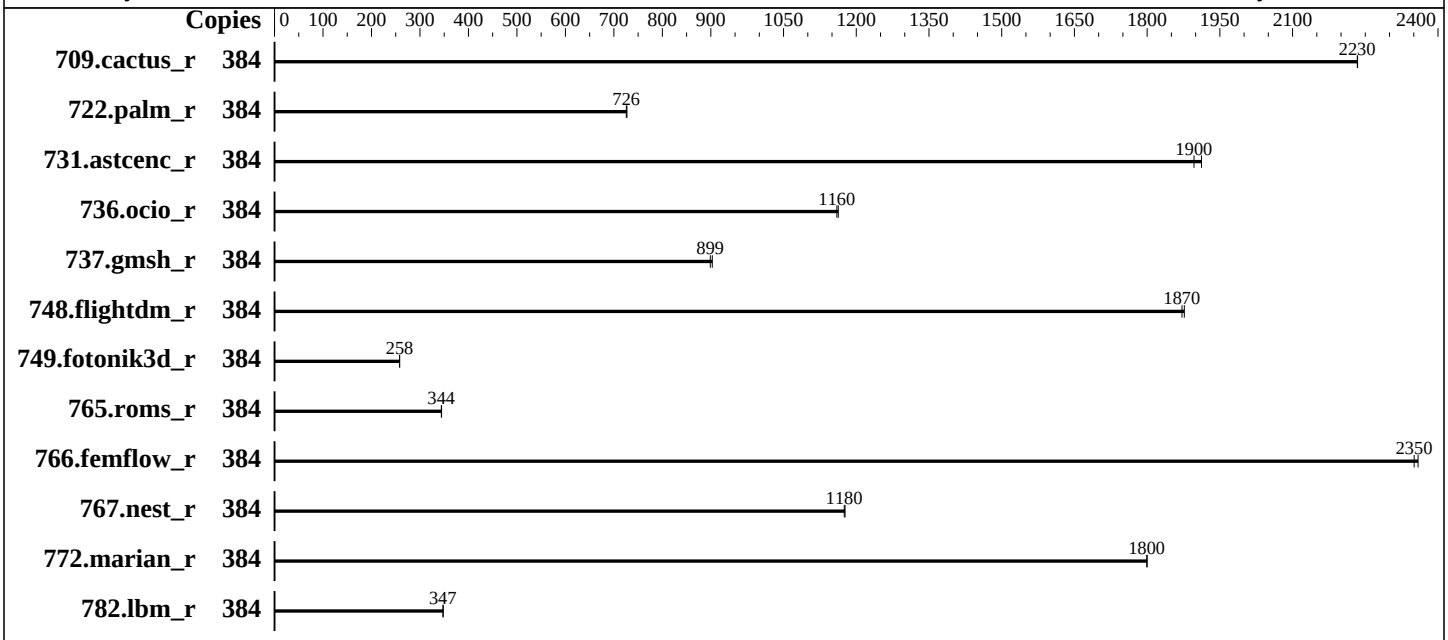
PowerEdge R7725 (AMD EPYC 9965 192-Core Processor)

**SPECrate®2026_fp_base = 993**

**SPECrate®2026_fp_peak = 993**

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

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




### Hardware

| | |
|---|---|
| CPU Name: | AMD EPYC 9965 |
| Max MHz: | 3700 |
| Nominal: | 2250 |
| Enabled: | 384 cores, 2 chips, 2 threads/core |
| 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: | 384 MB I+D on chip per chip, 32 MB shared / 16 cores |
| Other: | None |
| Memory: | 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R) |
| Storage: | 350 GB on tmpfs |
| Cooling: | Air |
| Other: | None |

### Software

| | |
|---|---|
| OS: | Ubuntu 24.04.2 LTS 6.8.0-55-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 3 (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 | 384 | 147 | 2230 | **148** | **2230** | | | 384 | 147 | 2230 | **148** | **2230** | | |
| 722.palm_r | 384 | **698** | **726** | 697 | 727 | | | 384 | **698** | **726** | 697 | 727 | | |
| 731.astcenc_r | 384 | 169 | 1910 | **170** | **1900** | | | 384 | 169 | 1910 | **170** | **1900** | | |
| 736.ocio_r | 384 | **290** | **1160** | 289 | 1160 | | | 384 | **290** | **1160** | 289 | 1160 | | |
| 737.gmsh_r | 384 | **196** | **899** | 195 | 903 | | | 384 | **196** | **899** | 195 | 903 | | |
| 748.flightdm_r | 384 | **147** | **1870** | 147 | 1880 | | | 384 | **147** | **1870** | 147 | 1880 | | |
| 749.fotonik3d_r | 384 | 1720 | 258 | **1720** | **258** | | | 384 | 1720 | 258 | **1720** | **258** | | |
| 765.roms_r | 384 | 1755 | 345 | **1758** | **344** | | | 384 | 1755 | 345 | **1758** | **344** | | |
| 766.femflow_r | 384 | 239 | 2360 | **240** | **2350** | | | 384 | 239 | 2360 | **240** | **2350** | | |
| 767.nest_r | 384 | 259 | 1180 | **259** | **1180** | | | 384 | 259 | 1180 | **259** | **1180** | | |
| 772.marian_r | 384 | 337 | 1800 | **337** | **1800** | | | 384 | 337 | 1800 | **337** | **1800** | | |
| 782.lbm_r | 384 | 632 | 348 | **633** | **347** | | | 384 | 632 | 348 | **633** | **347** | | |

**SPECrate®2026_fp_base = 993**

**SPECrate®2026_fp_peak = 993**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Compiler Notes

```
The AMD64 AOCC Compiler Suite is available at
http://developer.amd.com/amd-aocc/
```

## Submit Notes

```
The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.
```

## Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty_ratio=8' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.
To free node-local memory and avoid remote memory usage,
'sysctl -w vm.zone_reclaim_mode=1' run as root.
To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
```

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## Operating System Notes (Continued)

```
To disable address space layout randomization (ASLR) to reduce run-to-run
variability, 'sysctl -w kernel.randomize_va_space=0' run as root.
To enable Transparent Hugepages (THP) for all allocations,
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.
```

## Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
     "/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 350 GB ramdisk created with the cmd: "mount -t tmpfs -o size=350G tmpfs /mnt/ramdisk"
```

## Platform Notes

```
 BIOS Settings:
            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
  Algorithm Performance Boost Disable : Enabled
              ApbDis Fixed DF P-State : P0
                  Adaptive Allocation : Enabled
                   Dram Refresh Delay : Performance

 Sysinfo program /mnt/ramdisk/cpu2026rc2/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on SLR7753-R7725 Thu Feb  5 19:14:16 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 (255.4-1ubuntu8.6)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. uname -srvm
  Linux 6.8.0-55-generic #57-Ubuntu SMP PREEMPT_DYNAMIC Wed Feb 12 23:42:21 UTC 2025 x86_64

------------------------------------------------------------
2. w
   19:14:16 up  3:16,  1 user,  load average: 181.91, 558.05, 668.92
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
 root     tty1     -                15:58    3:07m  3.10s  1.65s /bin/bash ./amd_rate_aocc510_znver5_A1.sh

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

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

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## 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              6187509
   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/CPU2026.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2026rc2

------------------------------------------------------------
6. /proc/cpuinfo
     model name      : AMD EPYC 9965 192-Core Processor
     vendor_id       : AuthenticAMD
     cpu family      : 26
     model           : 17
     stepping        : 0
     microcode       : 0xb101054
     bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
     TLB size        : 192 4K pages
     cpu cores       : 192
     siblings        : 384
     2 physical ids (chips)
```

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## Platform Notes (Continued)

```
     768 processors (hardware threads)
     physical id 0: core ids 0-191
     physical id 1: core ids 0-191
     physical id 0: apicids 0-383
     physical id 1: apicids 512-895
  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):                               768
  On-line CPU(s) list:                  0-767
  Vendor ID:                            AuthenticAMD
  BIOS Vendor ID:                       AMD
  Model name:                           AMD EPYC 9965 192-Core Processor
  BIOS Model name:                    AMD EPYC 9965 192-Core Processor                CPU @ 2.2GHz
  BIOS CPU family:                      107
  CPU family:                           26
  Model:                                17
  Thread(s) per core:                   2
  Core(s) per socket:                   192
  Socket(s):                            2
  Stepping:                             0
  Frequency boost:                      enabled
  CPU(s) scaling MHz:                   61%
  CPU max MHz:                          3700.1951
  CPU min MHz:                          1500.0000
  BogoMIPS:                             4493.33
  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 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
```

**(Continued on next page)**

## Platform Notes (Continued)

```
                                    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 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:                               18 MiB (384 instances)
  L1i cache:                               12 MiB (384 instances)
  L2 cache:                                384 MiB (384 instances)
  L3 cache:                                768 MiB (24 instances)
  NUMA node(s):                            8
  NUMA node0 CPU(s):                       0-47,384-431
  NUMA node1 CPU(s):                       48-95,432-479
  NUMA node2 CPU(s):                       96-143,480-527
  NUMA node3 CPU(s):                       144-191,528-575
  NUMA node4 CPU(s):                       192-239,576-623
  NUMA node5 CPU(s):                       240-287,624-671
  NUMA node6 CPU(s):                       288-335,672-719
  NUMA node7 CPU(s):                       336-383,720-767
  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
                                     always-on; 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      18M   12 Data            1    64        1             64
     L1i       32K      12M    8 Instruction     1    64        1             64
     L2         1M     384M   16 Unified         2  1024        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)
```

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## Platform Notes (Continued)

```
   node 0 cpus: 0-47,384-431
   node 0 size: 192584 MB
   node 0 free: 187967 MB
   node 1 cpus: 48-95,432-479
   node 1 size: 193497 MB
   node 1 free: 190158 MB
   node 2 cpus: 96-143,480-527
   node 2 size: 193497 MB
   node 2 free: 190087 MB
   node 3 cpus: 144-191,528-575
   node 3 size: 193481 MB
   node 3 free: 179785 MB
   node 4 cpus: 192-239,576-623
   node 4 size: 193497 MB
   node 4 free: 189977 MB
   node 5 cpus: 240-287,624-671
   node 5 size: 193454 MB
   node 5 free: 190041 MB
   node 6 cpus: 288-335,672-719
   node 6 size: 193497 MB
   node 6 free: 190148 MB
   node 7 cpus: 336-383,720-767
   node 7 size: 193441 MB
   node 7 free: 189924 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:       1584078168 kB

------------------------------------------------------------
10. who -r
  run-level 3 Feb 5 15:57

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.6)
  Default Target  Status
  multi-user      running
```

**(Continued on next page)**

## Platform Notes (Continued)

```
------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled           apparmor apport blk-availability cloud-config cloud-final cloud-init cloud-init-local
                    console-setup e2scrub_reap finalrd getty@ gpu-manager grub-common grub-initrd-fallback
                       keyboard-setup lm-sensors lvm2-monitor multipathd networkd-dispatcher
                    nvmefc-boot-connections nvmf-autoconnect open-iscsi pollinate secureboot-db setvtrgb
                      systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved
                        systemd-timesyncd thermald tuned
  enabled-runtime   netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled          console-getty debug-shell fio iscsid 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 sudo x11-common

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.8.0-55-generic
  root=UUID=12012b0a-8b6b-4db0-98ad-44c145a96bdb
  ro

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 757:
    current policy: frequency should be within 1.50 GHz and 2.25 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:  2250MHz

------------------------------------------------------------
15. tuned-adm active
  Current active profile: latency-performance

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing               1
  kernel.randomize_va_space           0
```

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## Platform Notes (Continued)

```
  vm.compaction_proactiveness        20
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio           3
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                      8
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                       1
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                1

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

------------------------------------------------------------
18. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_shared           256
  max_ptes_swap              64
  pages_to_scan            4096
  scan_sleep_millisecs    10000

------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release Ubuntu 24.04.2 LTS

------------------------------------------------------------
20. Disk information
SPEC is set to: /mnt/ramdisk/cpu2026rc2
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  350G   10G  341G   3% /mnt/ramdisk

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

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## Platform Notes (Continued)

```
 21. /sys/devices/virtual/dmi/id
     Vendor:         Dell Inc.
     Product:        PowerEdge R7725
     Product Family: PowerEdge
     Serial:         SLR7753

 ------------------------------------------------------------
 22. dmidecode
   Additional information from dmidecode 3.5 follows.  WARNING: Use caution when you interpret this section.
   The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately
   determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the
    "DMTF SMBIOS" standard.
    Memory:
      23x 80AD000080AD HMCG94AHBRA277N 64 GB 2 rank 6400
      1x 80AD000080AD HMCG94AHBRA480N 64 GB 2 rank 6400


 ------------------------------------------------------------
 23. 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
------------------------------------------------------------------------------

==============================================================================
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
------------------------------------------------------------------------------
```

**(Continued on next page)**

## Compiler Version Notes (Continued)

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

**(Continued on next page)**

## Base Portability Flags (Continued)

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
```

**(Continued on next page)**

## Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):
`-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`

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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