SPEC CPU®2026 Floating Point Rate Result

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Compal Electronics, Inc.

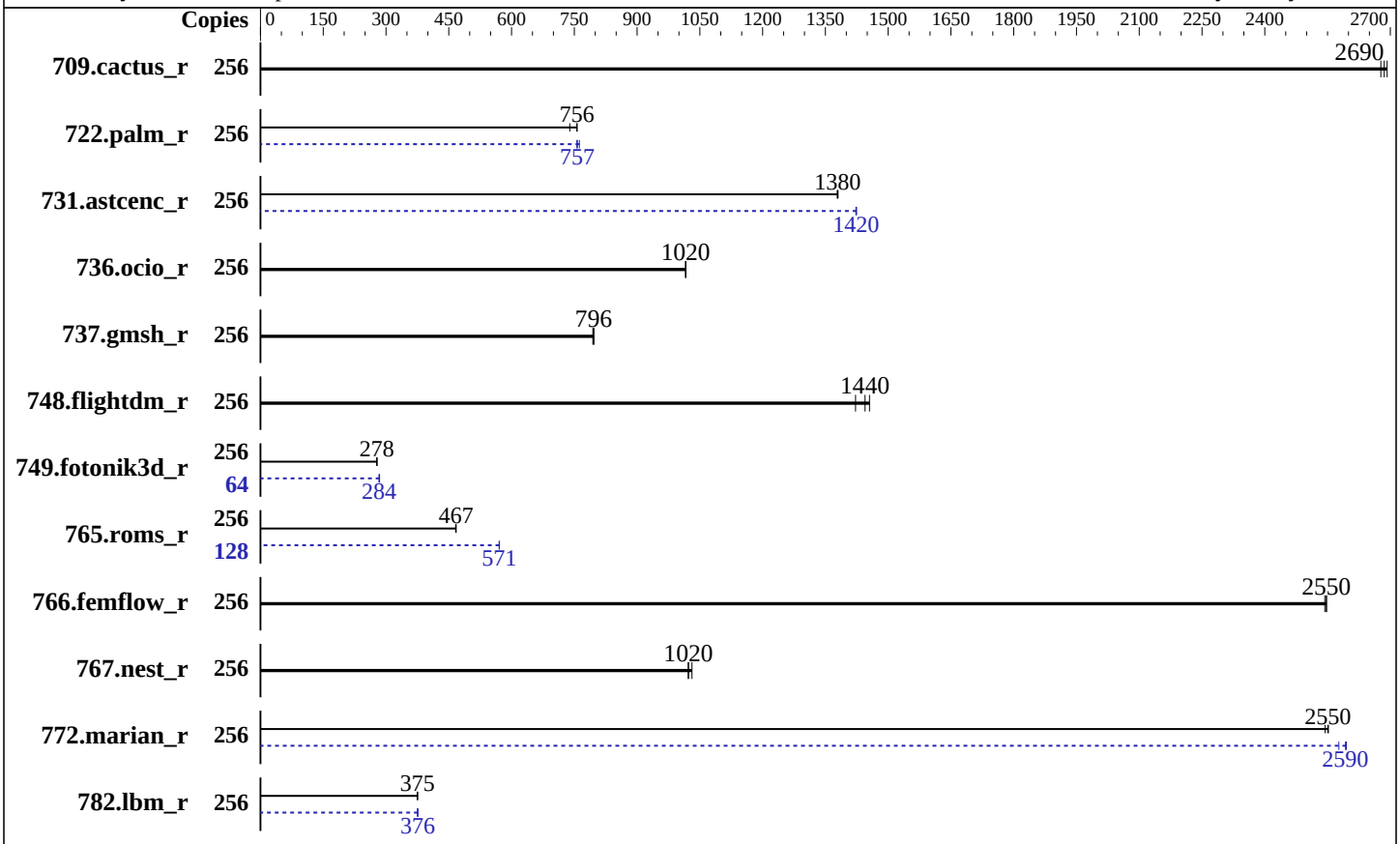
SR224-2A
AMD EPYC 9755

SPECrate®2026_fp_base = 1000

SPECrate®2026_fp_peak = 1030

CPU2026 License: 6857
Test Sponsor: Compal Electronics, Inc.
Tested by: Compal Electronics, Inc.

Test Date: Aug-2026
Hardware Availability: Jul-2025
Software Availability: May-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:	768 GB (24 x 32 GB 2Rx8 PC5-6400B-R)
Storage:	1x3.84TB M.2 NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 kernel version 6.4.0-150700.51-default
Compiler:	C/C++/Fortran: Version 5.2.0 of AOCC
Compiler Category:	Vendor
Firmware:	American Megatrends Version 10.28.00 released Jan-2026
File System:	btrfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	jemalloc: jemalloc memory allocator library v5.3.1
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	81.6	2690	82.0	2680	**81.8**	**2690**	256	81.6	2690	82.0	2680	**81.8**	**2690**
722.palm_r	256	457	739	**447**	**756**	447	757	256	**446**	**757**	447	756	443	762
731.astcenc_r	256	156	1380	**156**	**1380**	156	1380	256	151	1420	151	1420	**151**	**1420**
736.ocio_r	256	**220**	**1020**	220	1020	220	1020	256	**220**	**1020**	220	1020	220	1020
737.gmsh_r	256	**148**	**796**	148	794	148	796	256	**148**	**796**	148	794	148	796
748.flightdm_r	256	**127**	**1440**	129	1420	126	1460	256	**127**	**1440**	129	1420	126	1460
749.fotonik3d_r	256	**1065**	**278**	1062	279	1065	278	64	260	285	261	283	**261**	**284**
765.roms_r	256	863	467	864	466	**863**	**467**	128	353	570	353	571	**353**	**571**
766.femflow_r	256	147	2550	148	2540	**147**	**2550**	256	147	2550	148	2540	**147**	**2550**
767.nest_r	256	199	1020	197	1030	**198**	**1020**	256	199	1020	197	1030	**198**	**1020**
772.marian_r	256	159	2540	**158**	**2550**	158	2550	256	156	2590	157	2580	**156**	**2590**
782.lbm_r	256	**391**	**375**	391	376	391	375	256	**390**	**376**	390	376	391	375

SPECrate®2026_fp_base = 1000

SPECrate®2026_fp_peak = 1030

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 =
"/cpu2026/amd_rate_aocc520_znver5_A_lib/lib:/cpu2026/amd_rate_aocc520_zn
ver5_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
jemalloc: configured and built with GCC v15.2.0 in Ubuntu 24.04 (No options specified)
jemalloc 5.3.1 is available here:
https://github.com/jemalloc/jemalloc/releases/tag/5.3.1

Platform Notes

BIOS settings:
TDP Control: Manual
TDP: 500
PPT Control: Manual
PPT: 500
NUMA Nodes Per Socket: NPS4
SMT Control : Disable
Power Profile Selection : High Performance Mode
ACPI CST C2 Latency : 18
DF Cstates: Disabled
DRAM Scrub Time: Disabled
Global C-state Control: Disabled
SVM mode: Disabled
GMI encryption control: Disabled
xGMI Encryption control: Disabled
SMEE: Disable

Sysinfo program /cpu2026/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd

(Continued on next page)

Platform Notes (Continued)

```
running on localhost Tue Aug  4 10:10:35 2026

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 254 (254.24+suse.148.g83b9060b6e)
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. 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 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

------------------------------------------------------------
2. w
   10:10:35 up 2 min,  2 users,  load average: 0.49, 0.13, 0.04
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    192.168.68.2     10:08   27.00s  8.96s  7.93s python3 ./run_amd_rate_aocc520_znver5_A1.py

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

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

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Platform Notes (Continued)

```
 4. ulimit -a
   core file size          (blocks, -c) unlimited
   data seg size           (kbytes, -d) unlimited
   scheduling priority             (-e) 0
   file size               (blocks, -f) unlimited
   pending signals                 (-i) 3093672
   max locked memory       (kbytes, -l) 2048
   max memory size         (kbytes, -m) unlimited
   open files                      (-n) 1024
   pipe size            (512 bytes, -p) 8
   POSIX message queues     (bytes, -q) 819200
   real-time priority              (-r) 0
   stack size              (kbytes, -s) unlimited
   cpu time               (seconds, -t) unlimited
   max user processes              (-u) 3093672
   virtual memory          (kbytes, -v) unlimited
   file locks                      (-x) unlimited

------------------------------------------------------------
 5. sysinfo process ancestry
  /usr/lib/systemd/systemd --switched-root --system --deserialize=42
  sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
  sshd: root [priv]
  sshd: root@pts/0
  -bash
  python3 ./run_amd_rate_aocc520_znver5_A1.py
  runcpu --config amd_rate_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 fprate
  runcpu --configfile amd_rate_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
    --runmode rate --tune base:peak --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 = /cpu2026

------------------------------------------------------------
 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 srso
     TLB size        : 192 4K pages
     cpu cores       : 128
     siblings        : 128
     2 physical ids (chips)
     256 processors (hardware threads)
```

(Continued on next page)

Platform Notes (Continued)

```
     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 2.40.4:
   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
   Model name:                              AMD EPYC 9755 128-Core Processor
   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:                      100%
   CPU max MHz:                             4121.0000
   CPU min MHz:                             1200.0000
   BogoMIPS:                                5391.86
   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 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                              avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
                                   xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                                  cqm_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
                                 xsaveerptr rdpru wbnoinvd amd_ppin cppc amd_ibpb_ret arat npt lbrv
                                  svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists
                                pausefilter pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl
                                  vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
                                avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
                                movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
                                   flush_l1d debug_swap hv_inuse_wr_allowed srso_user_kernel_no
                                         amd_lbr_pmc_freeze
  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:    Mitigation; IBPB on VMEXIT only
  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: 96320 MB
  node 0 free: 95834 MB
  node 1 cpus: 32-63
  node 1 size: 96720 MB
  node 1 free: 96283 MB
  node 2 cpus: 64-95
  node 2 size: 96759 MB
  node 2 free: 96368 MB
  node 3 cpus: 96-127
  node 3 size: 96759 MB
  node 3 free: 96421 MB
  node 4 cpus: 128-159
  node 4 size: 96759 MB
  node 4 free: 96427 MB
  node 5 cpus: 160-191
  node 5 size: 96759 MB
  node 5 free: 95239 MB
  node 6 cpus: 192-223
  node 6 size: 96759 MB
  node 6 free: 96480 MB
  node 7 cpus: 224-255
  node 7 size: 96607 MB
  node 7 free: 96233 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:       792008900 kB

------------------------------------------------------------
10. who -r
  run-level 3 Aug 4 10:08
```

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Platform Notes (Continued)

```
------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
  Default Target  Status
  multi-user      degraded

------------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT                                LOAD   ACTIVE SUB    DESCRIPTION
  * firewalld.service                 loaded failed failed firewalld - dynamic firewall daemon
  * kdump-early.service               loaded failed failed Load kdump kernel early on startup
  * kdump.service                       loaded failed failed Load kdump kernel and initrd
  * NetworkManager-wait-online.service loaded failed failed Network Manager Wait Online

------------------------------------------------------------
13. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
                  YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth chronyd
                   cron display-manager firewalld getty@ irqbalance issue-generator kbdsettings kdump
                  kdump-early kdump-notify klog lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect
                   postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wpa_supplicant
  enabled-runtime  systemd-remount-fs
  disabled         accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl
                  ca-certificates chrony-wait console-getty cups cups-browsed debug-shell dnsmasq ebtables
                   exchange-bmc-os-info fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd
                   issue-add-ssh-keys kexec-load ksm kvm_stat lunmask man-db-create mariadb mariadb@
                  multipathd munge nfs nfs-blkmap nmb ntp-wait ntpd ostree-remount ostree-state-overlay@
                  rpcbind rpmconfigcheck rsyncd rtkit-daemon salt-minion samba-bgqd serial-getty@ slurmd
                      smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd svnserve
                  systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext
                  systemd-time-wait-sync systemd-timesyncd udisks2 update-system-flatpaks upower vncserver@
                   wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant@ ypbind
  indirect         systemd-userdbd wickedd
  masked           packagekit

------------------------------------------------------------
14. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
  root=UUID=03f2994f-ee68-4440-b1db-7d3f781cf8b4
  splash=silent
  mitigations=auto
  quiet
  security=apparmor
  crashkernel=380M,high
  crashkernel=72M,low,
  amd_pstate=passive
```

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Platform Notes (Continued)

```
------------------------------------------------------------
15. cpupower frequency-info
  analyzing CPU 47:
    current policy: frequency should be within 1.20 GHz and 4.12 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
16. 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

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

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Platform Notes (Continued)

```
  pages_to_scan             4096
  scan_sleep_millisecs     10000

------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP7

------------------------------------------------------------
20. Disk information
SPEC is set to: /cpu2026
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  1.0T   69G  953G   7% /

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:          COMPAL
    Product:         COMPAL SERVER
    Product Family: COMPAL
    Serial:          7901567500001

------------------------------------------------------------
22. dmidecode
  Additional information from dmidecode 3.7 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 M321R4GA3EB2-CCPKC 32 GIB 2 rank 6400


------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      10.28.00
   BIOS Date:         01/29/2026
   BIOS Revision:     5.35
   Firmware Revision: 5.35
```

Compiler Version Notes

```
==============================================================================
C       | 782.lbm_r(base, peak)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.2.0-Build#2035 2026_04_10)
```

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Compiler Version Notes (Continued)

```
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------

==============================================================================
C++     | 731.astcenc_r(base, peak) 736.ocio_r(base, peak)
        | 748.flightdm_r(base, peak) 766.femflow_r(base, peak)
        | 767.nest_r(base, peak) 772.marian_r(base, peak)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------

==============================================================================
C++, C  | 709.cactus_r(base, peak) 737.gmsh_r(base, peak)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------

==============================================================================
Fortran | 722.palm_r(base, peak) 749.fotonik3d_r(base, peak) 765.roms_r(base,
        | peak)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Fortran benchmarks:
`flang`

(Continued on next page)

Base Compiler Invocation (Continued)

Benchmarks using both C and C++:
clang++ clang

Base Portability Flags

736.ocio_r: -fno-finite-math-only
737.gmsh_r: -fno-fast-math
748.flightdm_r: -fno-reciprocal-math
767.nest_r: -fno-finite-math-only

Base Optimization Flags

C benchmarks:
-std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -fstrip-mining
-O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt
-ffast-math -fremap-arrays -mllvm -inline-threshold=1500 -ljemalloc
-lamdlibm

C++ benchmarks:
-std=c++17 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -O3
-march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -ffast-math
-fvirtual-function-elimination -fvisibility=hidden
-mllvm -inline-threshold=1500 -ljemalloc -lamdlibm

Fortran benchmarks:
-std=f2008 -no-pie -O3 -march=znver5 -fveclib=AMDLIBM -flto
-fno-PIE -fno-plt -ffast-math -mllvm -fuse-tile-inner-loop -ljemalloc
-lamdlibm

Benchmarks using both C and C++:
-std=c++17 -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -O3
-march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -ffast-math
-fremap-arrays -mllvm -inline-threshold=1500
-fvirtual-function-elimination -fvisibility=hidden -ljemalloc
-lamdlibm

Peak Compiler Invocation

C benchmarks:
clang

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Peak Compiler Invocation (Continued)

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Benchmarks using both C and C++:
clang++ clang

Peak Portability Flags

736.ocio_r: -fno-finite-math-only
737.gmsh_r: -fno-fast-math
748.flightdm_r: -fno-reciprocal-math
767.nest_r: -fno-finite-math-only

Peak Optimization Flags

C benchmarks:
-std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-inline-threshold=1500 -fstrip-mining -O3 -march=znver5
-fveclib=AMDLIBM -flto -fno-PIE -fno-plt -ffast-math -Ofast
-fstruct-layout=7 -mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3 -zopt
-ljemalloc -lamdlibm

C++ benchmarks:

731.astcenc_r: -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 -O3 -march=znver5
-fveclib=AMDLIBM -flto -fno-PIE -fno-plt -ffast-math
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -ljemalloc
-lamdlibm

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Peak Optimization Flags (Continued)

736.ocio_r: basepeak = yes

748.flightdm_r: basepeak = yes

766.femflow_r: basepeak = yes

767.nest_r: basepeak = yes

772.marian_r: Same as 731.astcenc_r

Fortran benchmarks:

722.palm_r: -std=f2008 -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 -O3
-march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt
-ffast-math -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop
-mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -ljemalloc
-lamdlibm

749.fotonik3d_r: -std=f2008 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3
-march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt
-ffast-math -Ofast -Mrecursive
-mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -ljemalloc
-lamdlibm

765.roms_r: Same as 749.fotonik3d_r

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/Compal-Platform-Flags-Linux-AMD_V1.8.html
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-08-11.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Compal-Platform-Flags-Linux-AMD_V1.8.xml
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-08-11.xml

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