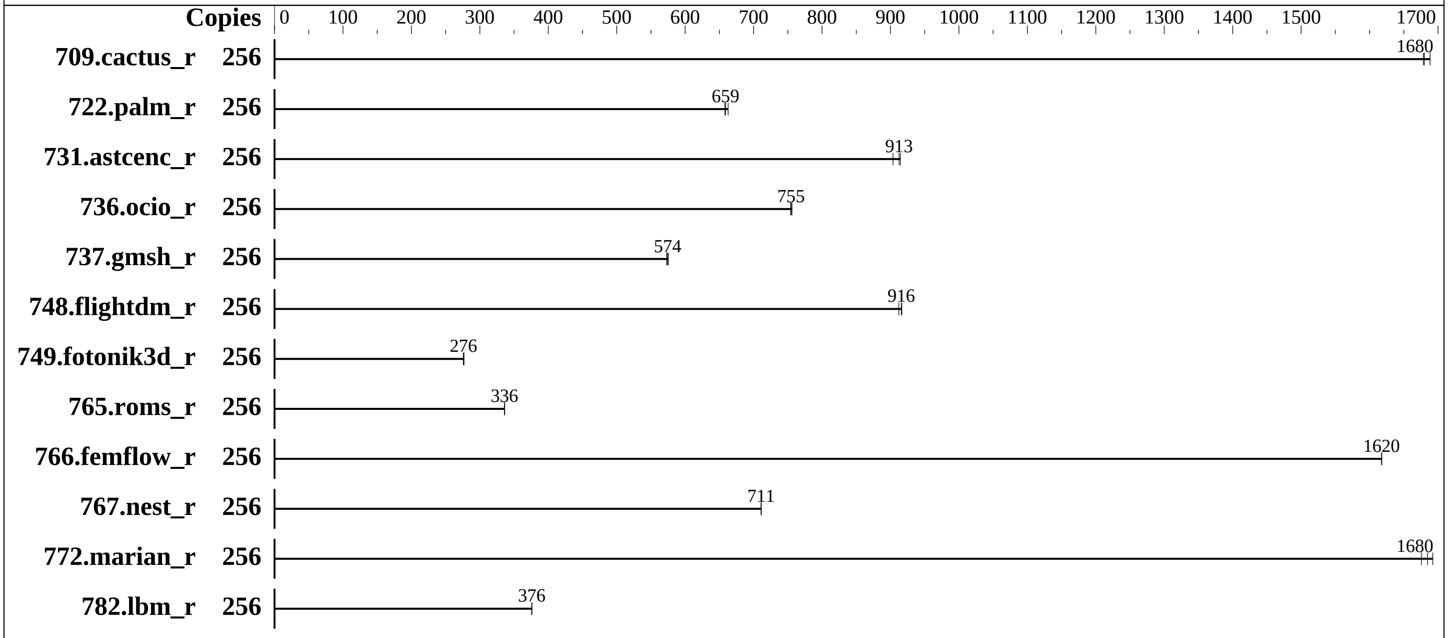
SPEC CPU®2026 Floating Point Rate Result

Fsas Technologies Inc.
(Test Sponsor: Fujitsu)
PRIMERGY RX2450 M2,
AMD EPYC 9575F, 3.30 GHz

SPECrate®2026_fp_base = 740

SPECrate®2026_fp_peak = Not Run

CPU2026 License:	19	**Test Date:**	Aug-2026
Test Sponsor:	Fujitsu	**Hardware Availability:**	Jan-2025
Tested by:	Fsas Technologies Inc.	**Software Availability:**	Jan-2026



Hardware

CPU Name:	AMD EPYC 9575F
Max MHz:	5000
Nominal:	3300
Enabled:	128 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:	256 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:	1 x SATA SSD, 1.92 TB
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP6 kernel version 6.4.0-150600.23.22-default
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Fujitsu BIOS Version V5.0.0.35 R2.13.0 for D4129-A1x. Released Aug-2026 tested as V5.0.0.35 R2.11.0 for D4129-A1x Jan-2026
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other:	None
Power Management:	BIOS and OS set to prefer performance at the cost of aditional 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	130	1690	**131**	**1680**	131	1680							
722.palm_r	256	514	658	510	663	**513**	**659**							
731.astcenc_r	256	235	914	**236**	**913**	238	904							
736.ocio_r	256	297	754	296	756	**297**	**755**							
737.gmsh_r	256	205	573	204	575	**205**	**574**							
748.flightdm_r	256	201	912	**200**	**916**	200	917							
749.fotonik3d_r	256	1069	277	1072	276	**1071**	**276**							
765.roms_r	256	1199	336	**1200**	**336**	1200	336							
766.femflow_r	256	232	1620	**232**	**1620**	232	1620							
767.nest_r	256	285	711	286	711	**285**	**711**							
772.marian_r	256	**240**	**1680**	239	1690	241	1680							
782.lbm_r	256	390	376	**390**	**376**	390	376							

SPECrate®2026_fp_base = 740

SPECrate®2026_fp_peak = Not Run

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.
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
```

(Continued on next page)

Operating System Notes (Continued)

```
'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 =
     "/home/Benchmark/cpu2026-1.0.1/amd_rate_aocc510_znver5_B_lib/lib:/home/B
     enchmark/cpu2026-1.0.1/amd_rate_aocc510_znver5_B_lib/lib32:"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB Memory using Ubuntu 24.04
```

Platform Notes

```
BIOS configuration:
Determinism Slider = Power
TDP Control = Manual
TDP Limit = 400
Package Power Limit Control = Manual
Package Power Limit = 400
Power Profile Selection = High Performance
NUMA nodes per socket = NPS4
Probe Filter Organization = Shared
Interleaving Region Size = 1K Region Size
FAN Control = Full

 Sysinfo program /home/Benchmark/cpu2026-1.0.1/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Mon Aug 24 20:44:06 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
```

(Continued on next page)

Platform Notes (Continued)

```
  8. numactl --hardware
  9. /proc/meminfo
 10. who -r
 11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
 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 6.4.0-150600.23.22-default #1 SMP PREEMPT_DYNAMIC Fri Sep 13 10:42:50 UTC 2024 (5c05eeb) x86_64

 ------------------------------------------------------------
 2. w
    20:44:06 up  4:31,  1 user,  load average: 54.31, 184.11, 227.12
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                16:25    4:16m  2.52s  1.55s python3
   ./run_amd_rate_aocc510_znver5_B1_fprate.py

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

 ------------------------------------------------------------
 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) 3090428
   max locked memory       (kbytes, -l) 2048
   max memory size         (kbytes, -m) unlimited
   open files                      (-n) 65536
   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
```

(Continued on next page)

Platform Notes (Continued)

```
  max user processes                (-u) 3090428
  virtual memory            (kbytes, -v) unlimited
  file locks                        (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 login -- root
 -bash
 -bash
 python3 ./run_amd_rate_aocc510_znver5_B1_fprate.py
 runcpu --config amd_rate_aocc510_znver5_B1.cfg --tune base --reportable --iterations 3 fprate
 runcpu --configfile amd_rate_aocc510_znver5_B1.cfg --tune base --reportable --iterations 3 --nopower
   --runmode rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.001/templogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/Benchmark/cpu2026-1.0.1

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9575F 64-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       : 64
    siblings        : 128
    2 physical ids (chips)
    256 processors (hardware threads)
    physical id 0: core ids 0-63
    physical id 1: core ids 0-63
    physical id 0: apicids 0-127
    physical id 1: apicids 128-255
  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
```

(Continued on next page)

Platform Notes (Continued)

```
CPU(s):                              256
On-line CPU(s) list:                 0-255
Vendor ID:                           AuthenticAMD
BIOS Vendor ID:                      Advanced Micro Devices, Inc.
Model name:                          AMD EPYC 9575F 64-Core Processor
BIOS Model name:                     AMD EPYC 9575F 64-Core Processor                Unknown CPU @ 3.3GHz
BIOS CPU family:                     107
CPU family:                          26
Model:                               2
Thread(s) per core:                  2
Core(s) per socket:                  64
Socket(s):                           2
Stepping:                            1
Frequency boost:                     enabled
CPU(s) scaling MHz:                  67%
CPU max MHz:                         5008.0068
CPU min MHz:                         1500.0000
BogoMIPS:                            6589.91
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 svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
                                     osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
                                     perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
                                     ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmi1 avx2
                                     smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                                     avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
                                     xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                                     cqm_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
                                     xsaveerptr rdpru wbnoinvd amd_ppin cppc 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 amd_lbr_pmc_freeze
Virtualization:                      AMD-V
L1d cache:                           6 MiB (128 instances)
L1i cache:                           4 MiB (128 instances)
L2 cache:                            128 MiB (128 instances)
L3 cache:                            512 MiB (16 instances)
NUMA node(s):                        8
NUMA node0 CPU(s):                   0-15,128-143
NUMA node1 CPU(s):                   16-31,144-159
NUMA node2 CPU(s):                   32-47,160-175
```

(Continued on next page)

Platform Notes (Continued)

```
    NUMA node3 CPU(s):                    48-63,176-191
    NUMA node4 CPU(s):                    64-79,192-207
    NUMA node5 CPU(s):                    80-95,208-223
    NUMA node6 CPU(s):                    96-111,224-239
    NUMA node7 CPU(s):                    112-127,240-255
    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
                                          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       6M   12 Data            1    64        1             64
       L1i       32K       4M    8 Instruction     1    64        1             64
       L2         1M     128M   16 Unified         2  1024        1             64
       L3        32M     512M   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: 0-15,128-143
    node 0 size: 95874 MB
    node 0 free: 94772 MB
    node 1 cpus: 16-31,144-159
    node 1 size: 96759 MB
    node 1 free: 95280 MB
    node 2 cpus: 32-47,160-175
    node 2 size: 96759 MB
    node 2 free: 95727 MB
    node 3 cpus: 48-63,176-191
    node 3 size: 96759 MB
    node 3 free: 95711 MB
    node 4 cpus: 64-79,192-207
    node 4 size: 96759 MB
    node 4 free: 95753 MB
```

(Continued on next page)

Platform Notes (Continued)

```
  node 5 cpus: 80-95,208-223
  node 5 size: 96759 MB
  node 5 free: 95799 MB
  node 6 cpus: 96-111,224-239
  node 6 size: 96721 MB
  node 6 free: 95721 MB
  node 7 cpus: 112-127,240-255
  node 7 size: 96239 MB
  node 7 free: 95261 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:       791176476 kB

------------------------------------------------------------
10. who -r
  run-level 3 Aug 24 16:13

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
                   iscsi issue-generator kbdsettings kdump kdump-early kdump-notify klog lvm2-monitor nscd
                   postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore virtqemud wicked
                   wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
  enabled-runtime  systemd-remount-fs
  disabled         autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                   chronyd console-getty cups cups-browsed debug-shell dnsmasq ebtables exchange-bmc-os-info
                   firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd iscsi-init iscsid
                   issue-add-ssh-keys kexec-load ksm kvm_stat libvirt-guests lunmask man-db-create multipathd
                   nfs nfs-blkmap nfs-server nfsserver rpcbind rpmconfigcheck rsyncd serial-getty@
                   smartd_generate_opts snmpd snmptrapd strongswan strongswan-starter svnserve
```

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Platform Notes (Continued)

```
                  systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-nspawn@
                  systemd-sysext systemd-time-wait-sync systemd-timesyncd tcsd udisks2 virtinterfaced
                  virtlockd virtlogd virtnetworkd virtnodedevd virtnwfilterd virtsecretd virtstoraged
                  vncserver@
  indirect        pcscd systemd-userdbd tftp wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.23.22-default
  root=UUID=0c0fd396-12b8-460e-af5f-2d1dba73ae32
  splash=silent
  mitigations=auto
  quiet
  security=apparmor
  crashkernel=384M,high
  crashkernel=72M,low

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 14:
    current policy: frequency should be within 1.50 GHz and 3.30 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

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

(Continued on next page)

Platform Notes (Continued)

```
  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 SUSE Linux Enterprise Server 15 SP6

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/Benchmark/cpu2026-1.0.1
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sda3      xfs   1.4T  155G  1.3T  11% /home

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         FUJITSU
    Product:        PRIMERGY RX2450 M2
    Product Family: SERVER
    Serial:         xxxxxxxxxx

------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.4 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:
    12x Micron Technology MTC20F2085S1RC64BD2 MWFF 32 GB 2 rank 6400
    12x Samsung M321R4GA3EB2-CCPKF 32 GB 2 rank 6400
```

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Platform Notes (Continued)

```
------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       FUJITSU // American Megatrends Inc.
   BIOS Version:      V5.0.0.35 R2.11.0 for D4129-A1x
   BIOS Date:         01/29/2026
   BIOS Revision:     2.11
   Firmware Revision: 2.47
```

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
------------------------------------------------------------------------------

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

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Compiler Version Notes (Continued)

```
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

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:
```
-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
```

(Continued on next page)

Base Optimization Flags (Continued)

C++ benchmarks (continued):
`-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`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.html
http://www.spec.org/cpu2026/results/flags/Fujitsu-Platform-Settings-V1.0-Turin-RevF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.xml
http://www.spec.org/cpu2026/results/flags/Fujitsu-Platform-Settings-V1.0-Turin-RevF.xml

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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