



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

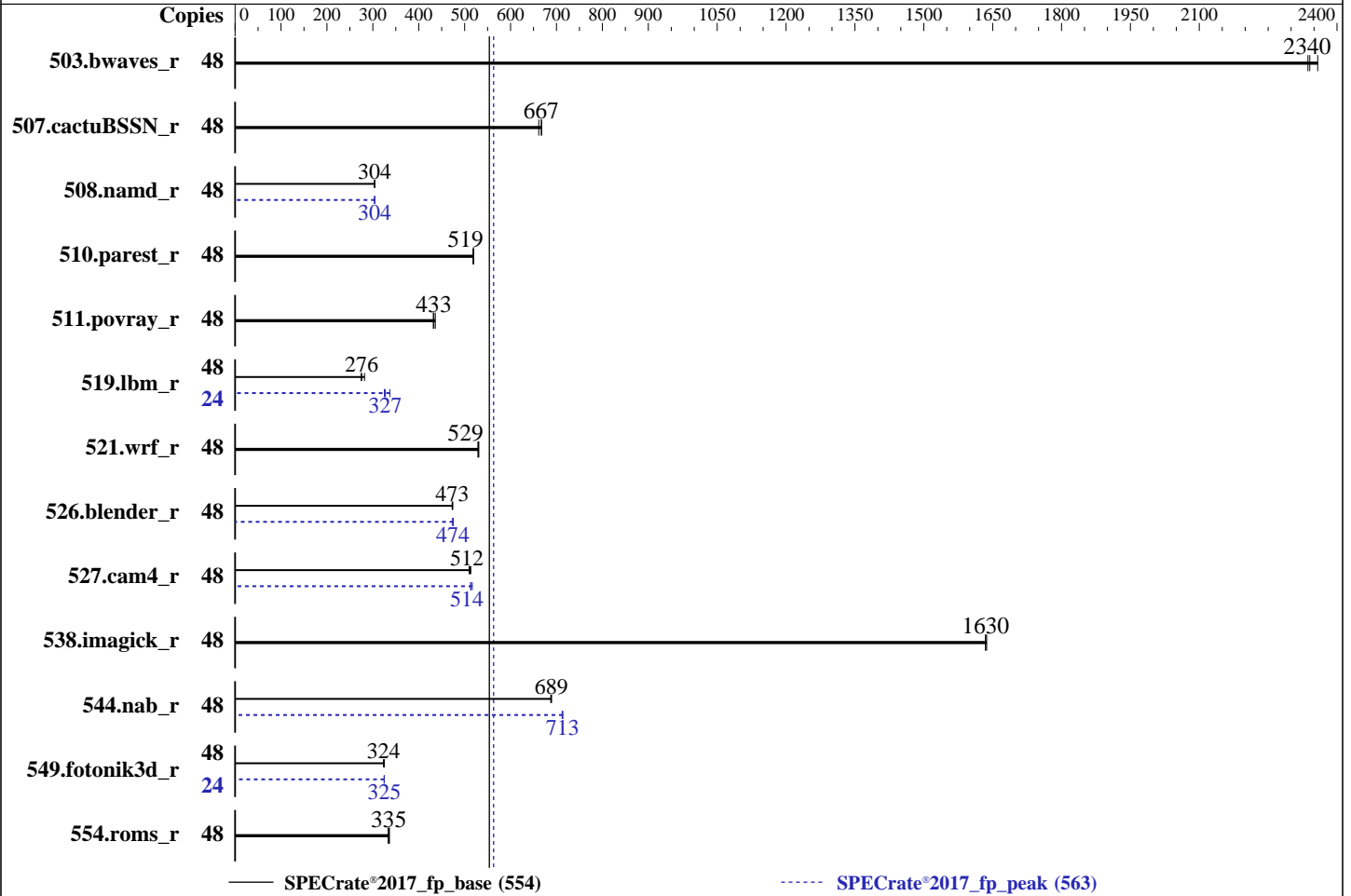
Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026



Hardware

CPU Name: AMD EPYC 9275F
 Max MHz: 4800
 Nominal: 4100
 Enabled: 24 cores, 1 chip, 2 threads/core
 Orderable: 1 chip
 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 / 3 cores
 Other: None
 Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R, running at 5200)
 Storage: 1 x 1.92 TB SATA III SSD
 Other: CPU Cooling: Air

Software

OS: Ubuntu 24.04.3 LTS
 Kernel 6.8.0-101-generic x86_64
 Compiler: C/C++/Fortran: Version 5.0.0 of AOCC
 Parallel: No
 Firmware: BIOS Version 1004 released Nov-2025
 File System: ext4
 System State: Run level 5 (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.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	48	204	2360	<u>206</u>	<u>2340</u>	206	2340	48	204	2360	<u>206</u>	<u>2340</u>	206	2340
507.cactuBSSN_r	48	91.9	661	91.0	668	<u>91.1</u>	<u>667</u>	48	91.9	661	91.0	668	<u>91.1</u>	<u>667</u>
508.namd_r	48	<u>150</u>	<u>304</u>	150	304	150	304	48	150	304	150	304	<u>150</u>	<u>304</u>
510.parest_r	48	242	518	<u>242</u>	<u>519</u>	242	519	48	242	518	<u>242</u>	<u>519</u>	242	519
511.povray_r	48	<u>259</u>	<u>433</u>	257	436	260	432	48	<u>259</u>	<u>433</u>	257	436	260	432
519.lbm_r	48	179	282	184	275	<u>183</u>	<u>276</u>	24	77.8	325	75.0	337	<u>77.3</u>	<u>327</u>
521.wrf_r	48	203	531	203	529	<u>203</u>	<u>529</u>	48	203	531	203	529	<u>203</u>	<u>529</u>
526.blender_r	48	155	473	154	474	<u>154</u>	<u>473</u>	48	<u>154</u>	<u>474</u>	154	475	154	474
527.cam4_r	48	164	513	<u>164</u>	<u>512</u>	165	510	48	162	517	164	513	<u>163</u>	<u>514</u>
538.imagick_r	48	73.0	1630	72.9	1640	<u>73.0</u>	<u>1630</u>	48	73.0	1630	72.9	1640	<u>73.0</u>	<u>1630</u>
544.nab_r	48	117	689	<u>117</u>	<u>689</u>	118	687	48	<u>113</u>	<u>713</u>	113	712	113	714
549.fotonik3d_r	48	579	323	575	325	<u>577</u>	<u>324</u>	24	<u>288</u>	<u>325</u>	288	325	288	325
554.roms_r	48	229	333	227	336	<u>228</u>	<u>335</u>	48	229	333	227	336	<u>228</u>	<u>335</u>

SPECrate®2017_fp_base = **554**

SPECrate®2017_fp_peak = **563**

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
'sync; sysctl -w vm.drop_caches=3' was used to clear filesystem caches
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.
The Linux operating system is running in graphical.target.
'systemctl stop tuned; systemctl disable tuned' were used to disable the tuned daemon.

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026

Operating System Notes (Continued)

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 =  
    "/cpu2017-1.1.9/amd_rate_aocc500_znver5_A_lib/lib:/cpu2017-1.1.9/amd_rate_aocc500_znver5_A_lib/lib32:"  
MALLOC_CONF = "retain:true"
```

General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

Platform Notes

Bios settings:

```
SR-IOV Support = Disable  
SVM Mode = Disable  
NUMA nodes per socket = NPS4  
Determinism Control = Manual  
Determinism Enable = Power  
TDP Control = Manual  
TDP = 400  
PPT Control = Manual  
PPT = 400  
SMT Control = Enable
```

BMC Configuration:

```
Fan mode = Full speed mode
```

```
Sysinfo program /cpu2017-1.1.9/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on sut Thu Mar 12 18:00:31 2026
```

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

Table of contents

1. uname -a
2. w

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Platform Notes (Continued)

```

3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
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 -a
Linux sut 6.8.0-101-generic #101-Ubuntu SMP PREEMPT_DYNAMIC Mon Feb 9 10:15:05 UTC 2026 x86_64 x86_64
x86_64 GNU/Linux

```

```

-----
2. w
 18:00:31 up 3:48, 1 user, load average: 34.68, 44.36, 46.26
USER   TTY      FROM             LOGIN@   IDLE   JCPU   PCPU   WHAT
root   tty1    -                14:12   3:29m 0.99s  0.14s /bin/bash ./amd_rate_aocc500_znver5_A1.sh

```

```

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

```

```

-----
4. ulimit -a
time(seconds)      unlimited
file(blocks)       unlimited
data(kbytes)       unlimited
stack(kbytes)      unlimited
coredump(blocks)   unlimited
memory(kbytes)     unlimited
locked memory(kbytes) 2097152
process            6189757
nofiles            1024
vmemory(kbytes)    unlimited
locks              unlimited
rtprio            0

```

```

-----
5. sysinfo process ancestry
/sbin/init
/bin/login -p --
-bash
python3 ./run_amd_rate_aocc500_znver5_A1.py
/bin/bash ./amd_rate_aocc500_znver5_A1.sh

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026

Platform Notes (Continued)

```

runcpu --config amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc500_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/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /cpu2017-1.1.9

```

6. /proc/cpuinfo

```

model name      : AMD EPYC 9275F 24-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 2
stepping       : 1
microcode      : 0xb002151
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size      : 192 4K pages
cpu cores     : 24
siblings      : 48
1 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-2,8-10,16-18,24-26,32-34,40-42,48-50,56-58
physical id 0: apicids 0-5,16-21,32-37,48-53,64-69,80-85,96-101,112-117

```

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):                48
On-line CPU(s) list:  0-47
Vendor ID:             AuthenticAMD
BIOS Vendor ID:       Advanced Micro Devices, Inc.
Model name:            AMD EPYC 9275F 24-Core Processor
BIOS Model name:      AMD EPYC 9275F 24-Core Processor
                       Unknown CPU @
                       4.1GHz
BIOS CPU family:      107
CPU family:            26
Model:                 2
Thread(s) per core:   2
Core(s) per socket:   24
Socket(s):             1
Stepping:              1
Frequency boost:      enabled
CPU(s) scaling MHz:   86%
CPU max MHz:           4816.6992
CPU min MHz:           1500.0000
BogoMIPS:              8282.64
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

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Platform Notes (Continued)

```

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 bmil 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 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 vnni
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 fsmr
avx512_vp2intersect flush_llid debug_swap

```

```

L1d cache: 1.1 MiB (24 instances)
L1i cache: 768 KiB (24 instances)
L2 cache: 24 MiB (24 instances)
L3 cache: 256 MiB (8 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-5,24-29
NUMA node1 CPU(s): 6-11,30-35
NUMA node2 CPU(s): 12-17,36-41
NUMA node3 CPU(s): 18-23,42-47
Vulnerability Gather data sampling: Not affected
Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf: 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; PBRSE-eIBRS Not affected; BHI Not affected
Vulnerability Srbds: Not affected
Vulnerability Tsa: Not affected
Vulnerability Tsx async abort: Not affected
Vulnerability Vmscape: Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	1.1M	12	Data	1	64	1	64
L1i	32K	768K	8	Instruction	1	64	1	64
L2	1M	24M	16	Unified	2	1024	1	64
L3	32M	256M	16	Unified	3	32768	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 4 nodes (0-3)
node 0 cpus: 0-5,24-29
node 0 size: 192843 MB
node 0 free: 192163 MB
node 1 cpus: 6-11,30-35
node 1 size: 193488 MB
node 1 free: 192836 MB

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Platform Notes (Continued)

```

node 2 cpus: 12-17,36-41
node 2 size: 193531 MB
node 2 free: 192919 MB
node 3 cpus: 18-23,42-47
node 3 size: 193477 MB
node 3 free: 192922 MB
node distances:
node  0  1  2  3
  0:  10  12  12  12
  1:  12  10  12  12
  2:  12  12  10  12
  3:  12  12  12  10

```

```

-----
9. /proc/meminfo
   MemTotal:      791900828 kB

```

```

-----
10. who -r
    run-level 5 Mar 12 14:12

```

```

-----
11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)
    Default Target  Status
    graphical      running

```

```

-----
12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled apparmor appport blk-availability console-setup e2scrub_reap finalrd getty@ gpu-manager grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi pollinate secureboot-db setvtrgb systemd-networkd systemd-pstore systemd-resolved thermald ufw unattended-upgrades
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled console-getty debug-shell ipmievd iscsid nftables numad 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 tuned upower
generated openipmi
indirect systemd-sysupdate systemd-sysupdate-reboot
masked cryptdisks cryptdisks-early hwclock multipath-tools-boot sudo systemd-networkd-wait-online x11-common

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.8.0-101-generic
root=UUID=40338855-ed28-479d-9fce-40874beaefd7
ro

```

```

-----
14. cpupower frequency-info
analyzing CPU 41:
  current policy: frequency should be within 1.50 GHz and 4.10 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.
boost state support:
  Supported: yes
  Active: yes

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Platform Notes (Continued)

Boost States: 0
Total States: 3
Pstate-P0: 4100MHz

15. tuned-adm active

It seems that tuned daemon is not running, preset profile is not activated.
Preset profile: throughput-performance

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
pages_to_scan	4096
scan_sleep_millisecs	10000

19. OS release

From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.3 LTS

20. Disk information

SPEC is set to: /cpu2017-1.1.9

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdd2	ext4	1.8T	145G	1.5T	9%	/

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Platform Notes (Continued)

```

21. /sys/devices/virtual/dmi/id
Vendor:      ASUSTeK COMPUTER INC.
Product:     RS521A-E12-RS12U
Product Family: Server
Serial:      T7S0CG0000A6

```

```

-----
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:
  12x Samsung M321R8GA0PB2-CCPWF 64 GB 2 rank 6400, configured at 5200

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:   American Megatrends Inc.
BIOS Version:  1004
BIOS Date:     11/14/2025
BIOS Revision: 10.4

```

Compiler Version Notes

```

=====
C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(base, peak)
-----

```

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
-----

```

```

=====
C++ | 508.namd_r(base, peak) 510.parest_r(base, peak)
-----

```

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
-----

```

```

=====
C++, C | 511.povray_r(base, peak) 526.blender_r(base, peak)
-----

```

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
-----

```

```

=====
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
-----

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Compiler Version Notes (Continued)

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

```

```

=====
Fortran          | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)
=====

```

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

```

```

=====
Fortran, C       | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
=====

```

```

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

```

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both Fortran and C:

flang clang

Benchmarks using both C and C++:

clang++ clang

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026

Base Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:

clang++ clang flang

Base Portability Flags

```

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
526.blender_r: -funsigned-char -DSPEC_LP64
527.cam4_r: -DSPEC_CASE_FLAG -DSPEC_LP64
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64

```

Base Optimization Flags

C benchmarks:

```

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather -O3
-march=znver5 -fveclib=AMDLIBM -ffast-math -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 -ldl

```

C++ benchmarks:

```

-m64 -std=c++14 -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 -ffast-math -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang -ldl

```

Fortran benchmarks:

```

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Oct-2024

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-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 -ffast-math -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang -ldl
```

Benchmarks using both Fortran and C:

```
-m64 -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 -ffast-math -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 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl
```

Benchmarks using both C and C++:

```
-m64 -std=c++14 -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 -ffast-math -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
-ldl
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c++14 -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 -ffast-math -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 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl
```



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Base Other Flags

C benchmarks:

-Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-Wno-unused-command-line-argument

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both Fortran and C:

flang clang

Benchmarks using both C and C++:

clang++ clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

Peak Portability Flags

Same as Base Portability Flags



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Peak Optimization Flags

C benchmarks:

```
519.lbm_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-freemap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

538.imagick_r: basepeak = yes

```
544.nab_r: -m64 -flto -Wl,-mllvm -Wl,-ldist-scalar-expand
-fenable-aggressive-gather -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -freemap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

C++ benchmarks:

```
508.namd_r: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

510.parest_r: basepeak = yes

Fortran benchmarks:

503.bwaves_r: basepeak = yes

```
549.fotonik3d_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-Mrecursive -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -fvector-transform
-fscalar-transform -lamdlibm -lamdalloc -ldl -lflang
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Peak Optimization Flags (Continued)

554.roms_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf_r: basepeak = yes

```
527.cam4_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -fltto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays
-mllvm -reduce-array-computations=3 -zopt -Mrecursive
-funroll-loops -mllvm -lsr-in-nested-loop
-fepilog-vectorization-of-inductions -lamdlibm -lamdalloc
-ldl -lflang
```

Benchmarks using both C and C++:

511.povray_r: basepeak = yes

```
526.blender_r: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -fltto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt
-mllvm -unroll-threshold=100 -lamdlibm -lamdalloc -ldl
```

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

Peak Other Flags

C benchmarks:

-Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 554

eterio 127 RZ3 (4.10 GHz, AMD EPYC 9275F)

SPECrate®2017_fp_peak = 563

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Oct-2024

Software Availability: Feb-2026

Peak Other Flags (Continued)

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-Wno-unused-command-line-argument

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.html>

<http://www.spec.org/cpu2017/flags/Epsilon-Platform-Flags-RevB-Mar-2026-For-AMD-Processors.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.xml>

<http://www.spec.org/cpu2017/flags/Epsilon-Platform-Flags-RevB-Mar-2026-For-AMD-Processors.xml>

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2017 v1.1.9 on 2026-03-12 14:00:31-0400.

Report generated on 2026-05-14 10:56:09 by CPU2017 PDF formatter v6716.

Originally published on 2026-05-14.