



# SPEC CPU®2026 Floating Point Rate Result

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## Lenovo Global Technology

ThinkSystem SR665 V3  
(2.10 GHz, AMD EPYC 9845)

SPECrate®2026\_fp\_base = 919

SPECrate®2026\_fp\_peak = 919

CPU2026 License: 9017

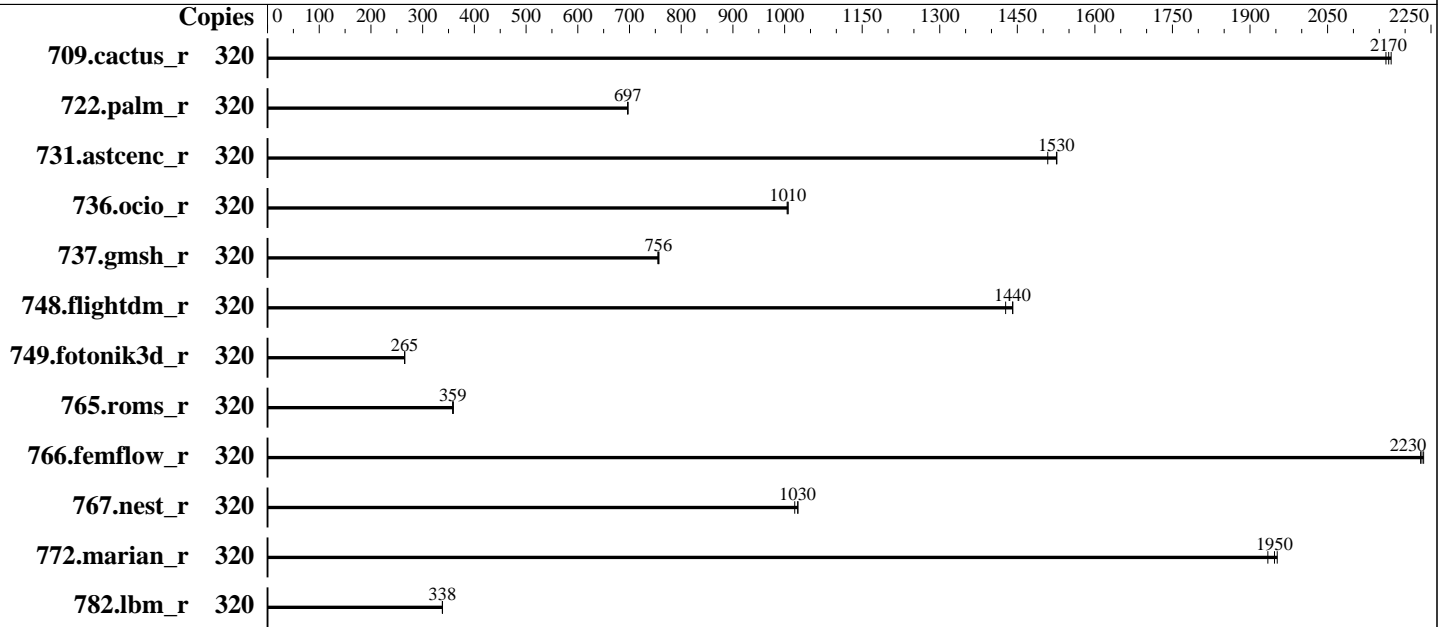
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Feb-2026

Hardware Availability: Jul-2025

Software Availability: Jan-2026



### Hardware

CPU Name: AMD EPYC 9845  
 Max MHz: 3700  
 Nominal: 2100  
 Enabled: 320 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: 320 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: 1 x 960GB M.2 NVMe SSD  
 Cooling: Air  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP7  
 Kernel 6.4.0-150700.51-default  
 Compiler: C/C++/Fortran: Version 5.1.0 of AOCC  
 Compiler Category: Vendor  
 Firmware: Lenovo BIOS Version KAE141G 5.81 released Jan-2026  
 File System: xfs  
 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	320	<u>127</u>	<u>2170</u>	126	2170	127	2160	320	<u>127</u>	<u>2170</u>	126	2170	127	2160
722.palm_r	320	607	696	<u>606</u>	<u>697</u>	606	697	320	607	696	<u>606</u>	<u>697</u>	606	697
731.ascenc_r	320	178	1510	176	1530	<u>176</u>	<u>1530</u>	320	178	1510	176	1530	<u>176</u>	<u>1530</u>
736.ocio_r	320	<u>278</u>	<u>1010</u>	279	1000	278	1010	320	<u>278</u>	<u>1010</u>	279	1000	278	1010
737.gmsh_r	320	<u>194</u>	<u>756</u>	195	755	194	757	320	<u>194</u>	<u>756</u>	195	755	194	757
748.flightdm_r	320	159	1440	161	1430	<u>159</u>	<u>1440</u>	320	159	1440	161	1430	<u>159</u>	<u>1440</u>
749.fotonik3d_r	320	1396	265	<u>1395</u>	<u>265</u>	1394	265	320	1396	265	<u>1395</u>	<u>265</u>	1394	265
765.roms_r	320	1407	358	<u>1406</u>	<u>359</u>	1403	359	320	1407	358	<u>1406</u>	<u>359</u>	1403	359
766.femflow_r	320	210	2240	<u>210</u>	<u>2230</u>	211	2230	320	210	2240	<u>210</u>	<u>2230</u>	211	2230
767.nest_r	320	247	1030	249	1020	<u>248</u>	<u>1030</u>	320	247	1030	249	1020	<u>248</u>	<u>1030</u>
772.marian_r	320	259	1950	261	1930	<u>259</u>	<u>1950</u>	320	259	1950	261	1930	<u>259</u>	<u>1950</u>
782.lbm_r	320	542	338	<u>542</u>	<u>338</u>	542	338	320	542	338	<u>542</u>	<u>338</u>	542	338

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

## Compiler Notes

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

## Submit Notes

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

## Operating System Notes

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

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

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty\_ratio=8' run as root.  
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.  
To free node-local memory and avoid remote memory usage,  
'sysctl -w vm.zone\_reclaim\_mode=1' run as root.  
To clear filesystem caches, 'sync; sysctl -w vm.drop\_caches=3' run as root.

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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 =  
"/home/cpu2026-0.902.0-amd\_aocc510\_znver5\_A1/amd\_rate\_aocc510\_znver5\_A\_1  
ib/lib:/home/cpu2026-0.902.0-amd\_aocc510\_znver5\_A1/amd\_rate\_aocc510\_znve  
r5\_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

### Platform Notes

BIOS configuration:  
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode  
NUMA Nodes per Socket set to NPS2  
SMT Mode set to Disabled  
L1 Stream HW Prefetcher set to Disabled  
L2 Stream HW Prefetcher set to Disabled

sysinfo program /home/cpu2026-0.902.0-amd\_aocc510\_znver5\_A1/bin/sysinfo  
Rev: 069f95da7e7f5d81b2ce48a82150e54f  
running on localhost Sun Feb 1 16:44:46 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

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### Platform Notes (Continued)

- 7. lscpu
- 8. numactl --hardware
- 9. /proc/meminfo
- 10. who -r
- 11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
- 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 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64
```

```
2. w
16:44:46 up 4 min, 1 user, load average: 0.25, 0.31, 0.16
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
```

```
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) 6189953
max locked memory       (kbytes, -l) 2097152
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
```

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### Platform Notes (Continued)

```

max user processes          (-u) 6189953
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@notty
/bin/bash ./02.remote_local_SPECcpu_1.02.sh
/bin/bash ./Run023-compliant-amd-ratefp_base.sh
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 3 fprate
runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.021/temlogs/preenv.fprate.021.0.log --lognum 021.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026-0.902.0-amd_aocc510_znver5_A1

```

#### 6. /proc/cpuinfo

```

model name      : AMD EPYC 9845 160-Core Processor
vendor_id      : AuthenticAMD
cpu family      : 26
model          : 17
stepping       : 0
microcode      : 0xb10104f
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
TLB size       : 192 4K pages
cpu cores      : 160
siblings       : 160
2 physical ids (chips)
320 processors (hardware threads)
physical id 0: core ids 0-159
physical id 1: core ids 0-159
physical id 0: apicids 0-159
physical id 1: apicids 256-415

```

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

```

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### Platform Notes (Continued)

```

CPU op-mode(s):          32-bit, 64-bit
Address sizes:          52 bits physical, 57 bits virtual
Byte Order:             Little Endian
CPU(s):                 320
On-line CPU(s) list:   0-319
Vendor ID:              AuthenticAMD
Model name:             AMD EPYC 9845 160-Core Processor
CPU family:             26
Model:                  17
Thread(s) per core:    1
Core(s) per socket:    160
Socket(s):              2
Stepping:               0
BogoMIPS:               4193.41
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
                        xsaveerpr 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 fsrm avx512_vp2intersect
                        flush_lld debug_swap hv_inuse_wr_allowed srso_user_kernel_no
                        amd_lbr_pmc_freeze
Virtualization:         AMD-V
L1d cache:              15 MiB (320 instances)
L1i cache:              10 MiB (320 instances)
L2 cache:               320 MiB (320 instances)
L3 cache:               640 MiB (20 instances)
NUMA node(s):          4
NUMA node0 CPU(s):     0-79
NUMA node1 CPU(s):     80-159
NUMA node2 CPU(s):     160-239
NUMA node3 CPU(s):     240-319
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit:      Not affected

```

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### Platform Notes (Continued)

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/swaps barriers and \_\_user pointer sanitization  
 Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP disabled; RSB filling; PBRSE-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	15M	12	Data	1	64	1	64
L1i	32K	10M	8	Instruction	1	64	1	64
L2	1M	320M	16	Unified	2	1024	1	64
L3	32M	640M	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: 0-79  
 node 0 size: 386565 MB  
 node 0 free: 385731 MB  
 node 1 cpus: 80-159  
 node 1 size: 387012 MB  
 node 1 free: 386253 MB  
 node 2 cpus: 160-239  
 node 2 size: 387050 MB  
 node 2 free: 386171 MB  
 node 3 cpus: 240-319  
 node 3 size: 386887 MB  
 node 3 free: 386041 MB  
 node distances:  
 node 0 1 2 3  
 0: 10 12 32 32  
 1: 12 10 32 32  
 2: 32 32 10 12  
 3: 32 32 12 10

9. /proc/meminfo

MemTotal: 1584655884 kB

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### Platform Notes (Continued)

-----  
10. who -r  
run-level 3 Feb 1 16:41  
-----

11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)  
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 getty@ irqbalance issue-generator  
kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections nvme-autoconnect postfix  
purge-kernels rollback rsyslog smartd sshd systemd-pstore tuned 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 ebttables exchange-bmc-os-info  
firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys  
kexec-load lunmask man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd  
serial-getty@ smartd\_generate\_opts snmpd snmptrapd systemd-boot-check-no-failures  
systemd-confext systemd-network-generator systemd-sysextd systemd-time-wait-sync  
systemd-timesyncd  
generated ntp\_sync  
indirect systemd-userdbd wickedd  
-----

13. Linux kernel boot-time arguments, from /proc/cmdline  
BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default  
root=UUID=548b98ec-c242-4959-8c74-ed91816d4845  
splash=silent  
mitigations=auto  
quiet  
security=apparmor  
-----

14. cpupower frequency-info  
analyzing CPU 223:  
Unable to determine current policy  
boost state support:  
Supported: yes  
Active: yes  
-----

15. tuned-adm active  
-----

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### Platform Notes (Continued)

Current active profile: balanced

-----  
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	SUSE Linux Enterprise Server 15 SP7	

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### Platform Notes (Continued)

#### 20. Disk information

SPEC is set to: /home/cpu2026-0.902.0-amd\_aocc510\_znver5\_A1  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/nvme0n1p3 xfs 893G 117G 777G 14% /

#### 21. /sys/devices/virtual/dmi/id

Vendor: Lenovo  
Product: ThinkSystem SR665 V3 MB,Genoa,Kauai,DDR5,Kauai,2U  
Product Family: ThinkSystem  
Serial: 1234567890

#### 22. dmidecode

Additional information from dmidecode 3.6 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:

2x Samsung M321R8GA0PB1-CCPPC 64 GB 2 rank 6400  
7x Samsung M321R8GA0PB1-CCPQC 64 GB 2 rank 6400  
4x Samsung M321R8GA0PB1-CCPYC 64 GB 2 rank 6400  
3x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400  
1x Samsung M321R8GA0PB2-CCPKC 64 GB 2 rank 6400  
7x Samsung M321R8GA0PB2-CCPPC 64 GB 2 rank 6400

#### 23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: Lenovo  
BIOS Version: KAE141G-5.81  
BIOS Date: 01/22/2026  
BIOS Revision: 5.81  
Firmware Revision: 56.20

### Compiler Version Notes

C | 782.lbm\_r(base)

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

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## Lenovo Global Technology

ThinkSystem SR665 V3  
(2.10 GHz, AMD EPYC 9845)

SPECrate®2026\_fp\_base = 919

SPECrate®2026\_fp\_peak = 919

**CPU2026 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

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

### Compiler Version Notes (Continued)

=====  
C++ | 731.astcenc\_r(base) 736.ocio\_r(base) 748.flightdm\_r(base)  
| 766.femflow\_r(base) 767.nest\_r(base) 772.marian\_r(base)  
=====

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin  
=====

=====  
C++, C | 709.cactus\_r(base) 737.gmsh\_r(base)  
=====

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin  
=====

=====  
Fortran | 722.palm\_r(base) 749.fotonik3d\_r(base) 765.roms\_r(base)  
=====

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin  
=====

### Base Compiler Invocation

C benchmarks:  
clang

C++ benchmarks:  
clang++

Fortran benchmarks:  
flang

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



# SPEC CPU®2026 Floating Point Rate Result

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## Base Portability Flags

```

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.ascenc_r: -DSPEC_LP64
736.ocio_r: -fno-finite-math-only -DSPEC_LP64
737.gmsh_r: -fno-fast-math -DSPEC_LP64
748.flightdm_r: -fno-reciprocal-math -DSPEC_LP64
749.fotonik3d_r: -DSPEC_LP64
765.roms_r: -DSPEC_LP64
766.femflow_r: -DSPEC_LP64
767.nest_r: -fno-finite-math-only -DSPEC_LP64
772.marian_r: -DSPEC_LP64
782.lbm_r: -DSPEC_LP64

```

## Base Optimization Flags

C benchmarks:

```

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

```

C++ benchmarks:

```

-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

```

Fortran benchmarks:

```

-m64 -Mstandard -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang

```

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## Base Optimization Flags (Continued)

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -lamdlibm -lamdalloc -lflang
```

## Peak Optimization Flags

C benchmarks:

782.lbm\_r: basepeak = yes

C++ benchmarks:

731.ascenc\_r: basepeak = yes

736.ocio\_r: basepeak = yes

748.flightdm\_r: basepeak = yes

766.femflow\_r: basepeak = yes

767.nest\_r: basepeak = yes

772.marian\_r: basepeak = yes

Fortran benchmarks:

722.palm\_r: basepeak = yes

749.fotonik3d\_r: basepeak = yes

765.roms\_r: basepeak = yes

Benchmarks using both C and C++:

709.cactus\_r: basepeak = yes

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## Peak Optimization Flags (Continued)

737.gmsh\_r: basepeak = yes

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

<http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu-Flags-V1.2-Turin-M.html>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html>

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

<http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu-Flags-V1.2-Turin-M.xml>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml>

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