



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL365 Gen11

(2.10 GHz, AMD EPYC 9845)

SPECrate®2026_fp_base = 918

SPECrate®2026_fp_peak = 943

CPU2026 License: 3

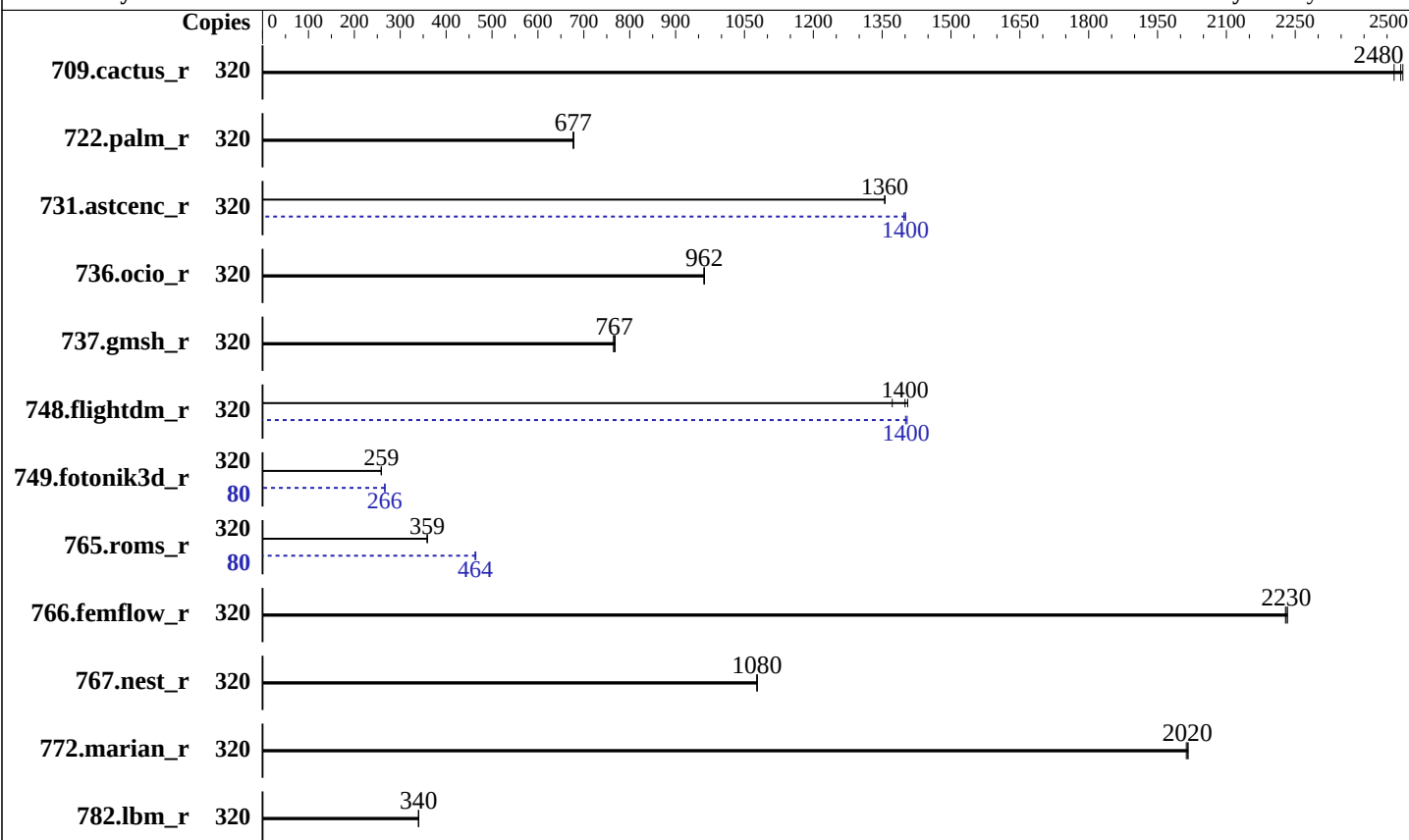
Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: May-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 480 GB NVMe SSD
Cooling: Air
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP7
Kernel 6.4.0-150700.53.6-default
Compiler: C/C++/Fortran: Version 5.2.0 of AOCC
Compiler Category: Vendor
Firmware: HPE BIOS Version v3.22 08/20/2026
released Aug-2026
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
Power Management: BIOS 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	111	2480	111	2470	<u>111</u>	<u>2480</u>	320	111	2480	111	2470	<u>111</u>	<u>2480</u>
722.palm_r	320	624	677	623	678	<u>624</u>	<u>677</u>	320	624	677	623	678	<u>624</u>	<u>677</u>
731.astcenc_r	320	<u>198</u>	<u>1360</u>	198	1360	198	1360	320	192	1400	192	1400	<u>192</u>	<u>1400</u>
736.ocio_r	320	291	962	291	963	<u>291</u>	<u>962</u>	320	291	962	291	963	<u>291</u>	<u>962</u>
737.gmsh_r	320	<u>192</u>	<u>767</u>	191	768	192	764	320	<u>192</u>	<u>767</u>	191	768	192	764
748.flightdm_r	320	<u>164</u>	<u>1400</u>	163	1410	167	1370	320	164	1400	<u>163</u>	<u>1400</u>	163	1400
749.fotonik3d_r	320	<u>1430</u>	<u>259</u>	1429	259	1431	259	80	347	266	<u>347</u>	<u>266</u>	347	267
765.roms_r	320	1404	359	<u>1404</u>	<u>359</u>	1405	359	80	<u>272</u>	<u>464</u>	272	463	271	465
766.femflow_r	320	210	2230	<u>210</u>	<u>2230</u>	211	2230	320	210	2230	<u>210</u>	<u>2230</u>	211	2230
767.nest_r	320	<u>236</u>	<u>1080</u>	235	1080	236	1080	320	<u>236</u>	<u>1080</u>	235	1080	236	1080
772.marian_r	320	251	2010	<u>251</u>	<u>2020</u>	251	2020	320	251	2010	<u>251</u>	<u>2020</u>	251	2020
782.lbm_r	320	<u>539</u>	<u>340</u>	539	340	540	340	320	<u>539</u>	<u>340</u>	539	340	540	340

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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' and
'echo always > /sys/kernel/mm/transparent_hugepage/shmem_enabled' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:

LD_LIBRARY_PATH =

"/home/cpu2026/amd_rate_aocc520_znver5_A_lib/lib:/home/cpu2026/amd_rate_aocc520_znver5_A_lib/lib32:"

MALLOC_CONF = "retain:true"

General Notes

Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB

Memory using Ubuntu 24.04

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 Configurations : Parameters are selected in the order shown below

Workload Profile set to General Throughput Compute

Determinism Control set to Manual

Performance Determinism set to Power Deterministic

Memory Patrol Scrubbing set to Disabled

NUMA memory domains per socket set to Two memory domains per socket

Thermal Configuration set to Maximum Cooling

AMD SMT Option set to Disabled

Workload Profile set to Custom

L1 HW Prefetcher set to Disabled

L2 HW Prefetcher set to Disabled

Package Power Limit Control Mode set to Manual

Package Power Limit Value set to 400

Sysinfo program /home/cpu2026/bin/sysinfo

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Platform Notes (Continued)

Rev: 779ab21020787073335a329f3a45e2cd

running on localhost Sun Sep 13 14:16:26 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 (254.27+suse.167.g130293e510)
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 6.4.0-150700.53.6-default #1 SMP PREEMPT_DYNAMIC Tue Jul 1 14:54:47 UTC 2025 (8ab7501) x86_64

2. w

14:16:26 up 2 min, 4 users, load average: 0.11, 0.09, 0.04
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT

3. Username

From environment variable \$USER: root

4. ulimit -a

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Platform Notes (Continued)

core file size	(blocks, -c)	0
data seg size	(kbytes, -d)	unlimited
scheduling priority	(-e)	0
file size	(blocks, -f)	unlimited
pending signals	(-i)	6190368
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)	6190368
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 $SPEC/run_fprate_sh.sh
sudo ./run_fprate.py
python3 ./run_fprate.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/temlogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9845 160-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 17
stepping       : 0
microcode      : 0xb101066
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srs0
TLB size       : 192 4K pages
cpu cores      : 160
siblings       : 160
2 physical ids (chips)
320 processors (hardware threads)
```

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Platform Notes (Continued)

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
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: 4193.60

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 bpeext 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 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 fsm
avx512_vp2intersect flush_l1d debug_swap hv_inuse_wr_allowed

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Platform Notes (Continued)

Virtualization: srso_user_kernel_no amd_lbr_pmc_freeze
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 Indirect target selection: 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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP disabled; 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: 386632 MB

node 0 free: 385793 MB

node 1 cpus: 80-159

node 1 size: 387050 MB

node 1 free: 386169 MB

node 2 cpus: 160-239

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Platform Notes (Continued)

node 2 size: 387050 MB

node 2 free: 386065 MB

node 3 cpus: 240-319

node 3 size: 386887 MB

node 3 free: 385777 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: 1584764536 kB

10. who -r

run-level 3 Sep 13 14:14

11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)

Default Target Status

multi-user running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
lvm2-monitor nsd postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked
wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant

enabled-runtime systemd-remount-fs

disabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofs
autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
chrony-wait chronyd console-getty cups cups-browsed debug-shell dnsmasq ebttables
exchange-bmc-os-info firewalld fsidd gnome-remote-desktop gpm grub2-once haveged
hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create
multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind
rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ smartd_generate_opts smb snmpd
snmptrapd speech-dispatcherd systemd-boot-check-no-failures systemd-confext
systemd-network-generator systemd-sysextd systemd-time-wait-sync systemd-timesyncd tuned
udisks2 update-system-flatpaks upower vncserver@ wpa_supplicant@
indirect pcsd saned@ systemd-userdbd wickedd

13. Linux kernel boot-time arguments, from /proc/cmdline

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Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
root=UUID=6864fa16-4e3a-4b5d-82dd-678b06e3a35e
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

analyzing CPU 319:

Unable to determine current policy

boost state support:

Supported: yes

Active: yes

15. sysctl

```
kernel.numa_balancing          0
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
```

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
```

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Platform Notes (Continued)

```
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 SP7
```

19. Disk information

SPEC is set to: /home/cpu2026

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	btrfs	447G	36G	408G	9%	/home

20. /sys/devices/virtual/dmi/id

```
Vendor: HPE
Product: ProLiant DL365 Gen11
Product Family: ProLiant
Serial: DL365G11-001
```

21. 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:

```
8x Hynix HMC94AHBRA480N 64 GB 2 rank 6400
1x Micron MTC40F2046S1RC64BD2 MWFF 64 GB 2 rank 6400
15x Micron MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400
```

22. BIOS

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

```
BIOS Vendor: HPE
BIOS Version: 3.22
BIOS Date: 08/20/2026
BIOS Revision: 3.22
Firmware Revision: 1.79
```



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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)

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++

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SPEC CPU®2026 Floating Point Rate Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL365 Gen11

(2.10 GHz, AMD EPYC 9845)

SPECrate®2026_fp_base = 918

SPECrate®2026_fp_peak = 943

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: May-2026

Base Compiler Invocation (Continued)

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:

-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 -lamdalloc

-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 -lamdalloc -lamdlibm

Fortran benchmarks:

-std=f2008 -no-pie -O3 -march=znver5 -fveclib=AMDLIBM -flto

-fno-PIE -fno-plt -ffast-math -mllvm -fuse-tile-inner-loop -lamdalloc

-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 -lamdalloc

-lamdlibm



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Base Other Flags

C benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

C++ benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

Fortran benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

Benchmarks using both C and C++:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

Peak Compiler Invocation

C benchmarks:

clang

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:

782.lbm_r: basepeak = yes

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CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: May-2026

Peak Optimization Flags (Continued)

C++ benchmarks:

```
731.ascenc_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=AMDLIB -flto -fno-PIE -fno-plt -ffast-math
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdalloc
-lamdlibm
```

736.ocio_r: basepeak = yes

```
748.flightdm_r: -std=c++17 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500
-O3 -march=znver5 -fveclib=AMDLIB -flto -fno-PIE
-fno-plt -ffast-math -fvirtual-function-elimination
-fvisibility=hidden -mllvm -inline-threshold=1500
-lamdalloc -lamdlibm
```

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



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CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: May-2026

Peak Other Flags

C benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

C++ benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

Fortran benchmarks:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

Benchmarks using both C and C++:

-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.00.html>

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.12.html>

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.00.xml>

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.12.xml>

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

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