



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL345 Gen12

(2.25 GHz, AMD EPYC 9965)

SPECrate®2026_fp_base = 470

SPECrate®2026_fp_peak = 507

CPU2026 License: 3

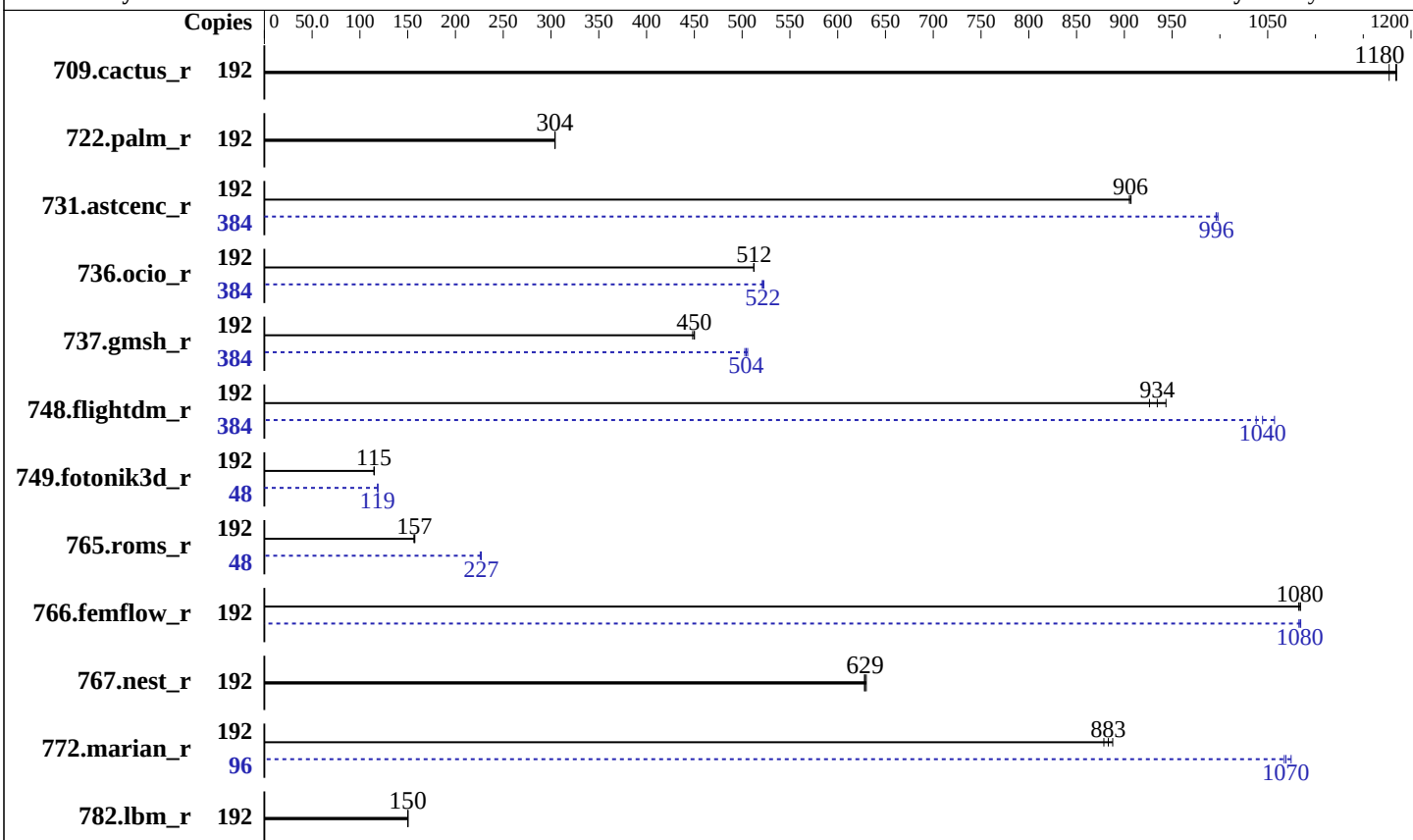
Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Aug-2025

Software Availability: May-2026



Hardware

CPU Name: AMD EPYC 9965
Max MHz: 3700
Nominal: 2250
Enabled: 192 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: 384 MB I+D on chip per chip,
32 MB shared / 16 cores
Other: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R,
running at 5200)
Storage: 1 x 3.2 TB 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 v1.60 07/27/2026
released Jul-2026
File System: btrfs
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	192	<u>139</u>	<u>1180</u>	139	1180	140	1180	192	<u>139</u>	<u>1180</u>	139	1180	140	1180
722.palm_r	192	833	304	834	304	<u>833</u>	<u>304</u>	192	833	304	834	304	<u>833</u>	<u>304</u>
731.astcenc_r	192	178	905	<u>178</u>	<u>906</u>	178	907	384	<u>324</u>	<u>996</u>	324	996	323	998
736.ocio_r	192	328	512	<u>328</u>	<u>512</u>	328	513	384	643	523	<u>644</u>	<u>522</u>	645	521
737.gmsh_r	192	196	450	197	448	<u>196</u>	<u>450</u>	384	<u>349</u>	<u>504</u>	348	506	351	503
748.flightdm_r	192	146	944	148	926	<u>147</u>	<u>934</u>	384	265	1040	<u>263</u>	<u>1040</u>	260	1060
749.fotonik3d_r	192	<u>1933</u>	<u>115</u>	1934	115	1928	115	48	<u>468</u>	<u>119</u>	468	119	468	119
765.roms_r	192	1921	157	<u>1922</u>	<u>157</u>	1932	156	48	335	226	333	227	<u>333</u>	<u>227</u>
766.femflow_r	192	260	1080	260	1080	<u>260</u>	<u>1080</u>	192	260	1080	<u>260</u>	<u>1080</u>	260	1080
767.nest_r	192	<u>242</u>	<u>629</u>	242	628	242	630	192	<u>242</u>	<u>629</u>	242	628	242	630
772.marian_r	192	345	879	341	888	<u>343</u>	<u>883</u>	96	141	1070	142	1070	<u>142</u>	<u>1070</u>
782.lbm_r	192	733	150	732	150	<u>732</u>	<u>150</u>	192	733	150	732	150	<u>732</u>	<u>150</u>

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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 40% of memory, 'sysctl -w vm.dirty_ratio=40' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=10' 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.
tuned-adm profile was set to throughput-performance using 'tuned-adm profile throughput-performance'

Environment Variables Notes

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

LD_LIBRARY_PATH =

"/home/cpu2026_1/amd_rate_aocc520_znver5_A_lib/lib:/home/cpu2026_1/amd_r
ate_aocc520_znver5_A_lib/lib32:/usr/local/python3.12/lib:"

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 High Performance Compute (HPC)

Determinism Control set to Manual

Performance Determinism set to Power Deterministic

NUMA memory domains per socket set to Four memory domains per socket

Thermal Configuration set to Maximum Cooling

Workload Profile set to Custom

L1 HW Prefetcher set to Disabled

L2 HW Prefetcher set to Disabled

Sysinfo program /home/cpu2026_1/bin/sysinfo

Rev: 779ab21020787073335a329f3a45e2cd

running on localhost Wed Sep 16 15:01:32 2026

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Platform Notes (Continued)

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. 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 6.4.0-150700.53.6-default #1 SMP PREEMPT_DYNAMIC Tue Jul 1 14:54:47 UTC 2025 (8ab7501) x86_64

2. w
15:01:32 up 24 min, 2 users, load average: 0.22, 0.07, 0.02
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root pts/0 172.16.0.100 14:38 52.00s 21.55s 20.41s python3 ./run_aocc520_fprate.py

3. Username
From environment variable \$USER: root

4. ulimit -a

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Platform Notes (Continued)

core file size	(blocks, -c)	unlimited
data seg size	(kbytes, -d)	unlimited
scheduling priority	(-e)	0
file size	(blocks, -f)	unlimited
pending signals	(-i)	3093799
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)	3093799
virtual memory	(kbytes, -v)	unlimited
file locks	(-x)	unlimited

5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@pts/0
-bash
python3 ./run_aocc520_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_1
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9965 192-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      : 192
siblings       : 384
1 physical ids (chips)
384 processors (hardware threads)
physical id 0: core ids 0-191
```

(Continued on next page)



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Platform Notes (Continued)

physical id 0: apicids 0-383

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):	384
On-line CPU(s) list:	0-383
Vendor ID:	AuthenticAMD
Model name:	AMD EPYC 9965 192-Core Processor
CPU family:	26
Model:	17
Thread(s) per core:	2
Core(s) per socket:	192
Socket(s):	1
Stepping:	0
BogoMIPS:	4493.39

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 aperfmpperf 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 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 fsmr
avx512_vp2intersect flush_l1d debug_swap hv_inuse_wr_allowed
srso_user_kernel_no amd_lbr_pmc_freeze

Virtualization:
L1d cache:

AMD-V
9 MiB (192 instances)

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Platform Notes (Continued)

L1i cache: 6 MiB (192 instances)
L2 cache: 192 MiB (192 instances)
L3 cache: 384 MiB (12 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-47,192-239
NUMA node1 CPU(s): 48-95,240-287
NUMA node2 CPU(s): 96-143,288-335
NUMA node3 CPU(s): 144-191,336-383
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/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 Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	9M	12	Data	1	64	1	64
L1i	32K	6M	8	Instruction	1	64	1	64
L2	1M	192M	16	Unified	2	1024	1	64
L3	32M	384M	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: 0-47,192-239
node 0 size: 193131 MB
node 0 free: 192532 MB
node 1 cpus: 48-95,240-287
node 1 size: 193472 MB
node 1 free: 192836 MB
node 2 cpus: 96-143,288-335
node 2 size: 193510 MB
node 2 free: 192442 MB
node 3 cpus: 144-191,336-383

(Continued on next page)



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Platform Notes (Continued)

node 3 size: 193365 MB

node 3 free: 191319 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: 792042988 kB

10. who -r

run-level 3 Sep 16 14:41

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 ahslog amsd apparmor appstream-sync-cache auditd bluetooth cpqFca cpqIde cpqScsi cron display-manager getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor mr_cpqScsi nsd nvmeFc-boot-connections nvmmf-autoconnect postfix purge-kernels rollback rsyslog smad smartd sshd sut 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 amsd_rev autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates chrony-wait chronyd console-getty cpqFca_rev cpqIde_rev cpqScsi_rev cpqiScsi cups cups-browsed debug-shell dnsmasq ebtables exchange-bmc-os-info firewalld fsidd gnome-remote-desktop gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievds issue-add-ssh-keys kexec-load lunmask man-db-create mr_cpqScsi_rev multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ smad_rev 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@ pcscd saned@ systemd-userdbd wickedd
indirect	

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

(Continued on next page)



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Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
root=UUID=de91d38d-7b1b-4bc1-b4ce-f57bbe3b30b4
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

analyzing CPU 364:

Unable to determine current policy

boost state support:

Supported: yes

Active: yes

15. tuned-adm active

Current active profile: throughput-performance

16. 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                 40
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                   10
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+madvice madvice never
enabled     [always] madvice never
hpage_pmd_size 2097152
shmem_enabled [always] within_size advise never deny force
```

(Continued on next page)



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Platform Notes (Continued)

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
```

20. Disk information

SPEC is set to: /home/cpu2026_1

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	btrfs	3.0T	60G	2.9T	2%	/home

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

```
Vendor:      HPE
Product:     HPE ProLiant Compute DL345 Gen12
Product Family: ProLiant
Serial:      I2DZ4HNF1Y
```

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:

12x Hynix HMC94AHBRA480N 64 GB 2 rank 6400, configured at 5200

23. BIOS

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

```
BIOS Vendor:      HPE
BIOS Version:     1.60
BIOS Date:        07/27/2026
BIOS Revision:    1.60
Firmware Revision: 1.22
```



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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

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL345 Gen12
(2.25 GHz, AMD EPYC 9965)

SPECrate®2026_fp_base = 470

SPECrate®2026_fp_peak = 507

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Aug-2025

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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Tested by: HPE

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Hardware Availability: Aug-2025

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=AMDLIBM -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: Same as 731.ascenc_r

```
748.flightdm_r: -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
```

766.femflow_r: Same as 748.flightdm_r

767.nest_r: basepeak = yes

772.marian_r: Same as 731.ascenc_r

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=AMDLIBM -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: -std=c++17 -std=c18 -no-pie
-Wl,-mllvm -Wl,-inline-threshold=1500 -O3 -march=znver5
```

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Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2026

Hardware Availability: Aug-2025

Software Availability: May-2026

Peak Optimization Flags (Continued)

737.gmsh_r (continued):

-fvec lib=AMDLIBM -flt0 -fno-PIE -fno-plt -ffast-math
-fremap-arrays -mllvm -inline-threshold=1500
-fvirtual-function-elimination -fvisibility=hidden
-lamdalloc -lamdlibm

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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