SPEC CPU®2026 Floating Point Rate Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

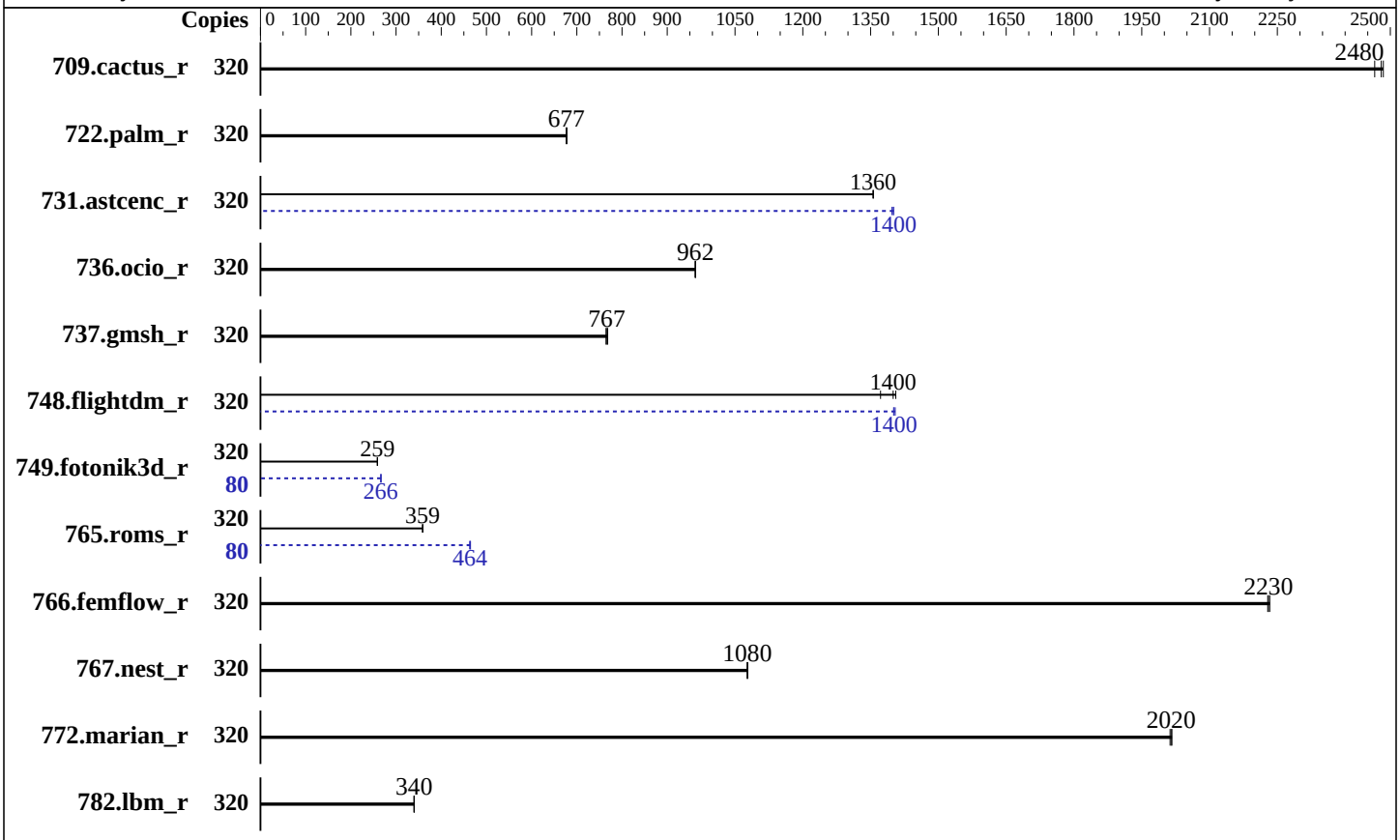
ProLiant DL365 Gen11
(2.10 GHz, AMD EPYC 9845)

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



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	**111**	**2480**	320	111	2480	111	2470	**111**	**2480**
722.palm_r	320	624	677	623	678	**624**	**677**	320	624	677	623	678	**624**	**677**
731.astcenc_r	320	**198**	**1360**	198	1360	198	1360	320	192	1400	192	1400	**192**	**1400**
736.ocio_r	320	291	962	291	963	**291**	**962**	320	291	962	291	963	**291**	**962**
737.gmsh_r	320	**192**	**767**	191	768	192	764	320	**192**	**767**	191	768	192	764
748.flightdm_r	320	**164**	**1400**	163	1410	167	1370	320	164	1400	**163**	**1400**	163	1400
749.fotonik3d_r	320	**1430**	**259**	1429	259	1431	259	80	347	266	**347**	**266**	347	267
765.roms_r	320	1404	359	**1404**	**359**	1405	359	80	**272**	**464**	272	463	271	465
766.femflow_r	320	210	2230	**210**	**2230**	211	2230	320	210	2230	**210**	**2230**	211	2230
767.nest_r	320	**236**	**1080**	235	1080	236	1080	320	**236**	**1080**	235	1080	236	1080
772.marian_r	320	251	2010	**251**	**2020**	251	2020	320	251	2010	**251**	**2020**	251	2020
782.lbm_r	320	**539**	**340**	539	340	540	340	320	**539**	**340**	539	340	540	340

SPECrate®2026_fp_base = 918

SPECrate®2026_fp_peak = 943

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
```

(Continued on next page)

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
```

(Continued on next page)

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/templogs/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 srso
    TLB size        : 192 4K pages
    cpu cores       : 160
    siblings        : 160
    2 physical ids (chips)
    320 processors (hardware threads)
```

(Continued on next page)

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 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 fsrm
     avx512_vp2intersect flush_l1d debug_swap hv_inuse_wr_allowed
```

(Continued on next page)

Platform Notes (Continued)

```
                                        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 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
                                        disabled; PBRSB-eIBRS Not affected; BHI Not affected
  Vulnerability Srbds:                  Not affected
  Vulnerability Tsx async abort:        Not affected

From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL  SETS PHY-LINE COHERENCY-SIZE
     L1d       48K      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
```

(Continued on next page)

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 nscd 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 ebtables
                   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-sysext systemd-time-wait-sync systemd-timesyncd tuned
                   udisks2 update-system-flatpaks upower vncserver@ wpa_supplicant@
  indirect         pcscd saned@ systemd-userdbd wickedd

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

(Continued on next page)

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 HMCG94AHBRA480N 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
```

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++`

(Continued on next page)

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

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`

(Continued on next page)

Peak Optimization Flags (Continued)

C++ benchmarks:

731.astcenc_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: `basepeak = yes`

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: `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=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: `basepeak = yes`

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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