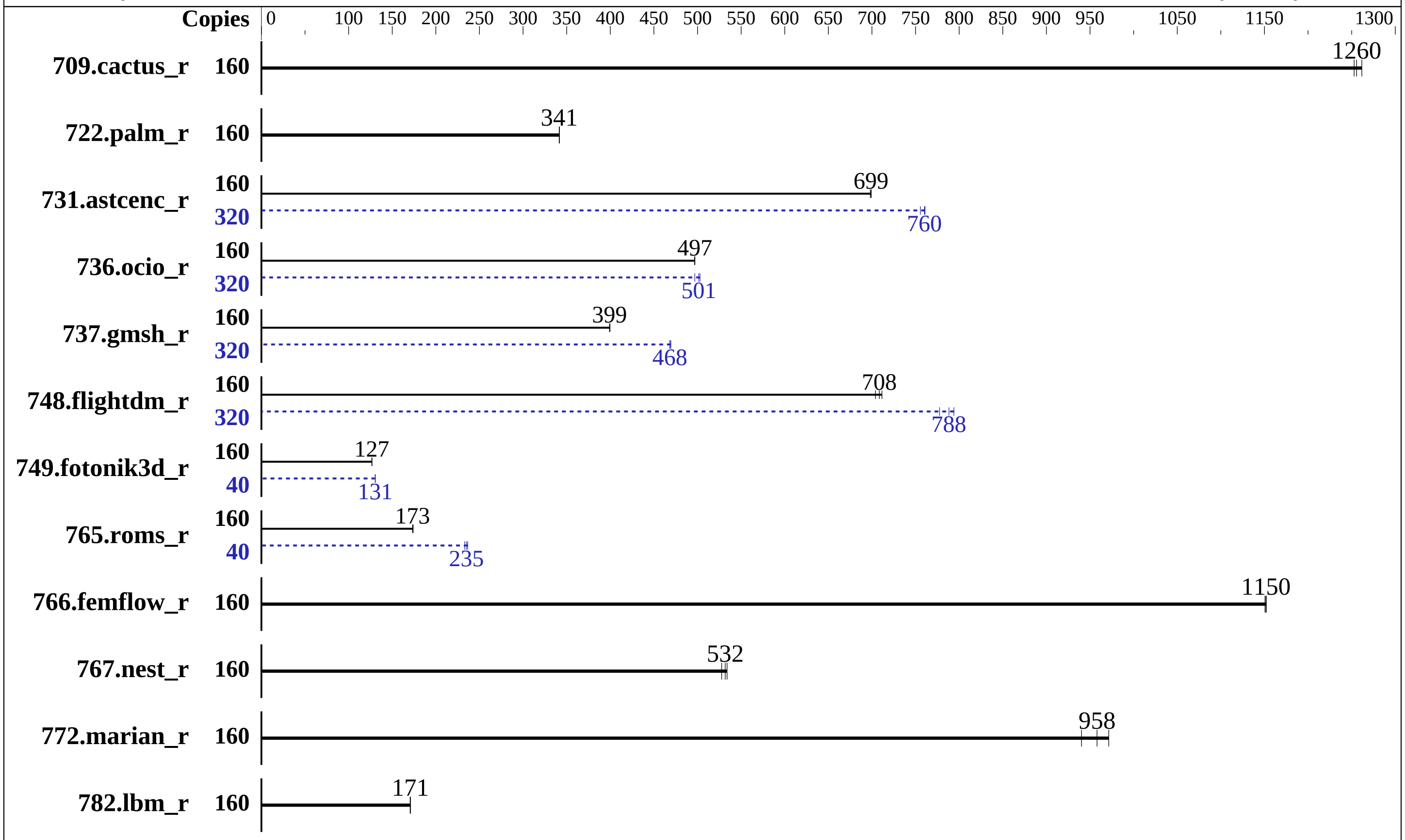
SPEC CPU®2026 Floating Point Rate Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL345 Gen11
(2.10 GHz, AMD EPYC 9845)

SPECrate®2026_fp_base = 461

SPECrate®2026_fp_peak = 489

CPU2026 License:	3	**Test Date:**	Sep-2026
Test Sponsor:	HPE	**Hardware Availability:**	Jan-2025
Tested by:	HPE	**Software Availability:**	May-2026



Hardware

CPU Name:	AMD EPYC 9845
Max MHz:	3700
Nominal:	2100
Enabled:	160 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:	320 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)
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 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 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	160	109	1260	110	1250	**109**	**1260**	160	109	1260	110	1250	**109**	**1260**
722.palm_r	160	618	342	**619**	**341**	619	341	160	618	342	**619**	**341**	619	341
731.astcenc_r	160	192	699	**192**	**699**	192	698	320	353	761	356	756	**354**	**760**
736.ocio_r	160	282	497	**282**	**497**	282	497	320	**558**	**501**	564	497	557	503
737.gmsh_r	160	**184**	**399**	184	400	184	399	320	313	469	**314**	**468**	314	468
748.flightdm_r	160	163	704	**162**	**708**	161	711	320	295	777	**291**	**788**	289	794
749.fotonik3d_r	160	1461	127	1459	127	**1460**	**127**	40	354	131	**354**	**131**	354	131
765.roms_r	160	**1453**	**173**	1454	173	1449	174	40	270	233	**268**	**235**	266	237
766.femflow_r	160	**204**	**1150**	204	1150	204	1150	160	**204**	**1150**	204	1150	204	1150
767.nest_r	160	**239**	**532**	240	528	238	534	160	**239**	**532**	240	528	238	534
772.marian_r	160	260	971	269	940	**264**	**958**	160	260	971	269	940	**264**	**958**
782.lbm_r	160	**537**	**171**	538	171	537	171	160	**537**	**171**	538	171	537	171

SPECrate®2026_fp_base = **461**

SPECrate®2026_fp_peak = **489**

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/amd_rate_aocc520_znver5_A_lib/lib:/home/cpu2026/amd_rate_
     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 General Throughput Compute
Determinism Control set to Manual
Performance Determinism set to Power Deterministic
Memory Patrol Scrubbing set to Disabled
ACPI CST C2 Latency set to 18 microseconds
NUMA memory domains per socket set to Two memory domains per socket
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
 Power Regulator set to OS Control Mode
 L2 HW Prefetcher set to Disabled

 Sysinfo program /home/cpu2026/bin/sysinfo
```

(Continued on next page)

Platform Notes (Continued)

```
Rev: 779ab21020787073335a329f3a45e2cd
running on localhost Tue Sep 15 12:08:21 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. 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
   12:08:21 up 5 min,  6 users,  load average: 0.44, 0.25, 0.11
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    172.16.0.100     12:04    1:09  17.96s 16.83s python3 ./run_520_fprate.py

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

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
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) 3093883
  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) 3093883
  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_520_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        : 320
    1 physical ids (chips)
```

(Continued on next page)

Platform Notes (Continued)

```
    320 processors (hardware threads)
    physical id 0: core ids 0-159
    physical id 0: apicids 0-319
  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:                      2
  Core(s) per socket:                      160
  Socket(s):                               1
  Stepping:                                0
  Frequency boost:                         enabled
  CPU(s) scaling MHz:                      100%
  CPU max MHz:                             2100.0000
  CPU min MHz:                             1500.0000
  BogoMIPS:                                4193.78
  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
```

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Platform Notes (Continued)

```
                                                  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
                                                  srso_user_kernel_no amd_lbr_pmc_freeze
  Virtualization:                                 AMD-V
  L1d cache:                                      7.5 MiB (160 instances)
  L1i cache:                                      5 MiB (160 instances)
  L2 cache:                                       160 MiB (160 instances)
  L3 cache:                                       320 MiB (10 instances)
  NUMA node(s):                                   2
  NUMA node0 CPU(s):                              0-79,160-239
  NUMA node1 CPU(s):                              80-159,240-319
  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
                                                  always-on; 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     7.5M   12 Data            1    64        1             64
     L1i       32K       5M    8 Instruction     1    64        1             64
     L2         1M     160M   16 Unified         2  1024        1             64
     L3        32M     320M   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-79,160-239
  node 0 size: 386611 MB
  node 0 free: 385443 MB
  node 1 cpus: 80-159,240-319
  node 1 size: 386888 MB
  node 1 free: 385802 MB
```

(Continued on next page)

Platform Notes (Continued)

```
  node distances:
  node   0   1
    0:  10  12
    1:  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       792064420 kB

------------------------------------------------------------
10. who -r
  run-level 3 Sep 15 12:04

------------------------------------------------------------
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 nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback
                   rsyslog smartd sshd systemd-pstore tuned 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 udisks2
                   update-system-flatpaks upower vncserver@ wpa_supplicant@
  indirect         pcscd saned@ systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
  root=UUID=3deb62b8-ae07-42ef-8d32-e9be1662f4ec
  splash=silent
  mitigations=auto
  quiet
  security=apparmor
```

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Platform Notes (Continued)

```
------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 186:
    current policy: frequency should be within 1.50 GHz and 2.10 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    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+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
```

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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

------------------------------------------------------------
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
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  3.0T   29G  2.9T   1% /home

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         HPE
    Product:        ProLiant DL345 Gen11
    Product Family: ProLiant
    Serial:         DL345G11-002

------------------------------------------------------------
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:
    11x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400
    1x Hynix HMCG94AHBRA487N 64 GB 2 rank 6400


------------------------------------------------------------
23. 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: 1.77
```

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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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`

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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: Same as 731.astcenc_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: 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: -std=c++17 -std=c18 -no-pie
-Wl,-mllvm -Wl,-inline-threshold=1500 -O3 -march=znver5

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Peak Optimization Flags (Continued)

737.gmsh_r (continued):
-fveclib=AMDLIBM -flto -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

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

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