SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

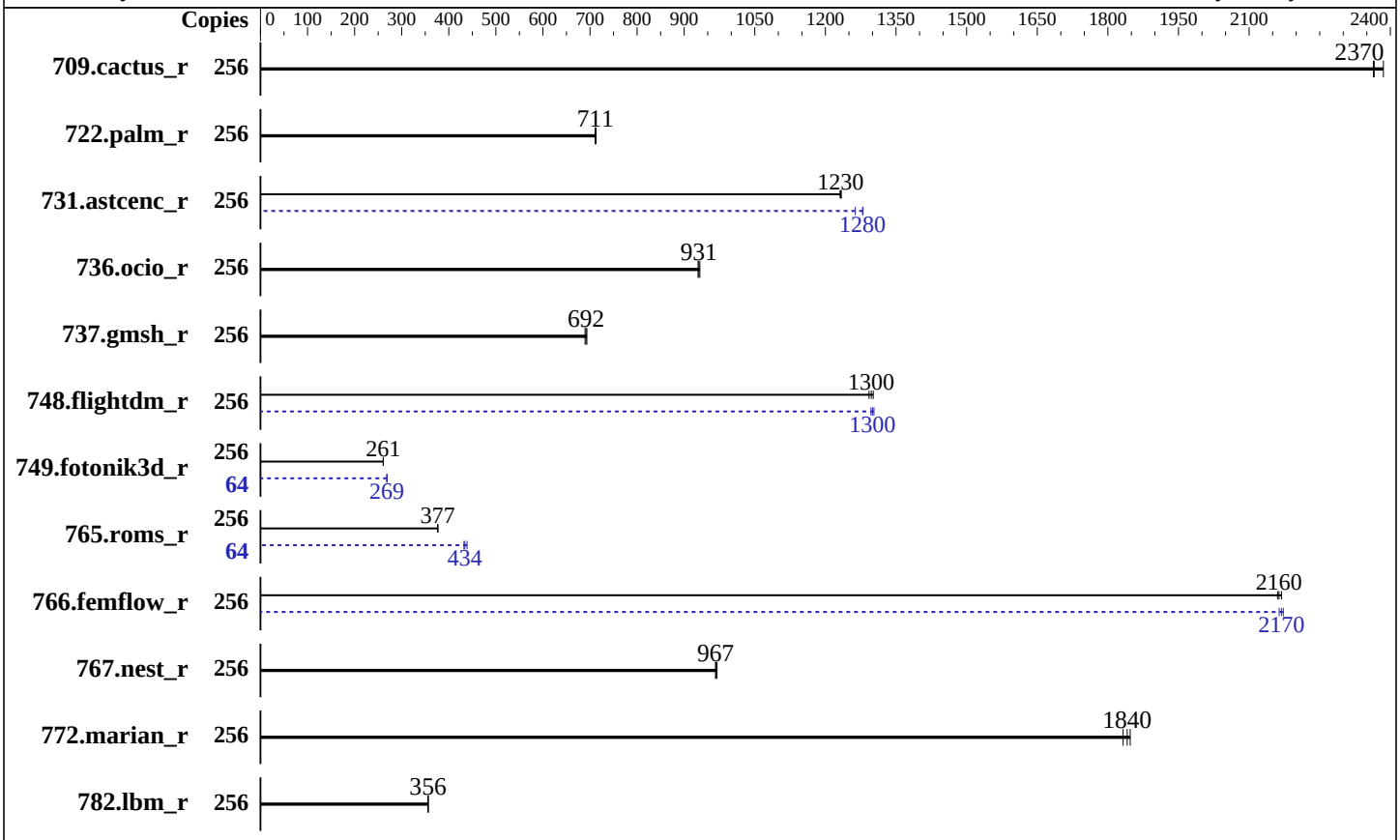
ProLiant DL365 Gen11
(2.40 GHz, AMD EPYC 9745)

SPECrate®2026_fp_base = 886

SPECrate®2026_fp_peak = 902

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 9745
Max MHz:	3700
Nominal:	2400
Enabled:	256 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:	256 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 1.6 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

SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL365 Gen11
(2.40 GHz, AMD EPYC 9745)

SPECrate®2026_fp_base = 886

SPECrate®2026_fp_peak = 902

CPU2026 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Sep-2026
Hardware Availability: Oct-2024
Software Availability: May-2026

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	256	92.1	2390	**92.8**	**2370**	92.9	2360	256	92.1	2390	**92.8**	**2370**	92.9	2360
722.palm_r	256	475	711	**475**	**711**	474	713	256	475	711	**475**	**711**	474	713
731.astcenc_r	256	175	1230	174	1230	**174**	**1230**	256	**168**	**1280**	168	1280	170	1260
736.ocio_r	256	241	930	240	933	**241**	**931**	256	241	930	240	933	**241**	**931**
737.gmsh_r	256	170	689	**170**	**692**	169	693	256	170	689	**170**	**692**	169	693
748.flightdm_r	256	**141**	**1300**	141	1300	142	1290	256	141	1300	**141**	**1300**	141	1300
749.fotonik3d_r	256	**1134**	**261**	1134	261	1134	261	64	275	269	**275**	**269**	276	269
765.roms_r	256	**1070**	**377**	1070	377	1072	376	64	**232**	**434**	230	439	233	432
766.femflow_r	256	**174**	**2160**	174	2160	173	2170	256	174	2160	173	2170	**173**	**2170**
767.nest_r	256	**210**	**967**	210	967	209	970	256	**210**	**967**	210	967	209	970
772.marian_r	256	219	1850	**220**	**1840**	221	1830	256	219	1850	**220**	**1840**	221	1830
782.lbm_r	256	412	356	412	356	**412**	**356**	256	412	356	412	356	**412**	**356**

SPECrate®2026_fp_base = 886

SPECrate®2026_fp_peak = 902

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.
```

(Continued on next page)

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
ACPI CST C2 Latency set to 18 microseconds
Thermal Configuration set to Maximum Cooling
NUMA memory domains per socket set to Four memory domains per socket
AMD SMT Option set to Disabled
Workload Profile set to Custom
 Power Regulator set to OS Control Mode
 L2 HW Prefetcher set to Disabled

 Sysinfo program /home/cpu2026/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
```

(Continued on next page)

Platform Notes (Continued)

```
running on localhost Tue Sep 15 13:30:00 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
   13:30:00 up 2 min,  4 users,  load average: 0.39, 0.25, 0.10
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

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

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) 0
```

(Continued on next page)

Platform Notes (Continued)

```
   data seg size           (kbytes, -d) unlimited
   scheduling priority             (-e) 0
   file size               (blocks, -f) unlimited
   pending signals                 (-i) 6190724
   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) 6190724
   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 9745 128-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       : 128
    siblings        : 128
    2 physical ids (chips)
    256 processors (hardware threads)
    physical id 0: core ids 0-127
```

(Continued on next page)

Platform Notes (Continued)

```
     physical id 1: core ids 0-127
     physical id 0: apicids 0-127
     physical id 1: apicids 128-255
   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):                                  256
   On-line CPU(s) list:                     0-255
   Vendor ID:                               AuthenticAMD
   Model name:                              AMD EPYC 9745 128-Core Processor
   CPU family:                              26
   Model:                                   17
   Thread(s) per core:                      1
   Core(s) per socket:                      128
   Socket(s):                               2
   Stepping:                                0
   Frequency boost:                         enabled
   CPU(s) scaling MHz:                      100%
   CPU max MHz:                             2400.0000
   CPU min MHz:                             1500.0000
   BogoMIPS:                                4792.91
   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
```

(Continued on next page)

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:                                12 MiB (256 instances)
  L1i cache:                                8 MiB (256 instances)
  L2 cache:                                 256 MiB (256 instances)
  L3 cache:                                 512 MiB (16 instances)
  NUMA node(s):                             8
  NUMA node0 CPU(s):                        0-31
  NUMA node1 CPU(s):                        32-63
  NUMA node2 CPU(s):                        64-95
  NUMA node3 CPU(s):                        96-127
  NUMA node4 CPU(s):                        128-159
  NUMA node5 CPU(s):                        160-191
  NUMA node6 CPU(s):                        192-223
  NUMA node7 CPU(s):                        224-255
  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      12M   12 Data            1    64        1             64
     L1i       32K       8M    8 Instruction     1    64        1             64
     L2         1M     256M   16 Unified         2  1024        1             64
     L3        32M     512M   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 8 nodes (0-7)
```

(Continued on next page)

Platform Notes (Continued)

```
   node 0 cpus: 0-31
   node 0 size: 193211 MB
   node 0 free: 192737 MB
   node 1 cpus: 32-63
   node 1 size: 193488 MB
   node 1 free: 192978 MB
   node 2 cpus: 64-95
   node 2 size: 193527 MB
   node 2 free: 193108 MB
   node 3 cpus: 96-127
   node 3 size: 193527 MB
   node 3 free: 193037 MB
   node 4 cpus: 128-159
   node 4 size: 193527 MB
   node 4 free: 193059 MB
   node 5 cpus: 160-191
   node 5 size: 193527 MB
   node 5 free: 193086 MB
   node 6 cpus: 192-223
   node 6 size: 193527 MB
   node 6 free: 193058 MB
   node 7 cpus: 224-255
   node 7 size: 193373 MB
   node 7 free: 192928 MB
   node distances:
   node   0   1   2   3   4   5   6   7
     0:  10  12  12  12  32  32  32  32
     1:  12  10  12  12  32  32  32  32
     2:  12  12  10  12  32  32  32  32
     3:  12  12  12  10  32  32  32  32
     4:  32  32  32  32  10  12  12  12
     5:  32  32  32  32  12  10  12  12
     6:  32  32  32  32  12  12  10  12
     7:  32  32  32  32  12  12  12  10

------------------------------------------------------------
9. /proc/meminfo
    MemTotal:       1584855736 kB

------------------------------------------------------------
10. who -r
   run-level 3 Sep 15 13:28

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
   Default Target  Status
   multi-user      running
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
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 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
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
  root=UUID=d0ab7ebe-8d2b-4ca4-97d8-878a5337a104
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 98:
    current policy: frequency should be within 1.50 GHz and 2.40 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    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
```

(Continued on next page)

Platform Notes (Continued)

```
  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
  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/nvme1n1p2 btrfs  1.5T   35G  1.5T   3% /home

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         HPE
```

(Continued on next page)

Platform Notes (Continued)

```
     Product:        ProLiant DL365 Gen11
     Product Family: ProLiant
     Serial:         DL365G11-008

 ------------------------------------------------------------
 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:
      10x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400
      1x Hynix HMCG94AHBRA487N 64 GB 2 rank 6400
      1x Micron MTC40F2046S1RC64BD2 MWFF 64 GB 2 rank 6400
      12x 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
```

(Continued on next page)

Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------

==============================================================================
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++`

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
```

(Continued on next page)

Peak Compiler Invocation (Continued)

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

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

(Continued on next page)

Peak Optimization Flags (Continued)

748.flightdm_r (continued):
-lamdalloc -lamdlibm

766.femflow_r: Same as 748.flightdm_r

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

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2026 v1.0.1 on 2026-09-15 04:00:00-0400.
Report generated on 2026-10-07 10:41:57 by CPU2026 PS formatter (86729d3b).
Originally published on 2026-10-06.