



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2026_fp_base = 179

H3C UniServer R3950 G7 (AMD EPYC 9175F)

SPECrate®2026_fp_peak = 180

CPU2026 License: 9066

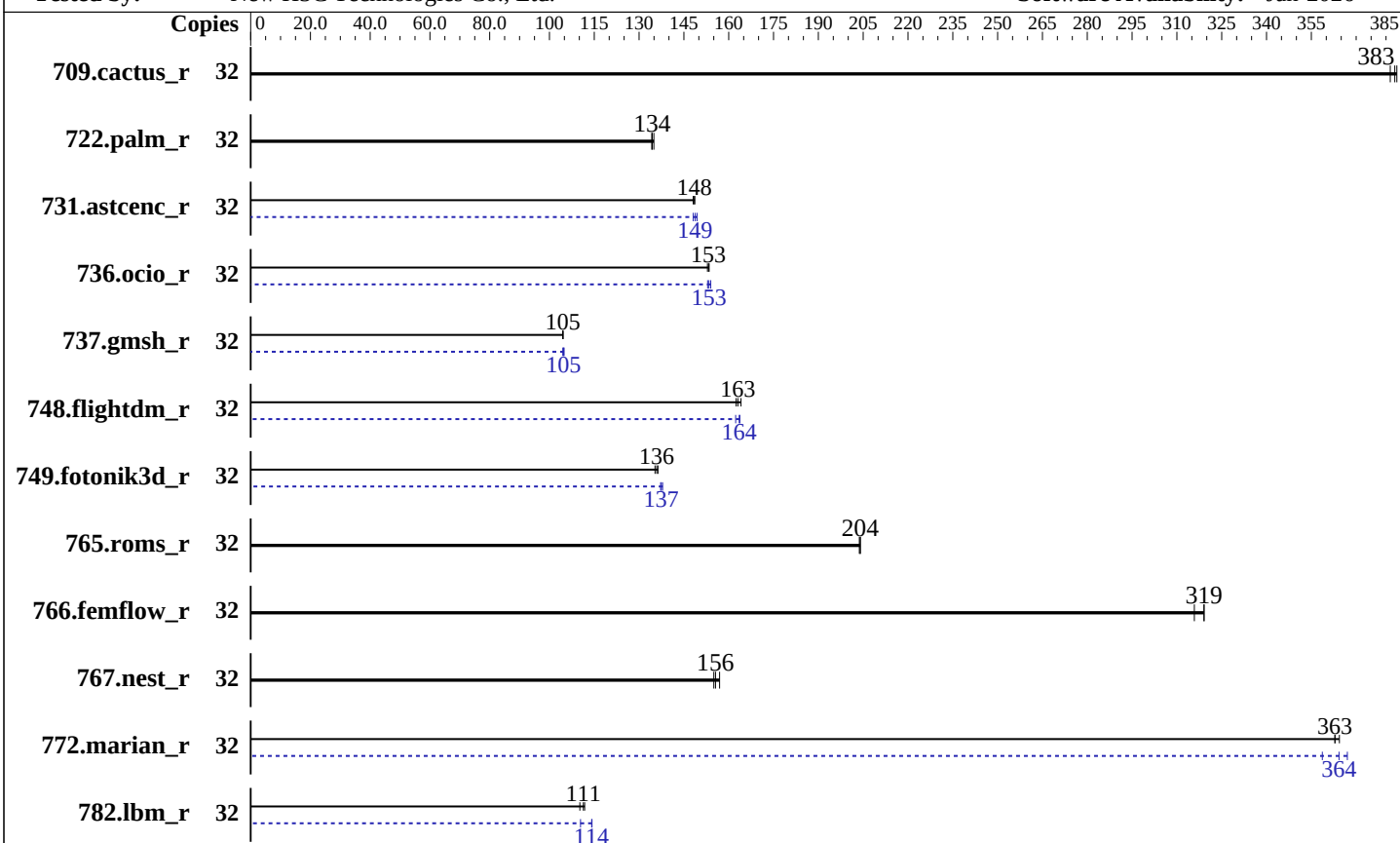
Test Date: Sep-2026

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Oct-2024

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9175F
Max MHz: 5000
Nominal: 4200
Enabled: 16 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: 512 MB I+D on chip per chip, 32 MB shared / 1 cores
Other: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 3.84 TB NVMe SSD
Cooling: Air
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP7 6.4.0-150700.51-default
Compiler: C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category: Vendor
Firmware: Version 7.30.26 released Jul-2026
File System: xfs
System State: Run level 5 (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	32	71.6	384	<u>71.7</u>	<u>383</u>	72.0	381	32	71.6	384	<u>71.7</u>	<u>383</u>	72.0	381
722.palm_r	32	315	134	313	135	<u>314</u>	<u>134</u>	32	315	134	313	135	<u>314</u>	<u>134</u>
731.astcenc_r	32	181	149	182	148	<u>181</u>	<u>148</u>	32	180	149	<u>181</u>	<u>149</u>	181	148
736.ocio_r	32	<u>183</u>	<u>153</u>	183	153	182	153	32	183	153	182	154	<u>183</u>	<u>153</u>
737.gmsh_r	32	<u>141</u>	<u>105</u>	140	105	141	104	32	140	105	<u>140</u>	<u>105</u>	141	104
748.flightdm_r	32	140	164	<u>141</u>	<u>163</u>	141	162	32	141	162	140	164	<u>140</u>	<u>164</u>
749.fotonik3d_r	32	273	135	271	136	<u>272</u>	<u>136</u>	32	<u>269</u>	<u>137</u>	270	137	268	138
765.roms_r	32	247	204	247	204	<u>247</u>	<u>204</u>	32	247	204	247	204	<u>247</u>	<u>204</u>
766.femflow_r	32	147	319	<u>147</u>	<u>319</u>	149	316	32	147	319	<u>147</u>	<u>319</u>	149	316
767.nest_r	32	162	157	164	155	<u>163</u>	<u>156</u>	32	162	157	164	155	<u>163</u>	<u>156</u>
772.marian_r	32	139	363	<u>139</u>	<u>363</u>	139	364	32	<u>139</u>	<u>364</u>	138	367	141	359
782.lbm_r	32	166	110	164	112	<u>165</u>	<u>111</u>	32	161	114	166	110	<u>161</u>	<u>114</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 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.

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Operating System Notes (Continued)

To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
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' run as root.

Environment Variables Notes

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

LD_LIBRARY_PATH =

"/home/cpu2026/amd_rate_aocc510_znver5_B_lib/lib:/home/cpu2026/amd_rate_aocc510_znver5_B_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

Platform Notes

BIOS settings:

SVM Mode = Disabled

SR-IOV Support = Disabled

Determinism Slider = Power

cTDP = 400

PPT = 400

NUMA nodes per socket = NPS 4

BMC Configuration:

Fan mode = Full speed mode

Sysinfo program /home/cpu2026/bin/sysinfo

Rev: 779ab21020787073335a329f3a45e2cd

running on localhost Sun Sep 20 13:04:51 2026

SUT (System Under Test) info as seen by some common utilities.

Table of contents

1. uname -srvvm
2. w
3. Username

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Platform Notes (Continued)

```
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 (254.24+suse.148.g83b9060b6e)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent_hugepage
19. /sys/kernel/mm/transparent_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS
```

```
-----
1. uname -srvm
Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611/lp) x86_64
```

```
-----
2. w
13:04:51 up 1 day, 20:25, 2 users, load average: 19.60, 28.78, 30.81
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1      -              Fri16   44:18m 0.02s  0.02s -bash
root      pts/0    172.17.74.10  Fri16   3:44m  2.65s  1.81s python3 ./run_amd_rate_aocc510_znver5_B1.py
```

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

```
-----
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) 3092128
max locked memory       (kbytes, -l) 2048
max memory size         (kbytes, -m) unlimited
```

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Platform Notes (Continued)

```
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) 3092128
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_amd_rate_aocc510_znver5_B1.py
runcpu --config amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.003/templogs/preenv.fprate.003.0.log --lognum 003.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9175F 16-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 2
stepping        : 1
microcode       : 0xb002162
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srs0
TLB size       : 192 4K pages
cpu cores       : 16
siblings        : 32
1 physical ids (chips)
32 processors (hardware threads)
physical id 0: core ids 0-15
physical id 0: apicids 0-31
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

7. lscpu

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Platform Notes (Continued)

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): 32
On-line CPU(s) list: 0-31
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9175F 16-Core Processor
CPU family: 26
Model: 2
Thread(s) per core: 2
Core(s) per socket: 16
Socket(s): 1
Stepping: 1
Frequency boost: enabled
CPU(s) scaling MHz: 115%
CPU max MHz: 4200.0000
CPU min MHz: 1500.0000
BogoMIPS: 8387.81

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 movbe popcnt aes xsave avx f16c rdrand lahf_lm
cmp_legacy 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 srso_user_kernel_no
amd_lbr_pmc_freeze

L1d cache: 768 KiB (16 instances)
L1i cache: 512 KiB (16 instances)
L2 cache: 16 MiB (16 instances)
L3 cache: 512 MiB (16 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-3, 16-19

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Platform Notes (Continued)

NUMA node1 CPU(s): 4-7,20-23
NUMA node2 CPU(s): 8-11,24-27
NUMA node3 CPU(s): 12-15,28-31
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Mitigation; IBPB on VMEXIT only
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
always-on; RSB filling; 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	768K	12	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	1M	16M	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: 4 nodes (0-3)

node 0 cpus: 0-3,16-19

node 0 size: 192942 MB

node 0 free: 192228 MB

node 1 cpus: 4-7,20-23

node 1 size: 193533 MB

node 1 free: 192191 MB

node 2 cpus: 8-11,24-27

node 2 size: 193495 MB

node 2 free: 192917 MB

node 3 cpus: 12-15,28-31

node 3 size: 193090 MB

node 3 free: 192417 MB

node distances:

node 0 1 2 3

0: 10 12 12 12

1: 12 10 12 12

2: 12 12 10 12

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Platform Notes (Continued)

3: 12 12 12 10

9. /proc/meminfo

MemTotal: 791615112 kB

10. who -r

run-level 5 Sep 18 16:39

11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)

Default Target	Status
graphical	degraded

12. Failed units, from systemctl list-units --state=failed

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* display-manager.service	loaded	failed	failed	X Display Manager

13. 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@ issue-generator kbdsettings kdump kdump-early kdump-notify 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 dmraid-activation dnsmasq ebttables exchange-bmc-os-info firewallld fsidd gnome-remote-desktop gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdev irqbalance issue-add-ssh-keys kexec-load ksm kvm_stat lunmask man-db-create multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysextd systemd-time-wait-sync systemd-timesyncd tuned udisks2 update-system-flatpaks upower wpa_supplicant@
indirect	pcscd saned@ systemd-userdbd wickedd

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

BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
root=UUID=175fa735-7a9b-4681-b6bb-bfbccdf5de6c
splash=silent
resume=/dev/disk/by-uuid/406a8b4e-fda8-4c7c-a003-8dcf181d7077

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Platform Notes (Continued)

```
mitigations=auto
quiet
security=apparmor
crashkernel=373M,high
crashkernel=72M,low
```

15. cpupower frequency-info

analyzing CPU 31:

current policy: frequency should be within 1.50 GHz and 4.20 GHz.
The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

16. tuned-adm active

No current active profile.

17. 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
```

18. /sys/kernel/mm/transparent_hugepage

```
defrag      [always] defer defer+madvise madvise never
enabled     [always] madvise never
hpage_pmd_size 2097152
```

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Platform Notes (Continued)

shmem_enabled always within_size advise [never] deny force

19. /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
```

20. OS release

```
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP7
```

21. Disk information

SPEC is set to: /home/cpu2026

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	2.8T	100G	2.7T	4%	/home

22. /sys/devices/virtual/dmi/id

```
Vendor: New H3c Technologies Co., Ltd.
Product: H3C UniServer R3950 G7
Product Family: AMD Turin Server
Serial: 210235A56XH2550000006
```

23. 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 SK Hynix HMC94AHBRA480N 64 GB 2 rank 6400
1x SK Hynix HMC94AHBRA481N 64 GB 2 rank 6400
```

24. BIOS

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

```
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 7.30.26
BIOS Date: 07/11/2026
```

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Platform Notes (Continued)

BIOS Revision: 5.35

Firmware Revision: 2.21

Compiler Version Notes

=====
C | 782.lbm_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/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_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

=====
C++, C | 709.cactus_r(base, peak) 737.gmsh_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/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_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin



SPEC CPU®2026 Floating Point Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2026_fp_base = 179

H3C UniServer R3950 G7 (AMD EPYC 9175F)

SPECrate®2026_fp_peak = 180

CPU2026 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: Jan-2026

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:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

-Wl,-mllvm -Wl,-reduce-array-computations=3

-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather

-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie

-flto -fstruct-layout=7 -mllvm -unroll-threshold=50

-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining

-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc

-lflang

C++ benchmarks:

-m64 -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

-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -flto

-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=2000000

-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc

-lflang

Fortran benchmarks:

-m64 -Mstandard -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -flto -mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -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
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=2000000 -lamdlibm -lamdalloc -lflang
```

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
```



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CPU2026 License: 9066

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Tested by: New H3C Technologies Co., Ltd.

Test Date: Sep-2026

Hardware Availability: Oct-2024

Software Availability: Jan-2026

Peak Optimization Flags

C benchmarks:

```
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math -Ofast  
-march=znver5 -fveclib=AMDLIBM -fltto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3 -zopt  
-lamdlibm -lamdalloc
```

C++ benchmarks:

```
731.astcenc_r: -m64 -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 -ffast-math -O3  
-march=znver5 -fveclib=AMDLIBM -fltto  
-mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=2000000  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm  
-lamdalloc -lflang
```

736.ocio_r: Same as 731.astcenc_r

748.flightdm_r: Same as 731.astcenc_r

766.femflow_r: basepeak = yes

767.nest_r: basepeak = yes

772.marian_r: Same as 731.astcenc_r

Fortran benchmarks:

722.palm_r: basepeak = yes

```
749.fotonik3d_r: -m64 -Mstandard  
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math  
-Ofast -march=znver5 -fveclib=AMDLIBM -fltto -Mrecursive  
-mllvm -reduce-array-computations=3  
-fepilog-vectorization-of-inductions -zopt -lamdlibm  
-lamdalloc -lflang
```

765.roms_r: basepeak = yes

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Test Sponsor: New H3C Technologies Co., Ltd.	Hardware Availability: Oct-2024
Tested by: New H3C Technologies Co., Ltd.	Software Availability: Jan-2026

Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

```
709.cactus_r: basepeak = yes

737.gmsh_r: -m64 -std=c++17 -std=c18
-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 -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays
-fstrip-mining -mllvm -reduce-array-computations=3 -zopt
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -lamdlibm
-lamdalloc -lflang
```

The flags files that were used to format this result can be browsed at
<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.html>
http://www.spec.org/cpu2026/results/flags/New_H3C-Platform-AMD-Settings-cpu2026-V1.2-Turin.html

You can also download the XML flags sources by saving the following links:
<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.xml>
http://www.spec.org/cpu2026/results/flags/New_H3C-Platform-AMD-Settings-cpu2026-V1.2-Turin.xml

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