



SPEC CPU®2026 Floating Point Rate Result

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Compal Electronics, Inc.

SR224-2A
AMD EPYC 9965

SPECrate®2026_fp_base = 1050

SPECrate®2026_fp_peak = 1120

CPU2026 License: 6857

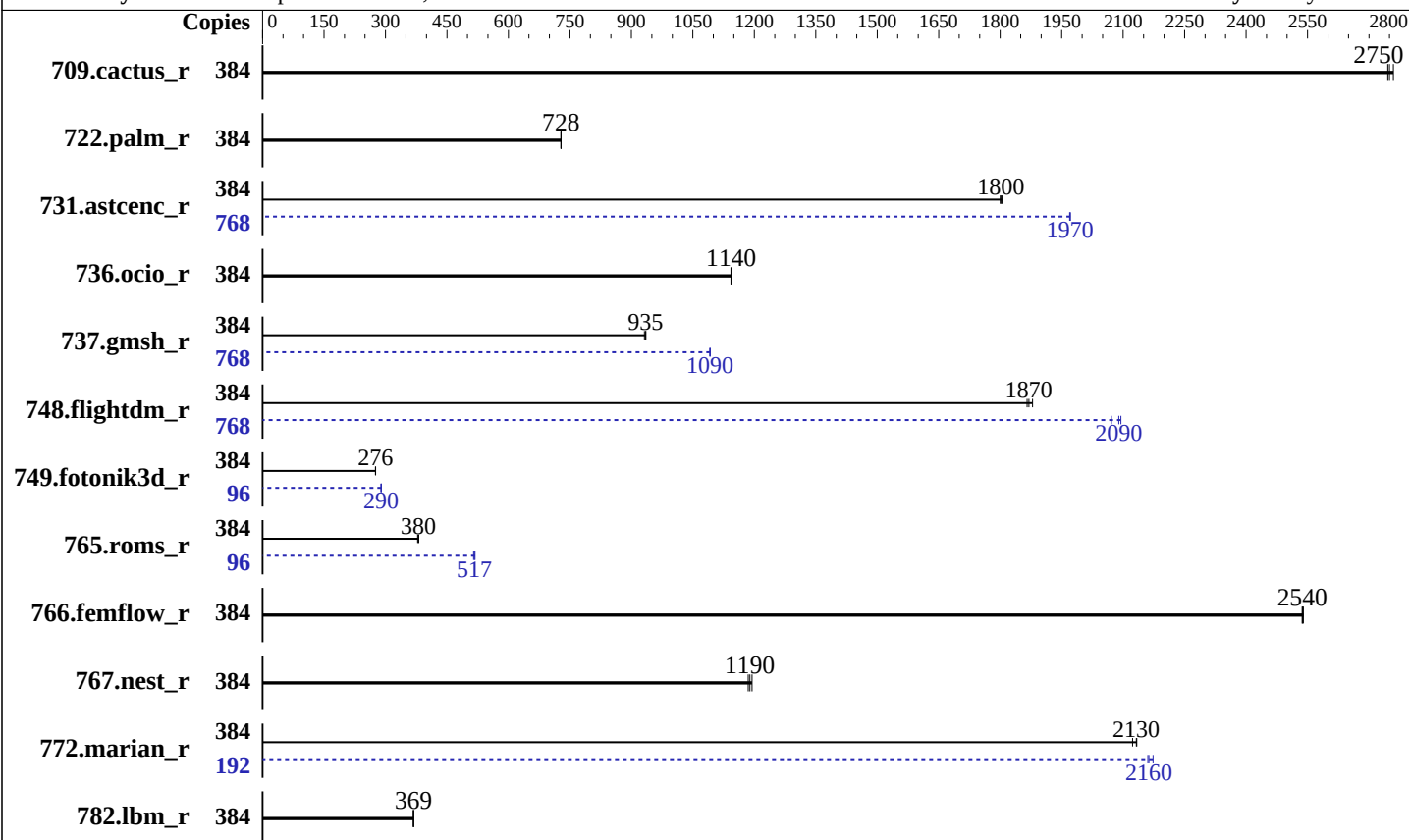
Test Sponsor: Compal Electronics, Inc.

Tested by: Compal Electronics, Inc.

Test Date: Jul-2026

Hardware Availability: Jul-2025

Software Availability: May-2026



Hardware

CPU Name: AMD EPYC 9965
Max MHz: 3700
Nominal: 2250
Enabled: 384 cores, 2 chips, 2 threads/core
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: 384 MB I+D on chip per chip, 32 MB shared / 16 cores
Other: None
Memory: 768 GB (24 x 32 GB 2Rx8 PC5-6400B-R)

Storage: 1x3.84TB M.2 NVMe SSD
Cooling: Air
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP7
kernel version 6.4.0-150700.51-default
Compiler: C/C++/Fortran: Version 5.2.0 of AOCC
Compiler Category: Vendor
Firmware: American Megatrends Version 10.28.00 released Jan-2026
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc: jemalloc memory allocator library v5.3.1
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	384	120	2750	119	2760	<u>120</u>	<u>2750</u>	384	120	2750	119	2760	<u>120</u>	<u>2750</u>
722.palm_r	384	696	729	696	728	<u>696</u>	<u>728</u>	384	696	729	696	728	<u>696</u>	<u>728</u>
731.astcenc_r	384	179	1800	<u>179</u>	<u>1800</u>	179	1800	768	328	1970	<u>327</u>	<u>1970</u>	327	1970
736.ocio_r	384	<u>294</u>	<u>1140</u>	294	1140	294	1140	384	<u>294</u>	<u>1140</u>	294	1140	294	1140
737.gmsh_r	384	189	932	188	935	<u>189</u>	<u>935</u>	768	323	1090	<u>323</u>	<u>1090</u>	323	1090
748.flightdm_r	384	146	1880	<u>147</u>	<u>1870</u>	147	1870	768	265	2070	263	2090	<u>263</u>	<u>2090</u>
749.fotonik3d_r	384	1612	275	<u>1610</u>	<u>276</u>	1609	276	96	383	290	<u>383</u>	<u>290</u>	384	289
765.roms_r	384	1587	381	1598	378	<u>1591</u>	<u>380</u>	96	292	518	294	515	<u>292</u>	<u>517</u>
766.femflow_r	384	222	2540	222	2540	<u>222</u>	<u>2540</u>	384	222	2540	222	2540	<u>222</u>	<u>2540</u>
767.nest_r	384	<u>256</u>	<u>1190</u>	257	1190	255	1190	384	<u>256</u>	<u>1190</u>	257	1190	255	1190
772.marian_r	384	286	2120	284	2130	<u>284</u>	<u>2130</u>	192	<u>140</u>	<u>2160</u>	140	2170	140	2160
782.lbm_r	384	598	368	<u>597</u>	<u>369</u>	597	369	384	598	368	<u>597</u>	<u>369</u>	597	369

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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.
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' run as root.

Environment Variables Notes

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

```
LD_LIBRARY_PATH =  
    "/cpu2026/amd_rate_aocc520_znver5_A_lib/lib:/cpu2026/amd_rate_aocc520_zn  
    ver5_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
jemalloc: configured and built with GCC v15.2.0 in Ubuntu 24.04 (No options specified)
jemalloc 5.3.1 is available here:
<https://github.com/jemalloc/jemalloc/releases/tag/5.3.1>

Platform Notes

BIOS settings:
TDP Control: Manual
TDP: 500
PPT Control: Manual
PPT: 500
NUMA Nodes Per Socket: NPS4
SMT Control : Enable
Power Profile Selection : High Performance Mode
ACPI CST C2 Latency : 18
DF Cstates: Disabled
DRAM Scrub Time: Disabled
Global C-state Control: Disabled
L1 Stream HW Prefetcher: Disable
L2 Stream HW Prefetcher: Disable
SVM mode: Disabled
SMEE: Disable
GMI encryption control: Disabled
xGMI Encryption control: Disabled

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Platform Notes (Continued)

Sysinfo program /cpu2026/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd
running on localhost Fri Jul 31 10:31:09 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 (254.24+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. 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 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

2. w
10:31:09 up 17:32, 4 users, load average: 0.33, 0.19, 0.07
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root pts/0 192.168.68.2 Thu17 8.00s 1.57s 0.22s python3 ./run_amd_rate_aocc520_znver5_A1.py
root pts/1 192.168.68.2 Thu17 17:06m 0.16s 0.16s -bash

3. Username

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Platform Notes (Continued)

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) 3091974
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) 3091974
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_aocc520_znver5_A1.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/CPU2026.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /cpu2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9965 192-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 17
stepping        : 0
microcode       : 0xb101054
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srs0
TLB size        : 192 4K pages
cpu cores       : 192
```

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Platform Notes (Continued)

siblings : 384
2 physical ids (chips)
768 processors (hardware threads)
physical id 0: core ids 0-191
physical id 1: core ids 0-191
physical id 0: apicids 0-383
physical id 1: apicids 512-895

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): 768
On-line CPU(s) list: 0-767
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9965 192-Core Processor
CPU family: 26
Model: 17
Thread(s) per core: 2
Core(s) per socket: 192
Socket(s): 2
Stepping: 0
Frequency boost: enabled
CPU(s) scaling MHz: 100%
CPU max MHz: 3700.0000
CPU min MHz: 1200.0000
BogoMIPS: 4493.30

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 extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpxt
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

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Platform Notes (Continued)

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 srsr_user_kernel_no
amd_lbr_pmc_freeze

L1d cache: 18 MiB (384 instances)
L1i cache: 12 MiB (384 instances)
L2 cache: 384 MiB (384 instances)
L3 cache: 768 MiB (24 instances)

NUMA node(s): 8
NUMA node0 CPU(s): 0-47, 384-431
NUMA node1 CPU(s): 48-95, 432-479
NUMA node2 CPU(s): 96-143, 480-527
NUMA node3 CPU(s): 144-191, 528-575
NUMA node4 CPU(s): 192-239, 576-623
NUMA node5 CPU(s): 240-287, 624-671
NUMA node6 CPU(s): 288-335, 672-719
NUMA node7 CPU(s): 336-383, 720-767

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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
always-on; RSB filling; PBRSS-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	18M	12	Data	1	64	1	64
L1i	32K	12M	8	Instruction	1	64	1	64
L2	1M	384M	16	Unified	2	1024	1	64
L3	32M	768M	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)

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Platform Notes (Continued)

```
node 0 cpus: 0-47,384-431
node 0 size: 96108 MB
node 0 free: 95464 MB
node 1 cpus: 48-95,432-479
node 1 size: 96742 MB
node 1 free: 96091 MB
node 2 cpus: 96-143,480-527
node 2 size: 96742 MB
node 2 free: 96162 MB
node 3 cpus: 144-191,528-575
node 3 size: 96704 MB
node 3 free: 96130 MB
node 4 cpus: 192-239,576-623
node 4 size: 96742 MB
node 4 free: 96151 MB
node 5 cpus: 240-287,624-671
node 5 size: 96742 MB
node 5 free: 95003 MB
node 6 cpus: 288-335,672-719
node 6 size: 96742 MB
node 6 free: 96118 MB
node 7 cpus: 336-383,720-767
node 7 size: 96495 MB
node 7 free: 95922 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: 791574364 kB

10. who -r

run-level 3 Jul 30 16:59

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

Default Target Status
multi-user degraded

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Platform Notes (Continued)

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

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* firewall.service	loaded	failed	failed	firewalld - dynamic firewall daemon
* kdump-early.service	loaded	failed	failed	Load kdump kernel early on startup
* kdump.service	loaded	failed	failed	Load kdump kernel and initrd
* NetworkManager-wait-online.service	loaded	failed	failed	Network Manager Wait Online

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth chronyd cron display-manager firewalld getty@ irqbalance issue-generator kbdsettings kdump kdump-early kdump-notify klog lvm2-monitor nsd nvme-fc-boot-connections nvme-f-autoconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wpa_supplicant
enabled-runtime	systemd-remount-fs
disabled	accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates chrony-wait console-getty cups cups-browsed debug-shell dnsmasq ebttables exchange-bmc-os-info fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmiev issue-add-ssh-keys kexec-load ksm kvm_stat lunmask man-db-create mariadb mariadb@ multipathd munge nfs nfs-blkmap nmb ntp-wait ntpd ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd rtkit-daemon salt-minion samba-bgqd serial-getty@ slurmd slurmd slurmdbd smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd svnserve systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysex systemd-time-wait-sync systemd-timesyncd udisks2 update-system-flatpaks upower vncserver@ wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant@ ybind
indirect	systemd-userdbd wickedd

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

BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
root=UUID=03f2994f-ee68-4440-b1db-7d3f781cf8b4
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=380M,high
crashkernel=72M,low,
amd_pstate=passive

15. cpupower frequency-info

analyzing CPU 53:
current policy: frequency should be within 1.20 GHz and 3.70 GHz.
The governor "performance" may decide which speed to use

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Platform Notes (Continued)

within this range.
boost state support:
Supported: yes
Active: yes

16. sysctl

kernel.numa_balancing	1
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

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
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

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Platform Notes (Continued)

os-release SUSE Linux Enterprise Server 15 SP7

20. Disk information

SPEC is set to: /cpu2026

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	btrfs	1.0T	66G	956G	7%	/

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

Vendor: COMPAL
Product: COMPAL SERVER
Product Family: COMPAL
Serial: 7901567500001

22. dmidecode

Additional information from dmidecode 3.7 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:

24x Samsung M321R4GA3EB2-CCPKC 32 GiB 2 rank 6400

23. BIOS

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

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 10.28.00
BIOS Date: 01/29/2026
BIOS Revision: 5.35
Firmware Revision: 5.35

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

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SPEC CPU®2026 Floating Point Rate Result

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SR224-2A
AMD EPYC 9965

SPECrate®2026_fp_base = 1050

SPECrate®2026_fp_peak = 1120

CPU2026 License: 6857

Test Sponsor: Compal Electronics, Inc.

Tested by: Compal Electronics, Inc.

Test Date: Jul-2026

Hardware Availability: Jul-2025

Software Availability: May-2026

Compiler Version Notes (Continued)

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++

Fortran benchmarks:
flang

Benchmarks using both C and C++:
clang++ clang



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Base Portability Flags

736.ocio_r: -fno-finite-math-only
737.gmsl_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 -ljemalloc
-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 -ljemalloc -lamdlibm

Fortran benchmarks:

-std=f2008 -no-pie -O3 -march=znver5 -fveclib=AMDLIBM -flto
-fno-PIE -fno-plt -ffast-math -mllvm -fuse-tile-inner-loop -ljemalloc
-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 -ljemalloc
-lamdlibm

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

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Software Availability: May-2026

Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:

clang++ clang

Peak Portability Flags

736.ocio_r: -fno-finite-math-only

737.gmsl_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 -ljemalloc

-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

-ljemalloc -lamdlibm

766.femflow_r: basepeak = yes

767.nest_r: basepeak = yes

772.marian_r: Same as 731.astcenc_r

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Peak Optimization Flags (Continued)

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 -ljemalloc
-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
-fveclib=AMDLIBM -flto -fno-PIE -fno-plt -ffast-math
-fremap-arrays -mllvm -inline-threshold=1500
-fvirtual-function-elimination -fvisibility=hidden
-ljemalloc -lamdlibm

The flags files that were used to format this result can be browsed at

http://www.spec.org/cpu2026/results/flags/Compal-Platform-Flags-Linux-AMD_V1.8.html

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-08-11.html>

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2026/results/flags/Compal-Platform-Flags-Linux-AMD_V1.8.xml

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-08-11.xml>

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