



SPEC CPU®2017 Integer Speed Result

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Compal Electronics, Inc.

(Test Sponsor: Compal Inc.)

SR224-2A

AMD EPYC 9755

SPECSpeed®2017_int_base = 17.8

SPECSpeed®2017_int_peak = 18.1

CPU2017 License: 6857

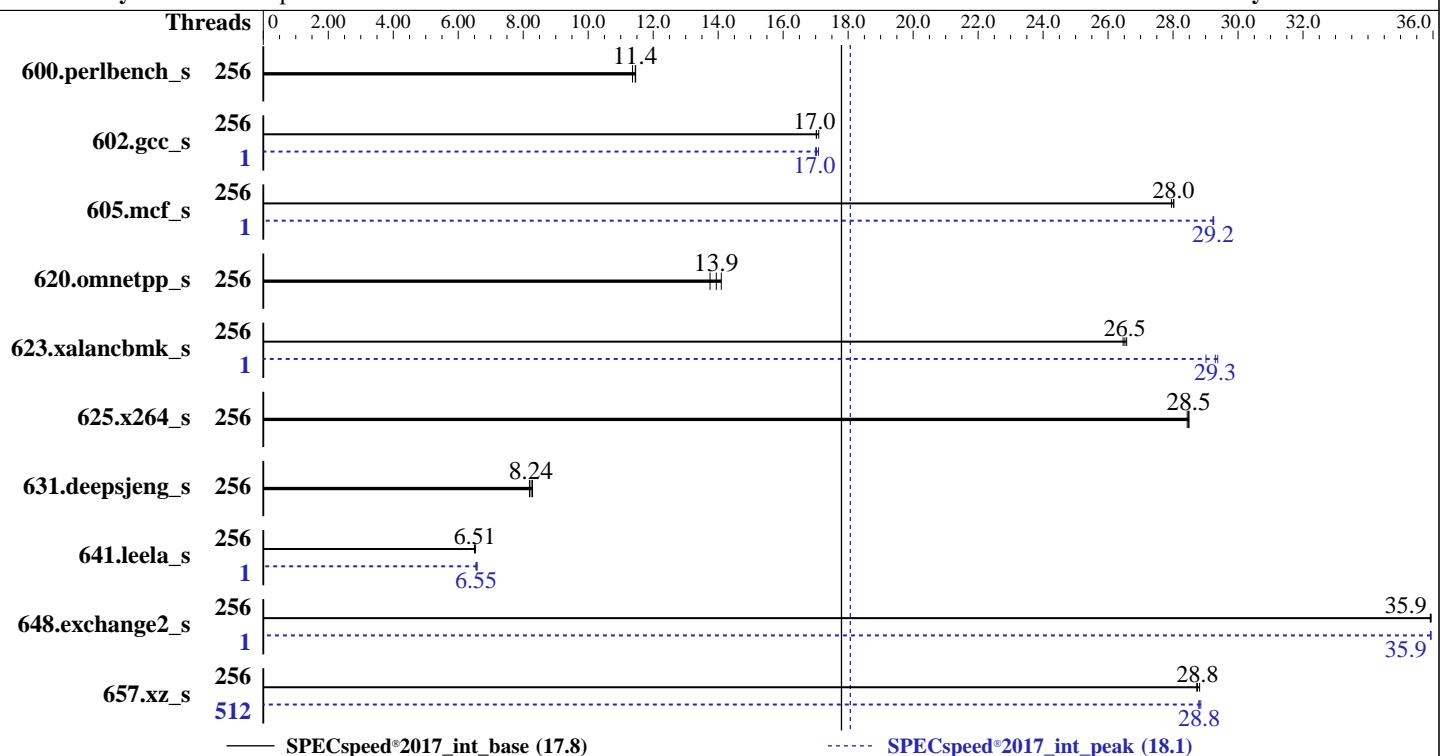
Test Date: Jul-2025

Test Sponsor: Compal Inc.

Hardware Availability: Jul-2025

Tested by: Compal Inc.

Software Availability: Jul-2025



Hardware		Software	
CPU Name:	AMD EPYC 9755	OS:	Ubuntu 22.04.5 LTS
Max MHz:	4100		kernel version
Nominal:	2700		5.15.0-119-generic
Enabled:	256 cores, 2 chips, 2 threads/core	Compiler:	C/C++/Fortran: Version 5.0.0 of AOCC
Orderable:	2 chips	Parallel:	Yes
Cache L1:	32 KB I + 48 KB D on chip per core	Firmware:	American Megatrends version 10.23.00
L2:	1 MB I+D on chip per core		released May-2025
L3:	512 MB I+D on chip per chip, 32 MB shared / 8 cores	File System:	ext4
Other:	None	System State:	Run level 5 (graphical multi-user)
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)	Base Pointers:	64-bit
Storage:	1 x 930 GB NVMe SSD	Peak Pointers:	64-bit
Other:	CPU Cooling: Air	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							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	256	155	11.5	156	11.4	<u>155</u>	<u>11.4</u>	256	155	11.5	156	11.4	<u>155</u>	<u>11.4</u>		
602.gcc_s	256	234	17.0	233	17.1	234	17.0	1	234	17.0	233	17.1	234	17.0		
605.mcf_s	256	169	27.9	169	28.0	168	28.0	1	161	29.2	161	29.2	161	29.3		
620.omnetpp_s	256	119	13.7	116	14.1	117	13.9	256	119	13.7	116	14.1	117	13.9		
623.xalancbmk_s	256	53.3	26.6	53.4	26.5	53.5	26.5	1	48.4	29.3	48.2	29.4	48.8	29.0		
625.x264_s	256	62.0	28.4	61.9	28.5	61.9	28.5	256	62.0	28.4	61.9	28.5	61.9	28.5		
631.deepsjeng_s	256	175	8.19	174	8.24	173	8.29	256	175	8.19	174	8.24	173	8.29		
641.leela_s	256	261	6.53	263	6.50	262	6.51	1	259	6.58	260	6.55	260	6.55		
648.exchange2_s	256	81.8	35.9	81.9	35.9	81.8	35.9	1	81.8	35.9	81.8	35.9	81.8	35.9		
657.xz_s	256	215	28.8	215	28.7	215	28.8	512	215	28.8	215	28.8	214	28.9		
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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.
Mitigation notes:
gather_data_sampling: Not affected; itlb_multihit: Not affected; l1tf: Not affected;
mds: Not affected; meltdown: Not affected; mmio_stale_data: Not affected;
reg_file_data_sampling: Not affected; retbleed: Not affected; spec_rstack_overflow: Not affected;
spec_store_bypass: Mitigation: Speculative Store Bypass disabled via prctl and seccomp;
spectre_v1: Mitigation: usercopy/swaps barriers and __user pointer sanitization;
spectre_v2: Mitigation: Enhanced / Automatic IBRS; IBPB: conditional; STIBP: always-on;
srds: Not affected; tsx_async_abort: Not affected.

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.
To disable address space layout randomization (ASLR) to reduce run-to-run
variability, 'sysctl -w kernel.randomize_va_space=0' run as root.

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Operating System Notes (Continued)

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:

```
GOMP_CPU_AFFINITY = "0-511"
LD_LIBRARY_PATH =
    "/home/SPEC_CPU_2017_AOCC/amd_speed_aocc500_znver5_A_lib/lib:/home/SPEC_CPU_2017_AOCC/amd_speed_aocc50
    0_znver5_A_lib/lib32:"
LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "512"
```

Environment variables set by runcpu during the 602.gcc_s peak run:

```
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 605.mcf_s peak run:

```
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 623.xalancbmk_s peak run:

```
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 641.leela_s peak run:

```
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 648.exchange2_s peak run:

```
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 657.xz_s peak run:

```
GOMP_CPU_AFFINITY = "0-511"
```

General Notes

Binaries were compiled on a system with 2x AMD EPYC 9D64 CPU + 500GiB Memory using Ubuntu 22.04

Platform Notes

BIOS Settings:

SMT Control	:	Enabled
Power Profile Selection	:	High Performance Mode
TDP Control	:	Manual
TDP	:	500
PPT Control	:	Manual
PPT	:	500
Determinism Control	:	Manual
NUMA Nodes Per Socket	:	NPS1
Performance Mode	:	Custom
ACPI CST C2 Latency	:	18
BoostFmaxEn	:	Manual

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Platform Notes (Continued)

BoostFmax	:	4100
L1 Stride Prefetcher	:	Disabled
ASPM Control	:	Disabled
CPPC	:	Disabled
Memory Interleaving	:	Disabled
Memory Target Speed	:	6400

```
Sysinfo program /home/SPEC_CPU_2017_AOCC/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on test Wed Jul  2 08:31:47 2025
```

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

Table of contents

1. uname -a
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 249 (249.11-0ubuntu3.16)
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 -a
Linux test 5.15.0-119-generic #129-Ubuntu SMP Fri Aug 2 19:25:20 UTC 2024 x86_64 x86_64 x86_64 GNU/Linux

2. w
08:31:47 up 6 min, 1 user, load average: 0.31, 1.96, 1.48
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 08:30 27.00s 1.03s 0.14s /bin/bash ./amd_speed_aocc500_znver5_A1.sh

3. Username
From environment variable \$USER: root

4. ulimit -a
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited

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Platform Notes (Continued)

```
stack(kbytes)      unlimited
coredump(blocks)   0
memory(kbytes)     unlimited
locked memory(kbytes) 2097152
process           6189886
nofiles          1024
vmmemory(kbytes)   unlimited
locks            unlimited
rtprio             0
```

```
-----  
5. sysinfo process ancestry  
/sbin/init  
/bin/login -p --  
-bash  
python3 ./run_amd_speed_aocc500_znver5_A1.py  
/bin/bash ./amd_speed_aocc500_znver5_A1.sh  
runcpu --config amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 intspeed  
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower  
--runmode speed --tune base:peak --size test:train:refspeed intspeed --nopreenv --note-preenv --logfile  
$SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2  
specperl $SPEC/bin/sysinfo  
$SPEC = /home/SPEC_CPU_2017_AOCC
```

```
-----  
6. /proc/cpuinfo  
model name      : AMD EPYC 9755 128-Core Processor  
vendor_id        : AuthenticAMD  
cpu family      : 26  
model           : 2  
stepping         : 1  
microcode       : 0xb002147  
bugs             : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass  
TLB size         : 192 4K pages  
cpu cores        : 128  
siblings         : 256  
2 physical ids (chips)  
512 processors (hardware threads)  
physical id 0: core ids 0-127  
physical id 1: core ids 0-127  
physical id 0: apicids 0-255  
physical id 1: apicids 256-511
```

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 2.37.2:  
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):                        512  
On-line CPU(s) list:           0-511  
Vendor ID:                     AuthenticAMD  
Model name:                    AMD EPYC 9755 128-Core Processor  
CPU family:                   26  
Model:                         2  
Thread(s) per core:            2
```

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Platform Notes (Continued)

Core(s) per socket:	128
Socket(s):	2
Stepping:	1
Frequency boost:	enabled
CPU max MHz:	4121.1909
CPU min MHz:	1500.0000
BogoMIPS:	5392.01
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 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 osw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_llc mwaitx cpb cat_13 cdp_13 invpcid_single hw_pstate ssbd mba ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bml1 avx2 smep bmi2 erms invpcid cqmq rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqmq_llc cqmq_occup_llc cqmq_mbm_total cqmq_mbm_local avx_vnni avx512_bf16 clzero iperf xsaveerptr rdpru wbnoinvd amd_ppin cppc arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic v_vmsave_vmlload vgif v_spec_ctrl avx512vbmi umip pkru ospte avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpocntdq la57 rdpid bus_lock_detect movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect flush_ll1d AMD-V
Virtualization:	
L1d cache:	12 MiB (256 instances)
L1i cache:	8 MiB (256 instances)
L2 cache:	256 MiB (256 instances)
L3 cache:	1 GiB (32 instances)
NUMA node(s):	2
NUMA node0 CPU(s):	0-127,256-383
NUMA node1 CPU(s):	128-255,384-511
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:	Not affected
Vulnerability Spec store bypass:	Mitigation; Speculative Store Bypass disabled via prctl and seccomp
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; 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	1G	16	Unified	3	32768	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

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Platform Notes (Continued)

```
available: 2 nodes (0-1)
node 0 cpus: 0-127,256-383
node 0 size: 773597 MB
node 0 free: 770488 MB
node 1 cpus: 128-255,384-511
node 1 size: 773982 MB
node 1 free: 771848 MB
node distances:
node    0    1
 0:   10   32
 1:   32   10

-----
9. /proc/meminfo
MemTotal:      1584722084 kB

-----
10. who -r
run-level 5 Jul 2 08:27

-----
11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.16)
Default Target     Status
graphical          degraded

-----
12. Failed units, from systemctl list-units --state=failed
UNIT                  LOAD ACTIVE SUB DESCRIPTION
* systemd-networkd-wait-online.service loaded failed failed Wait for Network to be Configured

-----
13. Services, from systemctl list-unit-files
STATE            UNIT FILES
enabled          ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online apparmor
                 binfmt-support blk-availability cloud-config cloud-final cloud-init cloud-init-local
                 console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager grub-common
                 grub-initrd-fallback irqbalance keyboard-setup lm-sensors lvm2-monitor lxd-agent
                 multipathd networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db
                 setvtrgb ssh systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved
                 systemd-timesyncd thermald ua-reboot-cmds ubuntu-adantage udisks2 wpa_supplicant
enabled-runtime  netplan-ovs-cleanupsystemd-fsck-root systemd-remount-fs
disabled        console-getty debug-shell iscsid nftables rsync serial-getty@
                 systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                 systemd-time-wait-sync ufw upower wpa_supplicant-nl80211@ wpa_supplicant-wired@
wpa_supplicant@
generated       apport
indirect        uidd
masked         cryptdisks cryptdisks-early hwclock lvm2 multipath-tools-boot rc rcS screen-cleanup sudo
                 x11-common

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/vmlinuz-5.15.0-119-generic
root=/dev/mapper/ubuntu--vg-ubuntu--lv
ro

-----
15. cpupower frequency-info
analyzing CPU 0:
current policy: frequency should be within 1.50 GHz and 2.70 GHz.
```

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Platform Notes (Continued)

The governor "performance" may decide which speed to use
within this range.

boost state support:

Supported: yes
Active: yes
Boost States: 0
Total States: 3
Pstate-P0: 2800MHz

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
os-release Ubuntu 22.04.5 LTS

20. Disk information
SPEC is set to: /home/SPEC_CPU_2017_AOCC
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/ubuntu--vg-ubuntu--lv ext4 590G 20G 540G 4% /

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Platform Notes (Continued)

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

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

22. dmidecode

Additional information from dmidecode 3.3 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 M321R8GA0EB2-CCPKC 64 GB 2 rank 6400

23. BIOS

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

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 10.23.00
BIOS Date: 05/22/2025
BIOS Revision: 5.35

Compiler Version Notes

=====

C | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
| 657.xz_s(base, peak)

=====

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

=====

C++ | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
| 641.leela_s(base, peak)

=====

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

=====

Fortran | 648.exchange2_s(base, peak)

=====

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

=====



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AMD EPYC 9755

SPECspeed®2017_int_base = 17.8

SPECspeed®2017_int_peak = 18.1

CPU2017 License: 6857

Test Sponsor: Compal Inc.

Tested by: Compal Inc.

Test Date: Jul-2025

Hardware Availability: Jul-2025

Software Availability: Jul-2025

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Base Portability Flags

```
600.perlbench_s: -DSPEC_LINUX_X64 -DSPEC_LP64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LINUX -DSPEC_LP64
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-extra-inliner -O3
-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP
-flto -fremap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp -lamdlibm
-lflang -lamdalloc
```

C++ benchmarks:

```
-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP -flto
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc-ext
```

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Base Optimization Flags (Continued)

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-enable-iv-split -Wl,-mllvm -Wl,-inline-recursion=4  
-Wl,-mllvm -Wl,-lsr-in-nested-loop -O3 -march=znver5 -fveclib=AMDLIBM  
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost  
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp  
-lomp -lamdlibm -lflang -lamdalloc
```

Base Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```

Peak Compiler Invocation

C benchmarks:

```
clang
```

C++ benchmarks:

```
clang++
```

Fortran benchmarks:

```
flang
```

Peak Portability Flags

Same as Base Portability Flags



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Software Availability: Jul-2025

Peak Optimization Flags

C benchmarks:

600.perlbench_s: basepeak = yes

```
602.gcc_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-DSPEC_OPENMP -fremap-arrays -fstrip-mining
-fstruct-layout=9 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp
-lamdlibm -lamdalloc -lflang
```

```
605.mcf_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-DSPEC_OPENMP -fremap-arrays -fstrip-mining
-fstruct-layout=9 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp
-lamdlibm -lamdalloc -lflang
```

625.x264_s: basepeak = yes

657.xz_s: Same as 602.gcc_s

C++ benchmarks:

620.omnetpp_s: basepeak = yes

```
623.xalancbmk_s: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-do-block-reorder=advanced -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden
-mllvm -do-block-reorder=advanced -fopenmp=libomp -lomp
-lamdlibm -lamdalloc-ext -lflang
```

631.deepsjeng_s: basepeak = yes

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Peak Optimization Flags (Continued)

```
641.leela_s: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden
-fopenmp=libomp -lomp -lamdlibm -lamdaloc -lflang
```

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-iv-split -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -O3 -march=znver5 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lamdaloc -lflang
```

Peak Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```

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

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.html>

http://www.spec.org/cpu2017/flags/Compal-Platform-Flags-Linux-AMD_V1.1.html

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

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.xml>

http://www.spec.org/cpu2017/flags/Compal-Platform-Flags-Linux-AMD_V1.1.xml

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