



SPEC CPU®2017 Integer Speed Result

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Compal Electronics, Inc.

SR224-2A
AMD EPYC 9755

SPECspeed®2017_int_base = 17.8

SPECspeed®2017_int_peak = 18.1

CPU2017 License: 6857

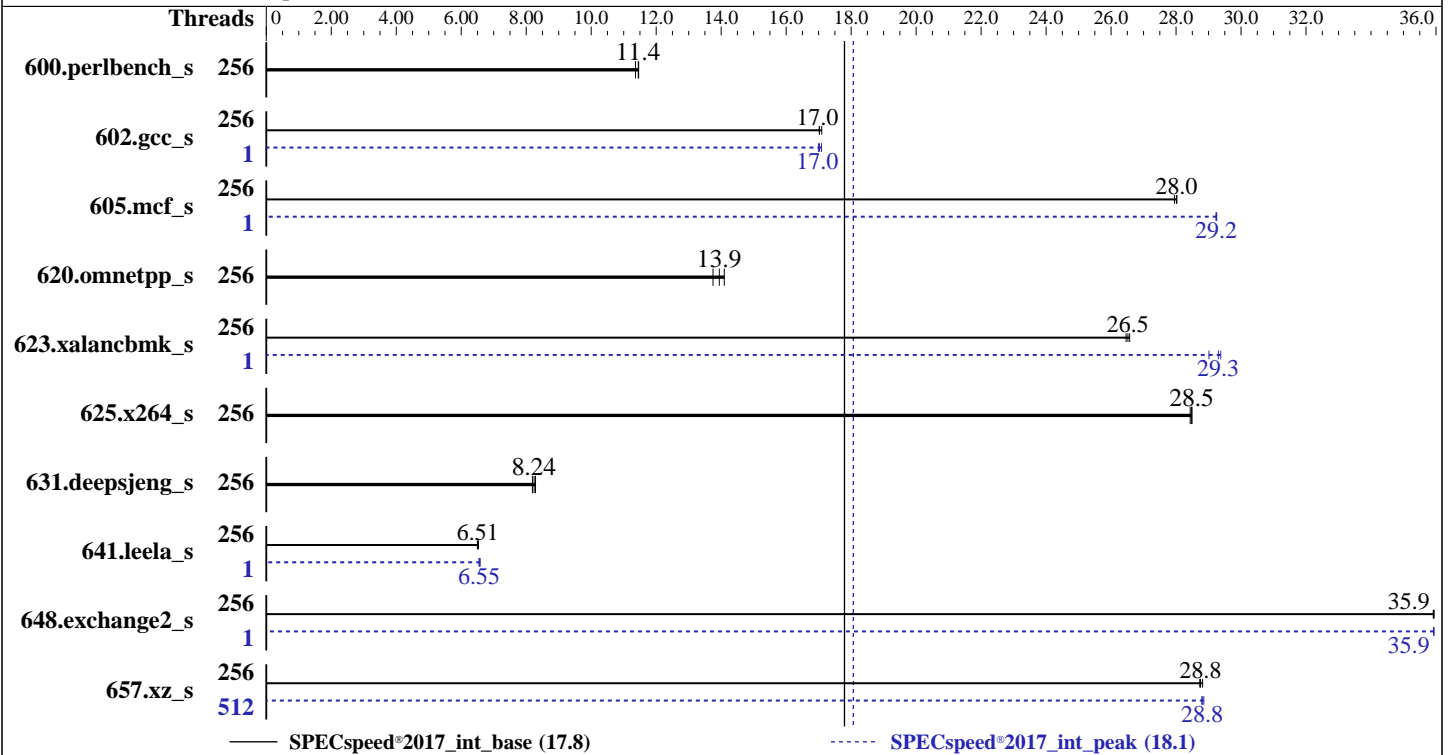
Test Sponsor: Compal Electronics, Inc.

Tested by: Compal Electronics, Inc.

Test Date: Jul-2025

Hardware Availability: Jul-2025

Software Availability: Jul-2025



Hardware

CPU Name: AMD EPYC 9755
 Max MHz: 4100
 Nominal: 2700
 Enabled: 256 cores, 2 chips, 2 threads/core
 Orderable: 2 chips
 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 / 8 cores
 Other: None
 Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
 Storage: 1 x 930 GB NVMe SSD
 Other: CPU Cooling: Air

Software

OS: Ubuntu 22.04.5 LTS
 kernel version 5.15.0-119-generic
 Compiler: C/C++/Fortran: Version 5.0.0 of AOCC
 Parallel: Yes
 Firmware: American Megatrends version 10.23.00 released May-2025
 File System: ext4
 System State: Run level 5 (graphical 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						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	256	155	11.5	156	11.4	155	11.4	256	155	11.5	156	11.4	155	11.4
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/swapgs barriers and __user pointer sanitization;
spectre_v2: Mitigation: Enhanced / Automatic IBRS; IBPB: conditional; STIBP: always-on;
srdbs: 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_aocc500_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
vmemory(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 intspeerd
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode speed --tune base:peak --size test:train:refspeerd intspeerd --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/templogs/preenv.intspeerd.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 noopl nonstop_tsc cpuid extd_apicid
                        aperfmperf rapl pni pclmulqdq monitor sse3 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 invpcid_single hw_pstate ssbd
                        mba 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 avx_vnni avx512_bf16 clzero irperf xsaveerptr rdpru
                        wbnoinvd amd_ppin cppc arat npt lbrv svm_lock nrip_save tsc_scale
                        vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic
                        v_vmsave_vmload vgif v_spec_ctrl 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_lld
AMD-V
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/swapgs 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    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-advantage udisks2 vgauth wpa_supplicant
enabled-runtime netplan-ovs-cleanup systemd-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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Tested by: Compal Electronics, 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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SPEC CPU®2017 Integer Speed Result

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Compal Electronics, Inc.

SR224-2A
AMD EPYC 9755

SPECspeed®2017_int_base = 17.8

SPECspeed®2017_int_peak = 18.1

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Software Availability: Jul-2025

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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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 -lamdalloc -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 -lamdalloc -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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Tested with SPEC CPU®2017 v1.1.9 on 2025-07-02 04:31:47-0400.

Report generated on 2025-09-30 11:46:52 by CPU2017 PDF formatter v6716.

Originally published on 2025-08-12.